The Changing Nature of Long-Haul Traffic on the North Atlantic: An Examination of Airline Network Strategies

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The Changing Nature of Long-Haul Traffic on the North Atlantic:

An Examination of Airline Network Strategies

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ABSTRACT

The North Atlantic is a mature aviation market that has undergone tremendous change. Its evolution has been dynamic and is often at the forefront of industry developments.

The overall aim was to examine the airline operational changes that have occurred on the North Atlantic from 1997 (coinciding with the creation of the first global airline alliance) until 2017, and to determine their underlying factors. The study undertook a broad geographic basis and examined all direct flights on the North Atlantic from a seasonal approach to reflect airline operations. This provided sufficient scope to examine long-term trends and their drivers and their utility in forecasting future developments, something that has implications for airports and their ability to attract airline services.

Official Airline Guide (OAG) schedule data for both January and July were obtained, and focusing on frequency, quantitatively assessed network developments using the Herfindhal-Hirschman Index (HHI), the Beta Index, and the seasonality index. Gephi software was used to calculate eigencentrality values (EC) to determine relative importance which were standardized using conditional value centralities (CVC) to enable temporal comparisons. International Air Transport Association (IATA) PaxIS (passenger travel) data assessed market changes at the regional level (Africa, Asia, Europe and the Middle East as well as Canada). Regression analysis was conducted to identify key factors, the results of which formed the basis of a model applied to the UK and its regional airports. These results have implications for policymakers in their decision making for supporting and promoting airports to aid regional development.

The findings highlighted the growing importance of seasonality on airline operations, especially on flights between Europe and North America though not for flights from non-European regions. This underlined the necessity of examining both seasons rather than focusing on summer operations in research and is an opportunity for airline network expansion and fills a key gap in the research.

The North Atlantic has expanded and evolved from just European-North American travel into a larger and heterogeneous market. This is of importance to researchers and the need for inclusive research.

Although the largest and most important airports have remained relatively consistent, their dominance has receded over time. This is partially due to the growing importance of Middle Eastern airports for transfer traffic, especially from India, at the expense of their European counterparts. Airport concentration has fluctuated over time, with dispersion being of lesser importance during the winter than in the summer, coinciding with the increase in seasonal flights. This has contributed to the literature and addressed a gap in the literature.

Although alliances have influenced airline operations, it was found that joint-ventures were of greater influence as it enabled partners to co-ordinate schedules and operations thus contributing to the literature.

It was also found that regardless of alliance membership, airlines were pursuing different operational strategies although often within the framework of their alliance and joint-venture membership. Although airports like London Heathrow and New York JFK remain key destinations, overall urban importance was also an important factor in attracting services. This contributes to the literature on airline operations by identifying a key factor in attracting services.

STATEMENT OF ORIGINALITY

I declare that this thesis has been composed solely by myself and that it has not been submitted, in whole or in part, in any previous application for a degree. Except where stated by reference or acknowledgement, the work presented here is entirely my own.

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ABBREVIATIONS

Airlines

AA – American Airlines

AB – Air Berlin

AC – Air Canada

AF – Air France

AH – Air Algérie

AI – Air India

AOM – AOM French Airlines

AT – Royal Air Maroc

AY – Finnair

AZ – Alitalia

A0 – L'Avion

A7 – Air Plus Comet

BA – British Airways

BD (or BMI) – British Midland International

BG – Biman Bangladesh Airlines

B0 – La Compagnie

CO – Continental Airways

CP – Canadian Airlines International

DE – Condor Flugdienst

DL – Delta Airlines

DY – Norwegian Air Shuttle

D8 – Norwegian Air International

EC – Openskies

EI – Aer Lingus

EK – Emirates Airlines

ET – Ethiopian Airlines

EW – Eurowings

EY – Etihad Airlines

E0 – Eos Airlines

FCA – First Choice Airways

FF – Tower Air (US)

FI – Icelandair

FR – Ryanair

GH – Ghana Airways

GJ – Eurofly (Italy)

H2 – City Bird (Belgium)

HY – Uzbekistan Airways

IAG – International Consolidated Airlines Group

IB – Iberian Airlines

IG – Meridiana fly (Italy)

IV – VG Airlines (Belgium)

IW – AOM French Airlines

JK – Spanair

JT – Jaro International (Romania)

JU – JAT – Jugoslovenski Aerotransport (Yugoslavian Airlines)

J2 – Azerbaijan Airlines

KL (or KLM) – KLM Royal Dutch Airlines

KM – Air Malta

KQ – Kenya Airways

KU – Kuwait Airways

LH – Lufthansa Airlines

LO (or LOT) – LOT Polish Airlines

LT – LTU International Airways

LX – Swiss Airlines

LY – El Al Israel Airlines

LZ – Balkan Airlines (Bulgaria)

MA – Malev

MH – Malaysia Airlines

MON – Monarch Charter

MP – Martinair Holland

MS – Egyptair

MT – Thomas Cook Airlines

MY – MAXjet Airways

MYT – MyTravel Airways

NA – North American Airlines (Nigeria)

NG – Lauda Airlines

NW – Northwest Airlines

NZ – New Zealand Airlines

OA – Olympic Airlines

OK – Czech Airlines

OR – Arkefly

OS – Austrian Airlines

PK – Pakistan International Airlines

PS – Ukraine International Airlines

QN – Royal Aviation

QR – Qatar Airways

Q9 – Afrinat International (Gambia)

RJ – Royal Jordanian

RK – Air Afrique

RO – Tarom Airlines

SA – South African Aviation

SE – XL Airways France

SK – SAS Scandinavian Air Services

SN – Brussels Airlines (from 2003 onwards; previously Sabena)

SOR – SonAir (Angola)

SQ – Singapore Airlines

SR – Swissair

SS - Corsair

SU – Aeroflot Airlines

SV – Saudi Arabian Airlines

SY – Sun Country Airlines

S4 - SATA International Azores Airlines

TB – TUI fly Belgium

TD – Atlantis European Airways

TK – Turkish Airlines

TN – Air Tahiti

TOM – Thomson Airways

TP – TAP Air Portugal

TS – Air Transat

TU – Tunisair

TW (or TWA) – Trans World Airlines

UA – United Airlines

UN – Transaero Airlines

US – US Airways

UX – Air Europa

U2 – Easyjet

VR – TACV Cabo Verde Airlines

VS – Virgin Atlantic Airways

VV – Aerosvit Airlines

WG – Sunwing Airlines

WK – Edelweiss Air

WS – WestJet

WT – Nigeria Airways

WW – Wow Airlines

W3 – Arik Air (Nigeria)

Y2 – flyglobespan

Y7 – Silverjet

Z4 – Zoom Airlines

2T – Canada 3000

5O – ASL Airlines France

5W – Astraeus

6F – Laker Airways

6U – Air Ukraine

9W – Jet Airways

Airports

ABJ – Abidjan International Airport

ABV – Abuja International Airport

ACC – Accra International Airport

ADD – Addis Ababa International Airport

AGP – Malaga International Airport

ALG – Algiers International Airport

AMM – Queen Alia International Airport (Amman)

AMS – Amsterdam Schiphol Airport

ANC – Anchorage International Airport

ARN – Arlanda International Airport (Stockholm)

ATH - Eleftherios Venizelos International Airport (Athens)

ATL – Hartsfield International Airport (Atlanta)

ATQ - Amritsar International Airport

AUH – Abu Dhabi International Airport

AUS – Austin International Airport

BCN – Barcelona International Airport

BDL – Bradley International Airport (Hartford)

BEG – Belgrade International Airport

BEY – Beirut International Airport

BFS – Belfast International Airport

BGO – Bergen International Airport

BHD – Belfast George Best International Airport

BHX – Birmingham International Airport (UK)

BJL – Banjul International Airport

BLQ – Bologna International Airport

BOD – Bordeaux International Airport

BOH – Bournemouth Airport

BOM – Mumbai International Airport

BOS – Logan Airport (Boston)

BRS – Bristol International Airport

BRU – Brussels National Airport

BSL – EuroAirport Basel-Mulhouse-Freiburg Airport

BUD – Ferenc Liszt International Airport (Budapest)

BUH – Henri Coandă International Airport (Bucharest)

BWI – Baltimore International Airport

CAI – Cairo International Airport

CAS – Mohammed V International Airport (Casablanca)

CDG – Paris Charles de Gaulle International Airport

CGN – Cologne Bonn Airport

CLE – Cleveland Hopkins International Airport

CLT – Charlotte International Airport

CPH – Kastrup Airport (Copenhagen)

CPT – Cape Town International Airport

CVG – Cincinnati International Airport

CWL – Cardiff International Airport

DAC – Dhaka International Airport

DEL – Delhi International Airport

DEN – Denver International Airport

DFW – Dallas-Fort Worth International Airport

DHA – Dharan International Airport

DKR – Dakar International Airport

DME – Domodedovo International Airport (Moscow)

DOH – Hamad International Airport (Doha)

DSA – Doncaster Sheffield Airport

DTW – Detroit-Wayne County International Airport

DUB – Dublin International Airport

DUS – Düsseldorf International Airport

DXB – Dubai International Airport

EDI – Edinburgh International Airport

EMA – East Midlands Airport

EWR – Newark Liberty Airport

EXT – Exeter International Airport

FAO – Faro International Airport

FCO – Fiumicino International Airport (Rome)

FLL – Fort Lauderdale International Airport

FMY – Fort Myers International Airport

FRA – Frankfurt International Airport

GCI – Guernsey Airport

GLA – Glasgow International Airport

GOA – Cristoforo Colombo Airport (Genoa)

GVA – Geneva International Airport

GYD – Heydar Aliyev International Airport (Baku)

HAJ – Hanover International Airport

HAM – Hamburg Airport

HEL – Helsinki International Airport

HUY – Humberside International Airport

IAD – Dulles International Airport (Washington)

IAH – Bush International Airport (Houston)

IEV - Kiev International Airport

IOM - Isle of Man Airport

ISB – Islamabad International Airport

IST – Istanbul International Airport

JED – Jeddah International Airport

JER – Jersey Airport

JFK – JFK International Airport (New York)

JNB – OR Tambo International Airport (Johannesburg)

KBP – Borispol International Airport (Kiev)

KEF – Keflavik Airport (Reykjavik)

KHI – Jinnah International Airport (Karachi)

KRK – Krakow International Airport

KWI – Kuwait International Airport

LAD – Quatro de Fevereiro Airport (Luanda)

LAS – McCarran International Airport (Las Vegas)

LAX – Los Angeles International Airport

LBA – Leeds Bradford International Airport

LCY – London City Airport

LFW – Gnassingbé Eyadéma International (Lomé)

LGW – Gatwick International Airport (London)

LHE – Lahore International Airport

LHR – Heathrow International Airport (London)

LIS – Lisbon International Airport

LOS – Lagos International Airport

LPA – Gran Canaria Airport

LPL – Liverpool International Airport

LTN – Luton International Airport (London)

LUX – Luxembourg International Airport

LWO – Danylo Halytskyi International Airport (Lviv)

LYS – Lyon International Airport

MAD – Madrid International Airport

MAN – Manchester International Airport

MCO – Orlando International Airport

MEM – Memphis International Airport

MIA – Miami International Airport

MLA – Malta International Airport

MRS – Marseille Provence Airport

MSP – Minneapolis-St. Paul International Airport

MSY – New Orleans International Airport

MUC – Munich Airport

MXP – Malpensa International Airport (Milan)

NAP – Naples International Airport

NCE – Nice International Airport

NCL – Newcastle International Airport

NOC – Knock International Airport

NTE – Nantes International Airport

NYO – Stockholm Skavsta Airport

OAK – Oakland International Airport

OPO – Francisco de Sá Carneiro Airport (Porto)

ORD – O’Hare International Airport (Chicago)

ORK – Cork International Airport

ORY – Orly International Airport (Paris)

OSL – Oslo International Airport

PDL – João Paulo II Airport (Ponta Delgada)

PDX – Portland (Oregon) International Airport

PHL – Philadelphia International Airport

PHX – Phoenix International Airport

PIK – Prestwick International Airport

PIT – Pittsburgh International Airport

PMO – Palermo Airport

PRG – Vaclav Havel International Airport (Prague)

PSA – Galileo Galilei International Airport (Pisa)

PSR – Abruzzo Airport (Pescara)

PVD – T.F. Green Airport (Providence)

PWM – Portland (Maine) International Airport

RDU – Raleigh-Durham International Airport

RAI - Praia International Airport

RIX – Riga International Airport

RSW – Southwest Florida International Airport

RUH – King Khalid International Airport (Riyadh)

RZE – Rzeszów-Jasionka Airport

SAN – San Diego International Airport

SEA – Seattle-Tacoma International Airport

SEN – London Southend Airport

SFB – Sanford International Airport (Orlando)

SFO – San Francisco International Airport

SID – Amilcar Cabral International Airport (Cabo Verde)

SJC – San Jose International Airport

SLC – Salt Lake City International Airport

SNN – Shannon International Airport

SOF – Sofia Airport

SOU – Southampton Airport

STL – Lambert-St. Louis International Airport

STN – Stansted International Airport (London)

STR – Stuttgart Airport

SUF – Lamezia Terme International Airport

SUJ – Satu Mare Airport

SVO – Sheremetyevo International Airport (Moscow)

SWF – New York Stewart Field International

SXF – Berlin-Schönefeld International Airport

TER – Lajes Airport (Terceira)

TLS – Toulouse-Blagnac International Airport

TLV – Ben Gurion International Airport (Tel Aviv)

TPA – Tampa International Airport

TSR – Traian Vuia International Airport (Timişoara)

TUN – Tunis Carthage International Airport

TXL – Tegel International Airport (Berlin)

VCE – Venice Marco Polo International Airport

VIE – Vienna International Airport

VKO – Vnukovo International Airport (Moscow)

VLC – Valencia Airport

WAW – Warsaw Chopin International Airport

YDF – Deer Lake Airport

YEG – Edmonton International Airport

YHM – John C. Munro Hamilton International Airport

YHZ – Stanfield International Airport (Halifax)

YMX – Mirabel International Airport (Montréal)

YOW – MacDonald-Cartier International Airport (Ottawa)

YQB – Jean Lesage International Airport (Québec City)

YQM – Greater Moncton International Airport

YQX – Gander International Airport

YUL – Montréal Trudeau (formerly Dorval) International Airport

YVR – Vancouver International Airport

YWG – James Armstrong Richardson International Airport (Winnipeg)

YXY – Erik Nielsen International Airport (Whitehorse)

YYC – Calgary International Airport

YYT – St. John’s International Airport

YYZ – Pearson International Airport (Toronto)

ZGB – Zagreb Airport

ZRH – Zurich International Airport

Other

ATC – Air Traffic Control

ATM – Air Traffic Movement

CAA – Civil Aviation Authority (UK)

CASK – Cost per available seat kilometre

EU – European Union

FAA – Federal Aviation Authority (US)

FSC – Full-Service Carrier

GaWC – Globalisation and World Cities Group and Network

GDP – Gross Domestic Product

GIS – Geographic Information System

HS – Hub and Spoke Network

IATA – International Air Transport Association

ICAO – International Civil Aviation Organization

J-V – Joint-Venture

LCC – Low-Cost Carriers

LHLC – Long-Haul Low-Cost

LHLCC – Long-Haul Low-Cost Carrier

MCT – Minimum Connect Times

MIDT – Marketing Information Data Tapes

NHS – National Health Survey of Canada

O-D – Origin-Destination

ONS – Office for National Statistics (UK)

PTP – Point-to-point

SARS – Severe Acute Respiratory Syndrome

UK – United Kingdom

US – United States

US CBP – US Customs and Border Protection

US DOJ – United States Department of Justice

US DOT – United States Department of Transportation

VFR – Visiting Friends and Relatives

CHAPTER 1 - INTRODUCTION

1.1 Background and Rationale

Transportation has always been a fundamental component of human movement and interaction. Initially, it was a necessary means for economic exchange between nearby settlements that developed in importance as trade developed between places that were more geographically distant. Whilst land and water travel were the initial travel modes, aviation has grown in importance concurrently with greater global economic interaction. Although air transport is necessary for long-haul cargo flows, it is vital for the movement of people, especially in intercontinental flows.

The North Atlantic is one of the most important intercontinental flows in aviation, especially in terms of passenger traffic. It has undergone tremendous transformation over the years due to numerous factors: deregulation; bilateral and multilateral agreements; technological development of aircraft; increased safety concerns and resultant regulations; and global economic volatility.

These factors have had a profound effect upon aviation and more specifically, the airline industry. Many airlines with North Atlantic operations have undergone tremendous change, some to the point of extinction, with the most frequent changes being implemented in route selection and operations, ownership structures, and partnerships with other airlines.

Most airlines with North Atlantic operations are full-service air carriers that operate hub and spoke networks. There are at present three major airline alliances globally and each has within its membership a joint-venture agreement in operation on the North Atlantic.

Airline decisions in providing route services are based on numerous factors. Although positive financial results are a key factor, it is not the only aspect to be considered as airlines may provide services on a route as a defensive measure against a competitor, even if it results in financial losses. Any service must be operationally viable within the airline's existing structure, both in terms of aircraft suitability and from a network operations perspective to be successful.

When participating in an alliance, the ability to provide services in conjunction with alliance partners not only extends an airline's network capabilities but limits an airline's financial exposure. This is especially important with connecting flights and is more limited when the airline is providing direct service (unless to a partner's hub airport). This increases the importance upon the decision-making process when selecting an airport for new services or for increasing the frequency of services on existing routes within the network.

Within the academic sphere, there has been research on airline partnership agreements. There have been articles dealing with alliances (Oum and Park, 1997; Oum and Zhang, 2001; Iatrou and Alamdari, 2005; Pitfield, 2007), joint ventures (Bilotkach and Hüschelrath, 2012, 2019), and codeshares and interline agreements (Zou and Chen, 2017). Although some have dealt specifically with the North Atlantic, most are more general in focus. Whilst research on the implementation of the US-EU Open Skies agreement has garnered attention (Humphreys and Morrell, 2009), the majority have investigated the impact of the legislation on airport selection, specifically Heathrow Airport. The growing importance of non-European air carriers and the resultant diversion of traffic from European hubs has also been investigated (O'Connell, 2011; Grosche and Klophaus, 2015; O'Connell and Bueno, 2016).

There has been research investigating the concentration/dispersion of intercontinental flights between hubs and non-hub airports, but the results have been varied and reflect a relatively short time period or geographic area (O'Connor, 2003; Suau-Sanchez and Burghouwt, 2011). This includes previous research by Graham and Guyer (2000), Pagliari (2005), and Fan (2006), whose studies focused upon connectivity in the UK. The technological changes in new aircraft as they pertain to long haul routes have been identified (Dennis, 1994; O'Connor, 2003; Francis et al., 2007; Bel and Fageda, 2010; Burghouwt, 2014; Grosche and Klophaus, 2015), although their impact remains inconclusive. There have however been studies examining the conditions necessary to implement and sustain long-haul low-cost services (Francis et al., 2007; Pels, 2008; Daft and Albers, 2012; De Poret, O'Connell and Warnock-Smith, 2015). Issues like congestion and environmental regulation have also been investigated (Berster, Gelhausen and Wilken, 2015) but the dynamic changes occurring has resulted in an evolving situation that is inherently unstable.

There are numerous articles outlining connectivity. In terms of flight connectivity, the majority deal with either connection times for passengers (Burghouwt and Veldhuis, 2006; Sismanidou et al., 2013; ACI Europe, 2014a), or the number of connections possible through another airport (Burghouwt, Hakfoort and van Eck, 2003, p310; ACI Europe, 2014b). Many studies have dealt with indirect connectivity and the reliance of connections from regional airports to hub airports. There have also been studies examining the transference of flights from hubs to regional airports and some of the factors driving that change (O'Connor, 2003; Bel and Fageda, 2010; Bilotkach, Fageda and Flores-Fillol, 2013); a situation which continues to be dynamic due to the continuously changing nature of the industry. Although direct connectivity has also been investigated, the research tends to be focused on a relatively short time and is often limited to flows between Europe and the US (Zhang et al., 2019).

Although there are studies examining the link between geography and air transport, many are US oriented (Kasarda and Irwin, 1991; Ryerson and Kim, 2013). Jorge-Calderón (1997) identified the impact of geographically proximate larger airports upon smaller airports, but did so within an intra-European context prior to the implementation of European Open Skies. Dobruszkes, Lennert and Van Hamme (2011) investigated the geographic factors influencing air services within Europe, but focused upon urban centres as opposed to airports, and included intra-European services. This was similar to Fan (2006) who studied UK connectivity and focused upon city connections rather than airport to airport service. There are also studies investigating the global aviation network. However, the majority of these studies also do not differentiate between airports in multi-airport cities (Mossa et al., 2005; Derudder and Witlox, 2009; Van Nuffel et al., 2010).

The economic impact of aviation has a plethora of research, the majority of which are conducted from an airport perspective. There are a number of studies that examine the economic benefits of airports (Kasarda and Irwin, 1991; Burghouwt, 2014; ACI Europe, 2015b; Lieshout et al., 2015), especially in tourism-reliant areas that are dependent upon accessibility (Costa, Lohmann and Oliveira, 2010; Perboli et al., 2015). Although there has been some research into the economic importance of air transport (Button et al., 1999; Air Transport Action Group, 2005; Bannò and Redondi, 2014), few studies examine the geographic dispersion of these benefits, especially to non-hub regions (Baker, Merkert and Kamruzzaman, 2015).

1.2 Aim of the Study

The overall aim of the study is to examine how long-haul traffic on the North Atlantic has changed from 1997 to 2017.

The North Atlantic is the oldest long-haul intercontinental market, and although it is a mature market, it nonetheless has been impacted by changes in the aviation industry including factors such as the development of alliances and joint-ventures and greater liberalisation of air travel. There have been studies addressing alliances and their impact, although some of these were written prior to the deregulation that occurred both within Europe and between Europe and North America. Whilst fundamentally sound, the impact of the subsequent bilateral and multilateral agreements regulating North Atlantic air traffic have not been fully addressed. There are studies that address connectivity; however, the majority of work addresses the issue from a travel perspective in terms of travel time and includes indirect routings into the research. Studies addressing the changes in networks, especially in terms of hub concentration/dispersion are normally limited to short periods of time or to snapshots, and thus lack the depth of a longer-term examination of the changes occurring on the North Atlantic.

It is posited that alliances have impacted route selection strategies on the North Atlantic, especially in terms of airport selection. Previous research has not differentiated between the different airline or alliance strategies being implemented in terms of airport selection. Given the different membership composition of each alliance, it is posited that the strategies employed will be heterogeneous in nature, thus impacting the very nature of the networks on the North Atlantic. These differences would be reflected in the evolving strategies and network developments exhibited over the 20 years covered in this research. This is important when identifying which airlines have added North Atlantic routes to non-hub airports.

Connectivity is a key aspect of economic development and stability, and it is, therefore, of fundamental importance to understand the specific determinants concerning route selection and operation. The underlying importance of additional intercontinental direct services is the economic impact from a regional development perspective.

1.3 Research Objectives and Questions

To answer the research question of how long-haul traffic on the North Atlantic has changed, there are three associated research objectives.

The first objective is to identify the key factors influencing the selection of airports for services on the North Atlantic (O1).

Network strategies have been formulated and evolved by changing factors influencing aviation, and more specifically the airline industry. Given these competing factors, which do not operate independently of each other, it is necessary to determine the most important factors influencing network strategies. Whilst some factors may be common amongst certain airlines, they may not be homogenous, and some airlines may be impacted by singular factors due to the nature of their operations. It is posited that alliances are the key reason behind airport selection, *ceteris paribus*.

It is posited that the most important determinant of route development by an airline is to align its network in accordance with its joint-venture and alliance partners to achieve optimum network, operational, and financial benefits. As such, the first research question (RQ1.1) is: **Are joint-ventures and/or alliances influencing airport selection?**

Although it is believed that this is the primary factor influencing decision-making, this does not mean that the strategies of the airlines or alliances are homogenous. Non-aligned airlines are also included in the analysis to determine whether the patterns observed are alliance-oriented or reflect geographic influences.

Whereas alliances could have a positive cooperative influence upon airline operations, competition would have a negative impact. Recent developments in the industry have undermined the traditional dominance of European and North American FSCs to the benefit of LCCs and FSCs based in the Middle East. In response to the growing influence of these carriers, it is posited that some air services may have been introduced as defensive measures to counteract the competition from these airlines. As such, the second research question (RQ1.2) is: **Have LHLCCs based in Europe and North America and/or airlines based outside of Europe and North America changed or influenced flight services?**

Although increased business synergies and defensive reactions to competitors are likely the key reasons in network development, they are not the only issues that need to be considered. This could include but is not limited to issues such as capacity and congestion. This will be addressed in the third research question (RQ1.3): **Are exogenous factors influencing airport selection?**

The second objective of this thesis is to determine if there is a trend toward dispersion or hub concentration (O2).

Dispersion could be indicative of changing airline strategies because of greater congestion or perhaps the opportunity to exploit the benefits of improving aircraft technologies which have made previously unserved routes financially viable. In contrast, concentration could be indicative of airlines consolidating their operations to benefit from the resultant economies of density. This is addressed in the fourth research question (RQ2.1): **What are the most important airports, in terms of connectivity, on the North Atlantic?**

The trends observed may not be homogenous between the airlines, even within the same alliance, and an analysis of the different strategies employed by each airline will be conducted. This results in the fifth research question (RQ2.2): **Are different airlines or alliances pursuing different strategies and what are the different strategies?**

The third objective of the thesis is to identify which secondary airports are attracting connections (O3).

Whilst some secondary airports may have similar characteristics, there are likely differentiating aspects that are critical to obtaining North Atlantic services. Given the importance of connectivity to a region, the ability to determine the factors impacting the decision-making process is crucial. As such, the sixth research question (RQ3.1) is: **What are the factors (and their relative importance) necessary for airports to develop air connectivity on the North Atlantic?**

Whilst hub airports are often located near large urban centres and derive traffic from both the local populace and passengers connecting through the airport, secondary airports tend to be located near relatively smaller cities and may be somewhat distant. Their location may even contribute to the airport's importance in a region if it is somewhat remote, as hub airports may divert traffic away from a regional airport if situated nearby. As such, the topology of the airport network and geographic location of airports impacts the attraction of airline services. These factors are considered in the seventh research question (RQ3.2): **What factors are necessary for secondary airports to attract and maintain sustainable direct North Atlantic air connectivity?**

1.4 Methodology

The focus of this research is to examine the changing aspects of air transport on the North Atlantic, specifically an analysis of airline flight operations and the airports utilised to provide air services. The research examined flights from all points east of the North Atlantic Ocean to both Canada and the United States.

A quantitative approach was adopted and secondary data sources including OAG flight data (scheduled flights) and PaxIS passenger data (actual passenger travel itineraries) were utilised. OAG flight data are commonly used in research due to their availability, and include origin, destination, frequency, and operating airline and are thus the cornerstone of the majority of analysis in this research.

All flights to Canada and the US were compiled from January 11-17 and July 11-17 from 1997 to 2017. The initial year (1997) was chosen to coincide with the creation of the first global alliance (Star Alliance) and 2017 was chosen to provide a 20-year time frame. As such, the scope of this study does not include the Covid Pandemic which has had a dramatic impact upon the industry. Data for both January and July were collected as they represent the 'low' (winter) and 'high' (summer) seasons of travel.

A synopsis of the data utilised, and the techniques employed in addressing each research question is outlined below (Table 1.1).

Table 1.1 – Overview of Data and Techniques Employed

	Research Question	Data / Techniques
RQ1.1	Are joint-ventures and/or alliances influencing airport selection?	OAG Flight Data; Herfindhal-Hirschman Index
RQ1.2	Have LHLCCs based in Europe and North America and/or airlines based outside of Europe and North America changed or influenced flight services?	OAG Flight Data; PaxIS Data
RQ1.3	Are exogenous factors influencing airport selection?	OAG Flight Data; Analysis of Air Service Agreements
RQ2.1	What are the most important airports, in terms of connectivity, on the North Atlantic?	OAG Flight Data; Social Network Analysis; Conditional Value Centralities
RQ2.2	Are different airlines or alliances pursuing different strategies and what are the different strategies?	OAG Flight Data; Herfindhal-Hirschman Index; Beta Index
RQ3.1	What are the factors (and their relative importance) necessary for airports to develop air connectivity on the North Atlantic?	OAG Flight Data; Canadian Census Data, US Census Data; GaWC Index; Great Circle Route Distance; IATA Worldwide Scheduling Guidelines; Airline Business; Regression Analysis
RQ3.2	What factors are necessary for secondary airports to attract and maintain sustainable direct North Atlantic air connectivity?	OAG Flight Data; PaxIS Data; Great Circle Route Distances

1.5 Thesis Structure

Following this chapter, this thesis will be presented as follows. In Chapter 2, a background of the airline industry and a comprehensive literature review is presented. This includes an examination of the various inter-governmental agreements regulating the industry; different airline types and network structures; the different levels of co-operation between airlines; various types of airports that are in operation; the key factors influencing airport selection by airlines; and finally, an overview of the economic importance of aviation. This highlights the research undertaken previously and identified the research gaps that currently exist in the literature.

Chapter 3 follows with a discussion of possible methodologies that could be utilised and the rationale for selection in addressing the objectives and research questions of the thesis. The geographic study area was defined as was the time frame of the study. The chapter also outlines the various data sources (flight schedules and passenger flight data) utilised in the analysis of flight networks on the North Atlantic as well as the constraints and limitations of the data and research.

Chapter 4 is an analysis of North Atlantic airports and their relative importance. Following an overview of all airports with North Atlantic operations there was an analysis of the changing structure of North American and that of airports situated east of the Atlantic Ocean, or Afro-Eurasian Airports. This included an assessment of the various regions comprising Afro-Eurasian Airports: Africa, Asia, Europe, and the Middle East. There was an analysis of the effect of seasonality upon airport importance. Seasonal operations were also considered when assessing whether operations were concentrated at major airports or have dispersed to either minor hubs or major regional airports. This addressed the third research question (RQ1.3), and key aspects of the second objective, specifically the fourth research question (RQ2.1).

The next chapter, Chapter 5, analysed scheduled alliance operations (Atlantic Excellence/QualiFlyer, Wings, Oneworld, SkyTeam, and Star) and that of its member airlines; the strategy of key non-aligned airlines were also assessed. This analysis was conducted from a seasonal perspective and identified intra-year operational variations. This chapter addressed the first and fifth research questions (RQ1.1 and RQ2.2).

Chapter 6 examined passenger data from both an origin (Afro-Eurasian Airports) and destination (North America) perspective. The travel patterns, especially regarding direct flights and the use of transfer airports were assessed. The analysis of transfer airport selection was conducted primarily from a regional perspective and included an assessment of temporal changes. The differentiation between direct and indirect travel was analysed as were other possible factors influencing passenger travel choices. The chapter concludes with a summary of the key changes observed over the course of the study period and addressed the second research question (RQ1.2).

The seventh chapter explained the key factors that were selected for the regression modelling to examine North Atlantic airline operations. This included an explanation of the data utilised to operationalise each metric. The chapter concluded with a summary of each factor.

Chapter 8 developed a regression model for North Atlantic services. The model utilised the factors outlined in the previous chapter and identified any differences from regional, alliance and airline perspectives. The chapter concluded with a summary of the key findings and a discussion of possible factors that could influence flight operations but could not be operationalised in the model. This chapter addressed the sixth research question (RQ3.1).

Chapter 9 was a case study of the air links between the UK and North America. This included a synopsis of the changes on the North Atlantic of both direct and indirect routes and traffic. The models derived from the previous chapter formed the basis of the UK models, and any limitations and possible applicability were also identified, thus addressing the seventh research question (RQ3.2).

The tenth chapter was a discussion of the key findings and provided an overall assessment of their relevance.

The eleventh and final chapter addressed the research questions posed, highlighted the contribution to the research, addressed the limitations of the study, possible directions for future research in this area, and reflections upon the research journey.

CHAPTER 2 – BACKGROUND AND LITERATURE REVIEW

The first commercial air service on the North Atlantic began shortly before the Second World War and advanced following the conflict. The development of North Atlantic services coincided with the initial era of regulation and reflects the impact of policy and regulation upon airline expansion, a microcosm of aviation industry evolution.

This chapter begins with an overview of the regulatory era and deregulation and its impact upon the development of the industry and on North Atlantic services. Following this there is a discussion of airline models and different strategies that were developed and implemented following deregulation. There is then an overview of inter-airline strategies that were created to expand operations whilst complying with aviation policies and regulations.

Airport development and selection were impacted by these airline adaptations and are discussed in subsequent sections. The overall economic impacts of aviation were examined, especially as they pertain to airport regions. This provides the context for examining changes in airline networks, as any changes have an economic impact not just nationally, but also locally.

The background provides the context for this research and the examination of the literature highlights the major studies undertaken and the research gaps that still exist.

2.1 The Politics of Aviation

Aviation, like any other industry, operates within a legislative framework. Air carriers are normally based in one country, and as such are bound by the laws of that country, although given its global nature there are numerous airlines with operations that span national borders and are thus bound by international agreements as well.

In addition to a country's domestic legal framework, international legislation and agreements are one of the key exogenous factors that have affected the development of the industry and continue to impact airline strategies.

The impact of various policies and regulations have undoubtedly impacted the provision of air services. Huber (2009) found that the most important factor influencing the concentration of intercontinental flights at European airports was geopolitics whilst Arvis and Shepherd (2011) found a high degree of correlation between connectivity and liberalisation, both important elements of aviation policies.

2.1.1 The Era of Regulation

In 1944, delegates from 54 countries met in Chicago, US to discuss the developing airline industry. Although no formal agreements were reached, what became known as the Chicago Convention lay the groundwork for what became ICAO.

Among the key aspects that were agreed upon in principle were the Freedoms of the Air. The fundamental freedoms allowed fly-over privileges (1st Freedom), technical stops (2nd Freedom), and the right to operate services to and from the airline's country to another destination (3rd and 4th Freedoms). 5th Freedom rights enabled an airline to operate services through a third country and to transport passengers between all three stops on the flight. Given the technical limitations of aircraft at the time, this was especially important for airlines wishing to operate long-haul flights.

Following the founding of ICAO in 1947, a regulatory framework was established which governed its member countries. Although the freedoms of the air were widely accepted, they were not 'rights' and each country retained control over their own airspace and were under no obligation to recognise the 'rights' of any airline. Air travel between countries was governed by bilateral agreements that specified which air carriers would be given the rights to operate between the countries involved. Other aspects of the bilateral agreements could include which airports would have services, as well as the frequencies and even the size of aircraft permitted to operate. All these aspects created a restrictive environment that limited competition between airlines, be it through adjusting frequencies or offering services to other airports.

Whilst ICAO was a forum for member nations, airlines also foresaw the need to create their own association, and thus founded IATA in 1945. IATA greatly contributed to the regulation of the industry through the establishment of set fares and corresponding services that each member airline was required to provide in each class of service. Whilst bilateral agreements limited frequency and destinations, IATA in turn established fares for routes, thus enabling airlines to operate routes that may have been either inefficient or unprofitable but could be sustained through artificially higher fares than would have been possible under market conditions. Although many airlines were members of IATA, membership was not a requirement and many airlines, especially charters, did not belong. As such, these airlines were not governed by the rules and regulations of the association.

It must also be remembered that many airlines in the post-war era were state-owned entities. These airlines not only provided services to international destinations, but also provided domestic services, some to smaller distant communities that required air services to maintain accessibility and would not have otherwise been viable. Some of these domestic operations generated losses that were offset by the revenues from international routes and were still able to receive government assistance if there was a financial shortfall in their operations. It was often the case that in nominating air carriers in bilateral agreements, a state-owned airline would receive preference over a privately owned airline.

2.1.2 The Era of Deregulation and Liberalisation

United States and Canada

The era of deregulation in the passenger aviation market was ushered in when the United States passed the Airline Deregulation Act of 1978. The Act focussed initially on the dispensing of entry controls followed by the removal of controls over route competition, service levels, and pricing policies. Within the context of airline network operations, this led to a widespread and rapid adoption of hub and spoke operations by most US airlines (Button and Stough, 2000).

The initial impact led to a doubling of the number of airlines in operation by 1987, although this conceals the number of entrants that were unsuccessful and ceased operations within a short period (Button and Stough, 2000). During the same time period, the concentration of air services amongst the largest airlines increased (Button and Stough, 2000); it also saw an even greater concentration of flights at the country's largest airports (Reynolds-Feighan, 1998).

Within the context of trans-continental operations, previously dominant carriers like Pan-Am World Airways and Trans-World Airlines were left in a more difficult situation. Neither air carrier had developed a strong domestic network presence and relied primarily upon other airlines for 'feed' on their overseas flights[1]. The Deregulation Act enabled airlines that had previously been limited to domestic flights to expand their operations to overseas destinations. This combination led previously limited airlines like UA to acquire access to international destinations (as it did when it purchased Pan-Am's Pacific Division in 1985). Pan-Am later sold its European and other North Atlantic routes to DL in 1991, just as AA purchased Trans World Airlines in 2001 (and its access and rights to international routes)[2].

[1] Although Pan-Am purchased National Airlines in 1980 to address its lack of a domestic network, it did not sufficiently rectify the situation and the airline remained in financial difficulty.
[2] Despite Delta's purchase of Pan-Am's European rights, UA obtained access to LHR in lieu of Pan-Am in the later Bermuda II addendum that also conferred TW's access to AA.

Canadian deregulation followed the measures undertaken in the United States although the country's airline structure was different in nature, a result of its history and geography[3]. The country founded a national airline, Trans Canada Airlines, in 1937, which was later renamed Air Canada[4]. This did not preclude the development of privately owned airlines, although these air carriers predominantly provided services at the regional level. During the 1930s, Canadian Pacific Railways expanded its transportation holdings into aviation and developed Canadian Pacific Airlines in 1942 (renamed CP Air in 1968).

Aviation in Canada is subject to federal control at both the domestic and international level. This reflects the importance of the industry in connecting the country, especially regarding its trans-border services to the United States.[5] During the 1970s, the government began to institute policy delegating spheres of influence to Air Canada (AC) and CP. As a result, the former was granted Atlantic services whilst the latter was granted Pacific services (Button and Stough, 2000)[6]. This omitted any services by charter operators who have had a noticeable presence since the 1960s. However, the initial deregulation implemented in the early 1980s permitted major charter operator Wardair even greater access to transcontinental routes (Button and Stough, 2000).

Similar to the US, a number of mergers occurred in Canada in the industry and by 1987, the two largest airlines, Air Canada and Canadian Airlines International (CP)[7] controlled over 85% of the Canadian market (Button and Stough, 2000).

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[3] Although geographically larger than the United States, the population of Canada is approximately 10% that of the US. In addition, Canada's settlement pattern is akin to a thin ribbon along its southern border in contrast to the more densely populated and evenly dispersed settlement pattern found in the US.
[4] Air Canada was founded in 1937 as Trans-Canada Air Lines and was renamed Air Canada on January 1, 1965 (Air Canada, 2017).
[5] Air services in Canada are designated as being 1) domestic; 2) trans-border (to the United States) and 3) international (all non-US international destinations).
[6] This arrangement ceased in 1987 with both airlines being granted access to each other's sphere of influence (Button and Stough, 2000, p124).
[7] CP Airlines purchased Eastern Provincial Airways in 1984 to form Canadian Pacific Air Lines. That amalgamation was subsequently purchased by Pacific Western Airlines (PWA) in 1987 to form Canadian Airlines International (Button and Stough, 2000, p126).

In 1995, Canada and the US signed an Open Skies agreement that greatly opened up each country's market to the other's airlines. Each airline was free to operate transborder routes to the destination of their choice, although US air carriers faced flight and frequency restrictions in their Montreal, Toronto and Vancouver operations until 1998 (Dubey and Gendron, 1999). The agreement also limited 5th Freedom rights, limited pricing and routing flexibility (on 5th and 6th Freedom routes) as well as no 7th Freedom rights for cargo or passenger operations. The limited pricing and routing flexibility did not allow an airline to provide lower fares than those on offer by airlines with 3rd and 4th Freedom routes (Tretheway, 2005).

Many of these issues were later rectified, with the exception of cabotage and 7th Freedom passenger rights, when the Open Skies was renegotiated in 2005[8] (Tretheway, 2005).

Both these agreements resulted in greater transborder traffic and facilitated the transfer of international passengers.

Europe

Prior to the formation of the European Union, the individual nations of Europe each had bilateral agreements with one another. This resulted in a patchwork arrangement throughout the continent that on one hand had permissive agreements between countries with restrictive agreements between others.

The European Union made the decision to de-regulate the industry, although unlike the United States, did so through the gradual implementation of packages. The 1st and 2nd packages came into force between 1988 and 1990. These measures abandoned the necessity of a 50-50 split between national operators on routes between countries and allowed for the provision of services to smaller regional airports. The third package

[8] The new agreement, occasionally referred to as Canada-US Open Skies Agreement, Part 2, was implemented on September 1, 2006.

began in 1993, and eliminated the restrictions on routes between member states, replaced national ownership requirements with EU ownership rules (50% or more) and gave airlines greater pricing freedoms. Countries were also given the right to protect smaller routes that were needed to maintain accessibility but would otherwise be economically unviable to operate.

The final aspect of the 3rd package was fully implemented in 1997: this was the removal of restrictions on any route within the EU. This enabled airlines to operate routes wholly within countries other than their country of registration; the right commonly referred to as cabotage. The full implementation of the three packages created an Open Skies environment in the European Union.

Deregulation and subsequent liberalisation led to an increase in connectivity within Europe (Burghouwt, Hakfoort and van Eck, 2003; Arvis and Shepherd, 2011). In contrast, deregulation led to a concentration of services in Brazil’s major airports (Costa, Lohmann and Oliveira, 2010).

International Agreements on the North Atlantic

The initial Bermuda Agreement between the United States and the United Kingdom was one of the first bilateral treaties signed following the Chicago Convention. The agreement was relatively restrictive in nature and stipulated the airports to be used, the routes that could be flown and the distribution of traffic between carriers. This was replaced by the Bermuda II agreement in 1978 which relaxed some conditions (e.g., 2 airlines to 4 airlines), but nonetheless remained relatively restrictive.

The restrictive nature of Bermuda II[9] limited operations at Heathrow Airport to only four airlines: American Airlines, British Airways, United Airlines, and Virgin Atlantic. Virgin Atlantic was nominated to replace British Caledonian, United Airlines replaced Pan-Am World Airways (having acquired its London routes), whilst American Airlines

[9] Following the 1991 revision.

replaced Trans World Airlines having obtained its routes from that airline (Dennis, 1994).

The US had separate bilateral agreements with other European countries until the EU-US Open Skies Agreement was signed in March 2008.

In contrast, Canada and the UK signed a relatively liberal bilateral in 1987 that neither restricted the number of airlines allowed to operate nor the routes flown[10]. Like the US, Canada signed numerous bilateral agreements with most EU countries in the 1980s and 1990s with various degrees of accessibility being granted (de Mestral, 2005).

These agreements were superseded by the Open Skies Agreement between Canada and the EU that was signed in December 2009 and implemented in late 2010[11].

These policies greatly influenced airport selection and network strategies. Prior to 1990, Prestwick was the designated gateway airport for services on the North Atlantic, thus mandating stops at the airport (Pagliari, 2005). The implementation of the EU-US Open Skies agreement removed any airport restrictions that had been in place for UK airports and led to the mass movement of air services from LGW to LHR (Humphreys and Morrell, 2009). The impact of air transport policy was evident in the impact suffered by both airports from the policy changes: Prestwick was bereft of any North Atlantic services by 1997, and Gatwick suffered a drastic decline in North Atlantic services following the EU-US Open Skies.

These policies also impacted network strategies and were considered a key aspect in the formation of hub and spoke networks (Alderighi et al., 2005).

At the national level, Canada had a number of restrictive international bilateral agreements in place; as such, Oum and Zhang (2001) reasoned that Canadian traffic

[10] This agreement replaced the 1949 Canada-UK Air Services Agreement. However, until April 1997, all international flights were required to use Mirabel Airport for its Montreal flights (Freudmann, 1996).
[11] The agreement was due to come into effect one month following the last appendix to be concluded (August 6, 2009) (European Union, 2010).

would be routed via the United States. However, the events of September 11, 2001, and the ensuing implementation of Open Skies agreements by Canada with both the US and the EU seems to have countered this initial supposition.

Although bilateral and multilateral agreements only provide a framework for operations, they are nonetheless legally binding and impact not only services at the international level, but also upon airports and airline strategies and operations.

2.2 Airline Network Structures and Strategies

There are three main types of airlines: 1) legacy or full-service carriers; 2) charter carriers; and 3) low-cost carriers. These airlines differ based upon various factors such as history, operations, and business focus.

2.2.1 Full-Service, Charter and LCC Carriers

Full-Service Carriers (FSCs)

Full-service carriers[12], or legacy carriers, have traditionally developed from national flag carriers, and as such tend to have flights both within their base country of operations and to other countries: this was especially the case in Europe. In the US, none of the FSCs were ever flag carriers but developed from private interests, although some airlines like Pan-American World Airways did initially have preferential privileges in developing international routes.

Following deregulation in the 1980s and 1990s, most European flag carriers transformed into private enterprises. Some FSCs in Asia and Africa, however, were not

[12] According to ICAO (2004, p185), "a full-service carrier is an air carrier, typically a traditional national or major carrier that operates on a relatively extensive route network (thus also referred to as a network carrier) and provides a full range of services including different seating classes, in-flight entertainment, meals and beverages, on-board store, and ground facilities such as waiting lounges for premium class passengers or frequent flyer programme members".

deregulated and continue to operate either as wholly state-owned entities or with a controlling interest by the government.

Full-service carriers normally have multi-cabin options on their flights, especially on intercontinental services. Although it was common to offer a three-cabin layout (First, Business and Economy) on most flights, the cabin layout has since changed to reflect consumer demand and can even be route specific to optimise revenue. Some carriers now offer First, Business, Premium Economy, and Economy[13] on one route, whilst on another route offer a single-class Economy cabin to reflect passenger demand.

Another aspect of FSCs is the utilisation of hub and spoke networks. This type of network focuses upon a hub airport through which traffic is funnelled to other connecting flights. It has been noted that FSCs rely upon the HS configuration to develop sufficient feed for their intercontinental flights, although HS and PTP systems can co-exist (Alderighi et al., 2005). A more detailed explanation of hub and spoke networks will be presented later in the thesis.

However, growing competitive markets forces have spurred some FSC carriers to develop or acquire low-cost subsidiaries. These units have been developed to serve segment markets, to establish a testing ground for services prior to implementation on mainline services, or as a competitive response to LCCs (Gillen and Gados, 2009). Previous attempts at developing LCC units in North America have been unsuccessful, primarily due to the lack of integration between the LCC and mainline branches of the airline (Gillen and Gados, 2009). Although there are clear differences between LCCs and FSCs, Graf (2005) identified possible strategies that FSCs could utilise to overcome the incongruities for successful operation.

Whilst some LCC units are used primarily to operate within Europe (or North America) such as Vueling (IAG) or Transavia (AF-KLM), others such as Rouge (AC) and Eurowings (EW) are primarily utilised for long-haul routes.

[13] The nomenclature may vary between airlines, but the basic aspects of each service cabin remain consistent amongst air carriers.

Low-Cost Carriers

The LCC[14] operational model differs from that of FSCs due to their low-cost structure, and their tendency to focus on point-to-point service.

Whilst the low-cost carrier model has proven itself to be successful in the provision of short-haul services, its viability on long-haul markets remains suspect. The cost advantages realised on short-haul routes may not be transferable to the long-haul market as more 'frills' are required the longer the journey (Francis et al., 2007). However, Francis et al. also suggested that LHLC (Long-Haul Low-Cost) services could be viable on either a leisure market or on a dense PTP route.

Daft and Albers (2012) conducted a profitability analysis which found that long-haul operations by LCCs could be profitable at secondary airports if situated within 50 km of the preferred destination. However, they also noted that LHLC was highly sensitive to load factors and ancillary fees. In addition, their analysis utilised belly-hold cargo in the model, something which is not commonplace amongst LCCs.

In their analysis of the North Atlantic market, De Poret, O'Connell and Warnock-Smith (2015) found that in addition to transfer passengers and belly-hold cargo, the utilisation of secondary airports was key to cost savings.

The ability of LCCs to incorporate these aspects into their long-haul operations remains questionable. At present, LCCs operate bases not hubs and focus on point-to-point services. The development of transfer traffic would necessitate offering connecting tickets and increase baggage handling services, two items which would increase costs. In addition, the current scheduling found at many LCC bases lack the temporal concentration needed to transfer passengers (Pels, 2008). This would force LCCs to restructure their schedules to provide sufficient feed for long-haul traffic and would

[14] According to ICAO (2004, p185), the term "low-cost carriers refers to an air carrier that has a relatively low-cost structure in comparison with other comparable carriers and offers low fares or rates".

further dilute their revenue stream with the necessity to abdicate off-peak (and less expensive) landing slots in certain instances.

Leisure (Charter) Carriers

Charter carriers first developed in North America during the 1960s. They offered package tours to leisure destinations and allowed consumers to purchase vacations that included both flights and accommodation. Their primary advantages were their lower costs (compared with FSCs) and their omission from IATA regulations and bilateral agreements (Doganis, 2010). In essence, charters are the ‘original’ low-cost airlines (Pels, 2008).

Charter airlines have been able to compete effectively on long-haul routes with services to markets where there is relatively little higher yield business or first class traffic (Doganis, 2010). However, whilst initially the charter airlines operated solely non-scheduled flights (hence their ability to circumvent IATA regulations), almost all have now evolved into what is commonly termed ‘leisure carriers’. Whilst these airlines still offer package tours which include flights, they now offer regularly scheduled flights to popular destinations to complement this aspect of their business without the requirement to purchase a package.

In contrast to LCCs on the North Atlantic, it should be remembered that charter or leisure airlines have been operating flights for decades and have an advantage from their longstanding operations (Pels, 2008).

Airline Business Strategies

Whilst the previous categories appear to have firm delineations amongst themselves, there is not one business model unique to each airline category. There is fluidity between the airline types as competitive factors have forced airlines to adapt to retain market share, especially against new entrants.

Airlines must consider many factors when determining capacity, with the key factors being 1) strategic choices, 2) profitability and investment, and 3) operational choices (Alderighi and Cento, 2004). These factors manifest themselves in different airline strategies. An airline may wish to focus either on economies of density or on economies of scale (Jara-Díaz, Cortés and Morales, 2013).

When an airline focuses on density, they pursue a strategy of route densification with either greater frequency or larger aircraft, or a combination of the two. Airlines that focus on scale implement new routes to expand their network and have greater scope. The choices implemented may be initiated by the airline or result from changing industry factors; they are also dynamic as fluctuations within the industry may encourage an airline to change strategies.

Whilst most choices are made during normal market conditions, economic or other impacts[15] can also influence an airline's strategic choices, especially following a negative impact. Most airlines react to negative circumstances by either downgauging the aircraft utilised on a route or reducing service frequency, although airlines may opt to discontinue service on a route altogether.

However, given the differences between air carriers, airlines will have different responses to the same impact. For instance, following September 11, AF, BA, LH and SK responded minimally whilst both EI and IB had a stronger reaction (Alderighi and Cento, 2004).

Regardless of the business model or strategy utilised, the overriding goal of any airline is to be financially sustainable.

2.2.2 Hub and Spoke vs. Point-to-Point

Hub and spoke networks (HS) in the aviation industry were first developed by FedEx in the 1970s (Doganis, 2010) and were designed so that the hub airport is the focal or

[15] An example would be the events of September 11, 2001, or the SARS crisis in the spring of 2003.

central point of the airline network. Air services from spoke airports to the hub airport provide passenger feed to the airport. This utilisation of feeder routes into major ports was previously established in other transportation modes and have long been noted in their importance in establishing connectivity (Taaffe, Morrill and Gould, 1963).

Airlines that utilise HS do so to maximise connections to (and from) the hub airport and often rely upon the use of 'waves' to facilitate passenger connections. Waves are designed to maximise the number of incoming flights within a given span of time to provide feed to flights (in another wave) leaving the hub airport. In order to maximise the transfer (and benefit from the economics of density), the waves must occur within a given span of time, allowing sufficient time for the passengers to be able to transfer but not so long that the connection time becomes unwieldy (Fageda and Flores-Fillol, 2012). One of the key elements in designing waves is the minimum connect time (MCT) at the hub airport: if the arrival times of the incoming flights and the departure times of the outgoing flights fall under the MCT, then any possible connection is lost and the benefit of operating a HS is negated. When waves are scheduled properly, then the number of possible connections is optimised for arriving passengers and provides sufficient passenger feed to operate the outgoing services with the necessary load factor to make the flight financially sustainable, thus increasing connectivity (Alderighi et al., 2005). Spatial concentration and temporal concentration are the two key elements of a HS network (Burghouwt, Hakfoort and van Eck, 2003). This is especially important for long-haul services which necessitate the use of larger aircraft, thus requiring higher passenger numbers to maintain operational viability.

Although hub airports tend to be amongst the largest airports, most airports only operate as a hub for one airline. Airlines tend to dominate the share of transfer traffic at their hub airport, and become even more dominant as their operations develop (Doganis, 2010). Dennis and Doganis (1989) noted that passengers prefer to connect onto another flight operated by the same carrier rather than to transfer to another carrier. It should be noted that with the development of codeshares and airline alliances, many passengers are now unaware that they are transferring to another airline as their ticket will continue to show a flight code consistent with that of the airline from whom they purchased their ticket. Alliance partners have co-ordinated their schedules to align their services between their respective hubs to provide passenger feed for their partner's regional services (Button, 2009). This supports Dennis's (2005) research that found airline hubs are attracting more services from alliance partners, something that is a key factor in airport selection.

Hub airports often resulted from an airline's development be it through its history (initial start-up location) or growth (mergers). Although some airports have developed because of their geographic position ('gateway airports') that does not in itself confer hub operations. Geographic location may, however, contribute to the growth and development of a hub. It is important to remember that a hub airport only operates in that capacity for one airline[16]; merely having a high number of services does not make an airport a hub[17].

HS rely upon flights from 'spoke' airports and unlike hubs which tend to be in large cities, are often in smaller cities or communities. As these spoke airports are in areas with smaller populations (and smaller surrounding catchment areas), the aircraft utilised to provide services are often single-aisle jets (or turboprops). Whilst there may be sufficient demand to operate services to hub airports or to other large airports, there is often insufficient demand to provide services to other small airports[18]. The implementation of regional jets may have improved and extended services to more spoke airports, but they have also expanded catchment areas (O'Connor, 2003).

The implementation of the Airline Deregulation Act (1978) in the United States intensified the usage of the HS system (Button and Stough, 2000). Adler and Golanyi (2001) found hub and spoke systems to be effective for airlines wishing to maximise

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[16] Chicago O'Hare Airport (AA and UA) and Toronto Pearson International Airport (AC and WS) are two examples of airports that operate as hubs for more than one airline.
[17] The characteristics of a hub airport are discussed in Section 2.4.1.
[18] An exception to this is in Canada where the relatively sparse population over a large geographic area has contributed to services between non-hub airports as well as from smaller airports to even smaller or more remote communities. The service between Ottawa (non-hub) to Iqaluit in the northern territory of Nunavut, is an example of the former whilst services between Iqaluit and Rankin Inlet is an example of the latter.

profit and market dominance. It has also enabled airlines to prevent competitors from entering the market by increasing frequency on routes.

The HS is especially useful in the development and sustainability of long-haul flights. Alderighi et al. (2005) found that full-service carriers require hub and spoke networks to have sufficient feeder traffic to sustain intercontinental flights, a view supported by Francis et al. (2007) who noted the importance of hubs for long-haul services.

Hubs draw their feed from 1) their local catchment area, 2) short-haul flights from spoke airports that rely upon hubs for additional connectivity, and 3) medium to long-haul transfer traffic that need to transfer to other medium to long-haul flights to complete their journeys. The utilisation of hubs dramatically increases connectivity for passengers and is quite common amongst most FSCs (Doganis, 2010). Numerous airlines reorganised their operations to divert more of their traffic through their hub airport; at the same time, many Canadian and US airlines developed multi-hub systems (Reynolds-Feighan, 2010).

The choice of developing single hub versus multi-hub networks is based upon numerous factors, including geography, history, and strategy.

Geography has been noted as a factor in the development of multi-hub networks within North America (Reynolds-Feighan, 2010). This can provide benefit to both passengers and the airline: passengers are less likely to have to 'backtrack' to catch a connecting flight whilst airlines are able to offer multiple destinations for transferring passengers and achieve sufficient passenger numbers to make long-haul flights financially viable.

Goedeking (2010) outlined two multi-hub strategies: 1) scale strategies that optimise transfer traffic volume and spatial coverage, and 2) scope strategies that emphasize yield over volume. He identified that networks in the United States are an example of the former, whilst the operational structure implemented by Air France/KLM following their merger is an example of the latter.

In his work, Burghouwt (2014) identified eight factors for utilising a multi-hub strategy: 1) spatial coverage, 2) level of demand, 3) greater frequency, 4) capacity constraints (at primary hub), 5) strategic positioning and entrant deterrent, 6) better aircraft utilisation, 7) bilateral restrictions and 8) labour/unions. He also noted that the presence of competition reduces the likelihood of utilising a multi-hub network.

Düdden (2006) noted that both capacity constraints and geographic specialization are viable reasons for the development of multi-hub networks. Sismanidou (2013) also found that multi-hub networks may be utilised when a significant amount of traffic can be generated at the secondary hub airport.

However, the greater complexity resulting from multi-hub networks often provide less benefit than single-hub networks (Burghouwt, 2014). Although it was found to be more convenient for passengers, multi-hub networks dilute the strength of a single hub (O'Kelly, 1998), and were found to be less cost effective (Wojahn, 2001).

Multi-hub networks can either be configured within a hierarchical structure based upon a primary hub airport supported by secondary hub airports, or with hub airports operating on an equivalent basis (joint-hub operation). Notwithstanding the configuration utilised, most long-haul flights are operated by FSCs from their hub airports. The utilisation of HS networks does not however, imply that an airline utilises HS to the exclusion of other methods of service provision. It is not unusual for airlines to provide point-to-point (PTP) services to complement its HS.

Swan (2002) posited that instead of a purely hub and spoke network, a more connected network will develop with greater linkages with secondary airports. This is supported by Alderighi et al. (2005) who found that airlines may develop PTP services to complement their HS operations. This is something that can be effectively utilised as some secondary airports which serve niche markets or provide greater geographic specialisation (Sismanidou et al., 2013). However, Sismanidou et al (2013) also found that the introduction of a new spoke was less effective when compared to a 20% reduction in connection times at the hub airport.

This does not prevent airlines from utilising their hub airports to develop routes to non-hub airports in other markets. Delta has implemented what could be considered a hub-bypassing strategy as the airline uses Atlanta and New York to serve both primary and secondary markets in Europe (Suau-Sanchez and Burghouwt, 2011).

However, HS networks in North America and Europe did not develop under the same conditions: Europe is comprised of numerous independent and politically distinct nations whilst both Canada and the US are comparatively large geographically compared to the individual countries that comprise Europe. In addition to competing national interests and the limitations of bilateral agreements, the travel distances in Europe are much shorter, thus making competition from other modes (e.g. rail) a feasible alternative (Burghouwt and Hakfoort, 2001). In addition, the recent development and infiltration of LCCs in the European market may dilute traffic from FSCs, and thus undermine the viability of spoke routes and the concomitant feeder traffic for long-haul flights (Dennis, 2007). Whereas many European hubs rely upon their local catchment area and feed from short-haul flights, Middle East carriers rely upon transfer passengers from emerging markets (O'Connell and Bueno, 2016). The diversion of non-European passengers through Middle Eastern hubs rather than European hubs is similar to European LCCs in undermining the viability of some European FSCs routes (O'Connell, 2011). This is supported somewhat by Bel and Fageda (2010) who found that hub airports lost market share Vis-à-Vis smaller airports on long-haul flights from 2004 to 2008.

Given the variance in operating economics between FSCs, LCCs, and leisure airlines, it is not surprising that whilst FSCs tend to rely upon HS networks, LCCs rely almost solely upon PTP services (Doganis, 2010). This can impact FSCs as the presence of LCCs at secondary airports can dilute an FSC's feeder traffic. However, no impact was found when the LCC provided service from a neighbouring airport (Fageda and Flores-Fillol, 2016). It was also found that some FSCs long-haul flights were profitable in the absence of low-cost carriers on the same routes (Bel and Fageda, 2010).

Regardless of their location, hub and spoke networks developed because they were financially beneficial to airlines. If it was possible to operate point-to-point services economically, then hub operations would cease and airlines would only have PTP operations (Oum, Zhang and Zhang, 2016). This is in part determined by passenger traffic with premium passengers preferring point-to-point services if there is a sufficient frequency (Düdden, 2006) and leisure passengers more willing to consider a one-stop or connecting service (Gayle and Wu, 2014).

2.2.3 Concentration versus dispersion

One of the key aspects influencing route selection is that of improving aircraft technology (Doganis, 2010). The aircraft being produced currently are made of lighter materials (with a resultant reduction in aircraft weight and lower fuel requirements) and have improved engines resulting in a lower fuel burn. As such, the CASK has been reduced over the last two decades increasing the possibility of routes which had been previously financially unfeasible. The improvements have also enabled longer flights, and has contributed to many airlines switching one-stop direct services to non-stop flights (Swan, 2002).

When twin-engine jets were introduced, it was believed that they would lead to hub-bypassing; in fact, they reinforced services from hub airports (Dennis, 1994). Likewise, the B-777 and A-340 were envisaged as 'hub slayers' (O'Connor, 2003); the somewhat more recent B-787 or Dreamliner has been labelled as a 'hub buster' (Maslen, 2016). The situation on the North Atlantic has been dynamic, and the results reflect the specific geography in the research and the time frame being examined.

Dennis (2007) found that from 1994 to 2004, the traditional US gateways of BOS, LAX and MIA lost market share to US airline hubs, ATL, EWR, PHL and IAD. Dennis did, however, note that some secondary routes remained viable due to the presence of cargo and strong ethnic ties, as well as to some leisure destinations. This was supported by Bel and Fageda (2010) who found that European hub airports lost market share to non-hub airports on intercontinental flights from 2004-2008.

Cosmas, Belobaba and Swelbar (2010) found an overall increase in both non-stop services between Europe and the US, as well as the number city-pairs from 2000-2007. In their examination of Spanish airports from 2001 to 2005, Burghouwt and Suau-Sanchez (2011) found that the spatial concentration of flights varied over the time period examined and that there was an overall de-concentration in flights to North America by US airlines. This contrasts with Dennis' findings that PTP intercontinental services were being discontinued by European based carriers (2005). Burghouwt (2014) also noted that following the AF-KL merger, some long-haul services were cancelled from either AMS or CDG to strengthen services into the other, thus enabling the newly-formed airline to consolidate their position to either of their hubs.

According to ACI Europe (2014b), direct connectivity from the EU to North America declined by 8.4% from 2008-2014. In contrast, from 2014 to 2015 direct connectivity increased by 5.8% (ACI Europe, 2015a); a reflection of the importance of the temporal timeframe being examined.

O'Connor (2003) found that dispersion occurred between 1990 and 2000 with hubs losing passengers to the next tier of airports; he also noted that the shift was likely the result of both aircraft technology and deregulation. This contrasts with Dennis (2005) who hypothesised that secondary cities would continue to lose services unless provided by foreign carriers.

Düdden (2006) found that implementing a long-haul operation from a non-hub airport is viable when there is a high cost associated with providing the feed and a high demand for PTP service; there was, however, uncertainty if an FSC would begin services on such routes.

An assessment of global activity (2006-2015) found that there has been a dispersion to smaller airports, especially from 'mega' hubs. The research examined domestic and international flows, and also found that within multiple airport regions, secondary airports grew at the expense of the dominant airport (Wong et al., 2019).

There was a greater concentration and growth in direct connections (globally) to hub airports from 2004-2014, supported by the growth of alliances and other co-operative agreements between airlines. However, European hubs are losing market share to non-EU and other hubs located outside of Europe (ACI Europe, 2014a).

2.2.4 Connectivity

Although the term 'connectivity' is frequently utilised, it is multi-faceted and can be defined and interpreted in various ways depending upon which aspect is being considered and to what it is being applied.

At its simplest level, connectivity within the aviation context refers to the ability to travel from one airport to another. If there is a direct flight linking the two airports in question, then this is 'direct' connectivity; if a change of planes or connection is required, then the two airports are linked through 'indirect' connectivity.

In general, direct connectivity is considered to be of greater benefit than indirect connections, although indirect connectivity enables passengers to connect when there is insufficient demand for a direct service (ACI Europe, 2014a). Direct air links facilitate face to face contacts with collaborators in other cities, and thus fosters intercity agglomeration economies (Brueckner, 2003). The presence of business links was found to be especially important in the provision of international air links (Matsumoto, Domae and O'Connor, 2016). If a regional airport did not have direct air links, this would result in a leakage of demand to nearby larger airports where direct services were available (Halpern and Bråthen, 2011).

The benefit of a connection is often described in terms of 'quality'. Quality can be measured as a function of time (Sismanidou et al., 2013). Within this context, the quality of an indirect connection is not equal to the quality offered by a direct connection (Burghouwt and Veldhuis, 2006).

However, quality can also refer to the availability and viability of indirect services via hub airports (ACI Europe, 2014b). Within this context, the overall quality of connections has declined since 2011 (ACI Europe, 2014b).

Connectivity can also be defined as a node's importance within the global air transport network (Arvis and Shepherd, 2011). This measure is especially useful considering the growth of hub and spoke networks as the utilisation of hubbing dramatically increases connectivity for passengers (Doganis, 2010). ACI Europe found a tendency toward greater hub concentration which they attributed to the growth of alliances and other forms of airline co-operation (2014a). It was also found that in Europe connectivity is largely driven by FSC services (ACI Europe, 2014a).

Connectivity between Europe and North America increased by 29% from 2004 to 2014 (ACI Europe, 2014b). ACI Europe noted that while direct connectivity decreased by 8.4% from 2008-2014 (2014b), the increase was due to greater indirect connectivity. The difference in time periods being compared is of importance as there were more non-traditional airlines operating on the North Atlantic in 2007 than in 2014 (OAG).

However, it should also be noted that although over 60% of connections from Europe to other world regions utilised European hubs, the number of connections for onward travel outside of Europe had declined by 10% since 2004 (ACI Europe, 2014b)

2.3 Airline Co-operation

2.3.1 Alliances

Airline alliances have been in existence for several decades. Whilst the initial alliances were smaller entities, they have since developed into global conglomerations with three major alliances currently in operation on the North Atlantic: Oneworld, SkyTeam and Star Alliance although none of them were in existence in January 1997.

It should be remembered that alliances are dynamic entities whose membership fluctuates through additions and detractions. These movements could be the result of a bankruptcy, merger, a change in business strategy, or an airline changing alliances. The key aspect of this is that an alliance partner could become a competitor or vice versa.[19] There is also nothing to prevent either the formation or dissolution of an alliance as was seen when Atlantic Excellence and Qualiflyer dissolved in August 2000 and October 2001 respectively: Wings ceased in September 2004 when KLM merged with Air France. Despite their dissolution, airline alliances have developed into a dominant force on the North Atlantic controlling 80% of the market in 2011 (Pearce and Doernhoefer, 2012).

Alliances have formed for numerous reasons including ownership rules and financial resources. Many alliance partners participate in code-sharing arrangements which have contributed to increased revenues (Zou and Chen, 2017). The growing importance of code-sharing on international flights is evident as only 12.0% of all international flights in 1997 were codeshares; by 2012, this had risen to 45.7% (Allroggen, Wittman and Malina, 2015). Alliance partners often attempt to co-ordinate their schedules to implement seamless travel, usually through partner hubs. In addition to the benefits to the partners, passengers benefit from lower fares interlining between alliance members (Bilotkach, 2007).

The development of alliances has also led to *de facto* multi-hub services (Button and Stough, 2000). Alliances have helped stimulate significant growth on hub to hub traffic (O'Connor, 2003; Iatrou and Alamdari, 2005; Gayle and Brown, 2014). This is especially true when the linkages were between parallel or complimentary services (Zou and Chen, 2017). This supports Oum and Park (1997) who posited that global alliance groups would develop a dominant hub on each continent to facilitate air travel linkages.

Intercontinental flights from Europe were focused on four hub airports, AMS, CDG, FRA, and LHR, primarily as a result of the rise of global airline alliances (Burghouwt and

[19] The exact membership of the different alliances will be discussed in Chapters 4 and 5.

Hakfoort, 2001; Dennis, 2005). This was further supported by Burghouwt and Veldhuis (2006) and ACI Europe (ACI Europe, 2014a) who found that global alliances were becoming more important for hub airports.

In contrast, Pitfield (2007) found some US airlines opened services to non-hubs in the EU. Pitfield also found that whilst traffic on airlines within a parallel structure remained static, those airlines within a complementary alliance saw an increase in passenger traffic. O'Connor (2003) noted that in addition to shifting traffic to hubs, alliances have enabled more connections to secondary airports. This is contrary to Oum and Zhang (2001) who in their examination of the Canadian aviation market believed alliances would reduce traffic to secondary markets. More recently, Zhang et al (2019) found that the presence of indirect services may actually hinder the development of direct services; however, they found that this was not homogeneous amongst alliances.

The highly competitive nature of the North Atlantic has undoubtedly influenced airlines. The struggle to maintain financial viability has also forced airlines to join alliances as a defensive measure (Iatrou and Alamdari, 2005). However, the ownership rules in effect on both sides of the North Atlantic and the restrictive nature of bilateral agreements have undoubtedly also played a contributing role (Button, 2009).

2.3.2 Joint-Ventures

Although alliances provide the basis for closer cooperation between airlines, they do not imply that all airlines will work together in the same level of integration. The network structure of each airline and the passenger demand in their own 'home' market (and passenger demand to their home market) will determine the level of cooperation, often through codeshares, to facilitate the movement of passengers. They are also an effective mechanism for reducing both risk and costs (Bilotkach and Hüschelrath, 2019).

The development of immunised joint-ventures was found to be a key factor in creating linkages between airlines and a cohesive strategy to coordinate schedules to improve indirect connectivity (Pearce and Doernhoefer, 2012; Zou and Chen, 2017). J-Vs were also found to be a key factor in increasing traffic on routes (Iatrou and Alamdari, 2005).

Anti-trust immunity is a key component in the development and operation of a J-V; without it, airlines would be unable to coordinate schedules or to set fares, both aspects which are vital to the development of synergies and reducing operation costs whilst optimising revenues. Immunity for joint-ventures on the North Atlantic between US and European-based airlines must be granted by both major governmental bodies: The US Department of Transport and EU Regulatory Authorities. If either body refuses consent, then permission is withheld. It is also important to note that liberalisation has also played a key role as anti-trust immunity (Pearce and Doernhoefer, 2012).

2.4 Airport Classification

There are numerous methods that can be utilised to classify airports: air traffic movements, passenger traffic, and functionality are some of the most common measures. Although some classifications may be based within a national or regional context, given the focus of this study, airport importance must be determined within a global context.

Determining an airport's importance can be done either through the utilisation of either a ranking system or through allocation to a particular airport category. The classification of the airport could be used through benchmarking techniques or by analysing various metrics. Whilst there are numerous metrics that can be used, there are drawbacks to each when used in isolation rather than in combination with one another. The most common metrics are discussed below.

Air traffic movements (ATMs) are commonly used as a proxy to measure the size of the airport according to the premise that size reflects importance. This measure has the benefit of being able to compare airports from different regions. Although there is validity in using this technique, it does not account for either the size of aircraft being utilised nor the number or type of passengers utilising the airport. An airport with a high frequency of small turbo-props and few double-aisle long-range aircraft may have a high number of ATMs but a comparatively small number of passengers and a relatively small ratio of connecting passengers.

In lieu of ATMs, passenger traffic is also used as a proxy to determine the importance of an airport. The most common method involves the total number of passengers, although the proportion of connecting passengers has also been used to determine whether an airport is a 'hub'. The drawback to this is that cargo movements are omitted from determining the overall importance of the airport, although workload units (WLU)[20] are a useful metric that combine passenger and cargo traffic. Whilst most studies have focussed upon either passenger traffic or cargo traffic, the omission of one or the other could hinder assessing the overall importance of the airport within an airline's network[21].

2.4.1 Hub versus Non-Hub

There are numerous methods to categorise airports. Many airport classifications recognise the limitations of relying upon a single measure and utilise a combination of the metrics discussed[22].

Benitez (2013) classified airports into four functional/spatial categories: 1) Tourism, 2) Business, 3) Normal and 4) Remote. A study of US airports used a cluster analysis based on 1) gates, 2) number of terminals, and 3) terminal concepts (Adikariwattage et al., 2012). The cluster analysis resulted in four categories based broadly upon domestic/international orientation, passenger volume and transfer passenger volume. Not surprisingly, the largest airports were all classified as international and with a high number of transfer passengers.

[20] The WLU metric equates 1 passenger as 100 kilograms of cargo.
[21] This is obviously not an important factor when assessing cargo-only airports which, by definition, do not have any passenger traffic.
[22] Other metrics that are used in airport classifications include capacity measurements (e.g., runway length, number of gates) and financial measurements (e.g., EBIT, EBITDA). These metrics may be referred to but will not be discussed in this study.

Another study classified airports using flow centrality incorporating both traffic generation and connectivity in conjunction with a cluster analysis (Rodríguez-Déniz, Suau-Sanchez and Voltes-Dorta, 2013). This methodology was developed using US DOT data, and as such did not incorporate any international trips.

The most common delineation between airports is the broad categorisation of 'hubs' and 'non-hubs'. However, there are different definitions of a hub airport. Jorge-Calderón (1997) defined a hub as one of the two most important airports in a country. In their analysis, Derudder, Devriendt and Witlox (2007) identified centrality and intermediacy as the two core components of a hub with the former having primarily O-D traffic with the latter having a preponderance of transfer traffic. Although both interpretations have some validity, others state that the operational functionality of an airport determines its status as a hub airport (Doganis, 2010; Bilotkach and Hüschelrath, 2019). It is this definition that will be utilised throughout this research.

As such, it is also important to examine the term 'gateway' hub. This term has been used to describe airports (or cities) which provide a gateway into a country, although they can also act as an intermediately located transfer point for passengers (Taaffe, Morrill and Gould, 1963). They are often situated in strategic locations, and can retain their importance within the overall network as a result of their initial primacy (Weber and Williams, 2001). Although these airports play an important role in the movement of passengers, if the airport does not have the operational functionality of a hub within an airline network, then it cannot be classified as a hub per se.

A hub airport plays a key role within an airline network, facilitating the transfer of connecting passengers from one flight to another operated by the same airline or to one of the airline's partners. Whilst most airlines in Europe operate single-hub networks, multi-hub networks are the norm in North America, a reflection of the size of the countries in either continent. Within multi-hub networks, the hubs themselves may have different roles within the network with each hub in a different geographic region, although some may be situated relatively close to one another; in these cases, each airport draws upon different catchment areas which provide sufficient traffic for the airline's operations. The hubs may also provide different air services to destinations that are unique to each airport because of their geography or history.[23]

Although each hub may be the principal airport for the airline in that geographic region, this does not equate to uniform importance within the airline. Even in multi-hub networks, one hub may occupy a position of primacy within the network, thus assigning the other hubs in the airline as 'secondary' hubs.

Classifying airports as either 'hub' or 'non-hub'[24] leads to a very broad categorisation of airports. The challenge with this classification method is that 1) it tends to be airline specific and 2) it simplifies the hierarchical importance of airports within the airline network.

Most classifications utilise categories such as hub airport, regional airport, and local airport which imply a hierarchical structure. In their impact analysis, Lieshout et al. (2015) delineated airports into three categories according to the number of total weekly flights. Burghouwt and Hakfoort (2001) used a cluster analysis resulting in five categories, with two being hub (primary and secondary) and three non-hub categories (medium airports, small airports, and very small airports).

Although each airport has its own catchment area from which it draws its passengers from that can delineated, airport classifications rarely take into account the geographic element or situation of each airport (Grubesic, Matisziw and Zook, 2008). There are however, some studies that do consider the population or economic importance of the city to that the airport is affiliated or associated with (Derudder, Devriendt and Witlox, 2007). Graham (1998) noted that in categorising major or regional airports, 'peripheral' location often reflects accessibility in terms of time and cost as opposed to actual distance.

[23] The provision of unique services due to historical reasons is not limited to multi-hub networks with numerous examples present in single-hub networks.
[24] Non-hubs are also referred to in this thesis as spokes.

2.4.2 Spatial Location and Centrality Measures

Although airlines have developed their operations to exploit the geographic advantages of their airports, the most important influence on airports and airline networks has been geopolitical rather than strictly geographic (Mossa et al., 2005). The role of geography in an airport's importance within the global airport network and within individual airline networks should not, however, be overlooked.

Airports have normally developed within accessible distances of urban centres, with larger airports being often situated near larger urban centres, and thus directly reflecting the importance of a city and indirectly the importance of the city's hinterland. It is therefore necessary to examine the geographic aspects influencing city growth and the resultant urban hierarchy.

The formation of economic location theory can be attributed to Johan von Thünen (1826) when he postulated his bid-rent model of agricultural land use within a concentric ring model. This was followed by Alfred Weber (1909) with his theory on industrial activity encompassing the impact of agglomerative/degglomerative effects and the situation of industry at locations which minimise costs (labour and transport). Location theory was then applied within the urban context by Walter Christaller (1933) and his central-place model of a nested urban hierarchy. His model postulated that higher order settlements would provide more and higher order goods whilst smaller order settlements would provide fewer goods and of a more basic nature. August Lösch (1940) built upon Christaller's work although his model was less rigid in nature and allowed for specialised services being in unique locations as opposed to the ubiquitous provision of a particular good or service in all settlements occupying the same level as postulated within Christaller's nested hierarchy.

These models focused upon the vertical relationship between that of a city and its hinterland. Central Flow Theory has been subsequently developed as a complement to Christaller's work, and focuses upon the horizontal relationships existing between cities (Taylor, Hoyler and Verbruggen, 2010). This theory highlights the importance of inter-city interactions and has been used to examine comparative connectivities within the global network (Derudder and Taylor, 2018).

Notwithstanding the theoretical nature of their models, the key factors identified have played prominent roles in understanding the basis of human settlement and the resultant urban structure.

There are two key concepts to consider when evaluating an airport's geographic location: intermediacy and centrality (Freming and Hayuth, 1994).

Intermediacy refers to a place that has benefitted from its location, often between important origins and destinations, and developed into a transfer point. Within the aviation context, this can be an airport that acts as a transfer point for passengers or as a gateway airport. Centrality refers to a place that provides higher level services and is situated such that it strategically benefits from its location through the provision of transportation links. This would be reflected in a major origin or destination airport. The presence of one attribute does not necessarily preclude the presence of the other attribute, and there are many places that possess the attributes of both centrality and intermediacy.

Within the aviation context, an airport that acts as an origin and/or destination for passengers, can also function as a hub airport for transfers, just as hub airports used predominantly for connections can also be an origin and/or destination for passengers (Freming and Hayuth, 1994).

Although hub airports are often situated in either the country's most important economic city or capital city, centrality should also be considered to allow for more linkages to spoke airports (Button and Stough, 2000). Derudder, Devriendt and Witlox (2007) noted that functional centrality needs to be assessed whilst Costa, Lohmann and Oliveira (2010) found that both centrality and the concentration of services to be key aspects of hub airports. Irwin and Kasarda (1991) found population density to have an influencing factor on airline centrality whilst Wojahn (2001) found that centrally located US hubs resulted in more efficient transfers for passengers and could offset weak local demand for air services.

Most European FSCs utilise a single-hub network, and an ‘eccentric’ geographic location could limit the possibility of developing a secondary hub to capture potential European feeder traffic (Burghouwt, 2014). Airline networks are themselves a measure of the relationship between airports and their associated hinterlands or functional economic regions (Grubesic, Matisziw and Zook, 2008).

The inability of most European airlines to develop viable secondary hubs could limit their capacity to expand their networks to more locations and increase their passenger numbers. Whilst larger aircraft could enhance both the range of their network and the number of passengers transported, there are limits to the growth that could be achieved and more importantly, the geographic location of its hub cannot change. This situation leaves airlines susceptible to increased competition from other airlines, especially those that are more advantageously geographically positioned.

O’Connell (2011) found that the Middle Eastern carriers were benefitting from their geographic location and were diverting traffic away from European hubs. This was supported by Grosche and Klophaus (2015) who found that both DOH and DXB were able to increase their competitive position vis-à-vis the major European hubs, although AUH had not benefitted from its advantageous geographic location.

In addition to the economic importance and geopolitical factors influencing airport and especially hub airport development, geographic factors, especially those that enable an airport to benefit from a central location, play a key role in an airport’s capacity to develop connections. Despite the importance of centrality, however, the most connected cities are not necessarily those that are the most central (Mossa et al., 2005).

2.4.3 Airport Hierarchy

There is a strong association between the importance of a city and the size of its airport (or airports) (Taaffe, Morrill and Gould, 1963; Kasarda and Irwin, 1991; Wojahn, 2001). However, whilst urban network development has been classified within nested hierarchies that are primarily based upon centrality, the same conditions cannot be applied to airport classifications. Grubesic, Matisziw, and Zook (2009) noted the lack of research investigating the geographic aspects of airport hierarchies.

However, the primary cities within the global urban network have more intense transportation links than do other urban centres (Weber and Williams, 2001) with airline networks being the most evident manifestation of inter-city interaction (Derudder and Witlox, 2005).

Zook and Brunn (2006) noted the hierarchical nature of global cities when investigating the geography of global airline networks. Their study identified 25 'global hubs' with the majority being in Europe and North America. However, their study utilised size as a proxy for importance and relied upon search engines for the fare and schedule data. In their study of East Asia, Matsumoto, Domae and O'Connor (2016) found international air links were a major factor in urban or city rank.

Smith and Timberlake (2001) noted the importance of the role of cities within the world economy when assessing airline networks. This can be linked to the hierarchical structure in spatial networks identified when examining business class flows as opposed to economy class flows (Derudder and Witlox, 2009; Van Nuffel et al., 2010).

Although there is a hierarchical aspect to airport classifications, the importance of an airport is heavily dependent upon the most important airline (or airlines) that have operations there. The operational structure of each airline network may itself be hierarchical in nature, although the degree to which differentiation occurs and the dependency upon a primary hub rather than upon a more dispersed multi-hub structure will differ amongst airlines (Ryerson and Kim, 2013). The importance of each individual airport within the network will be affected by its relative location vis-à-vis a major airport. When examining the topological properties of a network it is vital that the functional aspects are also accounted for (Wandelt and Sun, 2015).

2.5 Airport Selection

There are many reasons underlying the development of major transportation nodes or hubs. The initial development could be due to either political (capital city) or even military reasons (Taaffe, Morrill and Gould, 1963). The basis for initial development is normally strategic in nature. This can be applied to aviation where airports have developed due to their geographic location be it as a gateway or as a result of their centrality (Weber and Williams, 2001).

O'Connor (1995) identified four stages when examining long-haul route development. First, there is limited demand for long-haul services, and any such service may require a stop en-route. Second, an improvement in technology removes the necessity of an intermediate stop. Third is the 'proximity effect' when a city has become established as a hub, and its position begins to be consolidated and reinforced. The fourth and final stage is when a city has become a 'central place' or global city. Whilst O'Connor's model linked the third stage of an airport's development with a city's position in the urban hierarchy, in the fourth stage he posited that an airport would surpass the city's global importance.

2.5.1 Utilisation of Major Hubs

One-stop or multi-stop direct flights were relatively common on the North Atlantic in 1997 and is reflective of Weber and Williams' first stage. In addition, some flights also utilised technical stops (e.g., Shannon Airport) to facilitate long-haul flights beyond the technical capacity of the aircraft being utilised (Weber and Williams' second stage). Both stages are now relatively rare on the North Atlantic and would imply that North Atlantic services have now entered a mature stage of development that more accurately reflects market conditions.

Traditionally, transfer points for traffic on the North Atlantic have been European hubs. Although the majority of passenger traffic continues to utilise transfer points in Europe, the importance of hubs in the Middle East has grown (O'Connell and Bueno, 2016). One aim of the alliances is to link their major hubs (Doganis, 2010) to build even more connections. This was supported by Bilotkach and Hüschelrath's study (2012) that the majority of flights on the North Atlantic utilised an airport that was a hub airport within an airline alliance. Burghouwt (2014) also noted in his research that if an alliance partner is already providing service from a secondary hub, it is unlikely that multi-hub service will be provided.

This has resulted in fewer services to non-hub destinations in Europe in order to concentrate operations at hub airports (ACI Europe, 2014a).

2.5.2 Capacity Considerations

Whilst operational efficiency is maximised when network operations can be focussed through one hub, there are capacity issues in northern European hubs where about half of all North Atlantic services originate (Dennis, 2007); by 2035, it is forecasted that Europe's top 20 airports will be at maximum capacity (ACI Europe, 2015b). Congestion has already been found to be limiting expansion (Bel and Fageda, 2010), and airlines may have to develop secondary hubs to maintain operational efficiency or to divert traffic to regional airports (Bilotkach, Fageda and Flores-Fillol, 2013). This was supported by Evans and Schäfer (2014) whose work found that airlines will avoid airports with high delays if there are options available at alternative airports.

However, whilst Fageda and Flores-Filliol (2016) found that LCCs reduce frequencies to avoid congestion, they also noted that FSCs did not modify their behaviour and disregarded airport congestion although many airlines are mitigating delays through the incorporation of buffers into schedules (Baumgarten, Malina and Lange, 2014). This is vital as hubbing can intensify congestion during peak periods (Baumgarten, Malina and Lange, 2014).

Both Swan (2002) and O'Connor (2003) hypothesised that congestion could contribute to the dispersal or services away from hub airports and Düdden (2006) posited that capacity constraints would lead to the development of multi-hub networks. The development of secondary hubs or the utilisation of secondary airports is related to the operational factors unique to the airline. Capacity issues at Frankfurt Airport was the impetus for the development of MUC into a hub airport by Lufthansa (Düdden, 2006; Doganis, 2010).

Not all airports can increase their terminal or runway capacity, and this has enabled other airlines to benefit from a competitor's congestion issues. Redondi and Gudmundsson (2016) found that rival alliance hubs, specifically MUC (Star) and CDG (SkyTeam) benefitted from congestion issues at LHR, the primary hub of British Airways, a Oneworld member.

Burghouwt and Veldhuis (2006) found that Schiphol Airport benefitted not only from KLM joining an alliance, but also from the capacity issues constraining London Heathrow. This was supported by Redondi and Gudmundsson (2016) who found that most UK regional passengers transfer through European hubs rather than LHR.

Although many European hubs operate under time restrictions, hubs situated in the Middle East are operationally functional 24 hours a day (O'Connell and Bueno, 2016). However, Redondi and Gudmundsson (2016) found no link between the growing congestion at FRA and LHR with the increase in traffic at DXB.

Airlines that are unable to increase frequencies can only increase aircraft size if they wish to increase passenger numbers. Berster, Gelhausen and Wilken (2015) found that average aircraft size has increased at both congested and uncongested airports; they also noted that the average stage length has increased. Although not necessarily linked, larger aircraft size could reflect longer stage lengths. However, Bel and Fageda hypothesised that the B-787 would promote hub-bypassing on smaller long-haul routes (Bel and Fageda, 2010).

2.5.3 Utilisation of Secondary Hubs and Major Regional Airports

Whilst capacity constraints may be the impetus for diverting traffic from a hub, multi-hub networks may develop if a significant amount of traffic can be generated at the secondary hub airport (Sismanidou et al., 2013). However, not all airlines will develop multi-hub networks and will prefer to utilise secondary airports to alleviate congestion at their hub airport.

An increase in services at regional airports reduces the need for passengers to travel through congested hub airports (Gudmundsson, Paleari and Redondi, 2014). Some secondary airports may also be able to serve a niche market or to provide geographic specialisation (Sismanidou et al., 2013).

Some regional airports have limited premium traffic thus limiting their utility to FSCs in hub-bypassing (Dennis, 2007), while Fageda and Flores-Filliol (2012) posited that it may be feasible for FSCs to provide PTP service on longer routes targeting leisure passengers through the utilisation of a low-cost subsidiary. This highlights the different market segments, which are reflected in different seasonal patterns.

However, there is the potential for secondary airports to equal or surpass the main national hub on transcontinental flights if the conditions for an efficient hub and spoke network were implemented (Sismanidou et al., 2013).

O'Connor and Fuellhart (2013) did not find a clear pattern in changing air services at secondary cities, although their study did not differentiate between the types of services being offered (short-haul vs. long-haul) or if the city served a gateway function. However, when they examined changes in connectivity between Australia and Asia, they did find some secondary growth due to more links with smaller cities, fuelled by both market evolution and technological improvements (O'Connor and Fuellhart, 2015).

Although congestion could contribute to a greater utilisation of secondary airports, Bilotkach, Fageda and Flores-Fillol (2013) found that primary hub utilisation was being reinforced. While smaller airports located near hub airports could be used as alternatives, Brueckner (2003) found that small and medium sized airports lost traffic to larger airports when situated within close proximity to a hub airport. This was supported in an examination of spill effects with MAN benefitting from capacity issues at LHR instead of BHX which is geographically closer to London (Gudmundsson, Paleari and Redondi, 2014).

This supports Jorge-Calderón's (1997) observation that the geographic proximity of a larger airport with superior service would divert traffic away from a smaller airport. Whilst being situated too close to a major airport would divert traffic, it was also found that secondary airports are not viable if situated too distant from the point of origin (or destination) (Berster, Gelhausen and Wilken, 2015). It was found, however, that leakage from airports to other regions is more likely to occur with leisure as opposed to business traffic (Suzuki, Crum and Audino, 2004).

Recent developments in aircraft technology has made service to secondary hubs more feasible (Burghouwt, 2014). This was supported by O'Connor and Fuellhart (2015) who found that the shift toward more medium sized aircraft may favour secondary cities. The development of the B787-9 also makes the provision of services to secondary markets feasible (Tembleque-Vilalta and Suau-Sanchez, 2016).

2.6 The Economic Importance of Aviation

Aviation is often cited as a catalyst for regional development and has been used by policymakers to subsidise routes and support airport development. It is therefore not surprising that the relationship between economic growth and aviation has been regularly examined, with connectivity being closely related to economic growth and international trade (ACI Europe, 2014a). In 2015, airports and their associated activity were found to contribute about €675 billion to the GDP in Europe alone (ACI Europe, 2015b). Overall, a strong link between GDP and air demand has been noted and utilised in numerous findings (ACI Europe, 2015b; Lieshout et al., 2015; Profillidis and Botzoris, 2015).

In addition, a strong correlation was observed between EU international trade and the region's total air connectivity (ACI Europe, 2014b). Although Arvis and Shepherd (2011) found that a 1% increase in distance would result in a 3% decline in trade at the national level, approximately 20% of all European exports were destined for North America[25] (ACI Europe, 2014b).

Although distance has been found to reduce the likelihood of economic and other interactions, it can also increase the viability of air travel (Jorge-Calderón, 1997). This could in turn become the impetus for developing air links, and thus reduce travel time between regions despite the relatively greater distance.

The development of direct services to regional airports could lead to greater benefits for both passengers and airlines (Swan, 2002). Economic activity directly influences demand for business travel and indirectly influences leisure demand through the resultant increase in personal income (Doganis, 2010). However, as Brueckner (2003) noted, not all industries responded equally to changes in airline traffic.

2.6.1 Economic Benefits

The economic benefits of aviation can be broadly attributed to 4 categories: 1) direct, 2) indirect, 3) induced, and 4) catalytic.

Direct benefits are the economic benefits that result directly from employment and activity in the air transport industry. Indirect benefits include the employment and activities of businesses that are suppliers to the air transport industry. Induced benefits include spending by people who are directly or indirectly employed in the air transport sector (Air Transport Action Group, 2005).

[25] In this context, North America includes Central America.

Although large airports are deemed to have the greatest economic impact, the direct impact resulting from airport employment is not linear in nature and the impact lessens as the number of passengers increases (ACI Europe, 2015b).

It has also been found that the direct impact of connecting passengers is 3% less than that of origin-destination passengers (ACI Europe, 2015b). Although this is not in itself significant, airports that rely upon transfer traffic would have a reduced economic impact than a similarly sized airport with predominantly origin-destination passengers.

It should also be noted that passengers on LCC origin-destination flights generate 20% less economic impact than do passengers on non-LCC flights (ACI Europe, 2015b). The report did not distinguish between the size of airport when analysing the impact of LCC passengers, although the network patterns of LCCs do tend to utilise smaller regional airports rather than larger hub airports. Regional airports are able to provide all three types of benefits, however, Graham and Guyer (2000) found that smaller airports have a reduced capacity in terms of economic stimulation and Pot and Koster (2022) found that there was not a conclusive relationship and that an airport below a certain size did not have a beneficial impact.

Whilst the first three economic benefits of aviation (direct, indirect, and induced) are clearly defined, catalytic benefits are often broadly described as spin-off benefits (Air Transport Action Group, 2005). As such, there is some latitude in what can be described as a catalytic benefit and in the measurement (and precision) of such economic benefits as well. In addition, the development of regional airports can lead to numerous intangible benefits for all stakeholders (Wittmer and Noto, 2020).

Nonetheless, ACI Europe attributed an estimated €170 billion per annum to Europe's GDP from the catalytic benefits of airport activity (ACI Europe, 2015b).

Halpern and Bråthen (2011) identified two key types of catalytic impacts: 1) regional economic competitiveness and 2) regional accessibility and social development. The importance of accessibility was also found by ACI Europe (ACI Europe, 2015b) as islands tend to have higher catalytic impacts than other regions.

In a study examining catalytic impacts at Australian regional and remote airports, total air passenger movements were examined with real aggregate taxable income. The study found a correlation between the two measures, but also a short-run bi-directional causality (Baker, Merkert and Kamruzzaman, 2015).

2.6.2 Regional Economic Importance

Graham (1998) argued that there is no definitive relationship between transport infrastructure and regional economic development, though he did note that regional economic development could not occur if there was insufficient infrastructure. In contrast, O'Kelly stated that hub airports are a "catalyst for agglomeration and scale economies" (1998, p171). However, it must also be remembered that air transport impacts are not limited to economics, but also have social equity ramifications (Graham, 1998).

The benefits of connectivity may be based upon the presence of an airport, but are actually reliant upon the services and connections offered at the airport (Allroggen and Malina, 2014). Whilst indirect connections enable passengers to travel when there is insufficient demand for a direct service, the regional economy derives greater benefit from the presence of a direct service (ACI Europe, 2014a).

The availability of direct non-stop flights have a strong influence of the location of a company's headquarters with frequency also appearing to have a strong impact (Bel and Fageda, 2008). Bel and Fageda (2008) also found that that a 10% increase in intercontinental flights resulted in a 4% increase in headquarters. Button et al. (1999) found that an increase in air services at a hub airport resulted in an increase in employment in the high-technology sector. This was predicated upon a number of factors including a greater likelihood of international flights (Button et al., 1999).

Button and Stough (2000) found that international flights were economically important to US airports. This was supported by Button and Taylor (2000) who noted that there were diminishing returns with more destinations. Irwin and Kasarda (1991) hypothesised that any changes in air transport linkages would have the greatest impact upon manufacturing and producer services.

Suau-Sanchez and Burghouwt (2011) found that international air services have a strong influence on regional economic development whilst Bannò and Redondi (2014) found international routes to secondary airports in Italy were found to have a significant impact on foreign direct investment. The importance of establishing direct services was reinforced by Halpern and Bråthan (2011) who found that an airport will suffer leakage to a neighbouring airport that offers direct connections. In contrast, Van de Vijver, Derudder and Witlox (2016) found the relationship between air transport and regional economic development within Europe to be inconclusive as their study noted bi-directional causality. In East Asia, the shift in air transport to secondary cities was linked to greater economic links (Matsumoto, Domae and O'Connor, 2016).

Secondary airports are more likely to gain not only greater relative but also absolute economic benefit from the introduction of a new flight than would a large airport (Lieshout et al., 2015). However, this may only occur if the additional service is business oriented or provides the opportunity for greater economic links; an additional service to a leisure-oriented service could result in a negative economic impact (Allroggen and Malina, 2014).

The importance of connectivity is perhaps most evident in those airports that have lost their position within the air transport network. Dennis (2005) noted that the economic impact of 'de-hubbing' on airports to be "potentially severe" with the resultant decrease in connectivity This was supported by Wei and Grubesic (2015) in their research on the de-hubbing of CVG and Percoco's work on Milan Malpensa (2020).

2.6.3 Spatial Impact of Benefits

The aviation industry became a critical infrastructure element affecting the spatial economy in the period from 1950 to 1980 (Kasarda and Irwin, 1991). The economic benefits from air transport are not, however, distributed uniformly geographically. The key determinants influencing the spatial impacts of aviation include the geographic position of the airport, the air services offered and surface accessibility (Allroggen and Malina, 2014).

Hoare (1975) found that firms prefer to be situated close to LHR to facilitate travel and reduce travel time. This was supported by Cidell (2004) who found that most direct and indirect benefits occurred within close proximity when examining MSP.

When modelling the economic impact of airports in their study, Lieshout et al. (2015) utilised a combination of time (1 hour) and distance (100 km) to delineate the impacts. The study conceded that this could be a conservative estimate and that extending the region to 150 km may provide a more realistic airport region. The study also found that the economic impact of connectivity upon employment in the knowledge sector was limited to a 50 km radius.

Non-economic factors were also positively associated with the provision of air services. In terms of sustainability, Halpern and Bråthan (2011) found that communities in northern Norway situated within 30 minutes travel time to an airport were more likely to experience growth.

2.7 Summary

The history and literature of North Atlantic aviation is long and varied. The results are dependent upon the specific geography within the study, often focusing on only Europe and the US as well as the temporal limitations as many studies only focus on a 3 to 5-year time period. This is especially evident when examining airport connectivity.

The literature examining network connectivity focuses either upon annual data or upon July, or another 'high season' month. The lack of attention upon seasonal variation within network operations is a gap in the literature addressed in this study.

The literature concerning whether air services are concentrating at hubs or being dispersed to regional or secondary airports differs based upon the spatial and temporal considerations of the research. This study addresses this gap in the literature by providing analysis over a longer time frame and over a greater spatial area. In conjunction with this, this study used social network analysis in a new approach to assessing airport importance within the North Atlantic network.

The impact of alliances has also been addressed in the literature, and although most of the research on North Atlantic services is now becoming dated, more recent literature still focuses on a limited geographic and temporal focus. Current research tends to focus upon joint-ventures, however, most of the literature has a more competition-oriented focus. This study investigated airport selection from an alliance and a J-V perspective over a longer temporal period from a broad geographic basis, thus providing a comprehensive framework in an examination of the evolution of airline services.

Overall, this study adds to wealth of research on the North Atlantic and addressed some of the gaps within the literature.

CHAPTER 3 - METHODOLGY

This chapter outlines the approach and techniques that were employed to address the objectives and research questions. The data utilised in the research are identified, and the geographic and temporal scope are also delineated.

Within this framework, the methodological techniques and software utilised for analysing airline networks and the airport structure on the North Atlantic are outlined, and the constraints and limitations of the research are identified.

3.1 Research Approach

This research utilised a positivist approach. The data were examined from an objective perspective to limit the introduction of any bias consistent with such an approach (Saunders, Lewis and Thornhill, 2016). The analysis examined the data, and a deductive approach was used in the modelling to forecast future developments within the industry (Saunders, Lewis and Thornhill, 2016).

This research was predominantly quantitative in nature and utilised data obtained from secondary data sources. The data included both supply side (airline flights) and demand side (passenger travel) aspects and were analysed over a 20-year period (1997-2017).

Consistent with common quantitative approaches, initial data analysis provided descriptive statistics which became the foundation for more intensive and critical analysis. Inferential data analysis was then conducted for a more critical assessment of the changing nature of the market and towards future developments (Brewer, 2007).

The examination of the literature and initial descriptive analysis of airline networks identified key operational patterns and highlighted some of the factors employed in airport selection. This provided the framework for assessing changing airline strategies and their impact upon airport selection, especially within multi-airport cities. It also assisted in evaluating the relative importance of airports on the North Atlantic within the temporal context of the research.

The key factors identified were utilised along with non-aviation variables in a regression analysis to identify both aviation and exogenous factors influencing airline network strategies. This was done to build an analytical framework that could be applied to a predictive model that would forecast future developments in the North Atlantic market. The model was then applied to the UK within a case study to identify any areas for future investigation and improvement.

3.2 Delineation of Research Area and Key Data Sources

The focus of this thesis was to examine airline operations on the North Atlantic and to identify and examine any changes observed. For the purposes of this study, the term 'North Atlantic' refers to all air traffic to Canada and the 50 states of the United States that crosses the Atlantic Ocean. As such, any flights originating from Africa or Europe[26] were considered, as were those flights from Asia that traversed the Atlantic Ocean; this region is referred to as Afro-Eurasia in the study. Flights which crossed the Pacific Ocean were by default omitted from this study[27].

For this study, the regional delineations utilised a geographic framework. All countries located within a continent were ascribed to that continent except for the Middle East. The countries allocated to this region were Bahrain, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, Turkey, the U.A.E (including both Abu Dhabi and Dubai) and Yemen.

[26] Although situated in the Atlantic Ocean, Iceland was included in the analysis and was deemed to be part of Europe. Bermuda and Greenland, however, were omitted from the study. Any US dependencies (Puerto Rico and the US Virgin Islands) were omitted as they are situated in the Caribbean.
[27] The Singapore to Newark flight operated by Singapore Airlines was omitted as its flight route crosses the Arctic polar region and cannot be considered as traversing either the Atlantic or Pacific Ocean.

To provide a sufficient overview of the changes on the North Atlantic, the time period of 1997 to 2017 was selected. 1997 was chosen as the start of this research as it coincides with the formation of the first global alliance[28], and provides a 'base year' of schedules which were essentially pre-alliance; 2017 was chosen to provide a 20-year time frame. The subsequent years reflect alliance membership and joint-venture operations, and thus allowed for an examination of any changes that occurred.

There were two specific aspects that need to be addressed in any market: supply and demand. OAG flight schedules from 1997 to 2017 (OAG, 1997a, 1997b) provided data for the supply aspect. The schedules are a comprehensive secondary data source that are commonly used in aviation analysis due to their reliability and availability[29]. To provide a consistent base of comparison, flight schedules departing for North America from the 11th to the 17th for both January and July were obtained. All direct flights (including one-stop and those with technical stops) on the North Atlantic were compiled. The flight data included the origin and destination of each flight, the frequency of services, as well as the complementary data associated with the flight[30].

Whilst OAG flights schedules reflect scheduled aircraft movements or supply, they do not necessarily reflect passenger movements; to reflect demand, PaxIS data were obtained. PaxIS data provide trip information in its entirety including the route taken by a passenger, the class of service, airline(s) flown, as well as the individual components (legs) of the journey[31]. These data enable an assessment of the changes in passenger movements over the study period, including both travel patterns, and

[28] Although alliances such as QualiFlyer and Wings were in operation in 1997 (and subsequently dissolved), the first of the current global alliances, Star Alliance, was formed in May 1997; any changes that may have resulted from alliance membership would not have been evident in the flight schedules being examined from 1997. This is supported by Iatrou and Alamdari (2005) who found that benefits became evident one-two years after a partnership was implemented.

[29] Although the OAG Guide captures all scheduled flights, but not necessarily all charter flights.

[30] The complementary data include associated codeshares, any stops (including technical stops), and aircraft type.

[31] PaxIS data is produced by IATA and is based on PNR (Passenger Name Record) bookings. The PNR is the six-character alpha-numeric reservation code issued for each booking. Whilst based on actual travel patterns, imputation is a statistical technique used to determine passenger movements where data are not available (e.g., LCCs and bookings made through airline websites). Imputation involves the attribution of characteristics to unavailable records based on completed records with a similar profile and/or characteristics. As passenger self-booking has increased so has the level of imputation.

transfer airports utilised by passengers for connections. Due to availability restrictions, PaxIS data could only be obtained at the monthly level (January and July) for 2005 to 2017 inclusive. As such, the proportion of travellers were utilised rather than absolute figures to provide comparability with weekly schedule data. PaxIS data reliably reflect actual travel patterns, especially for inter-continental journeys; the relatively high cost of the data, however, make it often prohibitive to obtain. Although there are sources which provide greater passenger travel detail (e.g., MIDT data), the cost is exorbitant and not obtainable for this study.

PaxIS data were utilised to assess whether passengers from Africa and Asia were connecting via Middle Eastern hubs instead of European hub airports, thus addressing whether airlines outside of Europe and North America were affecting flight services (RQ1.2). These hubs benefit from a geographically advantageous position and were observed in 2008 to be "cannibalising the traditional traffic flows between Asian and European hubs" (O'Connell, 2011, p339).

The combination of both supply and demand data addressed both aspects of air traffic and complement each other to provide a comprehensive analysis.

There are numerous metrics that can be utilised to assess air traffic. In his study, Brueckner (2003) utilised passenger enplanements as a proxy for traffic. In contrast, Grubesic, Matisziw, and Zook (2009) utilised the number of seats per week in their analysis of connectivity. However, Allrogen and Malina (2014) utilised aircraft movements as a measure of the strength of the connection between two airports.

Although all three metrics are valid, it was decided to utilise aircraft movements as a proxy for the strength of the connection between airports. Whilst the number of seats is a useful proxy, it is not unusual for airlines to change aircraft for a flight; this would provide a contrasting figure to the aircraft identified in the OAG. As such, there could be inconsistent data when compared with the actual number of passengers flown; if a flight is upgauged there could be more passengers in the PaxIS data than anticipated seats from the aircraft identified in the OAG schedule. Regardless of the aircraft flown, the flight is nonetheless operated and provides a consistent measure of connectivity between two airports.

Whilst the research aimed to assess the changes on the North Atlantic over the identified 20-year time period, flight schedules are not static within each calendar year and often change twice, or occasionally more frequently, to reflect the demand for air services. These network fluctuations are often seasonal in nature and can have a dramatic impact upon the services operated; some routes are operated as summer-only services whilst routes that operate year-round can have a reduction in the number of frequencies when offered during the 'off-season'. The seasonal nature of travel and its impact upon flight schedules was noted by Bel and Fageda (2010) and supported by Jimenez, Claro and de Sousa (2012) and Belkoura et al (2016).

To address the issue of seasonality, airline schedules from 1997 to 2017 for both January and July of each year were compiled. Most airline schedules change in April to the summer schedule, and in late October, to introduce the winter schedule[32], although some services are gradually introduced, or frequencies may be added or deleted after those respective dates. As such, both January and July, being situated in the middle of the seasonal schedules, were deemed to be the most stable and reflective of each respective season.

Steps were taken to ensure that flights were not double counted. First, as some flights operate as codeshares, each flight was assigned to the operating carrier[33] regardless of the various airline codes associated with the flight. Secondly, the origin and destination of each flight was deemed to be the last point from east of the North Atlantic and the first point of entry in either the US or Canada. As such, a flight from Cardiff to Birmingham to Toronto to Vancouver was designated as having Birmingham

[32] The seasons referenced reflect the northern hemisphere which is the majority of North Atlantic travel.
[33] The exception to this is when the operating carrier does not market the flight but solely operates the flight on behalf of another airline (e.g., KLM flight operated by Martinair). In these cases, the flight was assigned to the main marketing air carrier.

as its origin, not Cardiff, with the destination being Toronto, not Vancouver; this also applied to flights with technical stops.

It should be noted that although the text often states that a flight was from one airport to another, a return service was almost always paired with the initial flight. However, as westbound flight times across the North Atlantic take longer that eastbound flights due to the prevailing winds, the ‘return’ flight may not exactly match due to the necessity of technical stops for some flights. There are also some flights that operate on a triangular pattern: for example, an airline may operate a continuous route from Toronto-Manchester-Glasgow-Toronto etc. In such a case, the westbound flight would be Glasgow-Toronto whereas as the eastbound flight would be Toronto-Manchester.

3.3 Airline Network Analysis Methods

One of the key aspects in airline networks is the level of service concentration in major airports. For FSCs, this usually involves the airline’s key hub or hubs that their networks utilise; for LCCs, this would normally involve the major bases from which they operate.

As most major hubs are situated in or near the largest cities, any devolution of services to non-hub or regional airports would reflect growing services to smaller cities.

The initial descriptive analysis identified which airports accounted for 80% of the market share on either side of the Atlantic Ocean; changes in the number of airports address objective O2 and if there is a trend towards dispersion or concentration.

There were other metrics that measure market concentration in aviation. One of the most common is the Herfindhal-Hirschman Index (HHI). HHI has been used to measure hub concentration (Bel and Fageda, 2010; Zhang et al., 2019), market concentration (Janić, 1997; Burghouwt and Veldhuis, 2006; Pitfield, Caves and Quddus, 2010) and even airport competition (Lieshout et al., 2016). Zhang et al. (2019) argued that hub concentration was better measured at the alliance rather than the airline level because of possible connections between alliance members.

In their study of Brazil, Pacheco et al. (2015) used the Lorenz curve to complement HHI to measure the concentration of international flights whilst Burghouwt and Suau-Sanchez (2011) utilised a concentration ratio to complement both HHI and the Lorenz curve. In her work on traffic patterns in the US and the distribution of air traffic in Europe, Reynolds-Feighan (1998, 2007) used the GINI index to identify the concentration of flights.

Although all three metrics (HHI, Lorenz curve and GINI index) have been utilised in aviation, given that most aviation research has utilised HHI, and is also commonly used by the US DOT and the European Union, it was selected for this study in addressing the influence of alliances/J-Vs (RQ1.1) and airline strategies (RQ2.2).

An HHI score of 1800 is commonly used to indicate a concentrated market. However, as only North Atlantic operations were taken into account, the airport scores were, as expected, somewhat higher. Therefore, this study derived four categories: not concentrated (<4000), somewhat concentrated (4000-5999), very concentrated (6000-7999), and highly concentrated (8000 or more).

The concentration of services was examined through the lens of connectivity through two key aspects: direct links and the frequency of service. Whilst providing service between two airports establishes connectivity, the level of frequency determines the strength or quality of that connection. Both aspects are vital in the establishment and development of economic links between the cities served by the airports.

Burghouwt and Redondi (2013) identified two main approaches in examining connectivity: an accessibility or (in)direct connectivity perspective or a centrality or hub connectivity perspective. In their work, Arvis and Shepherd (2011) outlined 4 types of connectivity measures: 1) intuitive, 2) concentration indicators, 3) clustering techniques and 4) centrality indices, with the last two being driven from network theory.

This research was primarily concerned with the presence of direct air services and focused upon centrality and hub functions on the North Atlantic; indirect links were considered when investigating connectivity for smaller regional airports situated in the UK within the case study (Chapter 9).

In terms of connectivity, ACI Europe (2014b) noted that quality often referred to the availability and viability of indirect services via hub airports.

However, the quality of a connection can be determined by the frequency of the service as well as by direct services; lower frequencies or indirect service reduce the benefit to the passenger (Allroggen, Wittman and Malina, 2015). This was supported by Bilotkach and Huschelrath (2012) who advocated the use of flight frequency as a proxy for service quality as higher frequencies provide greater travel opportunities for passengers. Button et al. (1999) also noted that for business travellers, time considerations were more important than that of fares.

This was supported by Morphet and Bottini (2013) who noted that measures of connectivity for business travellers relied upon frequency, schedule, travel time, and direct routes available. In their analysis, however, they relied upon seat capacity as a proxy for connectivity. In contrast, Arvis and Shepherd (2011) deemed the use of passenger traffic as an inadequate connectivity measure.

Bel and Fageda (2010) deemed flight frequency a better indicator than the number of seats when assessing connectivity. The utilisation of flight frequency as a connectivity measure is supported by Pitfield, Caves and Quddus (2010) who found that increased passenger movements resulted in increased frequencies rather than larger aircraft on the North Atlantic. They also found that in a competitive situation, airlines have a tendency to increase frequencies, a view supported by Graham and Guyer (2000).

These studies reinforce the decision to utilise frequencies to measure the quality of a connection between airports in this research.

Network operations are dynamic and there are strong seasonal variations present. This is reflected in the differences between the winter and summer operational airline schedules.[34] These changes are especially evident in the Northern hemisphere (where there are four distinct seasons) and reflect changes in leisure travel demand where school vacation periods are predominantly during the summer.

There are studies in the tourism field that have investigated seasonality beginning with BarOn (1975), and then built upon by Wanhill (1980), Koenig-Lewis and Bischoff (2005), and Ferrante, Lo Magno and De Cantis (2018) amongst others. These studies resulted in a number of different metrics, ratios, indices, and moving-averages to measure the extent of seasonality. One such metric is the 'Seasonal Ratio' which emphasises the difference between the high and low seasons.

This study does not have data for each month of the year; the January and July schedules were chosen as the most stable months within the winter and summer schedules accordingly. As airline schedules tend to change bi-annually, the two selected months reflect not only the winter and summer seasons, but also the 'trough' and 'peak' aspects of both airline operations and travel patterns.

As such, the seasonal ratio was selected to assess the impact of these operational differences. The formula for the *seasonal ratio (SR)* where *i* is the airport and *t* is the year is as follows:

$$SR_{it} = (\text{Number of July Flights}_{it} / \text{Number of January Flights}_{it})$$

The utilisation of this ratio allowed for a consistent metric to examine seasonal patterns both within a given year and for an examination of changes that occurred over the course of research.

[34] Airline schedules have two major 'changeover' points in a year: late October and April. This marks the changeover from a summer to a winter schedule and marks the commencement (and cessation) of seasonal specific services. This does not mean that airlines may not make further adjustments over the course of the year, but most airline services do transition at that time.

3.4 Airport Analysis Methods

Numerous airports have provided and continue to provide services on the North Atlantic. Their relative importance within an airline, alliance, regionally, or on the North Atlantic overall is likely to have evolved over time.

Initially, descriptive statistics were used to provide an overview of the market. This included the total number of flights provided by an airline and an analysis of the distribution of its flights amongst the airports within the scope of its network. This was also applied at the alliance and the joint-venture level.

Whilst the frequency of services provided was of importance, so was the distribution of services between hub and non-hub airports. This gave an initial indication of a network's reliance upon hubs for service provision. Although each airline identifies which airports within its network are hubs, not all hubs are used to the same extent for North Atlantic services, especially amongst North American airlines. The initial analysis was a preliminary indication of the role that each airport, hub or non-hub, fulfilled within the airline network, and identified whether the hubs are functioning within a hierarchical formation or if there was a homogenous distribution of services amongst the airline hubs.

However, given the complexity of airline networks and the integration of airlines within alliances and joint-ventures, descriptive statistics were only an initial step in the analysis. To assess the importance of airports on the North Atlantic, social network analysis was utilised. Although it has been more commonly used in the measurement of social interaction, especially when investigating internet interaction, it has utility in assessing the importance of airports within networks and has been utilised in geographically oriented studies on aviation (Smith and Timberlake, 2001; Rodríguez-Déniz, Suau-Sanchez and Voltes-Dorta, 2013).

In general, network analysis examines the relationship structure between entities. The entities are 'nodes', and the relationship or interactions between nodes are 'edges';

within an aviation context, a node is an airport whilst an edge is a flight. Network analysis can be used to identify 'centrality' or the importance (or influence) of a node within a system, or network. There are different metrics that can be used when identifying centrality. The most common metrics are: betweenness centrality (the shortest path between two nodes); closeness centrality (the proximity of a node to other nodes); and eigenvector centrality (does not identify centrality per se but the relative importance of a node within a network structure). Its importance is derived from the number of connections it has to other nodes within the network and the strength of those connections; a high EC would indicate that a node is well connected to nodes that also have high scores.

Gephi software[35] was utilised to map the airline networks and to conduct network analysis. Whilst social network analysis focusses on human and social interaction, the metrics utilised have clear applicability in the analysis of airline networks. Mossa et al. (2005) utilised network analysis in their assessment of the role of geographic centrality for the development of connectivity for hub airports. Alderighi et al (2007) also used network analysis measures in their investigation of hub and spoke versus point to point networks. Their work focused upon the relative importance of airports within each airline rather than geographic centrality and as such utilised eigenvector centrality or eigencentrality[36].

Eigencentrality (EC) was used in this research to identify the role and importance of airports within the overall network and the alliance network (RQ2.1). Its utility was in determining relative comparisons, including hierarchical differentiations, although it cannot be used for temporal comparison purposes. Two other network analysis metrics were utilised: degree centrality (DC) and weighted degree centrality (WDC). Degree centrality indicates the number of direct connections that an airport has: an airport that has a direct service to three other airports would have a DC of 3. Weighted

[35] Gephi is an open-source software package that can be used to conduct network analysis and has aspects of GIS software enabling locational analysis.
[36] Eigencentrality or the 'eigenvector measure of centrality' was first introduced by Bonacich in 1972 and developed in subsequent research (Bonacich, 2007). For a full discussion of its properties, please refer to his work.

degree centrality incorporates the frequency of the service (within the reference week) from a particular airport: an airport that has a direct service to three other airports, each on a daily basis (seven times per week), would have a WDC of 21.

A 'hub' metric also exists within Gephi for network analysis. This metric measures outflows or departing flights from a particular node (airport). However, given that all of the flights were recorded on their westward path, only those airports east of the North Atlantic would have a hub metric whilst none of the US and Canadian airports would have a hub metric as they would only have inflows, or arriving flights. As such, this metric was not utilised.

These metrics identified the relative importance of airports with North Atlantic services and were utilised to assess their hierarchical position. As such, primacy (or primary) airports were identified as were secondary airports. Dependent upon the variation within the eigencentrality metric, major regional and minor regional airports were also identified, not only within the market overall, but also within the context of alliance services. As airports fulfil different functions within each alliance, eigencentrality identified each airport's relative importance in each alliance's network.

Eigenvector centrality, however, can only be utilised within a snapshot framework, and the values themselves are not comparable over time. To facilitate a temporal analysis, the eigencentrality values were then transformed[37]. Initially, the marginal layer centrality (Yt) of each year was calculated where Wit is the centrality of node i in year t:

$$Yt = \sum_{i} Wit$$

The *conditional value centrality* (CVC) of each node for each year was calculated: Zit = Wit / Yt. This was done for the eigencentrality value of each node for each year. The

[37] The transformation technique utilised is based on the work of Taylor et al (2017).

resultant CVC enabled a panel analysis of each airport's relative importance throughout the time frame of the research and also addressed RQ2.1

In conjunction with eigencentrality, HHI was used to assess airline and/or alliance concentration at specific airports. Whilst eigencentrality identified the importance of an airport within an alliance network, HHI identified the importance of an airline and/or alliance at an airport; as such, these two metrics complement each other in assessing importance although HHI was more pertinent to RQ1.1 and RQ2.2.

The importance of an airport within an airline's network and the level of utilisation was also assessed. To measure the level of concentration within an airline's network, the Beta Index was calculated. The index is the ratio of edges (airline routes) to vertices (airports). The index is lower within a HS network compared to an airline relying upon PTP operations. It identified whether airlines have concentrated their operations to one airport or whether they are operating services from a more dispersed and de-concentrated network.

The presence of links to both hub and non-hub airports within an airline's network and the level of utilisation was also assessed: this included the utilisation of an alliance partner's hubs. This analysis was conducted within the context of joint-ventures as the indemnity granted from regulatory bodies facilitated scheduling to maximise both operational efficiencies and revenues. An analysis of an airline's operations independent of joint-venture partners would likely provide erroneous results as J-V operations could result in the allocation of aircraft and operations to other routes to optimise the overall efficiency of the network.

Airport importance was also analysed from a regional perspective. Whilst many airlines within the same alliance may have similar operational patterns, this could not be assumed, and a geographic-based network analysis was also conducted. This is especially important given the evolution of aircraft over the study period; whilst not all airports are viable for operating routes on the North Atlantic, the increased range of aircraft has impacted the viability of routes from airports that previously relied upon technical stops or connecting services for North Atlantic connections. Utilising Gephi, an assessment of airport importance from a geographic perspective was conducted and identified the relative importance of airports within a region.

3.5 Regression Analysis and Case Study Details

Multiple linear regression analysis was chosen to assess the importance of drivers in North Atlantic flight selection (RQ3.1), and to assess how they have changed over the study's duration. The modelling was conducted from numerous subsets, and for this reason, a cross-sectional approach on panel data was utilised focusing on 1997, 2002, 2007, 2012, and 2017 rather than a longitudinal approach.

The literature and initial research identified four categories of factors: 1) airport function, 2) destination attraction, 3) destination deterrence and 4) locational proximity.

Airport function refers to the operational importance of an airport within an airline. For any given network airline, the most important airport within its own network is its hub(s). Typically, an airline is the dominant player at its hub airport, not only internationally but often domestically as well. To fully capture an airport's importance to an airline, the number of flights operated by the airline at the airport was shown as a numeric variable. The data were captured from Airline Business which has an annual report (Airline Business, 1997, 2002, 2007, 2012, 2017); for those airports not covered by the reports, OAG Flight Guides were used to calculate the number of flights being operated. This value was utilised as the Hub Factor variable.

Destination attraction was comprised of different components, with the primary factor being if the airport was an alliance or J-V partner hub. It was posited that an airline was more likely to connect to an alliance partner hub than to a non-partner hub because of the prevalence of codeshare arrangements and ability to facilitate passenger connections. This would result in a 'dog-bone' hub and spoke structure with the possibility of behind or beyond connections from either hub (Button, 2009). With the financial and scheduling benefits of joint-ventures, it was hypothesised that there would be greater connectivity with J-V partners, thus reinforcing the strength of the overall J-V and to a lesser extent the alliance. Similar to the Hub Factor, the number of flights derived for alliance partner airlines at the destination airport was utilised as the Partner Concentration variable.

Another component that was considered was the city in which the airport is located or affiliated with. Models like the Gravity Model[38] focus upon population in determining the level of interaction between cities, although the importance of a city within the global urban network was considered a better metric in assessing the likelihood of aviation links. Indices have been developed to measure this, with the two most important being the Global World Index (GWI) and the Global and World Cities Index (GaWC). Both are used widely, however, the GWI incorporates aviation as one of its key components whereas the GaWC does not. As such, the GaWC was chosen as opposed to the GWI. The separate categories of the GaWC were converted into numerical variables to assess an airport's attraction (Globalization and World Cities Research Network, 2000, 2004, 2008, 2010, 2012, 2016).

The research also indicated the strong influence of both Heathrow and JFK in their roles as continental gateways in excess of the strength of their respective cities – and not shared by other airports in the same urban airport system. This led to creation of dichotomous dummy variables to reflect these findings.

A third component that was considered is the presence of common cultural and linguistic factors, especially through immigration. This would increase the attraction between the airports and strongly contribute to both VFR and leisure travel; these factors were also captured as numeric variables. The two elements captured by both Canada and US statistical agencies were Mother Tongue, and Ancestry or Ethnicity; the data were represented in millions for ease of use.

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[38] A simple gravity model is: $V_{ij} = P_i P_j / D$ where V is the volume of traffic between cities i and j, P is the population and D is the distance between the two cities.

For Canada, these variables were collected using Census data (Statistics Canada, 1997b, 1997a, 2002b, 2002a, 2007b, 2007a, 2017b, 2017a), complemented by the National Household Survey in 2011[39] (Statistics Canada, 2012a, 2012b). In contrast, US data was produced more sporadically (US Census Bureau, 2001, 2010, 2012, 2015, 2017). The Canadian data corresponded closely to the years chosen for modelling. The data from the US were assumed to be correct until superseded by newer editions; they were also considered valid prior to its publication if no earlier data could be obtained.

In addition, not all ethnic groups are represented, especially in the US data; groups not identified were assigned a '.000001' to enable the regression analysis. The second factor is the predominance of the Spanish language in the US. Whilst English-language speakers in North America either emigrated or are descendants of emigrants from the UK (across the North Atlantic), most Spanish speakers are from Central and South America, and do not therefore reflect cultural links with Spain[40] or North Atlantic links. As such, a value of '.000001' was assigned to the Spanish language.

There were, however, three factors which would detract from the commencement and sustainability of services between airports.

Whilst the alliance or J-V attracts flights from partners, most major airports within Europe are slot-constrained. Without available slots, new air services cannot be implemented and counters any positive attraction that the airport may possess, even if it is a partner hub airport. Utilising IATA Slot Guidelines (IATA, 2000, 2001, 2002, 2006, 2007, 2012, 2017), the facilitation level was converted into a numerical variable.

Another factor was distance, consistent with the assumption utilised by the Gravity Model that the greater the distance between two cities (or airports) the less likely that

[39] Due to political issues, the scope of the 2011 Canadian Census was curtailed and detailed data could only be obtained through the National Household Survey.
[40] The number of emigrants from Spain to the US is considered so minimal that the US does not even have a category for Spain in their ancestry data.

there will be interaction between the two cities (or airports). This was noted by Bilotkach, Fageda and Flores-Fillol (2013) and supported by Cong et al (2016).

To reflect the seasonal aspect identified in the data, a seasonality variable was created. The proportion of summer flights from the total summer and winter flights was created to reflect the importance of seasonal services.

To simplify the process while maintaining a comprehensive overview, cross-sectional data were utilised, focusing upon 5-year intervals (1997, 2002, 2007, 2012, and 2017). The regression analysis utilised the 'Enter' method, thus entering all the factors simultaneously. This method identified the relative importance of the factors or drivers, and how they changed over time. Significance was deemed at .05 or 95% confidence level (based on the F-Statistic), and the strength of the model was based on the R-Square value and not the adjusted R-Square value as the factors were not standardized. For the individual variables, they were deemed to be statistically significant at the .05 level based on the t-statistic and the degrees of freedom.

To address any collinearity issues[41], the variable with the highest VIF value was removed, and the model was re-run; this process was repeated if necessary. If collinearity issues were addressed and a significant model was still not achieved, then the variable with the lowest significance was removed. This process was repeated until a statistically significant model was produced (if possible).

This process was also utilised when conducting the UK case study, which was conducted to identify the specific factors influencing the selection of secondary factors (RQ3.2). However, based on the findings from the overall North Atlantic results, Congestion was considered a confounding variable[42], and was therefore omitted from the UK analysis. In addition, to utilise the resultant equations to determine the viability

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[41] A variable was deemed to have collinearity issues if the VIF score was greater than 5.000 in the modelling results.
[42] In this case, congestion is closely linked with high hub factor values which are a strong driver in flight attraction although congestion is a detrimental factor in airport operations.

of possible routes from regional airports, there were separate summer and winter models conducted.

Initial models highlighted the importance of Heathrow and the airport`s dominance within the UK system with the GLHR variable being consistently significant. In order to omit the airport`s importance and improve the models' applicability to regional airports, LHR flights were omitted from the analyses. Subsequently, LGW were also omitted to remove the 'London' influence, although this was only viable for summer operations.

Nonetheless, statistically significant models were produced. The resultant equations were then utilised to determine the viability of routes between the UK and North America. There were 12 UK regional airports selected: BFS, BHX, BRS, CWL, EMA, EDI, GLA, LBA, LPL, MAN, NCL, and NWI. These airports were chosen due to their size as the largest airports have the operational capacity and a greater likelihood of having services than very small airports. Doncaster Sheffield (DSA) was also considered but was replaced by NWI when it was announced that DSA was going to cease operations.

There were also 41 North American airports selected: ATL, AUS, BOS, BWI, CLT, DEN, DFW, DTW, EWR, FLL, IAD, IAH, JFK, LAS, LAX, MCO, MIA, MSP, MSY, OAK, ORD, PDX, PHL, PHX, RDU, SAN, SEA, SFB, SFO, SJC, SLC, TPA, YEG, YHZ, YOW, YUL, YVR, YWG, YYC, YYT, and YYZ. Each airport had an operating route to the UK in 2017 although many of the airports only had flights from LHR. Some cities or city-regions have more than one airport including New York (EWR and JFK), Orlando (MCO and SFB), San Francisco (OAK and SFO), and Washington (BWI and IAD).

As Hub Factor was significant in some of the UK models, the major airline affiliated with each airport was associated, and its Hub Factor was used in the modelling. For cases of multiple airlines utilising the same airport, for example AA and UA at ORD, the equation was run separately for each airline as there could be differences in the results.

Finally, topological aspects were dealt with through a descriptive assessment of the relative distance between the country's largest airports, including both LHR and LGW.

3.6 Constraints and Limitations

The flight data for the January 11-17 and July 11-17 weeks for each of the years from 1997 to 2017 provided a complete database for analysis; however, some of the years during the study period were impacted by extraordinary events which affected flight schedules and network patterns. An example would be the terror attacks of September 11, 2001, whose impact was long-lasting and was a key factor in the resultant wave of airline mergers in the United States. In addition, if other years were utilised in the regression analysis the results produced could have varied.

The data collected only focused upon direct flights to Canada and the United States. By doing so, the definition of connectivity used in this research was narrower in focus and omitted viable indirect connections. The inclusion of indirect connections would likely alter the results found in this research.

Instead of relying upon commonly used HHI measures, new categories were created to identify the concentration of North Atlantic services to allow for greater discernment within the scores. The category demarcations were new interpretations that mirrored easily understood levels. Nonetheless, the scores were calculated according to the index formulation.

The inclusion of demand or PaxIS data provided greater context to the development of air services; however, data were not available prior to 2005. Although this still provided context for the latter half of the study, there was no corresponding data for the first eight years of the research. In addition, the PaxIS data are only available at the monthly level whereas the flight schedules were collected at the weekly level. As such, the relative proportion of travellers were used rather than passenger numbers. Although PaxIS (and MIDT) remain reliable sources of airline booking data, their utility has decreased over time as more trips are purchased via the internet than traditional booking channels. Although imputation offsets this trend, there is a margin of error with statistically imputed data making it less reliable than actual ticket data.

The regression analysis relied upon a cross-sectional analysis that was believed would accurately reflect changes on the market. The drivers relied upon assumptions that could be incorrect or interpreted differently. In addition, the lack of reliable fare data is a limitation that if included could provide different results.

Although a comprehensive analysis of characteristics influencing the provision of North Atlantic flights for all airports with connections to Canada and the United States would provide a broader base from which to draw conclusions, it was believed that a case study of the United Kingdom would be reflective of other countries. The UK was chosen due to it being an island which would limit the diversion of traffic to non-UK airports. This allowed for a comparison of factors within defined spatial constraints, thus limiting possible leakage. This could, however, be an erroneous assumption. Future research utilising the methods used in this study could be applied to other areas to ensure that the results found in this paper could be replicated.

3.7 Summary

This chapter identified the research approach, the data utilised, and the spatial and temporal parameters of the research were also established. Key analytical techniques (HHI, social network analysis, seasonal ratio, regression analysis, and Beta Index) were identified as were the major factors considered in the regression analysis. The spatial location of airports was noted as a factor assessed in the UK case study. The chapter concluded with the study's constraints and limitations. The subsequent chapter assesses the overall North Atlantic airport network.

CHAPTER 4 – ANALYSIS OF NORTH ATLANTIC AIRPORTS

The North Atlantic has been traditionally dominated by either North American or European Full-Service Carriers (FSCs) with operations at their designated hub airports, or that of their alliance partners. However, not all services were operated between hubs, and there have always been routes to 'non-hub' or regional airports. However, the level of concentration of services at hub airports, or in contrast the dispersion of services to regional airports has been dynamic in nature. There was also a stark contrast when examining airport importance between the seasonal services.

Alliance membership was a key factor as some airlines align their networks to provide flights, and as such feed, to their alliance partners' hub airports. However, it would be an erroneous assumption to imply that alliances were the sole factor in airport selection: technological improvements and changes in bilateral/multilateral treaties were critical to the dynamics of airport importance on the North Atlantic.

Aircraft technological limitations were a key factor at the outset as airlines, especially those based in countries situated beyond Western Europe relied upon stopover points in Western Europe before continuing to North America, thus contributing to the importance of airports used as stopovers. Aviation policy played an important role in the provision of air services. Some airlines based in Asia were granted 5th Freedom rights, which enabled them to carry traffic to and from major European airports.

However, as both aircraft range and air travel demand increased, more airlines were able to provide direct services, thus bypassing European airports. As such, the relative importance of European airports was adversely impacted whilst other airports, especially those based in the Middle East increased in importance.

Whilst aviation policy enabled long-range services to operate, the negative aspect of aviation policy was that some bilateral agreements were restrictive (e.g., Bermuda II) and limited operations. One impact of Bermuda II was that it artificially maintained flights to LGW whilst limiting flights to LHR. These aspects are considered when addressing RQ1.3.

In more recent years, congestion has played an increasingly important role. As more and more airports operate at near full capacity levels, there are limited opportunities to introduce new services. As such, airlines seeking to expand their networks may either suspend expansion or choose to develop services at other airports.

This chapter begins with an overview of the importance of different airports on the North Atlantic as a whole and then from a regional perspective (RQ2.1). The role of seasonality is then presented. This is followed by an analysis of whether air services are becoming increasingly concentrated or dispersing to non-hub airports (O2). The chapter concludes with a summary of the key findings.

4.1 North Atlantic Overview[43]

In 1997, the most important airport on the North Atlantic in both January and July was New York JFK followed by London Heathrow (Tables 4.1 and 4.2). However, despite the presence of ten airports (out of 12) in both tables, the successive composition and ordering of the airports varied according to the metric used, and between the months being examined[44].

In addition to being the most important (EC), JFK also had more connections (DC) and more flights (WDC) than any other North Atlantic airport.

[43] All Eigencentrality values are in Appendices A (winter) and B (summer).
[44] Over the temporal timeframe of the research, a total of 183 airports had North Atlantic services. The tables presented show the largest airports; if more than 10 airports are shown, then that reflects a more natural demarcation within the airport data.

Table 4.1 - Overview of the North Atlantic – January 1997

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK Int. Airport	80	509	1
LHR	Heathrow Int. Airport	41	412	0.721729
FRA	Frankfurt Int. Airport	41	247	0.689576
ORD	O'Hare Int. Airport	31	179	0.488941
LGW	Gatwick Int. Airport	24	169	0.178530
CDG	Charles de Gaulle Airport	22	151	0.375339
AMS	Schiphol Airport	29	146	0.530489
EWR	Newark Liberty Airport	22	137	0.286786
IAD	Dulles Int. Airport	15	105	0.330424
ATL	Hartsfield Int. Airport	15	102	0.216655
YYZ	Pearson Int. Airport	15	97	0.332948
BOS	Logan Airport	15	96	0.251874

Table 4.2 - Overview of the North Atlantic – July 1997

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK Int. Airport	81	634	1
LHR	Heathrow Int. Airport	47	536	0.784296
FRA	Frankfurt Int. Airport	37	273	0.559230
ORD	O'Hare Int. Airport	32	221	0.503703
CDG	Charles de Gaulle Airport	26	213	0.444686
EWR	Newark Liberty Airport	30	213	0.405255
LGW	Gatwick Int. Airport	25	199	0.200055
AMS	Schiphol Airport	35	198	0.588991
YYZ	Pearson Int. Airport	18	134	0.322346
ATL	Hartsfield Int/ Airport	17	126	0.227768
IAD	Dulles Int. Airport	13	122	0.300729
LAX	Los Angeles Int. Airport	16	115	0.362715

Although there is a link between all three metrics, it is not a direct correlation and there were differences in the rank ordering. For instance, in July 1997 (Table 4.2), AMS, with a WDC of 198 (8^{th} overall) had the 3^{rd} highest EC score bypassing FRA with its WDC score of 273. LAX, which is 12^{th} in terms of DC and WDC is ranked as the 8^{th} most important airport in July. Both LGW and ATL had relatively low EC rankings (Tables 4.1 and 4.2) despite their respectively strong DC (direct connections) and WDC (frequency of service) scores; this is indicative of routes to airports of lesser significance in relation to North Atlantic connectivity.

In comparing the tables, the importance of seasonality was evident. On the North Atlantic overall, the seasonal ratio was 1.21 (21.4% more flights in July). There was, however, considerable variation amongst the top airports when examining the WDC; the seasonal ratio was 1.56 for EWR but only 1.11 for FRA. It should also be noted that both FRA and MIA had fewer destinations in July than in January (-9.8% and -5.5% respectively).

Although JFK continued to have the highest DC, LHR had more flights and was the most important airport (EC) in 2002 (Tables 4.3 and 4.4).

Table 4.3 - Overview of the North Atlantic – January 2002

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK Int. Airport	57	402	0.874747
LHR	Heathrow Int. Airport	44	515	1
FRA	Frankfurt Int. Airport	34	245	0.619140
CDG	Charles de Gaulle Airport	31	241	0.654182
EWR	Newark Liberty Airport	31	205	0.617174
ORD	O'Hare Int. Airport	28	210	0.621131
AMS	Schiphol Airport	26	177	0.524543
LGW	Gatwick Int. Airport	25	189	0.208138
YYZ	Pearson Int. Airport	18	113	0.384365
ATL	Hartsfield Int. Airport	17	134	0.280512
IAD	Dulles Int. Airport	16	132	0.413025
BOS	Logan Airport	13	106	0.389447

Overall, most airports had an increase in both their number of connections (DC) and in frequency to those connections (WDC) (Table 4.3). JFK was a notable exception to this, likely reflecting the downturn in travel following the aftereffects of the previous year's events (Sept. 11, 2001); FRA also had a decrease in both its DC and WDC in January compared to 1997. The results for other US airports were mixed as ORD had an increase in their DC but a decrease in their WDC whereas both IAD and ATL saw increases in both metrics; all three airports saw an increase in their EC metrics.

Table 4.4 - Overview of the North Atlantic – July 2002

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK Int. Airport	64	532	0.951339
LHR	Heathrow Int. Airport	45	604	1
FRA	Frankfurt Int. Airport	42	317	0.704181
YYZ	Pearson Int. Airport	40	215	0.625042
AMS	Schiphol Airport	37	230	0.754360
EWR	Newark Liberty Airport	36	278	0.668971
CDG	Charles de Gaulle Airport	35	350	0.683845
ORD	O'Hare Int. Airport	31	257	0.695026
LGW	Gatwick Int. Airport	28	221	0.235912
IAD	Dulles Int. Airport	19	177	0.439573
ATL	Hartsfield Int. Airport	19	161	0.316869
LAX	Los Angeles Int. Airport	15	114	0.420233

Although YYZ saw only modest growth between January and July in 1997, their DC more than doubled and their WDC increased by 60.4% from July 1997 to July 2002 (Table 4.4). This reflected in part the introduction of Air Transat (TS) leisure services from Toronto to various destinations in Europe; YYZ's seasonal ratio was 1.90 in 2002, well above the overall network ratio of 1.24.

In 2007, the US airlines (as well as Air Canada) were still recovering financially from the events of September 11, 2001. At the time, not only Air Transat but a variety of other airlines, some low-cost and some premium-oriented services operated to both the US and Canada, mostly from the UK. These services originated in either LGW or regional airports. Also of note was the amalgamation of Air France (AF) and KLM (KL) into one entity, although both airlines continued to operate under their own brands and did not merge operations.

Table 4.5 - Overview of the North Atlantic – January 2007

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK Int. Airport	72	565	1
EWR	Newark Liberty Airport	49	349	0.703466
LHR	Heathrow Int. Airport	45	585	0.929932
FRA	Frankfurt Int. Airport	38	285	0.734194
CDG	Charles de Gaulle Airport	36	290	0.823284
ORD	O'Hare Int. Airport	34	257	0.757869
YYZ	Pearson Int. Airport	32	138	0.480663
AMS	Schiphol Airport	25	199	0.499306
ATL	Hartsfield Int. Airport	25	164	0.406865
LGW	Gatwick Int. Airport	22	165	0.289656
IAD	Dulles Int. Airport	19	160	0.430970
MAN	Manchester Int. Airport	16	75	0.403741

Table 4.6 - Overview of the North Atlantic – July 2007

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK Int. Airport	82	731	1
YYZ	Pearson Int. Airport	57	269	0.852715
EWR	Newark Liberty Airport	53	464	0.670524
LHR	Heathrow Int. Airport	48	684	0.975669
FRA	Frankfurt Int. Airport	47	381	0.841145
LGW	Gatwick Int. Airport	42	234	0.527832
CDG	Charles de Gaulle Airport	40	375	0.793742
ORD	O'Hare Int. Airport	37	315	0.760528
YUL	Trudeau Int. Airport	35	173	0.480368
AMS	Schiphol Airport	34	279	0.633511
ATL	Hartsfield Int. Airport	30	235	0.440800
MAN	Manchester Int. Airport	26	114	0.581405

JFK returned to its position of primacy in 2007 (in both January and July) leading in most metrics (Tables 4.5 and 4.6). Although LHR was in 1st and 2nd position in WDC in January and July respectively, YYZ placed 2nd on the DC metric in July – but in 8th place in January. This reflects the utilisation of YYZ by both FSC Air Canada and leisure air carrier Air Transat, something that was not replicated in most European airports. The only airport in Europe to have both types of services was arguably LGW. In addition to TS, Delta Airlines (DL), Continental Airlines (CO), Northwest Airlines (NW), and US Airways (US) were restricted to LGW for their London operations. In addition, despite having permission to operate some services out of LHR, American Airlines (AA) utilised LGW for connections to cities restricted under the provisions of Bermuda II.

This is reflected in their high DC and WDC scores for LGW and the increase in their EC from July 2002 to 2007 (0.235912 to 0.527832). The importance of seasonal travel at the airport was also evident in 2007 as LGW had 90.9% more destinations and 41.8% more flights in July compared to January. Seasonality, however, had the greatest impact upon the two largest Canadian airports, YYZ and YUL. When examining WDC, Toronto had a seasonal ratio of 1.95 whilst Montreal's ratio was 2.31; this reflected the 72.7% (YYZ) and 169.2% (YUL) change in DC between the seasons.

By 2012, more events had affected the aviation industry on the North Atlantic. The DL-NW and UA-CO mergers had occurred leaving only DL and UA respectively. In addition, the EU-US Open Skies Agreement had come into effect. In 2009, British Airways (BA) acquired British Midland (BD) and started its J-V with AA; the following year, the airline merged with Iberia (IB) to form IAG. The overall global impact of the economic downturn that began in 2008 was still being felt and undoubtedly impacted air travel, especially business travel.

Table 4.7 - Overview of the North Atlantic – January 2012

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK Int. Airport	65	523	0.860017
LHR	Heathrow Int. Airport	58	678	1
EWR	Newark Liberty Airport	49	357	0.605780
FRA	Frankfurt Int. Airport	37	279	0.611342
CDG	Charles de Gaulle Airport	35	278	0.626024
YYZ	Pearson Int. Airport	35	158	0.436829
IAD	Dulles Int. Airport	29	216	0.476658
ORD	O'Hare Int. Airport	27	198	0.498817
AMS	Schiphol Airport	27	191	0.467897
ATL	Hartsfield Int. Airport	23	149	0.393170
MIA	Miami Int. Airport	20	121	0.412548
LAX	Los Angeles Int. Airport	16	120	0.430901

Table 4.8 - Overview of the North Atlantic – July 2012

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK Int. Airport	83	757	1
YYZ	Pearson Int. Airport	63	307	0.787901
LHR	Heathrow Int. Airport	60	820	0.933895
FRA	Frankfurt Int. Airport	48	370	0.715113
EWR	Newark Liberty Airport	47	407	0.548291
CDG	Charles de Gaulle Airport	45	378	0.752754
YUL	Trudeau Int. Airport	38	172	0.441094
AMS	Schiphol Airport	33	275	0.519019
IAD	Dulles Int. Airport	31	281	0.470684
ORD	O'Hare Int. Airport	30	270	0.561797
ATL	Hartsfield Int. Airport	24	198	0.385023
FCO	Fiumicino Int. Airport	23	159	0.532688

The most evident aspect of Tables 4.7 and 4.8 is the absence of LGW, a direct result of the EU-US Open Skies Agreement; every major US airline moved their operations from LGW to LHR, thus severely decreasing the airport's connectivity. LGW was left with 15 connections (DC ranking - 20th), a WDC of 79 (WDC ranking - 25th), and an EC of 0.143536 (EC ranking - 41st).

The other aspect of note was that most airports were relatively stable in terms of their DC and WDC when compared to July 2007. The two exceptions to this were ATL and ORD. ATL's DC decreased from 30 to 24 (-20.0%) and WDC declined 235 to 198 (-15.7%); ORD's DC decreased from 37 to 30 (-18.9%) and WDC declined 315 to 270 (-14.3%). Virtually all airports had lower EC scores when compared to 2007.

The seasonal ratio of the overall network was 1.43 in 2012, similar to the figure recorded in 2007 (1.46).

By 2017, the final major US merger had occurred (AA-US). IAG had also acquired Aer Lingus (September 2015), thus strengthening the company's overall presence on the North Atlantic; however, EI still operates under its own brand, just as BA and IB continue to do so.

As in 2012, LHR and JFK retained their primacy positions in January and July respectively, the result of a 53.5% seasonal increase in flights to JFK compared to a 14.8% increase to LHR (Tables 4.9 and 4.10).

Table 4.9 - Overview of the North Atlantic – January 2017

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK Int. Airport	72	589	0.890443
LHR	Heathrow Int. Airport	64	735	1
EWR	Newark Liberty Airport	44	294	0.643206
YYZ	Pearson Int. Airport	41	200	0.542383
CDG	Charles de Gaulle Airport	39	260	0.721773
FRA	Frankfurt Int. Airport	36	238	0.584535
AMS	Schiphol Airport	30	210	0.503197
IAD	Dulles Int. Airport	29	189	0.477308
LAX	Los Angeles Int. Airport	28	173	0.546965
ORD	O'Hare Int. Airport	27	199	0.469321
MIA	Miami Int. Airport	27	176	0.410995
BOS	Logan Airport	21	139	0.383445

Table 4.10 - Overview of the North Atlantic – July 2017

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK Int. Airport	95	904	1
YYZ	Pearson Int. Airport	71	408	0.792578
LHR	Heathrow Int. Airport	65	844	0.864943
YUL	Frankfurt Int. Airport	54	269	0.510235
EWR	Trudeau Int. Airport	53	429	0.637820
FRA	Newark Liberty Airport	53	374	0.624934
CDG	Charles de Gaulle Airport	51	436	0.817150
ORD	O'Hare Int. Airport	40	342	0.551802
LAX	Los Angeles Int. Airport	36	253	0.541866
IAD	Dulles Int. Airport	36	274	0.467364
AMS	Schiphol Airport	35	306	0.502308
DUB	Dublin Int. Airport	31	217	0.531164

Unlike the 2007 to 2012 period, most of the largest airports increased both their DC and the WDC from 2012 to 2017 (see Table 4.10). JFK increased their connections by 10.6% and their WDC by 19.6% from July 2012 to 2017. YYZ also had an increase of 15.9% and 32.9% in their DC and WDC respectively over the same time period.

Although LHR also increased in these metrics over the same time period, the gains were of a smaller magnitude.

Of note is the absence of ATL amongst the top airports on the North Atlantic and the inclusion of Dublin (in July). Although it was 14th on EC ranking in 2012, by 2017 Atlanta slipped to 20th on the EC ranking. In contrast, Dublin rose from 22nd to 8th on the EC ranking over the same time period.

The most important airports on the North Atlantic have remained relatively consistent from 1997 to 2017, although there have been exceptions (e.g., LGW) and their respective positions have not remained constant.

This dynamic aspect leads to some clear divisions or clusters when plotted during certain time periods (Figures 4.1, 4.2, 4.3, 4.4, and 4.5).

<u>Figure 4.1 – Eigencentrality – North Atlantic – July 1997</u>

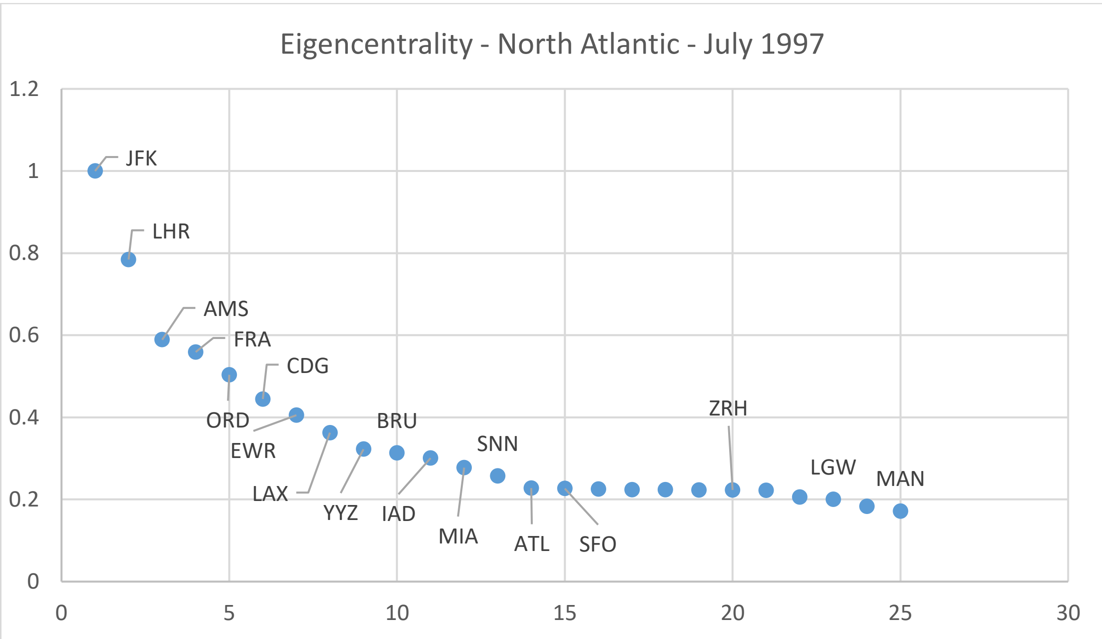


Figure 4.2 – Eigencentrality – North Atlantic – July 2002

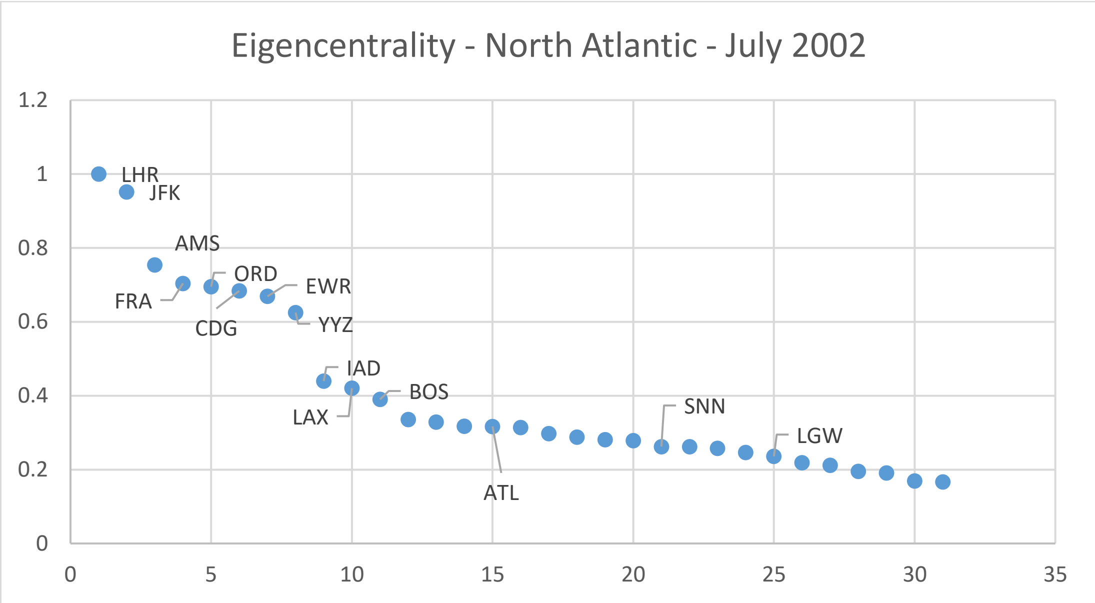


Figure 4.3 – Eigencentrality – North Atlantic – July 2007

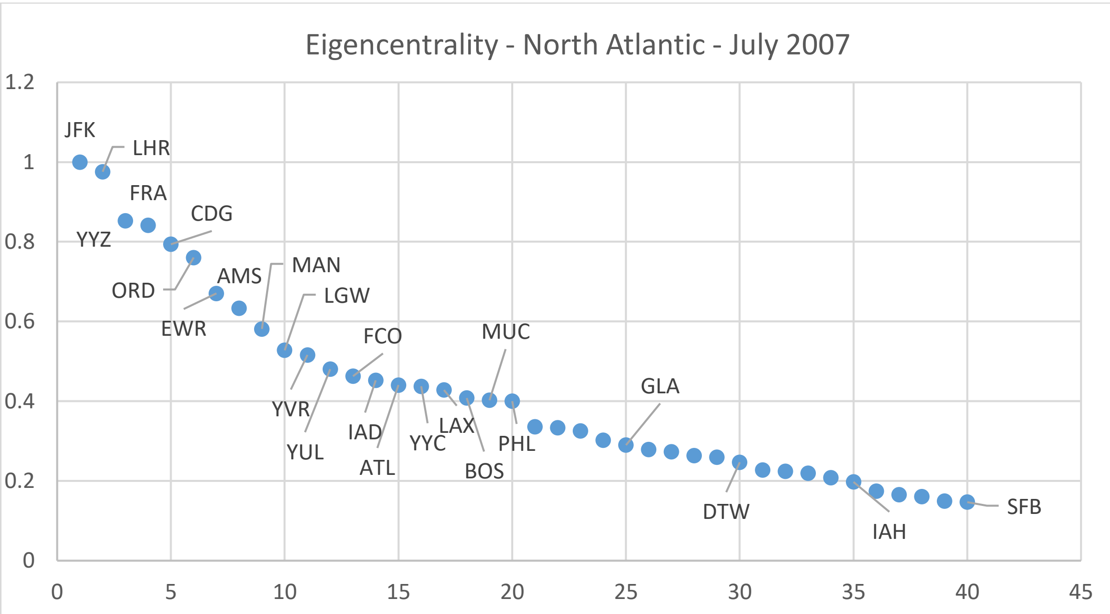


Figure 4.4 – Eigencentrality – North Atlantic – July 2012

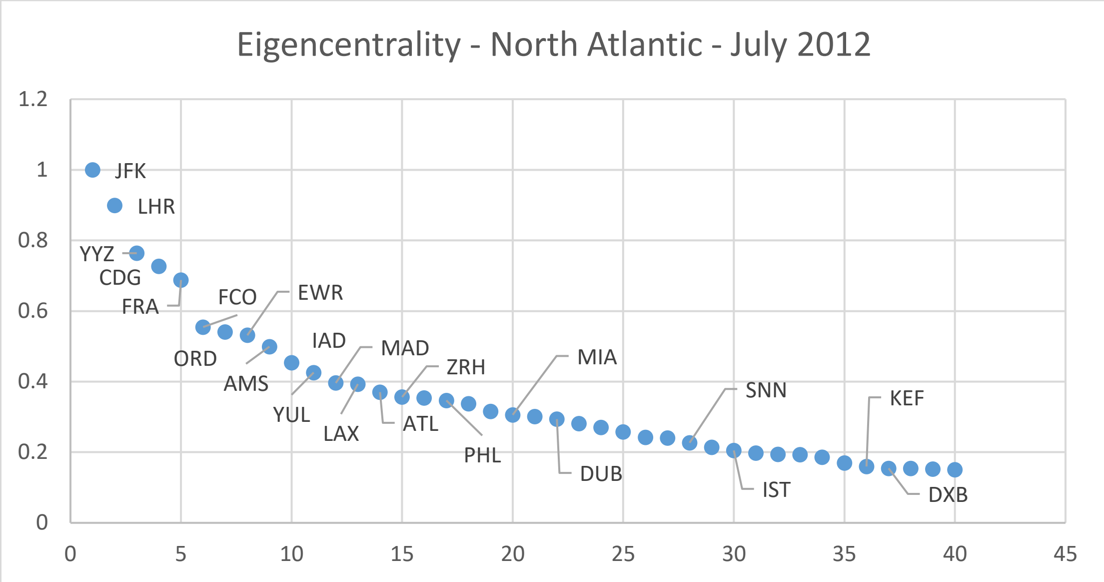
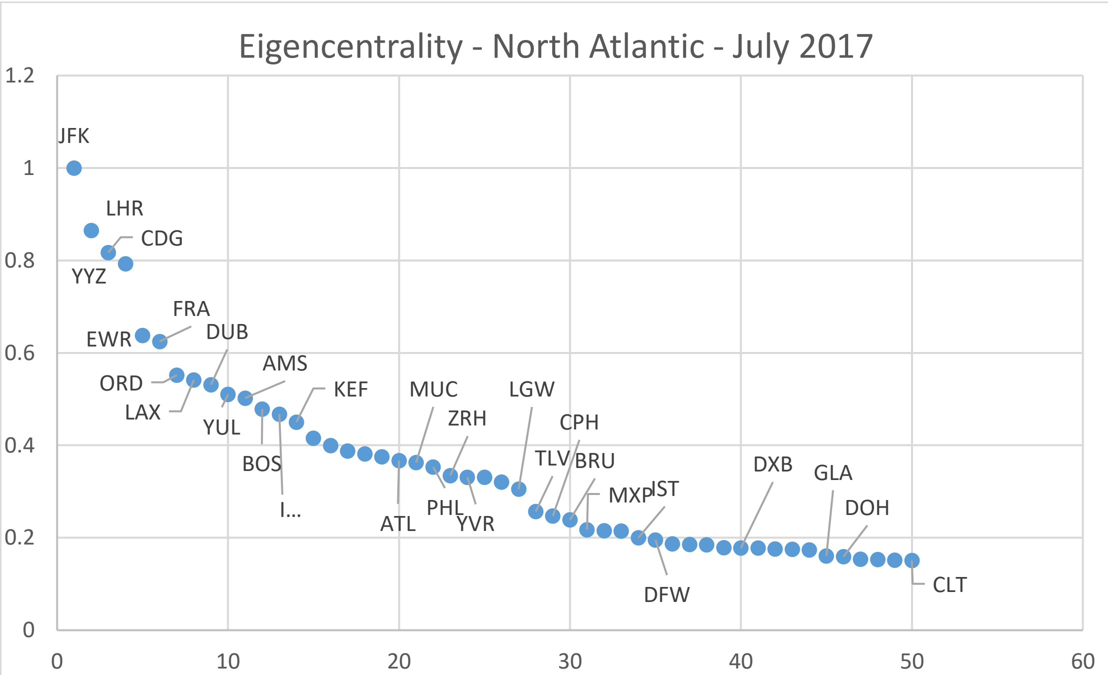


Figure 4.5 – Eigencentrality – North Atlantic – July 2017



Throughout the study period, the pre-eminent airport on the North Atlantic in July was JFK, followed closely, and surpassed in 2002, by LHR. AMS and FRA were also important airports within the overall network in both 1997 and 2002. In 2007, however, YYZ was third on the EC rankings. Toronto Pearson is one of the few major airports that is not only a hub for an FSC but also a leisure airline base. As a result, it had numerous connections to a variety of destinations on the North Atlantic.

For January, the overview of the North Atlantic was slightly different, with primacy being more dynamic. JFK was the primary airport from 1997-2001, was surpassed by LHR from 2002-2005 and then reverted to JFK from January 2006-2008. However, since 2009, LHR has been the primary airport on the North Atlantic in January.

Although only 6th in Eigencentrality in January 1997, CDG subsequently increased in importance. In January 2000, CDG rose to 3rd in importance on the North Atlantic, a position it has retained with some consistency, although the airport did slip to 7th in importance in 2009 and was 5th in both 2010 and 2011.

The implementation of the EU-US Open Skies Agreement resulted in a shift in the network with the near total transference of North Atlantic FSC services to LHR from LGW, leaving the airport almost exclusively for either leisure airlines or leisure destinations. The airport has since started to recover its position in recent years when both Norwegian and WestJet implemented services.

4.2 North American Airports

Amongst North American airports, JFK has retained unrivalled primacy throughout the duration of the study period in both January and July. This was expected considering the high number of destinations and flights to the airport. However, the importance of other airports varied greatly, especially when considering the differences between January and July. This reflects not only changing airline strategies, but also the economic changes within the US as the country’s reliance upon manufacturing, predominantly based in the Midwest, shifted to a more service-based economy.

January

In January 1997, 36 airports had North Atlantic services. After the top two airports, there was a subsequent tier of nine airports, with no clear distinctions amongst the remaining airports in the region. None of the global alliances had yet been founded. JFK had 2.5 times the number of destinations (DC) and flights (WDC) than the second most important airport, ORD: it was also twice as important (Table 4.11).

Nonetheless, ORD was clearly the second most important airport in North America having twice as many destinations and flights than third place LAX (Figure 4.6). However, there was no noticeable demarcation between LAX and the subsequent airports with a gradual decline amongst the other North American airports.

Table 4.11 – Most Important North American Airports – January 1997

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK International Airport	80	509	1
ORD	O'Hare Int. Airport	31	179	0.488941
LAX	Los Angeles Int. Airport	16	91	0.365296
YYZ	Pearson Int. Airport	15	97	0.332948
IAD	Dulles Int. Airport	15	105	0.330424
EWR	Newark Liberty Airport	22	137	0.286786
MIA	Miami Int. Airport	18	92	0.272129
BOS	Logan Airport	15	96	0.251874
ATL	Hartsfield Int. Airport	15	102	0.216655
YMX	Mirabel Int. Airport	14	54	0.214146
SFO	San Francisco Int. Airport	8	57	0.199597
MCO	Orlando Int. Airport	10	36	0.132318

By January 2000, flights to North America increased with all major airports exhibiting signs of growth (Table 4.12). The only airport that had both fewer destinations and flights was that of MCO; unsurprisingly, the airport was ranked 19th (EC) in 2000.

Figure 4.6 – Eigencentrality of North American Airports – January 1997

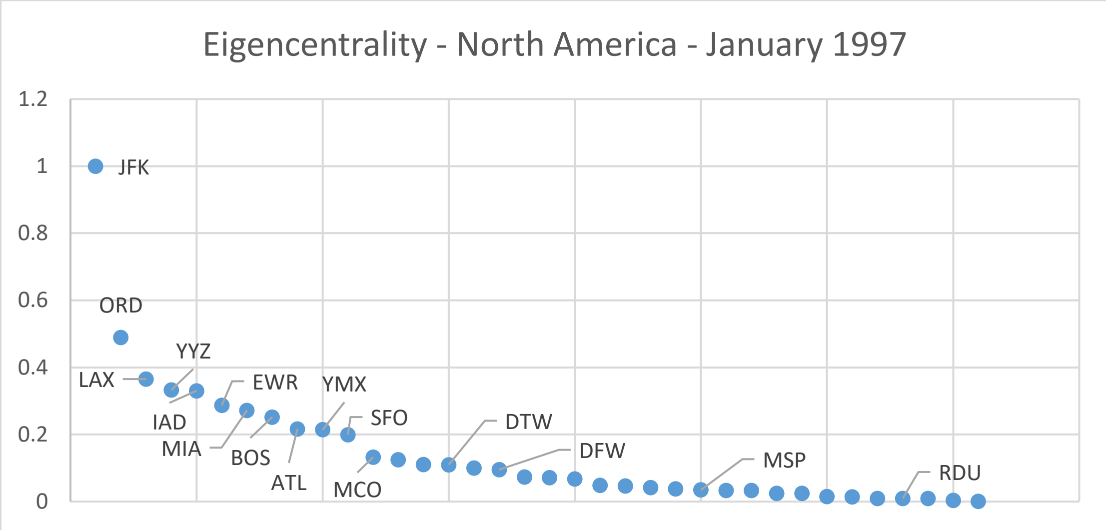


Table 4.12 – Most Important North American Airports – January 2000

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK International Airport	76	556	1
ORD	O'Hare Int. Airport	36	250	0.638979
EWR	Newark Liberty Airport	41	285	0.590824
LAX	Los Angeles Int. Airport	16	104	0.393976
IAD	Dulles Int. Airport	16	136	0.367238
YYZ	Pearson Int. Airport	20	114	0.346385
MIA	Miami Int. Airport	19	108	0.324412
BOS	Logan Airport	17	116	0.316748
ATL	Hartsfield Int. Airport	21	143	0.307623
SFO	San Francisco Int. Airport	10	74	0.264604
YUL	Dorval Int. Airport	14	63	0.252617
DTW	Detroit-Wayne County	7	56	0.181229

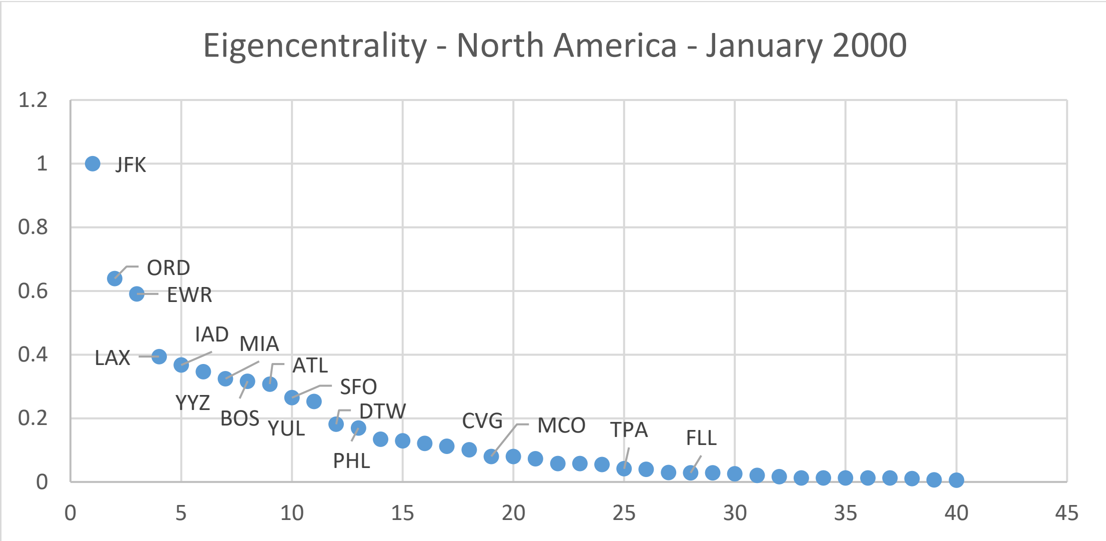
There were some noteworthy aspects evident in Table 4.12. The first was the increase in all three measures by EWR from 1997 to 2000: a doubling of WDC, a near doubling of DC and a jump from 6th to 3rd in terms of EC. Despite these increases, ORD retained its 2nd place EC status. Despite increases in both its DC and WDC, YYZ's relative importance decreased, and the airport slipped from 4th to 6th (EC).

Also of note was the replacement of YMX by YUL. A change in Canadian airport policy stripped the airport of its exclusive status for intercontinental services to Montreal which led to an exodus of services to the more geographically amenable Dorval.

Amongst the top airports, only BOS was not an airline hub airport.

The structure of the North American airports also showed a transformation into a more hierarchical pattern. JFK retained its primacy position, but instead of a clear second place, a secondary tier had developed including both ORD and EWR (Figure 4.7). There was also a distinct tertiary tier comprising of six airports (LAX, IAD, YYZ, MIA, BOS and ATL). Both SFO and YUL were clearly in a fourth tier, with DTW and PHL in a fifth tier; there were no clear distinctions amongst the remaining airports.

Figure 4.7 – Eigencentrality of North American Airports – January 2000



The impact of the events of September 11, 2001, was evident in January 2002: there were 18.2% fewer flights compared to January 2001. Both New York City area airports, JFK and EWR, suffered the greatest impact. Both airports had more than 20% fewer routes compared to the previous year, and 27.7% and 24.6% fewer flights respectively. Given that both airports were in the top three in North America, the declines had a disproportionate impact upon services overall.

Despite the magnitude of the declines in JFK and EWR, the composition of North America's top 12 airports remained unchanged with only slight changes in the relative positions of the airports (BOS and YZZ inverted positions as did PHL and YUL). Despite the decrease in its EC, JFK retained its primacy position.

It was not until January 2006 that the overall network recovered to reach pre-9/11 levels (Table 4.13). The recovery was not, however, evenly distributed as some airports surpassed their previous levels and others continued to struggle (Table 4.14).

Table 4.13 – Most Important North American Airports – January 2006

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK International Airport	72	566	1
ORD	O'Hare Int. Airport	32	253	0.701403
EWR	Newark Liberty Airport	47	342	0.639384
YYZ	Pearson Int. Airport	33	145	0.489185
LAX	Los Angeles Int. Airport	15	107	0.458312
IAD	Dulles Int. Airport	19	161	0.428872
ATL	Hartsfield Int. Airport	25	164	0.402172
MIA	Miami Int. Airport	13	89	0.351446
YUL	Trudeau Int. Airport	13	75	0.344281
PHL	Philadelphia Int. Airport	12	81	0.308965
BOS	Logan Airport	12	92	0.284624
SFO	San Francisco Int. Airport	8	69	0.283942

Some airports exhibited noticeable growth, especially after 2005; however, there were two clear trends. The first trend was a greater change in WDC compared to DC (EWR and YUL[45]), indicating an intensification of flights to destinations. The second trend was the reverse: a greater change in DC compared to WDC (YYZ, IAD, ATL and PHL). This indicated expansion in the network in tandem with fewer services to each destination.

However, MIA, BOS and SFO continued to operate with more than 10% fewer destinations and flights overall.

[45] YUL was renamed Pierre-Elliott-Trudeau International Airport in January 2004.

Table 4.14 –
Most Important North American Airports – DC and WDC Changes – 2001 to 2006

Percentage Change in DC and WDC, January 2001 to January 2006

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)
JFK	JFK International Airport	0.0%	0.4%
ORD	O'Hare Int. Airport	-3.0%	0.4%
EWR	Newark Liberty Airport	17.5%	25.7%
YYZ	Pearson Int. Airport	37.5%	11.5%
LAX	Los Angeles Int. Airport	0.0%	-6.1%
IAD	Dulles Int. Airport	18.8%	8.8%
ATL	Hartsfield Int. Airport	31.6%	14.7%
MIA	Miami Int. Airport	-18.8%	-13.6%
YUL	Dorval Int. Airport	0.0%	23.0%
PHL	Philadelphia Int. Airport	20.0%	5.2%
BOS	Logan Airport	-20.0%	-25.8%
SFO	San Francisco Int. Airport	-27.3%	-16.9%

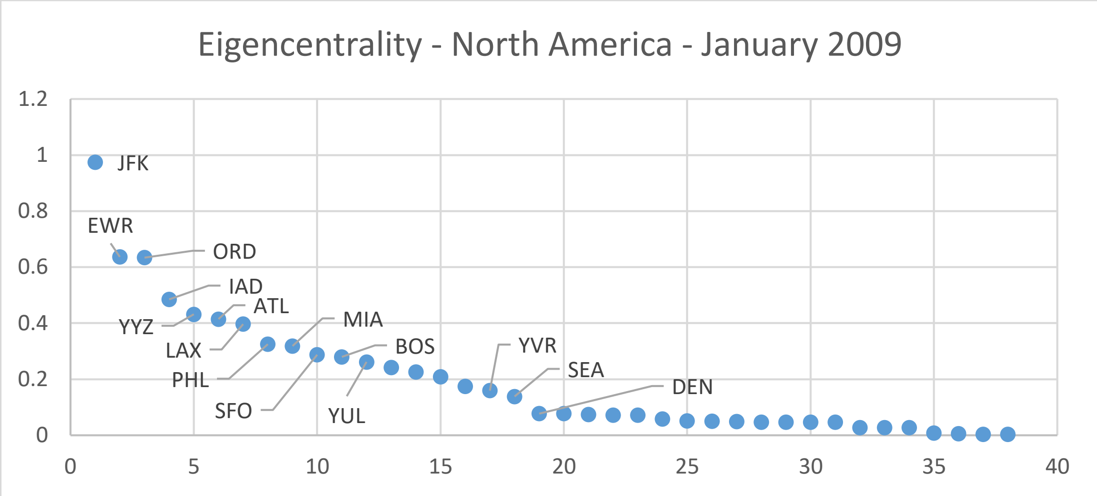
Air traffic on the North Atlantic continued to grow until January 2008. The economic downturn that began in the autumn of 2008 impacted flight schedules within months and was evident by January 2009 (Table 4.15).

Table 4.15 – Most Important North American Airports – January 2009

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK International Airport	77	588	0.974505
EWR	Newark Liberty Airport	47	360	0.636520
ORD	O'Hare Int. Airport	33	236	0.633892
IAD	Dulles Int. Airport	25	187	0.484844
YYZ	Pearson Int. Airport	28	143	0.431806
ATL	Hartsfield Int. Airport	31	202	0.414680
LAX	Los Angeles Int. Airport	14	111	0.396568
PHL	Philadelphia Int. Airport	14	86	0.324978
MIA	Miami Int. Airport	13	96	0.318603
SFO	San Francisco Int. Airport	10	76	0.287319
BOS	Logan Airport	14	94	0.279808
YUL	Trudeau Int. Airport	12	66	0.261792

In January 2009, EWR supplanted ORD as the secondary airport, albeit by a very slim margin. Washington Dulles (IAD) also rose to fourth position, PHL to 8th, whilst YUL dropped to 12th position.

Figure 4.8 – Eigencentrality of North American Airports – January 2009



JFK retained clear primacy with the airport network with EWR and ORD basically sharing the secondary spot (Figure 4.8). There was a third tier (IAD, YYZ, ATL and LAX) whilst PHL and MIA were within a 4^{th} tier. There was also a distinct fifth tier comprising of nine airports (SFO, BOS, YUL, IAH, DTW, DFW, YYC, YVR and SEA).

From January 2010 onwards, the network structure shifted as EWR moved into secondary position behind JFK. This started the downward trend in ORD's importance for North Atlantic services, although it remained the 3^{rd} most important airport until 2016 when it was surpassed by LAX. Nonetheless, from 2013-2015, the difference between ORD and the 4^{th} place airport was nearly indistinguishable (Table 4.16).

Table 4.16 – Most Important North American Airports – January 2013

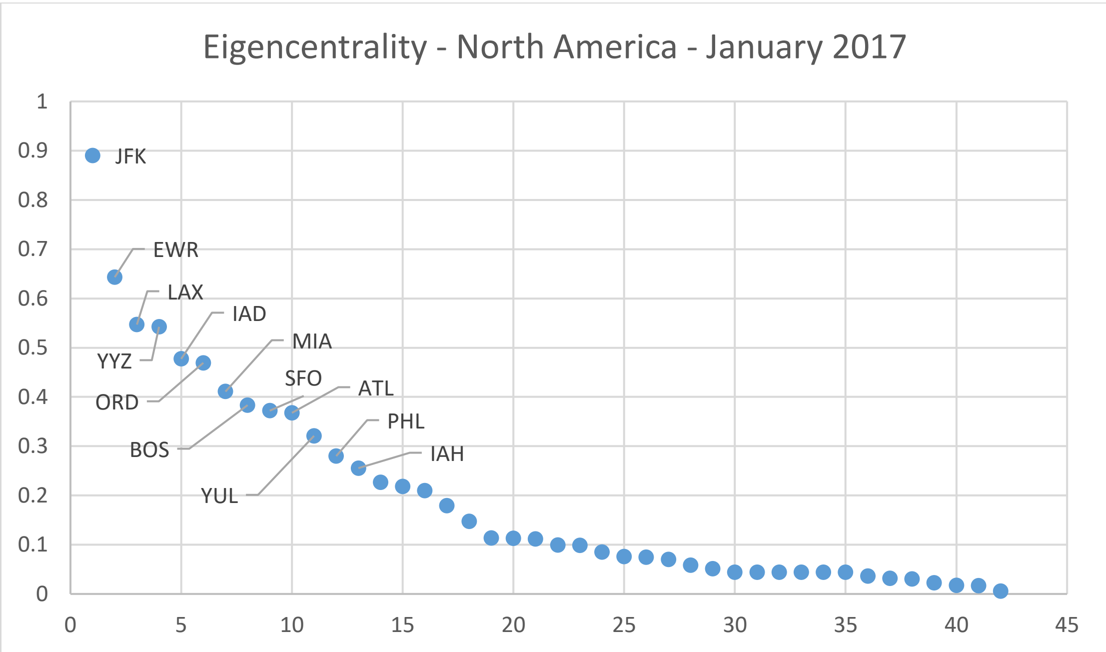
Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK International Airport	63	546	0.872223
EWR	Newark Liberty Airport	44	326	0.546096
ORD	O'Hare Int. Airport	25	194	0.488254
IAD	Dulles Int. Airport	29	208	0.482460
LAX	Los Angeles Int. Airport	17	112	0.443385
YYZ	Pearson Int. Airport	31	146	0.413274
ATL	Hartsfield Int. Airport	20	141	0.388307
BOS	Logan Airport	15	100	0.357769
MIA	Miami Int. Airport	18	119	0.354630
PHL	Philadelphia Int. Airport	14	98	0.317969
YUL	Trudeau Int. Airport	15	87	0.306513
SFO	San Francisco Int. Airport	10	73	0.303169
IAH	Bush Int. Airport	11	86	0.261210

There was also a clear division between the top 13 airports and the other airports (EC); the composition of which remained unchanged during this time period (Table 4.17, Figure 4.9).

Table 4.17 – Most Important North American Airports – January 2017

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK International Airport	72	589	0.890443
EWR	Newark Liberty Airport	44	294	0.643206
LAX	Los Angeles Int. Airport	28	173	0.546965
YYZ	Pearson Int. Airport	41	200	0.542383
IAD	Dulles Int. Airport	29	189	0.477308
ORD	O'Hare Int. Airport	27	199	0.469321
MIA	Miami Int. Airport	27	176	0.410995
BOS	Logan Airport	21	139	0.383445
SFO	San Francisco Int. Airport	17	131	0.372242
ATL	Hartsfield Int. Airport	19	143	0.367729
YUL	Trudeau Int. Airport	19	100	0.321040
PHL	Philadelphia Int. Airport	12	82	0.279971
IAH	Bush Int. Airport	11	84	0.255445

Figure 4.9 – Eigencentrality of North American Airports – January 2017



To assess temporal changes in importance, conditional value centralities (CVC) were calculated. Amongst those airports that had continuous service[46], there were some noticeable changes (see Appendix C).

Despite retaining its position as the primary airport during the winter, JFK's CVC declined drastically from 1997 to 2017 – down 44.0% (.1911 to .1070). ORD also suffered a major decrease in its CVC, -39.6%. Only three airports had larger decreases, CVG (which was de-hubbed), and sun destinations MCO and TPA.

In contrast, RDU and CLT exhibited the largest CVC increases, 392.4% and 451.6% respectively. RDU's values jumped in both 2009 and again 2017, reflecting the airport's greater role within AA. CLT showed a single large increase in 2014 and reflected the airport's transformation from a US to an AA hub.

The only airport amongst the top five in 1997 whose CVC had risen by 2017 was YYZ, which had an increase of 2.4%. The sixth most important airport, EWR, had a CVC increase of 41.0%.

July

In 1997, JFK held a dominant position and had nearly three times the DC and WDC of ORD, the second most important airport in North America (Table 4.18). A third broad tier was evident and comprised EWR, LAX, YYZ, IAD and MIA. There was a total of 39 airports with North Atlantic services in July 1997.

In both 1998 and 1999, EWR increased in importance to share second tier status with ORD and surpassed the airport to take second place in 1999.

It should be noted that Montreal's Mirabel Airport (YMX) importance ceased almost immediately in April 1997 when the Canadian Government removed the directive that

[46] The CVC of YMX was utilised for YUL in 1997 to enable a temporal assessment.

required all intercontinental flights to utilise YMX. At that point, nearly all airlines shifted operations to Montreal's Dorval Airport.

Table 4.18 – Most Important North American Airports – July 1997

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK International Airport	81	634	1
ORD	O'Hare Int. Airport	32	221	0.503703
EWR	Newark Liberty Airport	30	213	0.405255
LAX	Los Angeles Int. Airport	16	115	0.362715
YYZ	Pearson Int. Airport	18	134	0.322346
IAD	Dulles Int. Airport	13	122	0.300729
MIA	Miami Int. Airport	17	102	0.277489
ATL	Hartsfield Int. Airport	17	126	0.227768
SFO	San Francisco Int. Airport	11	75	0.226613
YMX	Mirabel Int. Airport	14	64	0.225324
BOS	Logan Airport	14	107	0.224104
YVR	Vancouver Int. Airport	7	43	0.206073

There was a total of 44 airports with services in 2000. By then, YYZ had increased in importance to share the second tier with ORD and EWR (Figure 4.10). The airport had more than doubled its DC compared to 1997 (18 to 48) and also had a substantially higher WDC (134 to 209).

Figure 4.10 – Most Important North American Airports – July 2000

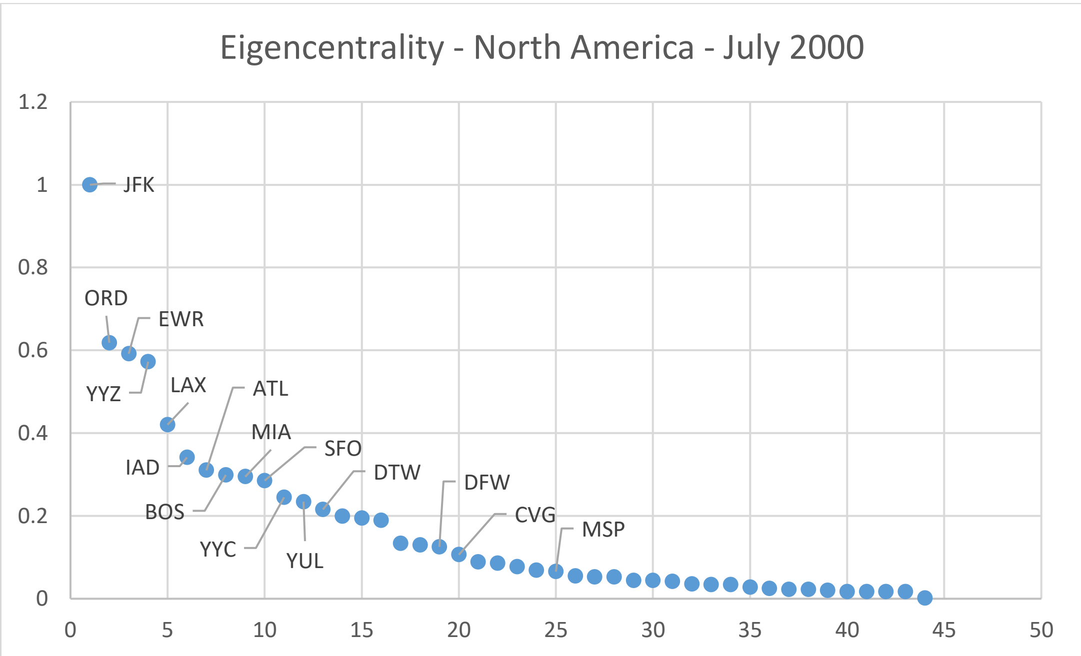


Table 4.19 – Most Important North American Airports – July 2000

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK International Airport	79	666	1
ORD	O'Hare Int. Airport	38	292	0.618246
EWR	Newark Liberty Airport	42	325	0.591555
YYZ	Pearson Int. Airport	48	209	0.572411
LAX	Los Angeles Int. Airport	20	152	0.420300
IAD	Dulles Int. Airport	18	169	0.341190
ATL	Hartsfield Int. Airport	22	176	0.310202
BOS	Logan Airport	17	142	0.298908
MIA	Miami Int. Airport	17	102	0.294752
SFO	San Francisco Int. Airport	12	95	0.285380
YYC	Calgary Int. Airport	16	35	0.244880
YUL	Dorval Int. Airport	14	75	0.234337
DTW	Detroit-Wayne County Int. Air.	10	92	0.215516

This relationship remained consistent until July 2004, when EWR lessened in importance to leave ORD and YYZ alone in the second tier.

Despite the impact of September 11, 2001, on airline operations, JFK retained its clear primacy position. This was despite a 16.9% a 15.2% decline in DC and WDC respectively on the North Atlantic from July 2001 to 2002. The airport did not return to those same levels until July 2008.

In 2005, YYZ became the second most important airport for North Atlantic operations, a position that it retained for the remaining scope of the research.

Charter airlines played a more important role in Canada compared to the US. Although originally developed to transport Canadian residents to warmer climes during the winter, some companies like Air Transat expanded to provide trans-Atlantic services during the summer. These airlines did not utilise secondary airports but based their operations in major airports like Toronto Pearson and Montreal Dorval (Trudeau)[47], contributing to the overall importance of both airports.

[47] Air Transat continued to use Mirabel Airport for its operations until the airport ceased passenger flights on October 31, 2004 (Krauss, 2004).

July 2008 marked not only a high point, but also a turning point in North Atlantic operations (Table 4.20). The economic recession began in the autumn of 2008 and resulted in decreased travel.

Table 4.20 – Most Important North American Airports – July 2008

Code	Label	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK Int. Airport	89	756	0.968182
YYZ	Pearson Int. Airport	61	277	0.709123
ORD	O'Hare Int. Airport	36	309	0.644276
EWR	Newark Liberty Airport	53	470	0.603217
LAX	Los Angeles Int. Airport	19	167	0.476724
YUL	Trudeau Int. Airport	36	161	0.431753
IAD	Dulles Int. Airport	25	230	0.412612
ATL	Hartsfield Int. Airport	32	242	0.404816
YVR	Vancouver Int. Airport	19	69	0.372793
PHL	Philadelphia Int. Airport	23	168	0.370678

From October 2008 until December 2013, the six major US airlines merged into the three main airlines that exist today: American Airlines (AA+US), Delta Airlines (DL+NW), and United Airlines (UA+CO). In addition to the amalgamation of operations between the individual carriers, the US-based airlines adopted seat capacity and route discipline to reinforce their financial positions. Although there were some increases in destinations and frequencies, the EC importance of the main North American airports remained relatively consistent (Table 4.21).

Table 4.21 – Most Important North American Airports – July 2013

Code	Label	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK Int. Airport	84	766	1
YYZ	Pearson Int. Airport	59	301	0.716657
ORD	O'Hare Int. Airport	35	304	0.585245
EWR	Newark Liberty Airport	45	396	0.561943
IAD	Dulles Int. Airport	32	270	0.486506
YUL	Trudeau Int. Airport	37	170	0.436283
LAX	Los Angeles Int. Airport	20	162	0.423768
ATL	Hartsfield Int. Airport	23	202	0.388588
BOS	Logan Airport	19	172	0.372219
PHL	Philadelphia Int. Airport	20	153	0.363292

After 2013, there was an expansionist phase by airlines on the North Atlantic, resulting in both more destinations and flights. The airports which were selected for expansion resulted in more services and greater importance (Table 4.22). The number of airports also increased from 43 airports (2013) to 49 airports (2017).

Table 4.22 – Most Important North American Airports – July 2017

Code	Label	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK Int. Airport	95	904	1
YYZ	Pearson Int. Airport	71	408	0.792578
EWR	Newark Liberty Airport	53	429	0.637820
ORD	O'Hare Int. Airport	40	342	0.551802
LAX	Los Angeles Int. Airport	36	253	0.541866
YUL	Trudeau Int. Airport	54	269	0.510235
BOS	Logan Airport	33	256	0.478685
IAD	Dulles Int. Airport	36	274	0.467364
SFO	San Francisco Int. Airport	24	181	0.388026
MIA	Miami Int. Airport	27	171	0.381295
ATL	Hartsfield Int. Airport	25	221	0.367249
PHL	Philadelphia Int. Airport	21	151	0.353096

Whilst some airports had minimal increases or in the case of PHL a decrease in flights, others had noticeable increases from 2013 to 2017: SFO (+60.2%), YUL (+58.2%), LAX (+56.2%) and YYZ (+35.6%). Greater technological advances enabled the development of financially viable services to the west coast and was evident in the presence of both LAX and SFO amongst the top airports (YVR was 13th most important). Both YUL and YYZ benefitted from the development of AC Rouge and the increase in leisure travel.

When examining the CVC values (Appendix D), it was evident that the two most important airports in July 1997, JFK and ORD witnessed noticeable declines of 41.5% and 35.9% respectively when examining changes from 1997 to 2017. The CVC of 3rd place EWR declined 7.9% as did that of 4th place LAX, -12.6%. The only airport amongst the top five to have a CVC increase from 1997 to 2017 was that of YYZ, +43.9%.

From the comparison of January and July data, it was evident that there was not homogenous development from 1997 to 2017.

Whilst JFK retained its position of primacy in both January and July, ORD was supplanted as the secondary airport by EWR in January (since 2009), and by YYZ in July (since 2005). Once a major hub for North Atlantic operations for both AA and UA, ORD decreased to 7th in importance in January (-39.6%) and 4th in July (-35.9%), in part due to the re-allocation of AA by some services to PHL. In turn, PHL's CVC has increased in both January (+58.8%) and July (+89.7%) from 1997 to 2017.

From 1997 to 2017, ATL increased its overall importance in January (+6.7%) but declined in July (-4.1%). In contrast, Boston Logan's CVC increased in July (+25.0%) but decreased in January (-4.3%). Although LAX saw its overall CVC decline in both January and July, SFO experienced gains in both months.

4.3 Afro-Eurasian Airports

Afro-Eurasian Airports are all non-North American airports, and as such comprise all airports situated east of the Atlantic Ocean in Africa, Asia, Europe, or the Middle East.

In 1997, nearly 97% of flights from the Afro-Eurasian Airports originated from European airports with the remaining flights from Africa and the Middle East. The proportion was consistent in both January and July.

Europe was the dominant source of flights for many years, and it was not until 2006 that the continent accounted for less than 95% of all North Atlantic flights, both in January and July. As such, the largest European airports were also the largest airports amongst Afro-Eurasian Airports.

Overall, the largest Middle East Airport, TLV, was the 11th largest airport in January 2006, and the 13th largest in July 2006.

From 2006 onwards, the impact of seasonality began to be evident in the distribution of traffic amongst the Afro-Eurasian Airports with different patterns developing. From that time, Middle Eastern Airports began to be the origin of a greater proportion of Afro-Eurasian flights (Table 4.23).

Table 4.23 – The Percentage of Afro-Eurasian Airports Flights by Region, 2008-2017

January	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Europe	91.9	90.0	88.3	88.0	86.8	86.4	86.3	83.9	82.7	82.4
Africa	2.2	2.4	2.5	2.7	2.9	2.5	2.3	2.5	2.4	2.2
Mid. East	4.6	6.0	7.7	7.4	8.4	9.6	10.0	12.3	13.4	13.6
Asia	1.3	1.7	1.5	1.8	1.9	1.5	1.4	1.4	1.5	1.8
July	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Europe	92.5	91.2	90.2	90.2	90.1	89.1	88.5	88.4	88.0	88.6
Africa	2.0	2.0	2.6	1.9	2.0	2.1	2.0	1.9	1.9	2.1
Mid. East	4.4	5.7	6.2	6.5	7.4	7.8	8.5	8.8	9.2	8.2
Asia	1.2	1.1	1.0	1.3	0.4	1.0	0.9	0.9	0.9	1.0

In January 2011, DXB became the 10th largest Afro-Eurasian Airport, although it was only the 15th largest in July of the same year; TLV was 12th and 14th during the same time periods respectively (Table 4.24).

Table 4.24 – Top 15 Afro-Eurasian Airports, January and July 2011

January				**July**			
Code	DC	WDC	EC	Code	DC	WDC	EC
LHR	55	708	1	LHR	61	791	0.96090
FRA	36	281	0.63921	CDG	46	398	0.78666
CDG	35	281	0.62290	FRA	46	354	0.66299
AMS	27	208	0.48536	AMS	32	277	0.52479
ZRH	14	99	0.34834	FCO	22	163	0.50520
MUC	16	98	0.35746	MAD	19	136	0.42665
MAD	14	88	0.38636	ZRH	19	115	0.37483
BRU	12	78	0.35333	MUC	17	107	0.34131
FCO	13	78	0.34384	DUB	13	95	0.28738
DXB	6	59	0.13994	BRU	13	87	0.33124
DUB	8	58	0.20855	LGW	20	84	0.21236
TLV	9	58	0.25586	MAN	16	81	0.27943
MAN	10	49	0.22553	KEF	13	71	0.26045
LGW	10	46	0.07960	TLV	9	71	0.23792
DUS	6	30	0.11587	DXB	7	66	0.14284

Although Dubai had more flights during this time period, it was not the only Middle East Airport to develop its North Atlantic flights.

By 2017, DXB had risen to be the 5th largest Afro-Eurasian Airport in January, and was joined by DOH (10th), IST (12th), TLV (14th) and AUH (15th) (Table 4.25). In July 2017, however, DXB and IST had a somewhat lower ranking at 14th and 15th respectively, which could reflect the ban on computer lithium batteries by the US administration that summer.

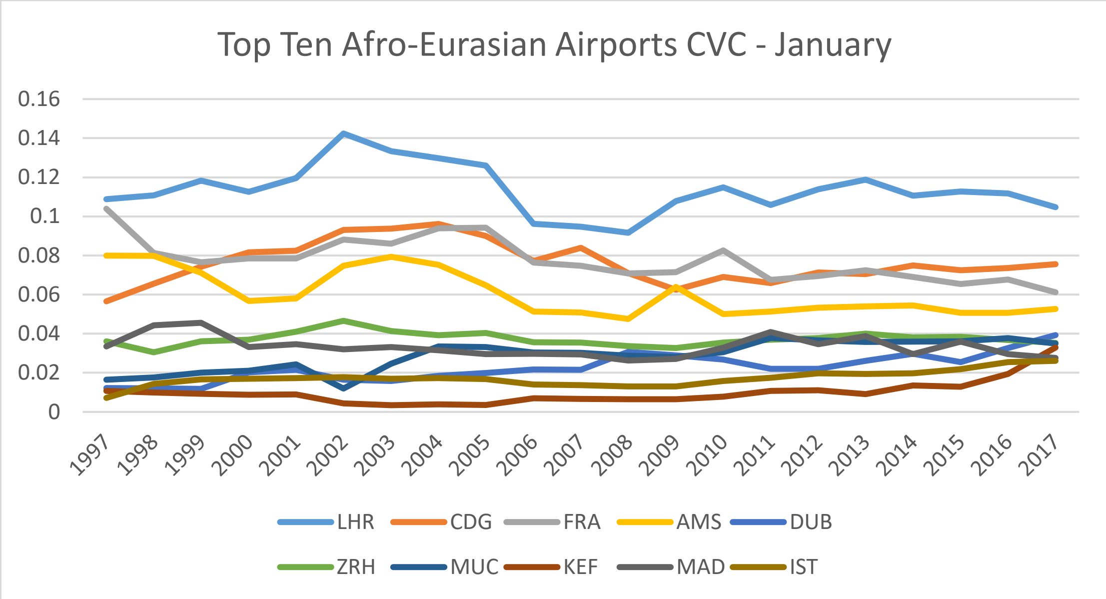
Table 4.25 – Top 15 Afro-Eurasian Airports, January and July 2017

January				**July**			
Code	DC	WDC	EC	Code	DC	WDC	EC
LHR	64	735	1	LHR	65	844	0.86494
CDG	39	260	0.72177	CDG	51	436	0.81715
FRA	36	238	0.58454	FRA	53	374	0.62493
AMS	30	210	0.50320	AMS	35	306	0.50231
DXB	12	115	0.20407	DUB	31	217	0.53116
MUC	17	102	0.33410	KEF	30	217	0.45040
ZRH	14	95	0.33756	FCO	21	165	0.41574
DUB	17	90	0.37525	MUC	24	152	0.36276
KEF	17	89	0.31450	LGW	27	147	0.30523
DOH	11	80	0.20575	MAD	19	138	0.37527
LGW	16	73	0.22045	ZRH	19	130	0.33476
IST	12	73	0.24937	MAN	23	114	0.39937
MAD	11	71	0.26352	BCN	18	94	0.33082
TLV	9	60	0.24429	DXB	12	90	0.17817
AUH	7	48	0.15662	IST	11	84	0.20019

Whilst the above tables note the growth in the overall Afro-Eurasian Airports network, they do not reflect the relative importance of these airports; this considers not only the number of flights but also the destinations served by the airport.

In contrast to the tables above, DXB is not amongst the most important Afro-Eurasian Airports in either January or July. The most important airports in 2017 were almost exclusively European airports; the sole exception was IST which ranked 10th in January.

Figure 4.11 – Top Ten Afro-Eurasian Airports by CVC, January

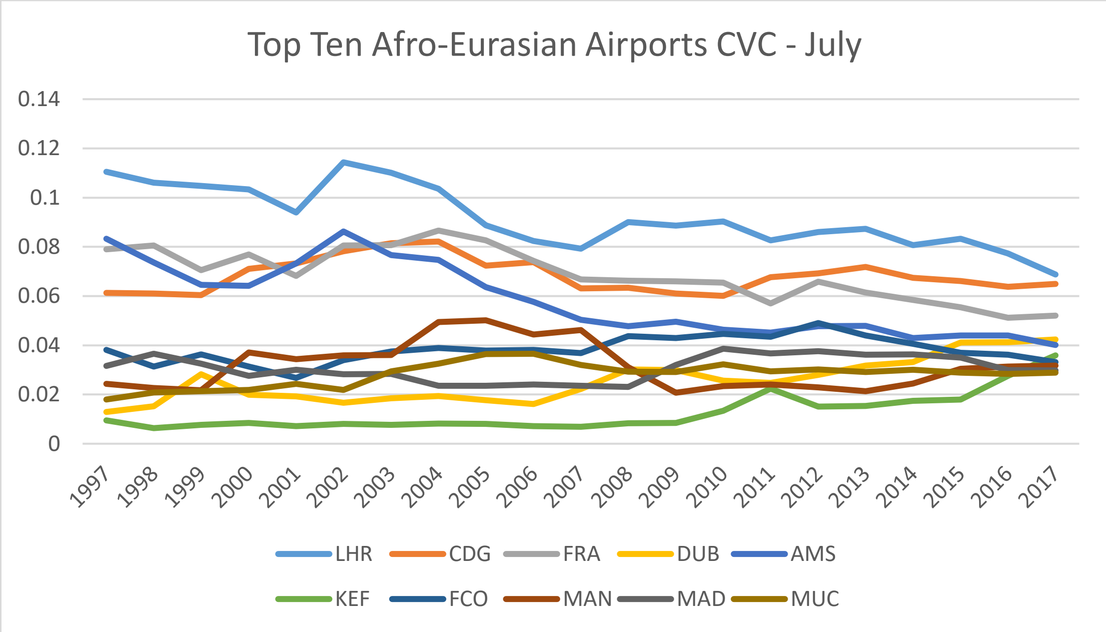


The importance of Afro-Eurasian Airports was remarkably stable over the time frame when examining January. Despite these changes, LHR remained not only the most important airport but maintained its relative importance (Figure 4.11). The other top three airports (CDG, FRA and AMS) likewise maintained their clear predominance, even though both FRA and AMS had declines in their CVC from 1997 to 2017.

In contrast, there was far more volatility when the summer season was examined (Figure 4.12). LHR maintained its primacy position despite its CVC value declining by over 30%; in addition, CDG had closed the gap to be a very close second.

The changes in CVC values were partially explained by the growth of the overall network in the summer season. This became more evident over the time frame of this research and reflects the growing importance of leisure travel.

Figure 4.12 – Top Ten Afro-Eurasian Airports by CVC, July



The overall Afro-Eurasian Airport network has changed in both seasons.

In January, although the most important airports maintained their clear dominance, the Middle East Airports developed and accounted for over 18% of North Atlantic traffic.

In July, the most important airports, except for CDG, saw their relative importance decline. Being the 'summer', this is the high season for leisure travel, and the increase in flights between Europe and North America, especially to smaller airports diminished the role of the top European airports. In addition, these flights overwhelmed the increases in flights from the Middle East, thus negating any gains in the relative importance of airports from that region.

Regardless of the season, neither Africa nor Asia saw their importance amongst the Afro-Eurasian Airports increase. As such, any traffic increase from the regions were reliant upon travel through hub airports outside of their respective continents.

4.3.1 Europe

In 1997, about 97% of all North Atlantic flights to North America were from Europe. There were five key airports in Europe providing the majority of North Atlantic services regardless of the season: London Heathrow, Frankfurt, Paris Charles de Gaulle, Amsterdam Schiphol, and London Gatwick.

The distribution and development of the European airport network differed between the seasons from 1997 to 2017.

January

In January 1997, the five largest airports accounted for 61.3% of all flights from Europe on the North Atlantic (Table 4.26). However, the third largest airport, LGW, was not the 3rd most important airport but the 12th. The 5th most important airport was BRU, which was only about one-third the size of LGW in terms of connections (DC) and flights (WDC). In terms of importance (EC), LGW was virtually level with MXP (Figure 4.13).

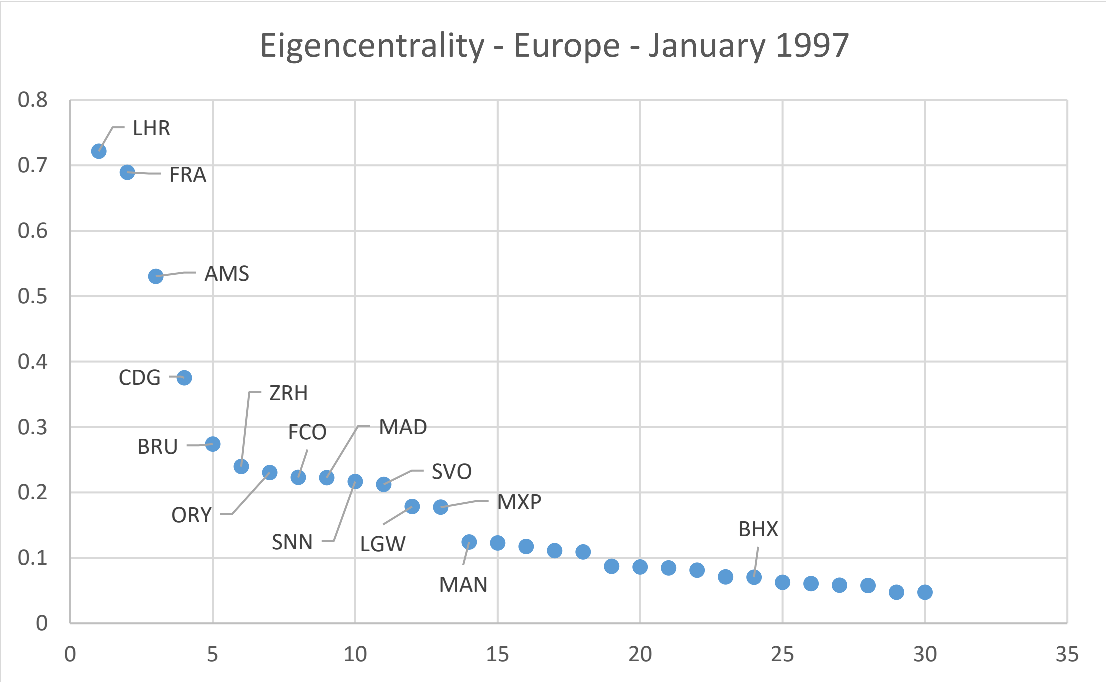
Table 4.26 – Most Important European Airports – January 1997

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
LHR	Heathrow Int. Airport	41	412	0.721729
FRA	Frankfurt Int. Airport	41	247	0.689576
AMS	Schiphol Airport	29	146	0.530489
CDG	Charles de Gaulle Int. Air.	22	151	0.375339
BRU	Brussels National Airport	9	55	0.274063
ZRH	Zurich Int. Airport	12	74	0.239599
ORY	Orly Int. Airport	10	63	0.230562
FCO	Fiumicino Int. Airport	9	49	0.222919
MAD	Madrid Int. Airport	10	58	0.222602
SNN	Shannon Int. Airport	8	27	0.216766
SVO	Sheremetyevo Int. Airport	8	22	0.212295
LGW	Gatwick Int. Airport	24	169	0.178530

The largest and most important airport was LHR, followed closely by FRA. Despite having the same number of connections, LHR had over 65% more flights than FRA.

The third most important airport, AMS, despite being third in DC was the fifth largest in for WDC. CDG was fifth in DC and WDC but the fourth most important European airport for North Atlantic services in January 1997.

Figure 4.13 – Top 30 European Airports by Eigencentrality – January 1997



By January 2000, CDG had surpassed FRA as the second most important European airport, a position it continued to hold in 2001 (Table 4.27). AMS was fourth, and MXP had surpassed BRU to be in fifth position.

The five largest airports continued to be LHR, CDG, FRA, LGW and AMS, and these airports accounted for 63.1% of all European North Atlantic flights in January 2001, up slightly from 1997.

Table 4.27 – Most Important European Airports – January 2001

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
LHR	Heathrow Int. Airport	44	530	0.931688
CDG	Charles de Gaulle Int. Air.	37	305	0.641651
FRA	Frankfurt Int. Airport	36	271	0.611091
AMS	Schiphol Airport	25	197	0.452676
MXP	Malpensa Int. Airport	13	85	0.345682
BRU	Brussels National Airport	13	88	0.332304
ZRH	Zurich Int. Airport	15	118	0.318885
LGW	Gatwick Int. Airport	33	233	0.292013
MAD	Madrid Int. Airport	11	73	0.270346
FCO	Fiumicino Int. Airport	11	61	0.252698
MAN	Manchester Int. Airport	8	43	0.207615
SNN	Shannon Int. Airport	8	37	0.207428

Whilst the September 11 attacks transpired in the US, they also impacted operations from Europe. With the reduction of services, predominantly from smaller airports, the top five airports accounted for 68.6% of all European North Atlantic flights in 2002.

LHR was minimally impacted, whilst FRA and AMS were more affected. In contrast, MAN had an increase in both DC and WDC (Table 4.28).

Table 4.28 – Most Important European Airports – DC and WDC Changes – 2001 to 2002

Percentage Change in DC and WDC, January 2001 to January 2002

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)
LHR	Heathrow Int. Airport	0.0%	-2.8%
CDG	Charles de Gaulle Int. Air.	-16.2%	-21.0%
FRA	Frankfurt Int. Airport	-5.6%	-9.6%
AMS	Schiphol Airport	4.0%	-10.2%
ZRH	Zurich Int. Airport	-13.3%	-27.1%
MAN	Manchester Int. Airport	25.0%	25.6%
MXP	Malpensa Int. Airport	-30.8%	-32.9%
FCO	Fiumicino Int. Airport	-27.3%	-27.9%
MAD	Madrid Int. Airport	-18.2%	-17.8%
BRU	Brussels National Airport	-46.2%	-54.5%
LGW	Gatwick Int. Airport	-24.2%	-18.9%
SNN	Shannon Int. Airport	-25.0%	-16.2%

However, decreases were the norm, and BRU was the most affected amongst the top airports (Table 4.29). This reflected the bankruptcy of Belgium's national airline, Sabena. ZRH had 27.1% fewer flights and reflected the challenging financial situation of Swissair. MXP and FCO underwent significant decreases in both the number of destinations and operations.

In January 2005, FRA regained its position as the second most important European airport despite not having returned to January 2001 levels. In fact, of the five most important airports, only LHR had more flights in 2005 than in 2001, up 8.9%. In contrast, LGW had nearly 30% fewer flights in January 2005 than in 2001. Nonetheless, 66.7% of all European flights to North America were from the five largest airports.

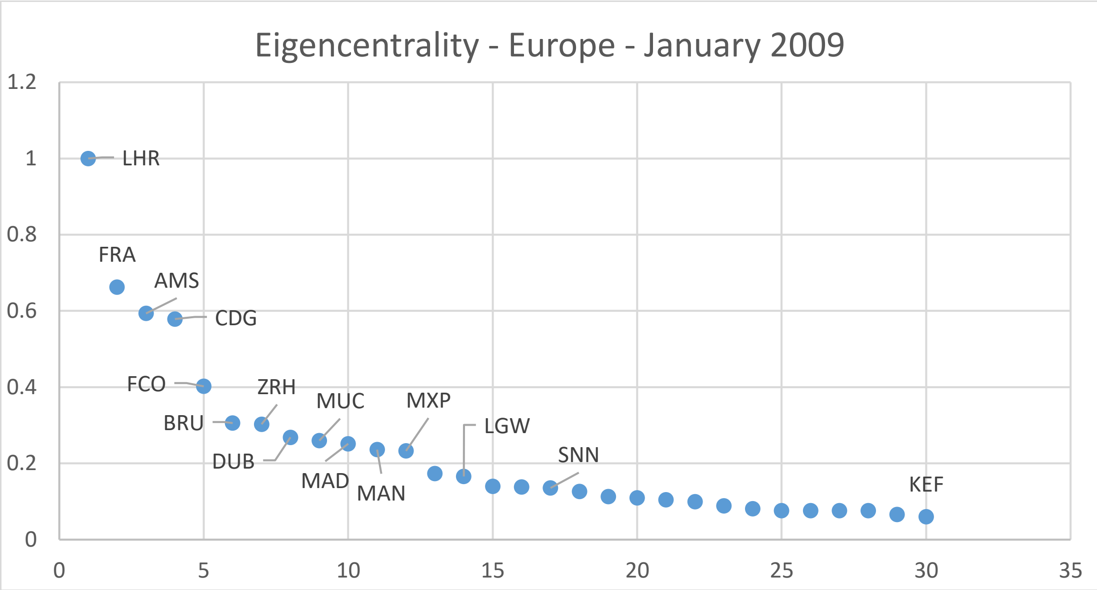
Manchester Airport continued to have a strong presence and was the 5th most important airport in 2005 despite being only the 9th largest (WDC) (Table 4.29).

Table 4.29 – Most Important European Airports – January 2005

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
LHR	Heathrow Int. Airport	44	577	1
FRA	Frankfurt Int. Airport	38	267	0.747152
CDG	Charles de Gaulle Int. Air.	32	272	0.713775
AMS	Schiphol Airport	26	207	0.514472
MAN	Manchester Int. Airport	15	64	0.361502
ZRH	Zurich Int. Airport	12	74	0.319978
MXP	Malpensa Int. Airport	10	65	0.292721
MUC	Franz Joseph Strauss Int.	12	61	0.263797
BRU	Brussels National Airport	7	44	0.254921
MAD	Madrid Int. Airport	8	67	0.235079
LGW	Gatwick Int. Airport	21	165	0.215733
FCO	Fiumicino Int. Airport	7	42	0.215452

By 2009, LGW was no longer amongst the five largest airports. The implementation of the EU-US Open Skies severely impacted the airport with the transference of most of its North Atlantic operations to nearby LHR. Despite the impact upon LGW, the remaining airports, LHR, FRA, AMS and CDG still controlled nearly 60% of all European-based flights; with the inclusion of 5th largest FCO, 62.8% of all flights (Figure 4.14).

Figure 4.14 – Top 30 European Airports by Eigencentrality – January 2009



By 2012, CDG had once again supplanted FRA as the second most important European airport for North Atlantic services (Table 4.30). CDG retained its third position followed by AMS in fourth position.

MUC rose to sixth in importance, the result of Lufthansa developing the airport as a secondary hub within its operations. DUB rose to 12th in importance, whilst MAN slipped to 10th place. The top five airports accounted for nearly 65% of all North Atlantic flights from Europe.

Table 4.30 – Most Important European Airports – January 2012

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
LHR	Heathrow Int. Airport	58	678	1
CDG	Charles de Gaulle Int. Air.	35	278	0.626024
FRA	Frankfurt Int. Airport	37	279	0.611342
AMS	Schiphol Airport	27	191	0.467897
ZRH	Zurich Int. Airport	14	95	0.331764
MUC	Franz Joseph Strauss Int. Air.	15	90	0.321440
MAD	Madrid Int. Airport	12	68	0.303718
BRU	Brussels National Airport	11	71	0.303088
FCO	Fiumicino Int. Airport	10	59	0.240288
MAN	Manchester Int. Airport	11	47	0.215928
MXP	Malpensa Int. Airport	6	28	0.194669
DUB	Dublin Int. Airport	8	53	0.193565

The European airport environment continued to change although the five largest airports still accounted for over 60% of all European flights in January 2017.

The top four airports remained unchanged although DUB rose to become the 5th most important airport; MUC was the 5th largest in 2017 (Table 4.31). Keflavik Airport (Reykjavik) was the 8th most important airport, primarily from the growth in operations of both Icelandair and WOW which utilised the airport as its hub.

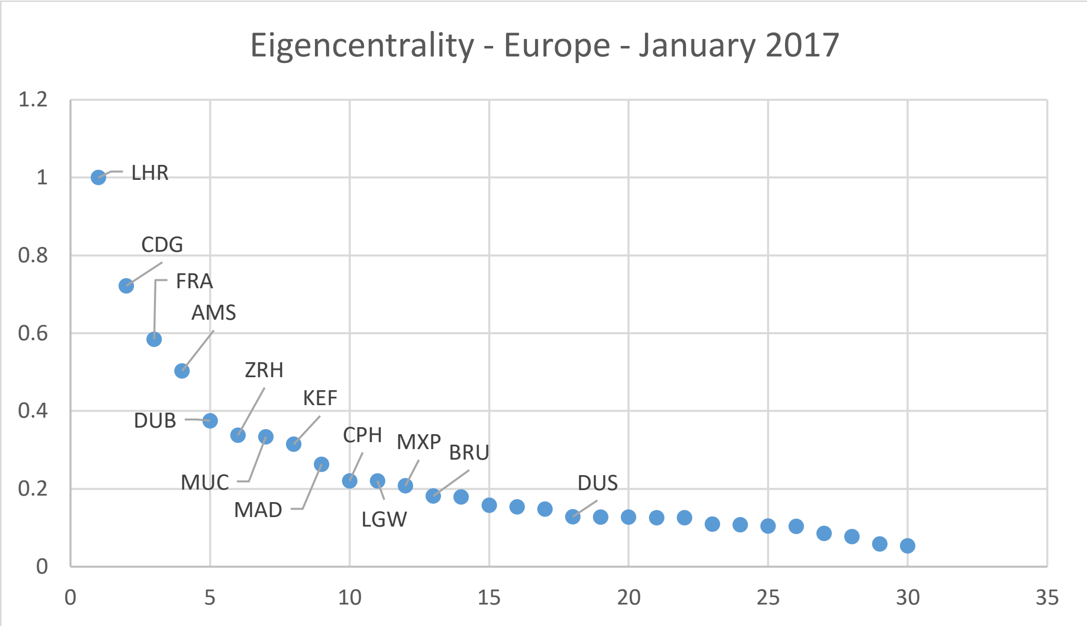
Table 4.31 – Most Important European Airports – January 2017

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
LHR	Heathrow Int. Airport	64	735	1
CDG	Charles de Gaulle Int. Air.	39	260	0.721773
FRA	Frankfurt Int. Airport	36	238	0.584535
AMS	Schiphol Airport	30	210	0.503197
DUB	Dublin Int. Airport	17	90	0.375254
ZRH	Zurich Int. Airport	14	95	0.337555
MUC	Franz Joseph Strauss Int. Air.	17	102	0.334100
KEF	Keflavik Airport	17	89	0.314504
MAD	Madrid Int. Airport	11	71	0.263522
CPH	Kastrup Airport	11	47	0.220683
LGW	Gatwick Int. Airport	16	73	0.220449
MXP	Malpensa Int. Airport	6	37	0.207791

LGW regained some of its lost importance primarily through the introduction of long-haul low-cost services and defensive measures by other airlines. Nonetheless, most operations from the top four airports were by FSCs who traditionally dominated the aviation market.

The airport structure continued to have a clear primary airport (LHR) and a distinct second tier comprising of CDG, FRA and AMS (Figure 4.15). There was no clear delineation amongst the remaining airports.

Figure 4.15 – Top 30 European Airports by Eigencentrality – January 2017



LHR was not only the most important airport in Europe, but also increased in importance over the temporal duration of the research as its CVC rose 11.8%; likewise, the CVC of CDG jumped 55.1%. In contrast, the relative importance of both FRA and AMS declined 31.6% and 23.5% respectively. Nonetheless, these four airports were the most important airports throughout the entire duration of the study period.

Other airports such as DUB and KEF showed impressive CVC increases of 273.0% and 257.0% respectively and were amongst the top 12 European airports.

July

In 1997, 45 European airports had flights to North America. However, the five largest airports (London Heathrow, Frankfurt, Paris Charles de Gaulle, Amsterdam Schiphol, and London Gatwick) accounted for 60.8% of all European flights on the North Atlantic (Table 4.32).

Noteworthy is the relatively low importance of LGW amongst the European airports with an EC of 0.200055 – less than that of MXP which had less than one-third of connections and flights of LGW. SNN was also relatively important and reflected the airport's importance as a technical stop for airlines from beyond Europe. Shannon Airport provided a vital function as aircraft technology had not developed sufficiently for airlines to operate flights without necessitating a stop. Some airlines, especially those from the Asian continent had 5th Freedom rights, and utilised major airports for their technical stops.

Table 4.32 – Most Important European Airports – July 1997

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
LHR	Heathrow Int. Airport	47	536	0.784296
AMS	Schiphol Airport	35	198	0.588991
FRA	Frankfurt Int. Airport	37	273	0.559230
CDG	Charles de Gaulle Airport	26	213	0.444686
BRU	Brussels National Airport	14	66	0.313608
SNN	Shannon Int. Airport	11	44	0.257551
MXP	Malpensa Int. Airport	8	59	0.223580
MAD	Madrid Int. Airport	10	70	0.223302
ZRH	Zurich Int. Airport	14	87	0.223178
FCO	Fiumicino Int. Airport	9	89	0.221883
LGW	Gatwick Int. Airport	25	199	0.200055
DUS	Dusseldorf Int. Airport	10	32	0.183373

By July 2001, 54 European airports had services to North America. Not only had the number of airports increased, but the number of flights had also risen by nearly 30%.

The number of flights from CDG had nearly doubled from 1997 to 2001 with the addition of 19 more connections and resulted in CDG becoming the second most important airport (EC) in Europe (Table 4.33). There was also a 72.0% increase in connections and a concurrent 48.2% increase in WDC for LGW over the same time. The number of flights from AMS also rose by 19.2% whilst the number of flights from both LHR and FRA rose by more modest figures of 12.9% and 10.3% respectively.

At this point, the five largest airports, LHR, CDG, AMS, FRA and LGW were responsible for 61.2% of European flights on the North Atlantic to North America, virtually unchanged from 1997.

Table 4.33 – Most Important European Airports – July 2001

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
LHR	Heathrow Int. Airport	45	605	0.934241
AMS	Schiphol Airport	41	236	0.746198
CDG	Charles de Gaulle Int.	44	395	0.726468
FRA	Frankfurt Int. Airport	45	305	0.674955
LGW	Gatwick Int. Airport	43	295	0.460452
SNN	Shannon Int. Airport	14	62	0.365571
ZRH	Zurich Int. Airport	16	133	0.360434
MAN	Manchester Int. Airport	14	78	0.342290
MXP	Malpensa Int. Airport	13	85	0.341785
BRU	Brussels National Airport	15	96	0.331918
MAD	Madrid Int. Airport	12	77	0.298849
FCO	Fiumicino Int. Airport	10	72	0.267589

Although the attacks of September 11, 2001, occurred in New York, their impact was felt on both sides of the Atlantic Ocean. The hardest hit airports were BRU, ZRH and LGW (Table 4.34). Services from BRU were impacted by Sabena's bankruptcy, and ZRH was also impacted by the cessation of Swissair services despite the introduction of new airline Swiss. LGW lost a quarter of its services and reflected the airport's reliance upon more secondary US airports as mandated by the terms of Bermuda II. The number of European airports with services had also decreased to 49. This led to a concentration of services and the continent's five largest airports accounted for 65.4% of European flights across the North Atlantic in July 2002.

Table 4.34 – Most Important European Airports – July 2002

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
LHR	Heathrow Int. Airport	45	604	1
AMS	Schiphol Airport	37	230	0.754360
FRA	Charles de Gaulle Int.	42	317	0.704181
CDG	Frankfurt Int. Airport	35	350	0.683845
ZRH	Zurich Int. Airport	14	99	0.328749
MAN	Manchester Int. Airport	12	70	0.313559
FCO	Fiumicino Int. Airport	11	71	0.297120
MXP	Malpensa Int. Airport	10	68	0.288192
BRU	Brussels National Airport	10	54	0.281414
SNN	Shannon Int. Airport	9	49	0.262352
MAD	Madrid Int. Airport	9	73	0.246765
LGW	Gatwick Int. Airport	28	221	0.235912

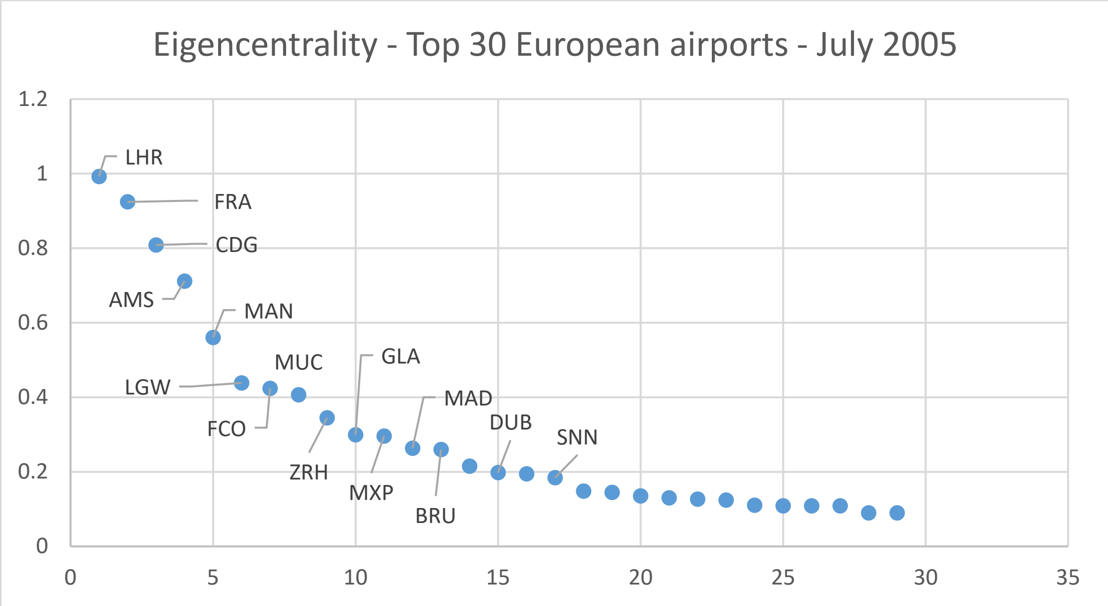
By 2005, eight European airports had 100 or more weekly flights into North America (Table 4.35). Although the top five airports still accounted for 60.5% of all European flights, the number of European airports with services had risen to 60 airports.

Table 4.35 – Most Important European Airports – July 2005

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
LHR	Heathrow Int. Airport	44	653	0.992647
FRA	Charles de Gaulle Int.	48	358	0.924167
CDG	Frankfurt Int. Airport	37	372	0.808600
AMS	Schiphol Airport	34	259	0.711816
MAN	Manchester Int. Airport	23	103	0.560720
LGW	Gatwick Int. Airport	32	216	0.438549
FCO	Fiumicino Int. Airport	15	107	0.423613
MUC	Franz Joseph Strauss Airport	18	100	0.406805
ZRH	Zurich Int. Airport	13	86	0.344911
GLA	Glasgow Int. Airport	13	45	0.299506
MXP	Malpensa Int. Airport	10	68	0.296082
MAD	Madrid Int. Airport	9	65	0.263212

Whilst LHR maintained its position of primacy both in terms of WDC and EC, the addition of six more destinations from Frankfurt Airport resulted in FRA having a higher DC than any other airport in Europe. It also resulted in FRA moving closer in importance to LHR into second place (Figure 4.16). At the time, there was a more even distribution of airports.

Figure 4.16 – Top 30 European Airports by Eigencentrality – July 2005



By 2008, the airport landscape had shifted within Europe, impacted by both an economic recession and the EU-US Open Skies aviation agreement. With the implementation of the new agreement, the remaining US airlines (Delta, Continental, Northwest, and US Airways) moved almost all their operations from LGW to LHR.

As such, LGW had 168 flights to North America, down from 234 flights from the previous year: the following year, the number of flights from LGW decreased even further to 96 flights. The decline was absorbed by LHR which saw an increase in DC (49 to 60) and a resultant increase in flights, 684 to 781.

FCO became the fifth most important airport (EC) in 2009, although it had only 134 flights, just over half of the flights of 4th place AMS (265 flights).

Despite numerous congestion related issues, more than 800 flights left LHR for North America in July 2012 (Table 4.36). Despite having both a lower DC and WDC, FCO surpassed AMS as the 4th most important European airport (EC) and both BRU and DUB reappeared amongst the top airports. The top five airports still accounted for 58.6% of all European flights to North America although 59 European airports had North Atlantic services.

Table 4.36 – Most Important European Airports – July 2012

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
LHR	Heathrow Int. Airport	60	820	0.899430
CDG	Charles de Gaulle Int.	45	378	0.726622
FRA	Frankfurt Int. Airport	48	370	0.687776
FCO	Fiumicino Int. Airport	24	159	0.554652
AMS	Schiphol Airport	33	275	0.499128
MAD	Madrid Int. Airport	18	122	0.396202
ZRH	Zurich Int. Airport	18	121	0.356415
BRU	Brussels National Airport	13	87	0.337553
MUC	Franz Joseph Strauss Air.	16	113	0.315787
DUB	Dublin Int. Airport	14	101	0.293631
BCN	Barcelona Int. Airport	11	58	0.269882
MAN	Manchester Int. Airport	14	80	0.240093

By 2017, the relatively static growth of the major European airports resulted in services developing at other airports. DUB more than doubled its flights to become the 5th largest European airport (Table 4.37). The growth at KEF was even greater (64 flights in 2012) and reflected the presence of both Icelandair and WOW Air, both of which used KEF as a hub.

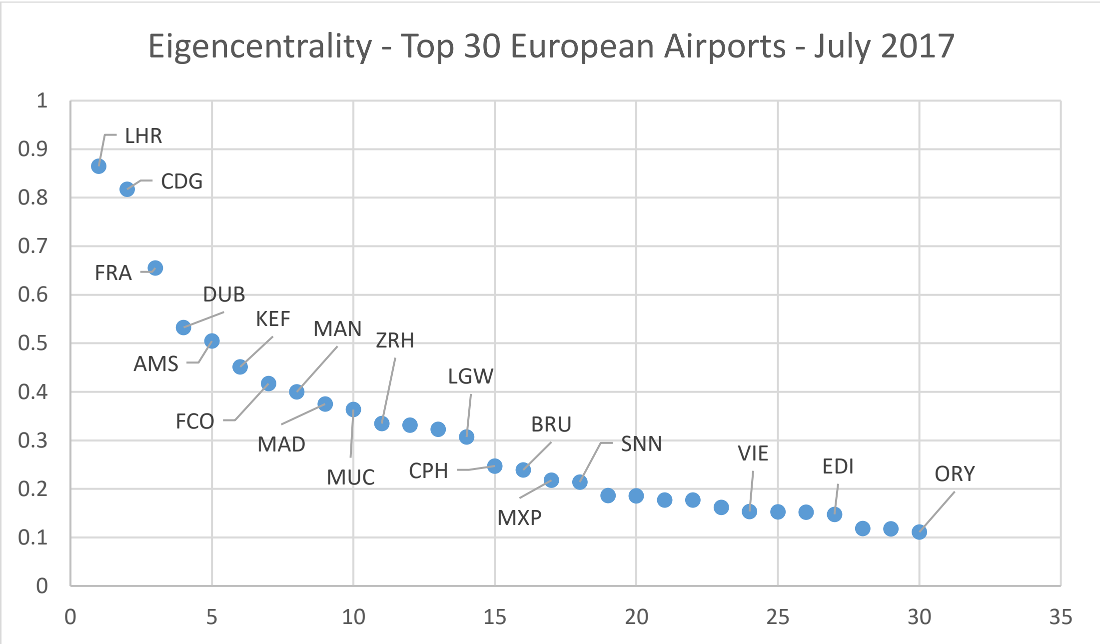
The re-introduction of LHLC services contributed to the resurgence of LGW, although the continued focus upon leisure destinations impacted the airport's EC.

All the top 12 largest airports had more than 100 weekly flights. This indicated a shift from a concentration of services amongst the top airports to secondary hub airports (Figure 4.17). The top five airports accounted for about half of European North Atlantic flights in July 2017.

Table 4.37 – Largest European Airports – July 2017

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
LHR	Heathrow Int. Airport	65	844	0.864943
CDG	Charles de Gaulle Int.	51	436	0.817150
FRA	Frankfurt Int. Airport	53	374	0.624934
AMS	Schiphol Airport	35	306	0.502308
DUB	Dublin Int. Airport	31	217	0.531164
KEF	Keflavik Airport	30	217	0.450400
FCO	Fiumicino Int. Airport	21	165	0.415741
MUC	Franz Joseph Strauss Air.	24	152	0.362760
LGW	Gatwick Int. Airport	27	147	0.305233
MAD	Madrid Int. Airport	19	138	0.375266
ZRH	Zurich Int. Airport	19	130	0.334759
MAN	Manchester Int. Airport	23	114	0.399372

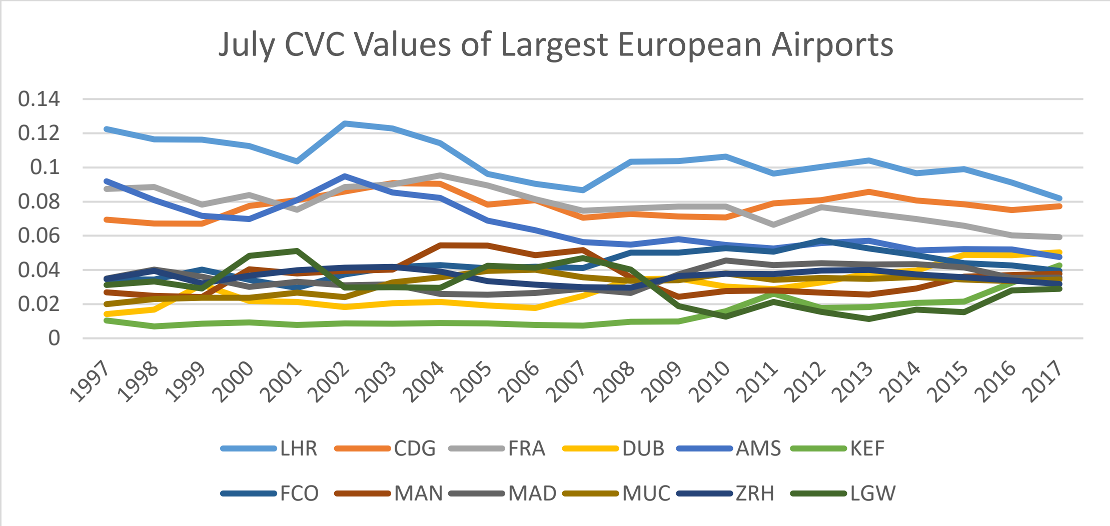
Figure 4.17 – Top 30 European Airports by Eigencentrality – July 2017



Amongst the four largest airports (LHR, CDG, FRA and AMS), only CDG had an increase in its July CVC (+11.4%) during the temporal time period of the research: The other three airports suffered declines of -33.1%, -32.2% and -48.3% respectively (Figure 4.18).

In contrast, some middle-sized airports have seen some impressive CVC increases from July 1997 to 2017: DUB (+254.8%), KEF (+307.2%) and BCN (+334.0%).

Figure 4.18 – July CVC Values of Largest European Airports



As noted in the analysis above, the development of the European airport network has differed dependent upon the season examined.

The January schedule remained comparatively concentrated amongst the largest airports. In contrast, during July the relative importance of the top four airports has decreased due to the growth and development of smaller airports.

Whilst the five largest airports accounted for 62.2% of all European North Atlantic flights in January 2017, they were the origin of only 49.6% of European flights in July 2017, indicating a growth in services to smaller hubs and to secondary airports.

4.3.2 Africa

In 1997, only six airports in the continent had services to North America accounting for a total of only 26 and 32 flights (Tables 4.38 and 4.39). The most important African airport was CAI, with connections to two destinations and a total of eight flights, regardless of the season.

The low number of flights from Africa was not an accurate reflection of the traffic flows between the two continents. The limited range of aircraft was a deterrent to establishing direct connections; the flights from SID, as well as some of the flights from CAI and DKR originated in other countries.

It is more likely that passengers transited via Europe to travel to and from North America.

Table 4.38 – African Airports – January 1997

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
CAI	Cairo Int. Airport	2	8	0.094985
ACC	Accra Int. Airport	1	2	0.047493
CAS	Mohammed V Int. Airport	1	3	0.047493
DKR	Dakar Int. Airport	1	3	0.047493
SID	Amilcar Cabral Int. Airport	1	6	0.047493
CPT	Cape Town Int. Airport	1	4	0.013193

Table 4.39 – African Airports – July 1997

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
CAI	Cairo Int. Airport	2	8	0.092439
ACC	Accra Int. Airport	1	2	0.046219
CAS	Mohammed V Int. Airport	1	5	0.046219
DKR	Dakar Int. Airport	1	5	0.046219
SID	Amilcar Cabral Int. Airport	1	7	0.046219
CPT	Cape Town Int. Airport	1	5	0.012957

Although some airlines attempted to establish connections between the continents, (e.g., Air Afrique, Ghana Airways, and Nigeria Airways), these attempts were short-lived, and the airlines ceased operations. The necessity of technical stops influenced the origin of many flights from Africa; it was not until 2004 that the largest airport (CAS) did not rely upon flights that had originated elsewhere – although SID, which was a common technical stop remained an important airport. CAS surpassed CAI as the most important airport in both seasons (Tables 4.40 and 4.41).

Table 4.40 – African Airports – January 2004

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
CAS	Mohammed V Int. Airport	2	6	0.062911
ACC	Accra Int. Airport	2	3	0.052214
CAI	Cairo Int. Airport	1	4	0.048172
DKR	Dakar Int. Airport	1	7	0.048172
SID	Amilcar Cabral Int. Airport	2	8	0.033886
BJL	Banjul Int. Airport	1	1	0.004042

Table 4.41 – African Airports – July 2004

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
CAS	Mohammed V Int. Airport	2	12	0.059449
CAI	Cairo Int. Airport	2	7	0.059449
ACC	Accra Int. Airport	2	3	0.048953
DKR	Dakar Int. Airport	1	7	0.045364
JNB	OR Tambo Int. Airport	1	7	0.045364
SID	Amilcar Cabral Int. Airport	2	8	0.035229
BJL	Banjul Int. Airport	1	1	0.003589

The pattern of utilising airports within the continent as stopovers resumed with DKR becoming the largest airport from 2007-2009, the result of flights which originally started in South Africa at either CPT or JNB.

Since then, the airports situated in North Africa increased in importance. In 2017, CAS was the most important airport, both in January and July (Tables 4.42 and 4.43). Although less important in January, North African airports accounted for half of the direct connections and nearly two-thirds of the 105 flights from Africa in July. These airports have an advantage in being situated closer, and of a history of immigration, especially to the French-speaking province of Quebec in Canada. The airlines have taken advantage of VFR demand which combined with newer more efficient aircraft make the services financially viable. The disparity in flights also reflects the importance of transporting the diaspora to North Africa during the summer school vacation period.

Table 4.42 – African Airports – January 2017

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
CAS	Mohammed V Int. Airport	3	15	0.075833
JNB	OR Tambo Int. Airport	2	14	0.056489
CAI	Cairo Int. Airport	2	9	0.064694
ACC	Accra Int. Airport	2	8	0.061409
LOS	Lagos Int. Airport	2	7	0.056489
DKR	Dakar Int. Airport	2	5	0.061409
ALG	Algiers Int. Airport	1	4	0.014424
LFW	Gnassingbé Eyadéma Int.	1	3	0.028713
TUN	Tunis Carthage Int. Airport	1	2	0.014424

Notably absent from the tables were any airports situated in eastern Africa. This was not a reflection of demand as much as the necessity for airlines to utilise technical or 5th Freedom stops; airlines like ET have services from Addis Ababa to North America, but all of them stop in Europe on their outbound flights.

Table 4.43 – African Airports – July 2017

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
CAS	Mohammed V Int. Airport	4	30	0.0886
CAI	Cairo Int. Airport	2	11	0.0632
ACC	Accra Int. Airport	2	8	0.0517
DKR	Dakar Int. Airport	2	6	0.0517
JNB	OR Tambo Int. Airport	2	14	0.0482
ALG	Algiers Int. Airport	2	16	0.0369
LFW	Gnassingbé Eyadéma Int.	1	4	0.0224
ORN	Es Senia Airport	1	2	0.0184
TUN	Tunis Carthage Int. Airport	1	3	0.0184
LOS	Lagos Int. Airport	1	7	0.0129
LAD	Quatro de Fevereiro Air.	1	2	0.0077
RAI	Praia International Airport	1	2	0.0018

Despite the clear growth in air services, Africa nonetheless accounts for only about 2% of all North Atlantic services, regardless of the season.

The continent remains underserved in terms of direct connections to North America and remains reliant upon connecting services to travel.

4.3.3 Middle East[48]

In 1997, there were few flights to North America with only two airports having year-round connections to North America: TLV and IST. These airports combined for nine direct connections and 45 flights in July.

Flights from both airports continued to increase and more airports began to have direct flights. By 2001, there 67 flights in January and 83 flights in July from the region (Tables 4.44 and 4.45). Despite the addition of airports providing services, TLV's retained its primacy position.

Table 4.44 – Middle Eastern Airports – January 2001

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
TLV	Ben Gurion Int. Airport	5	37	0.165812
IST	Istanbul Int. Airport	4	22	0.135122
JED	Jeddah Int. Airport	1	3	0.046392
RUH	King Khalid Int. Airport	1	1	0.046392
DXB	Dubai Int. Airport	1	3	0.027814

Table 4.45 – Middle Eastern Airports – July 2001

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
TLV	Ben Gurion Int. Airport	6	49	0.201732
IST	Istanbul Int. Airport	4	23	0.129704
JED	Jeddah Int. Airport	2	4	0.047360
RUH	King Khalid Int. Airport	2	3	0.060297
DXB	Dubai Int. Airport	1	3	0.027526
KWI	Kuwait Int. Airport	1	1	0.042790

Whilst TLV and IST remained the top airports in the region, in 2004, both AUH and DXB increased in importance as both Emirates and Etihad began direct operations across the North Atlantic; DXB had been used previously by SQ as a transfer point for its operations from Singapore.

[48] In this study, the countries that comprise the Middle East are: Bahrain, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, Turkey, the U.A.E (including both Abu Dhabi and Dubai) and Yemen.

Whilst the economic recession of 2008 reduced the number of flights on the North Atlantic, services from the Middle East continued to expand with year-over-year increases in both January and July 2009 over 20%.

The expansion in the region was primarily driven by the increase in services from DXB. By 2009, DXB was the second largest airport, although TLV continued to be both the largest and most important airport (EC) (Tables 4.46 and 4.47).

Table 4.46 – Middle Eastern Airports – January 2009

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
TLV	Ben Gurion Int. Airport	8	52	0.231437
DXB	Dubai Int. Airport	7	44	0.151503
AMM	Queen Alia Int. Airport	4	13	0.133795
IST	Istanbul Int. Airport	3	15	0.121517
KWI	Kuwait Int. Airport	3	12	0.088456
DOH	Hamad Int. Airport	2	14	0.068567
JED	Jeddah Int. Airport	2	4	0.068567
AUH	Abu Dhabi Int. Airport	2	10	0.066575

Table 4.47 – Middle Eastern Airports – July 2009

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
TLV	Ben Gurion Int. Airport	9	68	0.246751
DXB	Dubai Int. Airport	7	52	0.144896
AMM	Queen Alia Int. Airport	5	20	0.134012
IST	Istanbul Int. Airport	3	21	0.108695
AUH	Abu Dhabi Int. Airport	2	10	0.071857
DOH	Hamad Int. Airport	3	21	0.070592
KWI	Kuwait Int. Airport	2	10	0.061099
JED	Jeddah Int. Airport	2	4	0.061099
RUH	King Khalid Int. Airport	2	3	0.061099

By 2012, Turkish Airlines had started to expand its network (similar to EK), resulting in more flights from IST and DXB respectively. Whilst DXB had the largest WDC in the region, TLV remained the most important airport (EC) (Tables 4.48 and 4.49).

Table 4.48 – Middle Eastern Airports – January 2012

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
TLV	Ben Gurion Int. Airport	8	53	0.222710
IST	Istanbul Int. Airport	6	37	0.173009
DXB	Dubai Int. Airport	7	66	0.153835
DOH	Hamad Int. Airport	4	24	0.093069
AUH	Abu Dhabi Int. Airport	3	17	0.087715
AMM	Queen Alia Int. Airport	3	10	0.073920
JED	Jeddah Int. Airport	2	7	0.065028
KWI	Kuwait Int. Airport	2	10	0.065028
RUH	King Khalid Int. Airport	2	3	0.065028

Table 4.49 – Middle Eastern Airports – July 2012

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
TLV	Ben Gurion Int. Airport	8	66	0.220767
IST	Istanbul Int. Airport	8	61	0.211265
DXB	Dubai Int. Airport	9	73	0.160203
AUH	Abu Dhabi Int. Airport	3	17	0.094776
AMM	Queen Alia Int. Airport	4	15	0.089159
DOH	Hamad Int. Airport	4	31	0.087991
KWI	Kuwait Int. Airport	2	10	0.059506
JED	Jeddah Int. Airport	2	7	0.059506
RUH	King Khalid Int. Airport	2	5	0.059506

Whilst both EK and TK continued to expand on the North Atlantic, LY maintained its operations; although this resulted in stable services, the dynamic strategies of rival airlines influenced the importance of their respective hub airports, lessening TLV's primacy position in the region.

In addition to EK and TK, Qatar Airways also expanded resulting in DOH becoming the third largest airport in the region in July 2016[49] (Table 4.50). Despite the growth of other airports, TLV was the second most important airport after IST. KWI was absent from top airports due to an airspace embargo by neighbouring countries necessitating longer flight paths and technical (refuelling) stops.

[49] Services from 2017 were not presented as they were impacted by the US security embargo on lithium batteries on airlines based in the Middle East (except Israel).

Table 4.50 – Middle Eastern Airports – July 2016

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
DXB	Dubai Int. Airport	11	108	0.176743
IST	Istanbul Int. Airport	12	100	0.232732
DOH	Hamad Int. Airport	11	77	0.179653
TLV	Ben Gurion Int. Airport	9	68	0.219960
AUH	Abu Dhabi Int. Airport	7	48	0.141195
AMM	Queen Alia Int. Airport	4	16	0.082748
JED	Jeddah Int. Airport	4	15	0.101676
RUH	King Khalid Int. Airport	2	7	0.053919

By January 2017, IST had supplanted TLV as the most important airport in the region although DXB retained the highest WDC (Table 4.51).

Table 4.51 – Middle Eastern Airports – January 2017

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
IST	Istanbul Int. Airport	12	73	0.249368
TLV	Ben Gurion Int. Airport	9	60	0.244286
DOH	Hamad Int. Airport	11	80	0.205750
DXB	Dubai Int. Airport	12	115	0.204066
AUH	Abu Dhabi Int. Airport	7	48	0.156617
JED	Jeddah Int. Airport	4	15	0.109989
RUH	King Khalid Int. Airport	3	8	0.085946
AMM	Queen Alia Int. Airport	3	11	0.075409

During the temporal duration of the research, air traffic from the Middle East grew dramatically, both in terms of airports with services and destinations.

There are minimal seasonal variations in flights from the Middle East. This perhaps reflects the differences when comparing the region to North America or even Europe, which have more distinct climatological seasons within the year.

With the relatively minimal differences between January and July, the region accounted for a greater proportion of North Atlantic traffic in January. Any increases during July were not comparable to the increased seasonal summer services that many US and European based airlines operated.

4.3.4 Asia

Although services by Asian airlines have had services on the North Atlantic for decades, these services were facilitated by technical stops and the utilisation of 5th Freedom rights for stopovers in Europe and elsewhere[50].

As such, the first direct services began in October 2003 when AC began a 5 flight/week service from DEL to YYZ. AC continued services the following year as well before introducing a stop at ZRH on the service, thus ceasing non-stop direct services.

By 2006, however, two American-based airlines began services from Delhi whilst services between Pakistan and Canada were introduced from 3 airports. There was also a service between BOM and JFK that DL operated in January but had ceased by July (Table 4.52); otherwise, there was no seasonal difference.

Table 4.52 – Asian Airports – January 2006

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
DEL	Delhi Int. Airport	2	14	0.06656
BOM	Mumbai Int. Airport	1	7	0.05018
ISB	Islamabad Airport	1	1	0.02482
KHI	Jinnah Int. Airport	1	1	0.02482
LHE	Lahore Int. Airport	1	1	0.02482

Services from the region, specifically India, increased and in 2011 there were 5 airports providing just over 50 flights to North America (Table 4.53). As in 2006, there was a negligible difference between the January and July schedules (1 flight).

[50] As noted in the previous section, SQ also utilised DXB as a stopover for some of their flights.

Table 4.53 – Asian Airports – July 2011

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
DEL	Delhi Int. Airport	5	34	0.140167
BOM	Mumbai Airport	2	14	0.047204
ISB	Islamabad Airport	1	1	0.032790
KHI	Jinnah Int. Airport	1	1	0.032790
LHE	Lahore Int. Airport	1	1	0.032790

However, services from the region have since decreased. The Indian aviation industry has been turbulent in recent years, and this has played a contributing factor, although being a state-owned airline, Air India has continued to operate. In July 2012, there was an apparent loss of 14 flights from the region; in fact, AI continued to operate the flights with stops in Europe, thus re-allocating their point of origin from India. This was only a temporary measure and by January 2013, the European stopovers had been omitted. However, there was an overall decrease in flights, with comparatively fewer Asian originating services from 2013 to 2015 (Table 4.54). This coincided with an increase in jet fuel prices that may have made some routes no longer financially viable.

Table 4.54 – North Atlantic Services from Asian Airports – 2010 to 2017

North Atlantic flights from Asia, 2010-2017

	2010	2011	2012	2013	2014	2015	2016	2017
January	38	52	52	38	39	38	43	55
July	38	51	17	38	38	38	43	52

It was not until 2017 that the region returned to the operational levels of 2011. However, flights continued to be concentrated in the same airports[51] (Table 4.55). Unlike the other regions with North Atlantic operations, seasonality has a negligible impact upon airline operations.

[51] The flight that had been from KHI continued to operate but now had a stopover in LHE.

Table 4.55 – Asian Airports – July 2017

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
DEL	Delhi Int. Airport	5	31	0.121247
BOM	Mumbai Airport	3	18	0.072711
ISB	Islamabad Airport	1	1	0.027936
LHE	Lahore Int. Airport	1	2	0.027936

Despite the inclusion of the entire continent, North Atlantic services have been limited to airports based in India and Pakistan, with services from the latter only to YYZ. This was because given the size of Asia, some routes to North America are best served by trans-Pacific services: in addition to their trans-Atlantic flights, AC also operated trans-Pacific flights[52].

Hostilities with various countries in the continent, armed and/or political, specifically Afghanistan, Iran, and Iraq, have also limited opportunities for developing flights from these regions.

4.4 The Impact of Seasonality

The impact of seasonal variations upon North Atlantic frequencies was evident in the data examined (Appendix E). The variations were dynamic and reflected the various trends and events that have impacted aviation overall.

Overall, flights have increased in both January and July over the scope of the research although January flights have exhibited less consistent growth compared to that of July flights (see Figure 4.19).

The January flight schedule reflects the core basis of air travel on the North Atlantic and is more reliant upon business travel for its viability than upon leisure[53] travel

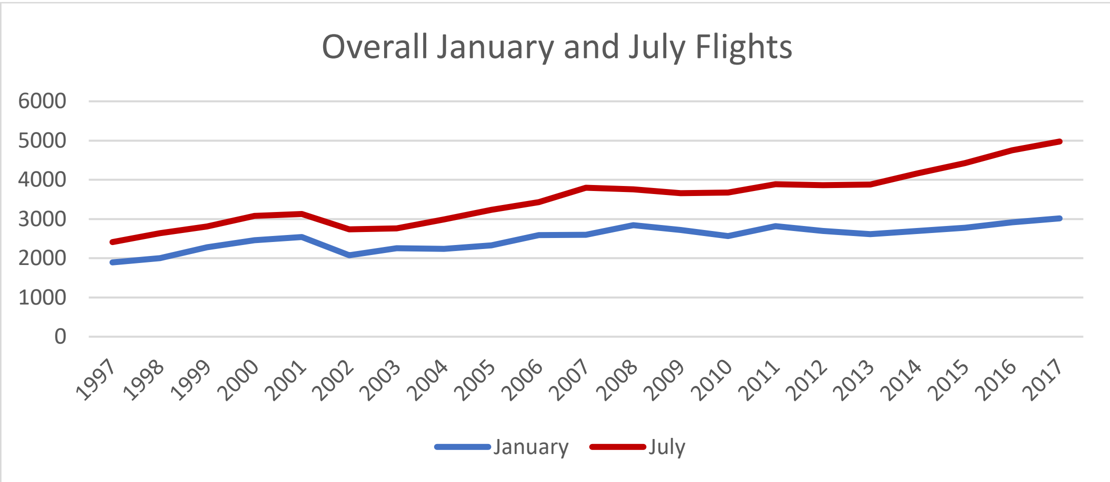
[52] Flights from Singapore to Newark were omitted because their flight paths traverse the boundary between the Atlantic and Pacific and cross the Arctic polar region as opposed to either ocean.
[53] Leisure travel refers to travel for either vacation purposes or to visit friends and relatives (VFR).

although both elements are necessary to maintain flight schedules. Likewise, although many travellers in July do so for leisure purposes, there are still some business trips which are undertaken. The conclusion is, however, that January flight schedules reflect business-oriented destinations whilst July flight schedules reflect leisure-oriented destinations. These seasonal differences are reflected in the seasonal ratio (SR)[54].

Two key global factors that influenced air travel on the North Atlantic were the events of September 11, 2001, and the global recession that began in 2008; both leisure and business travel were impacted to varying degrees.

What has become evident is the growth in international air travel for leisure purposes. Whilst leisure air travel had previously been an option only for those economically well-off, the decline in prices over recent decades has enabled numerous individuals (and families) to consider air travel as a financially viable option compared to automobile or train travel for vacations. This also reflects the availability, and the willingness, of individuals to utilise credit or other financing options to fund travel.

Figure 4.19 - Overall January and July Flights



As can be seen above in Figure 4.19, there were noticeable differences between January and July flight schedules with January being more strongly impacted following

[54] The seasonal ratio is the ratio of July flights compared to January flights and was explained previously in Section 3.4.

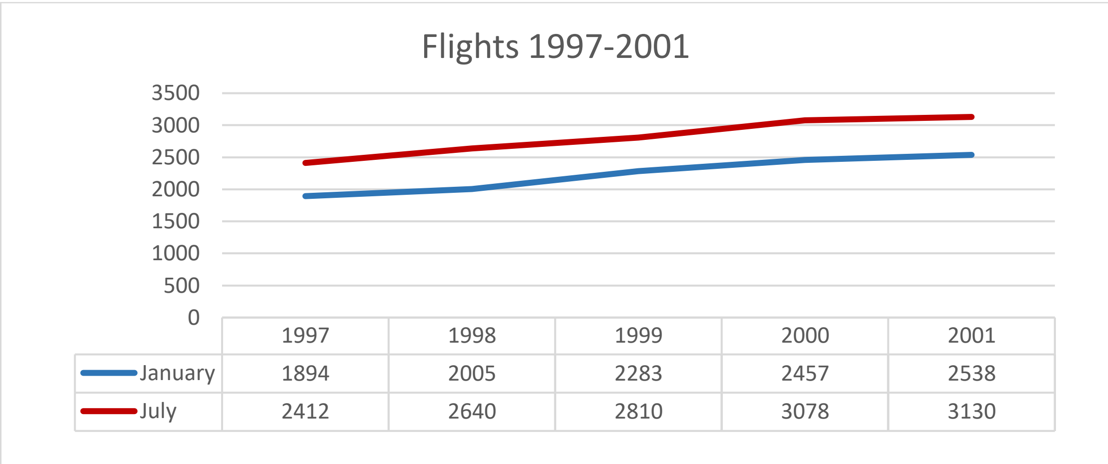
Sept 11 (as evidenced in the 18.2% decline in year-over-year flights). The economic recession also impacted January flights with only 6.2% more flights by 2017 whilst the number of July flights rose by 32.4% over the same time period.

Whilst overall trends provide a sense of the change that occurred, there are three specific singular time periods that can be identified which reflect the changes witnessed within the research study.

<u>1997-2001</u>

The first five years of the research reflected the stability of both overall growth and the relationship between January and July schedules (Figure 4.20). This was a period of economic stability, and the constancy of both business and leisure travel is reflected in the consistent seasonal ratio of approximately 1.25 and steady annual growth exhibited.

<u>Figure 4.20 - Total Number of Flights, 1997-2001</u>

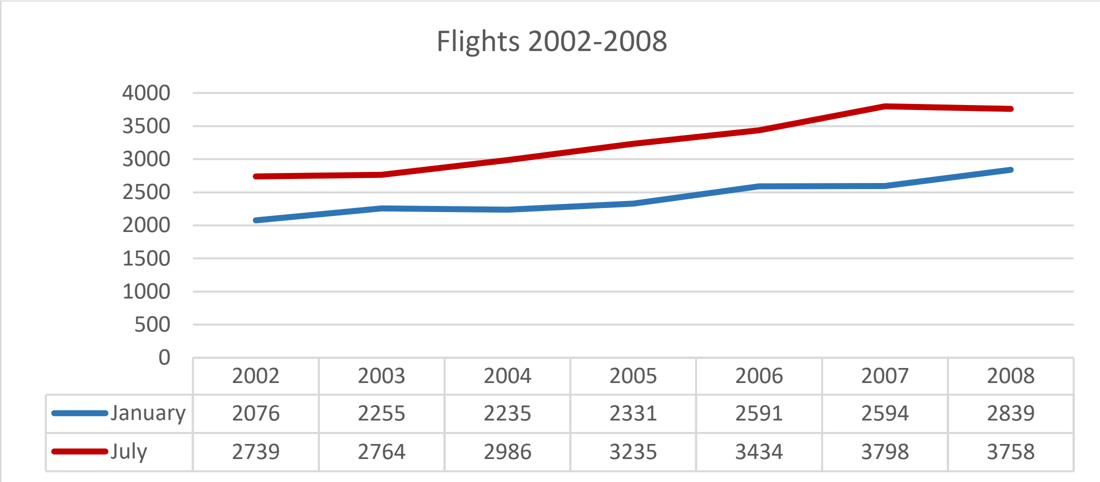


<u>2002-2008</u>

The post 9/11 period immediately impacted the aviation industry. By January 2002, both Canada 3000 (at the time the second largest airline in Canada) and Belgian national airline Sabena had declared bankruptcy. From August 2002 until the end of 2005, AC, DL, NW, US, and UA had all filed for bankruptcy protection from the courts.

Although they survived, the initial few years following the terror attacks led to a retraction of the overall operations of North American-based FSCs. This impacted not only domestic operations but those on the North Atlantic.

Figure 4.21 - Total Number of Flights, 2002-2008



Whilst the major FSC airlines in North America were restructuring, other airlines began operations on the North Atlantic. These new air carriers were not solely leisure focussed airlines (e.g. Air Transat, Flyglobespan and Zoom) but also business oriented operations like Eos, Maxjet and Silverjet which only offered business-class services[55].

However, there was a widening in the gap between January and July schedules with an average seasonal ratio of about 1.34 over this time period (Figure 4.21). Whilst airlines were impacted, the overall economic conditions were beneficial, and contributed to greater leisure travel.

2008-2012

This time period was marked by instability in the number of flights being offered, especially in January (Table 4.56). The decline in 2009 reflected the onset of the economic recession. Whilst January flights continued to decline in 2010, there was a slight increase of 0.5% in the number of July flights on a year-over-year basis.

[55] Eos, Maxjet and Silverjet had all ceased operations by June 2008.

However, the economic downturn from the recession continued, and despite increases in 2011, there was a subsequent decrease in 2012.

What is interesting is the continuing growth in the seasonal ratio during this time period to reach 1.43 in 2012 (Table 4.56).

Table 4.56 - Total Number of Flights, 2008-2012

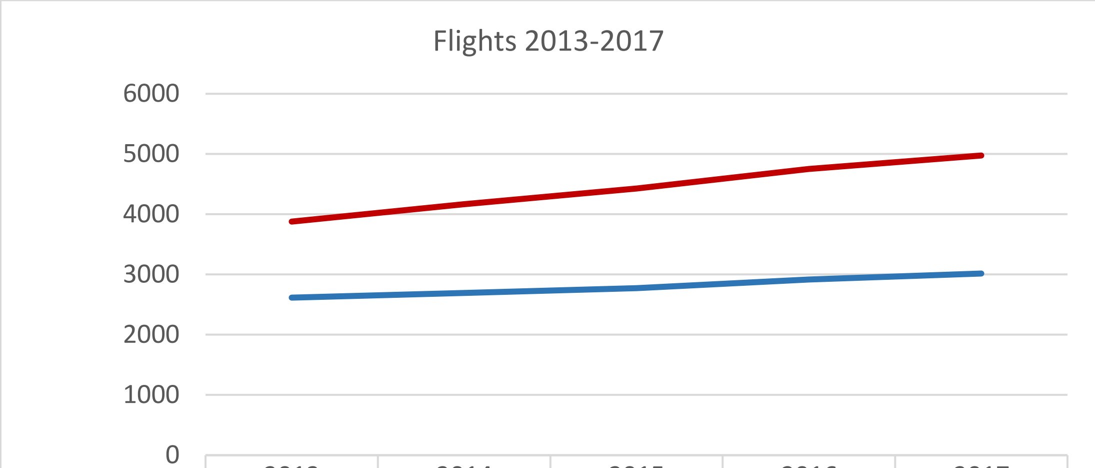
	Total Number of Flights				
	2008	2009	2010	2011	2012
January	2839	2718	2564	2822	2699
July	3758	3656	3673	3887	3864
Seasonal Ratio	1.32	1.35	1.43	1.38	1.43

2013-2017

This period marked consistent growth in both January and July flights, although the rate of growth is different between the two flows: 3.6% and 6.4% respectively (Figure 4.22). As a result, the seasonal ratio continued to increase and grew from 1.48 in 2013 to 1.65 in 2017.

This growth reflected two trends: the first was the growing desire to pursue leisure travel and the second was the development of airlines willing to cater to this market.

Figure 4.22 - Total Number of Flights, 2013-2017



	2013	2014	2015	2016	2017
January	2616	2696	2774	2916	3016
July	3878	4168	4427	4754	4975

LCCs like Norwegian and Wow initiated services on the North Atlantic creating downward pressure on fares and stimulating market demand. Some FSCs decreased their lowest fares to maintain market share whilst others developed low-cost arms internally (e.g., AC Rouge and LH's Eurowings) to compete against the new entrants.

Overall Assessment

Despite the numerous shocks which have occurred, aviation remained dynamic. Whilst the industry was initially reliant upon business travel with relatively few leisure trips, the overall decline in the real cost of travel has led to more widespread use of air travel for both short-term and longer vacations and leisure trips.

Not all airports have been impacted equally, and the seasonal ratio has changed between airports as well as over time. Many airports exhibited seasonal ratios in the 1.2 – 1.5 range, although there were some airports which recorded very high numbers, reflecting their importance as tourist destinations or as key transfer points for travellers.

Other airports have relatively low seasonal ratios, and this was especially evident in the Middle East. The highest seasonal ratio amongst the major airports in these countries is about 1.2. Although there are few airport capacity restrictions in these countries, the climate in this region does not exhibit the same seasonal characteristics as those in the northern latitudes. As such, although summer coincides with the traditional vacation period in the northern hemisphere, the relatively high temperatures in the region do not make most Middle Eastern destinations a popular choice for tourists, although it still undoubtedly attracts VFR travel.

African and Southeast Asian airports have relatively low frequencies in both January and July; due to this, any variation represents a large proportional increase despite the relatively small change in actual flights. For this reason, any discussion concerning these airports has been omitted.

North American airports have greater seasonal ratios than those situated elsewhere, with Canadian airports having the highest numbers. Whilst the three largest Canadian airports (YYZ, YUL, and YVR) were relatively smaller compared to their American counterparts in 1997, they subsequently developed and in January 2017, YYZ and YUL were the 3rd and 11th largest airports respectively in North America. All three airports had seasonal ratios greater than 2 in 2017.

Within Europe, there was still a noticeable seasonal ratio although it was less pronounced at the largest European airports. The key factors affecting this were congestion and the development and expansion to new markets by North American airlines.

With current slot restrictions at major European airports, it is more challenging to obtain landing rights, and these are normally retained by airlines with previous services[56]. These airlines may utilise these rights to increase flights on the North

[56] Current airport slot allocation favours those airlines that have operated services in the previous year under 'grandfathering'. For a more complete explanation of European slot allocation, please refer to Graham (Graham, 2018).

Atlantic, although they may also choose to utilise the slots for other routes. Whilst some of the airlines that would receive these slots are not European based, the lack of capacity is not conducive to increasing services. Thus, if a North American airline pursued an expansionist strategy in Europe, it is logical to infer that they would have to bypass existing hubs, even those of their J-V or alliance partners and develop new routes and services to secondary airports.

An aspect to consider is that although increased leisure travel has enabled airlines to operate numerous new routes and increased frequencies on the North Atlantic, it could lead to operational issues. The highly seasonal nature of these flights requires more aircraft that either need to be acquired or leased to provide the services offered; unless, those aircraft can be utilised during the 'off-season', those aircraft will not be used and could thus provide a financial drain on the airline.

4.5 Concentration or Dispersion

The common usage of hub and spoke networks in commercial passenger services came into practice in the 1980s. Since then, airlines have refined their networks to optimise flight schedules to enable passenger transfers at their key hub(s). This has involved both the removal and addition of services to various secondary or non-hub airports; it has for some airlines also entailed the removal or development of hub operations at certain airports.

Some of the changes in airport status resulted from mergers between airlines and the necessity to remove hub operations from airports within geographic proximity from one another or serving the same catchment areas (e.g., Delta de-hubbing of CVG; AA de-hubbing of STL). Other airports lost their hub operations due to a change in airline strategy (e.g., BA de-hubbing of LGW and AZ de-hubbing of FCO). Conversely, an airport may acquire hub status to facilitate further growth due to capacity constraints at an airline's primary hub (e.g., LH development of MUC).

In addition, each hub airport may see their relative importance change as airline network strategies adapt to changing passenger flows and the continuing necessity to optimise operational efficiency.

North America

The geography of both Canada and the US has resulted in the development of multi-hub networks by major airlines, including airlines without North Atlantic services[57]. Given the distances on the continent, multi-hub networks facilitated passenger transfers without needing to travel west to then travel east (or vice versa).

It has also resulted in a relative lack of secondary airports near major population centres. This problem is exacerbated in Canada which has a larger land mass but only about one-tenth of the population of the United States.

There are secondary or non-hub airports throughout both countries, and some of them are crucial to their respective regions; however, they do not necessarily have either the geographic or population characteristics necessary to make them viable options to hub airports. Their viability may also be further undermined by a lack of transportation infrastructure to facilitate timely access. An airport may appear to be an option, but the continent's reliance upon the automobile as a mode of transport may reduce its feasibility if there is reduced road access or excessive traffic congestion.

As a result, services into North America have remained relatively concentrated[58] over the scope of this study both seasonally and temporally. As seen in Table 4.57, flights to North America in 1997 were concentrated at 11 airports in January (12 in July). All these airports were designated hub airports[59] except for Boston Logan Airport.

[57] All the airlines with North Atlantic services have multi-hub networks. This includes not just FSCs but both Air Transat (YUL and YYZ) and WestJet (YYC and YYZ). Even Southwest Airlines, who does not operate services on the North Atlantic has a multi-hub network.
[58] This study utilises 80% of all flights as a concentration threshold.
[59] At this time, the Canadian Government had legislated the use of Mirabel Airport (YMX) to be utilised for international (Trans-Atlantic flights). From April 1998 onwards, it was no longer required, and most

Although not a hub airport, BOS fulfils a gateway function as a key entrance point into the US.

What was also evident was the clear primacy position occupied by JFK with about 25% of all flights into the continent arriving at the airport. ORD, a hub for both AA and UA, was clearly situated in 2nd whilst Continental Airlines hub EWR was 3rd. The next six airports were relatively close in the number of January flights indicating a clear third tier of airports; however, due to the seasonal factor there is a discernible split of this tier into two separate levels in July. In addition, although YYZ was only 6th in importance in January, the importance of seasonal flights resulted in the airport being the 4th in July.

The top 5 airports received about 55% of all flights into North America in 1997 (Table 4.57).

Table 4.57 - Number of Flights in North America, 1997

		1997	
Code	Name	January	July
JFK	JFK International Airport	509	634
ORD	O'Hare International Airport	179	221
EWR	Newark Liberty Airport	137	213
IAD	Dulles International Airport	105	134
ATL	Hartsfield International Airport	102	126
YYZ	Pearson International Airport	97	122
BOS	Logan Airport	96	115
MIA	Miami International Airport	92	107
LAX	Los Angeles International Airport	91	102
SFO	San Francisco International Airport	57	75
YMX	Mirabel International Airport	54	64
DTW	Detroit-Wayne County International Airport		63
	Flights into Top Airports	1519	1976
	Total Number of Flights	1894	2416

airlines transferred their operations to YUL. Air Transat continued to use the airport until its last flight on October 31, 2004.

The relative concentration at North American airports remained relatively constant until 2002. The concentration threshold of 80% still comprised of 12 airports, however, DTW was replaced by PHL (Table 4.58). In addition, although JFK's primacy remained unchanged, it attracted only about 20% of all North Atlantic flights. The second tier was comprised of four airports (ATL, IAD, YYZ and BOS).

Table 4.58 - Number of Flights in North America, 2002

		2002	
Code	Name	January	July
JFK	JFK International Airport	402	532
ORD	O'Hare International Airport	210	257
EWR	Newark Liberty Airport	205	278
ATL	Hartsfield International Airport	134	161
IAD	Dulles International Airport	132	177
YYZ	Pearson International Airport	113	215
BOS	Logan Airport	106	137
LAX	Los Angeles International Airport	95	114
MIA	Miami International Airport	95	97
PHL	Philadelphia International Airport	79	90
SFO	San Francisco International Airport	69	77
YUL	Dorval International Airport	54	75
	Flights into Top Airports	1694	2210
	Total Number of Flights	2076	2739

From January 2003 to 2009, the top four airports were: JFK, EWR, ORD and ATL; for July they were: JFK, EWR, ORD and YYZ, a reflection of the importance of seasonal flights. JFK's primacy position was unchallenged but remained at about 20% of flights into North America.

JFK and EWR have retained the top spots respectively since 2003, reinforcing the importance of New York. ORD, YYZ and IAD have occupied the next three spots, with YYZ consistently occupying 3rd position in July, although there was more variation in January. Atlanta gradually slipped in importance and was by 2017 in 8th and 9th position in January and July respectively (Table 4.59).

Another aspect was that the importance of the top five airports has declined, and in 2017 accounted for less than 50% of all flights in both January and July. This reflected a greater diversion of flights from the top five airports to other hub airports.

However, the exact composition of the top North American airports has remained relatively consistent from 1997-2017. In addition, the number of airports controlling 80% of North Atlantic flights has been virtually unchanged. This indicates a stable airport structure in the continent, perhaps more reliant upon airline changes than other factors.

Table 4.59 - Number of Flights in North America, 2017

		2017	
Code	Name	January	July
JFK	JFK International Airport	589	904
EWR	Newark Liberty Airport	294	429
YYZ	Pearson International Airport	200	408
ORD	O'Hare International Airport	199	342
IAD	Dulles International Airport	189	274
MIA	Miami International Airport	176	171
LAX	Los Angeles International Airport	173	253
ATL	Hartsfield International Airport	143	221
BOS	Logan Airport	139	256
SFO	San Francisco International Airport	131	181
YUL	Trudeau International Airport	100	269
IAH	Bush International Airport	84	98
PHL	Philadelphia International Airport		151
MCO	Orlando International Airport		95
	Flights into Top Airports	2417	4052
	Total Number of Flights	3016	4975

Flights from Afro-Eurasian Airports

Although the EU fully implemented an Open Skies Policy in 1997, the historical precedents that existed previously continued to impact airline operations and thus airport importance. Unlike North America, the individual countries of Europe are relatively smaller, and airlines predominantly operated single hub networks[60].

From 1997 to 2001, air services were concentrated at 13-14 airports (Table 4.60). The most flights were at LHR (about 20%) and were followed by a second tier of airports consisting of CDG, FRA, LGW, and AMS, although the specific order was not constant. These five airports consistently controlled about 60% of all flights into North America. The top airports were all based in Europe, and more than 95% of all North Atlantic flights originated from the continent.

Table 4.60 - Number of Flights into North America, 1997

		1997	
Code	Name	January	July
LHR	Heathrow International Airport	412	536
FRA	Frankfurt International Airport	247	273
LGW	Gatwick International Airport	169	213
CDG	Charles de Gaulle International Airport	151	199
AMS	Schiphol Airport	146	198
ZRH	Zurich International Airport	74	89
ORY	Orly International Airport	63	
MAD	Madrid International Airport	58	87
BRU	Brussels National Airport	55	70
FCO	Fiumicino International Airport	49	66
MXP	Malpensa International Airport	42	59
MAN	Manchester International Airport	38	52
MUC	Franz Joseph Strauss International Airport	32	45
SNN	Shannon International Airport		44
	Flights into Top Airports	1536	1931
	Total Number of Flights	1894	2412

[60] Air France, Alitalia and British Airways operated dual hub networks in 1997.

Under the terms of Bermuda II, only certain routes between the US and the UK could be operated from LHR, thus forcing airlines to operate certain routes from Gatwick Airport. Also, of note was the presence of Shannon Airport amongst the top airports for services to North America. Whilst other airports may have been utilised to exercise 5th Freedom rights, SNN remained an important airport for technical stops from the Middle East and Southeast Asia.

Although September 11 had a strong impact upon airlines in North America, it also resulted in the concentration of services from Afro-Eurasian Airports (Table 4.61).

Table 4.61 - Number of Flights into North America, 2002

		2002	
Code	Name	January	July
LHR	Heathrow International Airport	515	604
FRA	Frankfurt International Airport	245	317
CDG	Charles de Gaulle International Airport	241	350
LGW	Gatwick International Airport	189	221
AMS	Schiphol Airport	177	230
ZRH	Zurich International Airport	86	99
MAD	Madrid International Airport	60	73
MXP	Malpensa International Airport	57	68
MAN	Manchester International Airport	54	70
FCO	Fiumicino International Airport	44	71
MUC	Franz Joseph Strauss International Airport		55
BRU	Brussels National Airport		54
	Flights into Top Airports	1668	2212
	Total Number of Flights	2076	2739

Not only were services in 2002 concentrated in fewer airports (10 in January and 12 in July), but the top five airports controlled nearly 66% and 64% of flights in January and July, respectively. This suggests a retraction of services from not only secondary airports but also secondary hubs. This high level of concentration also continued in 2003.

An interesting note in 2003 was the presence of TLV amongst the top airports in July, the first time that a non-European airport was present. Nonetheless, less than 5% of North Atlantic flights were from outside of Europe.

The concentration of services that had occurred in the post 9/11 era began to reverse and dispersion began to occur. In 2007, the top five airports had 58.9% and 51.4% of all flights in January and July respectively (Table 4.62). In addition, 80% of all flights required 15 airports in January and 19 airports in July. All the airports on the list were, however, hub airports, albeit of smaller airlines except for SNN which continued to operate as an important technical stop. Dispersion was, however, limited to other European Airports as the continent dominated North Atlantic flights (94%) in 2007.

Table 4.62 - Number of Flights into North America, 2007

		2007	
Code	Name	January	July
LHR	Heathrow International Airport	585	684
CDG	Charles de Gaulle International Airport	290	380
FRA	Frankfurt International Airport	285	375
AMS	Schiphol Airport	199	279
LGW	Gatwick International Airport	165	234
ZRH	Zurich International Airport	93	103
MAN	Manchester International Airport	75	114
MXP	Malpensa International Airport	70	77
MUC	Franz Joseph Strauss International Airport	70	112
MAD	Madrid International Airport	60	84
TLV	Ben Gurion International Airport	51	63
BRU	Brussels National Airport	45	59
FCO	Fiumicino International Airport	40	135
CPH	Kastrup Airport	34	46
SNN	Shannon International Airport	33	80
DUB	Dublin International Airport		72
GLA	Glasgow International Airport		54
ATH	Eleftherios Venizelos International Airport		44
	Flights into Top Airports	2095	3047
	Total Number of Flights	2587	3798

The time period between 2008 and 2013 is notable for the diversion in trends between January and July flights, as well as the airports present with their respective positions within the top airports (Table 4.63).

Table 4.63 - Number of Flights into North America, 2013

		2013	
Code	Name	January	July
LHR	Heathrow International Airport	696	802
FRA	Frankfurt International Airport	259	359
CDG	Charles de Gaulle International Airport	237	401
AMS	Schiphol Airport	186	279
ZRH	Zurich International Airport	101	119
MUC	Franz Joseph Strauss International Airport	85	112
DXB	Dubai International Airport	73	73
MAD	Madrid International Airport	65	116
BRU	Brussels National Airport	65	78
DUB	Dublin International Airport	57	111
FCO	Fiumicino International Airport	56	148
MAN	Manchester International Airport	51	67
TLV	Ben Gurion International Airport	50	65
IST	Istanbul International Airport	45	71
LGW	Gatwick International Airport	41	65
DUS	Dusseldorf International Airport	33	57
KEF	Keflavik Airport		74
BCN	Barcelona International Airport		52
SNN	Shannon International Airport		45
CPH	Kastrup Airport		45
	Flights into Top Airports	2100	3139
	Total Number of Flights	2619	3878

By 2013, there were three airports from outside of Europe (DXB, TLV and IST) amongst the top airports, indicating the growing importance of these airports as transfer points on the North Atlantic and the dispersion of flights outside of the top European hub airports. Airports based in the Middle East expanded their North Atlantic services and were the origin of 9.6% flights in January, and 7.8% in July: a threefold increase from 2007. Of note is the lack of a seasonal difference in services from Dubai to North America.

Nonetheless, the top five airports controlled 56.5% and 51.3% in January and July respectively of all flights. The difference in concentration reflected LHR's greater importance in January *Vis à Vis* July, 26.6% and 20.7% respectively.

Dispersion however was evident as 16 airports (January) and 20 airports (July) now controlled 80% of all flights.

This trend was even more evident by 2017 when 18 airports (January) and 22 airports (July) were needed to account for 80% of all flights (Table 4.64).

Table 4.64 - Number of Flights into North America, 2017

		2017	
Code	Name	January	July
LHR	Heathrow International Airport	735	844
CDG	Charles de Gaulle International Airport	260	436
FRA	Frankfurt International Airport	238	374
AMS	Schiphol Airport	210	306
DXB	Dubai International Airport	115	90
MUC	Franz Joseph Strauss International Airport	102	152
ZRH	Zurich International Airport	95	130
DUB	Dublin International Airport	90	217
KEF	Keflavik Airport	89	217
DOH	Hamad International Airport	80	73
LGW	Gatwick International Airport	73	147
IST	Istanbul International Airport	73	84
MAD	Madrid International Airport	71	138
TLV	Ben Gurion International Airport	60	73
AUH	Abu Dhabi International Airport	48	
CPH	Kastrup Airport	47	71
MXP	Malpensa International Airport	37	
MAN	Manchester International Airport	37	114
FCO	Fiumicino International Airport		165
BCN	Barcelona International Airport		94
LIS	Lisbon International Airport		76
BRU	Brussels National Airport		65
DUS	Dusseldorf International Airport		64
SNN	Shannon International Airport		58
	Flights into Top Airports	2460	3988
	Total Number of Flights	3016	4975

The presence of five non-European airports (DXB, DOH, IST, TLV and AUH) amongst the top airports was a continuation of the ongoing trend of transfer points for North Atlantic services outside of Europe. Middle East airports accounted for 13.6% and 8.2% of flights in January and July respectively[61].

Whilst Middle East airports developed to account for a greater proportion of services to North America, there was minimal growth from either African or Asian airports; in 2017, airports in these regions accounted for about 4% of flights.

Despite the lack of available space for expansion, LHR remained an important airport on the North Atlantic: about 1 in 4 flights in January (24.4%) and 1 in 6 flights in July (17.0%) were from Heathrow Airport in 2017.

The top four airports have nonetheless a reduced importance with secondary airports becoming more prominent. Of note is the presence of both DUB and KEF amongst the top airports: 8th and 9th respectively in January and 5th and 6th respectively in July.

Overall, there were some noticeable trends amongst services into North America.

From 2003 onwards (in both January and July), the top four airports were LHR, CDG, FRA and AMS – almost consistently in that order. From 2003 to 2008, LGW was the largest airport, but did not subsequently appear after the implementation of the EU-US Open Skies Agreement. Following the diversion of services from LGW to LHR, there was a discernible delineation between the top four airports and the subsequent airports.

[61] Middle East airports accounted for 9.2% of flights in July 2016. The decrease in 2017 may reflect the US ban on lithium batteries inside the cabin on flights originating in most Middle Eastern Airports (TLV was exempt). This ban disrupted services and resulted in numerous cancellations to the US.

LHR remained the most important airport, however, the growth of seasonal services reduced the airport's importance in July, whilst remaining clearly predominant in January.

Overall, the top five airports have seen a reduction in their importance on the North Atlantic in both January and July flights. In January 2003, 66.7% of North Atlantic services were concentrated in the top five airports; by 2017 this had decreased to 51.7%. Similarly, 62.3% of July 2003 services were concentrated in the top five airports and had declined to 43.8% by 2017.

This reduction reflected not only the growing importance of Middle Eastern airports, but the growth of services to secondary hub airports within Europe, and clearly demonstrates a dispersion of services away from the major European hubs, especially in the provision of seasonal flights.

4.6 Summary

The overall North Atlantic network has been dominated by two airports: JFK and LHR. Although JFK was the dominant airport throughout the year during the initial phase of this study, the events of September 11 decreased JFK's relative importance, and LHR became the dominant airport in both January and July from 2002 to 2004 inclusive.

Thereafter, the North Atlantic had heterogenous development between the winter and summer schedules. Although there were occasional exceptions, LHR retained primacy during January whilst JFK was the most important airport during July. One of the key differences between the two seasons is the proportion of business travel, which is somewhat lower during July due to the sheer increase in leisure travellers.

Nonetheless, each airport retained its primacy position regardless of the season within its respective regions: JFK amongst North American Airports and LHR amongst Afro-Eurasian Airports. JFK's status has been aided by the presence of both DL and AA, whilst LHR was the clear European focal point of BA and Oneworld alliance.

During January operations, JFK had undisputed primacy, although its importance declined by almost half. EWR rose from 6th place in 1997 to second by 2017; in contrast, ORD fell from 2nd place in 1997 to 6th in 2017. During the summer season of 1997, the top five airports were: JFK, ORD, EWR, LAX and YYZ. These were the exact same top five in 2017, except that YYZ, the only airport amongst the top five to have an increase in its relative importance (CVC), was in a clear secondary position. This was primarily due to high seasonality at the airport and its role as a gateway for Canada.

These changes reflected not only changing travel patterns but evolving economic conditions and their subsequent impact upon the urban structure within the continent and especially in the US. As the US economy's reliance upon traditional manufacturing (secondary sector) lessened in favour of more technologically dependent activities, the importance of cities within the country reflected these transformations. Although the economic activities of both countries moved toward quaternary sector activity (computer-oriented services), the primary sector, especially in the field of oil and gas extraction continued to play a vital role in the economy.

The four most important Afro-Eurasian Airports have consistently been LHR, FRA, CDG and AMS, although there were some changes in relative importance. LHR held primacy position during the January schedule, and its relative importance remained consistent throughout the study with a decrease in its CVC of only 3.8%. In contrast, FRA decreased from a close 2nd in 1997 and 1998 to a rivalry with CDG for second spot until being surpassed in 2014; AMS has been in 4th position from January 1999 onwards.

During the summer season, LHR also maintained primacy, but its relative importance decreased by nearly 40% from 1997 to 2017; CDG maintained its CVC and was the 2nd most important airport in 2017. The growth in leisure travel from 2014 onwards was evident in the importance of KEF (6th) and the rise of DUB to supplant AMS in 4th position in 2017.

Another aspect has been the increasing importance of Middle East Airports. In January 1997, TLV, the most important Middle East Airport was 14th amongst Afro-Eurasian

Airports; the 2nd most important was IST and in 31st position. In 2017, there were five Middle East Airports amongst the top 20: IST (10th), TLV, (11th), DOH (15th), DXB (16th) and AUH (20th).

In contrast, the high number of seasonal flights between North America and Europe mitigated the relative importance of Middle East Airports, and in July 2017, only TLV and IST were amongst the top 20.

Neither an African nor an Asian airport was amongst the top 20 Afro-Eurasian Airports at any point during the temporal scope of this research.

Whilst changing economic activity has altered the North American airport network, growing capacity constraints and congestion have reduced the relative importance of some Afro-Eurasian airports, especially that of LHR. The growth of Middle Eastern airports reflected their advantageous geographic position, and perhaps easy access of Middle Eastern airlines to relatively cheaper fuel than their competitors.

One key finding was the growing importance of seasonality on the North Atlantic. Whilst the seasonal ratio was stable from 1997 to 2001 with an average of 1.26, leisure travel increased in the post-9/11 era as did the seasonal ratio, peaking in 2007. In the aftermath of the economic recession, there was a variable seasonal ratio although it never dipped below 1.32. From 2011 onwards, the importance of summer leisure travel re-emerged resulting in a strong upward trend in the seasonal ratio. By 2017, the seasonal ratio was 1.65 and reflected the seasonal differences: in January, there were just over 3,000 flights and in July, there were nearly 5,000 flights on the North Atlantic. The higher seasonality factor at Canadian airports could reflect the higher per capita GDP in Canada compared to the US as well as the harsher winter conditions that may be less conducive to attracting visitors. They also reflect AC's catering to this market and developing and extending its network from the major Canadian airports, especially YYZ and YUL.

These differences contributed to understanding the distribution of flights between airports as the network patterns diverge substantially between the seasons. They also address the RQ1.3 and RQ2.1.

Within North America, the five largest airports in terms of North Atlantic services consistently had more than half of the traffic; however, the airports themselves differed slightly over time and between seasons. In January 1997, the five largest airports were JFK, ORD, EWR, IAD and ATL; this remained the case up to and including 2011, except for 2004 when YYZ replaced ATL. From 2012 onward, YYZ replaced ATL as the 5th largest North American Airport. In addition, the top 11 airports had 80% of all North Atlantic traffic; by 2017 this had increased to 12 airports.

In July 1997, the five largest airports were JFK, ORD, EWR, YYZ and ATL. ATL was consistently in 5th position though it was temporarily replaced from 2001-2003 and in 2005, and then permanently from 2009 onwards by IAD. In July 1997, the top 12 airports had 80% of all North Atlantic traffic; this fluctuated between 12 and 13 airports until July 2017 when this became 14 airports.

Despite the differences in composition, there was a consistent concentration of North Atlantic services amongst North American airports. This was perhaps a reflection of the geographic size of the continent and the relatively low population density, especially within Canada. Given both these factors, there are few airports that could act as secondary options to major airports, hence the consistent concentration within the same major airports.

In 1997, the five largest Afro-Eurasian Airports for North Atlantic flights were LHR, FRA, CDG, AMS and LGW with nearly 60% of all traffic in both January and July. In January 1997, 13 airports had 80% of traffic compared with 14 airports in July; all these airports were situated in Europe. The largest airports remained unchanged, but in 2002, there was a concentration in services with the top five having more than 60% of services; 80% of all traffic was from 10 airports in January and 12 airports in July.

Following the Open Skies Agreement, ZRH replaced LGW amongst the five largest airports from January 2009 onwards although DXB replaced ZRH in both 2016 and 2017. In contrast, FCO became fifth during the summer season, only to be replaced by DUB in 2015.

From January 2006, services began to disperse, and 16 airports accounted for 80% of all North Atlantic traffic. In addition, the proportion of traffic from the five largest airports decreased to just over 56%. By January 2017, 18 airports had 80% of the traffic whilst the proportion to the five largest airports declined further to 51.7%.

Dispersion was even more evident during the summer schedule. In July 2006, 18 airports accounted for 80% of traffic and the five largest airports had decreased to 54.8% of all North Atlantic traffic; in July 2009, these figures were 21 airports and 52.3%.

Despite the decrease in traffic from the five largest airports (51.9%), services had contracted so that 80% of services were from only 19 airports in July 2012; however, the trend towards dispersion returned thereafter. By July 2017, 80% of all North Atlantic traffic was from 22 airports and the five largest airports accounted for only 43.8% of all North Atlantic traffic.

Whilst North American Airports remained relatively concentrated during the duration of this study in both the winter and summer schedules, the Afro-Eurasian Airports have become more dispersed, especially during the summer period. Traffic from the five largest airports declined to 51.8% of all January traffic and 43.8% of July traffic. The number of airports needed to account for 80% of all services in 2017 increased by 50% from January 1997 and nearly doubled from July 1997.

This is indicative of the rise of secondary hub airports, especially during the summer and is especially evident amongst European secondary airports when leisure travel dominates air travel. Although there were several hubs within Europe, the higher population density combined with numerous tourist attractions and VFR links made smaller hubs and larger regional airports as viable destinations during the summer vacation season. In contrast, the relatively low population density of North America, especially within Canada, did not provide the same opportunities for dispersion; geographic conditions that will not change in the future. These developments address the second objective of assessing concentration/dispersion.

Another important aspect was the growth in Middle East Airports. In July 1997, the region accounted for less than 2% of all services; in July 2016 and 2017, the region accounted for 9.2% and 8.2% respectively. Given the lack of seasonality in the region, it was even more important in January 2017 and accounted for 13.6% of all North Atlantic traffic.

The changes within each region were examined within a seasonal context to fully assess any temporal variations. Nonetheless, the overwhelming influence on airport importance was that of airline network development decisions which determine airport selection and utilisation. Each airline has their own North Atlantic strategy and is also influenced by their alliance and joint-venture partners in building and consolidating synergies and greater market share. The subsequent chapter examines these aspects.

CHAPTER 5 – ANALYSIS OF NORTH ATLANTIC ALLIANCES AND AIRLINES

Airline alliances have been in existence for several decades. Whilst the initial alliances were smaller entities, they subsequently developed into global conglomerations. There are currently three major alliances in operation on the North Atlantic: Oneworld, SkyTeam and Star Alliance: in January 1997, however, none of them were in existence.

In 1997, there were two major alliances operating on the North Atlantic: Wings and Atlantic Excellence. Wings was founded in 1989 by KLM and Northwest Airlines, and Atlantic Excellence in June 1996 by Delta, Austrian Airlines, Sabena, and Swissair.

Star Alliance was formed in May 1997 by Air Canada, Lufthansa, SAS Airlines, Thai Airways, and United Airlines.

The following year in March 1998, the Qualiflyer Alliance was created and worked in tandem with Atlantic Excellence. This was not surprising as OS, SN and SR were members of both alliances.

In September 1998, Oneworld was founded by American Airlines, British Airways, Canadian Airlines, Cathay Pacific, and Qantas. SkyTeam was then founded by Aeromexico, Air France, Delta, and Korean Airlines in January 2000.

Each airline's network has evolved over time, both to develop their own ambitions and to coordinate with other airlines within their alliance. Changes in an alliance's membership has influenced airlines in their selection and operation of routes to develop synergies in the transfer of passengers; an influence that was intensified through the development of immunised metal-neutral joint-ventures[62].

[62] Immunised metal-neutral joint-ventures not only allow members to co-ordinate schedules and fares, but they can also pool and share profits regardless of the flight operator (metal-neutral) and the relevant government agencies have granted immunity from collusion and other anti-trust offences (immunised).

This chapter provides an overview of the two pre-1997 alliances (Wings and Atlantic Excellence / Qualiflyer) and the three global alliances. Each alliance overview includes an examination of the network strategies implemented by the key airlines within each alliance. There is also an examination of airlines which were key North Atlantic service providers but were unaligned in 2017. The chapter concludes with an overview of the different strategies being utilised, the key changes observed, and an overall assessment of the North Atlantic over the scope of the research.

5.1 Wings

Although Wings was never formalised as an alliance, the name was used and is often referenced when analysing airline co-operative associations. Its influence was primarily due to its 'founding' members, NW and KLM and their immunised J-V.

Although ownership laws prevented a merger, in 1989 Northwest and KLM began to act collaboratively to expand their relative networks and provide access to each other's domestic market. This was facilitated in October 1992 when an Open Skies Agreement was signed between the US and the Netherlands which enabled an alliance between the two airlines; shortly thereafter, KLM and NW were granted an immunised J-V[63] (OECD, 2014).

The extent of their integration and co-operation was evident in their 1997 flight schedules: over 40% of NW's flights were to AMS and over 25% of KLM's flights were to one of NW's hub airports (DTW, MSP and MEM) (Table 5.1).

From about 2001 onwards, another trend developed with KLM reducing services between AMS and NW hubs whilst NW provided the necessary connectivity between the hubs. This enabled KLM to provide direct services to other arguably more

[63] Mr. Pieter Cornelisse (Vice President of Mainport Strategy, KLM) stated during the European Aviation Conference in Vienna, Austria (November 2019) that the immunised joint-venture did not begin until 1996.

important US markets whilst maintaining strong connectivity between the airline hubs; a key benefit of the joint-venture.

Table 5.1 – Distribution of KL and NW Flights – July 1997 and July 2001

		July 1997		July 2001	
		NW	KL	NW	KL
DTW	AMS	7	14	35	7
	CDG	7		7	
	FCO			7	
	FRA	14		7	
	LGW	14		14	
MSP	AMS	7	7	7	7
	LGW	14		7	
ATL	AMS		7		7
BOS	AMS	7		7	
EWR	AMS	7			
IAD	AMS	7		7	
IAH	AMS		7		7
JFK	AMS		12	7	7
LAX	AMS		9		11
MEM	AMS		7		7
MIA	AMS			7	
ORD	AMS		7		7
SEA	AMS			7	
SFO	AMS		7		7
YUL	AMS		7		7
YVR	AMS		7		7
YYZ	AMS		9		7
Total		**84**	**100**	**119**	**84**

Wings membership was not static and between 1998 and 2001, there were two major additions (and one deletion), each of varying importance.

In May 1999, buoyed by a growing arrangement with KLM, Alitalia joined the association. However, due to internal issues and differences between the airlines, the potential merger between KLM and AZ collapsed and Alitalia left Wings (KLM: life after Alitalia, 2000).

On the US side, NW entered into an agreement in November 1998 to purchase a controlling interest in Continental Airlines with an almost immediate implementation of codesharing arrangements between the two (Northwest Buys Stake in Continental, 1998). There was from the onset, however, anti-trust issues raised and NW had to dispose of the majority of its CO shares two years later (Barrett, 2000).

Despite CO's continued membership in Wings, it was never included in the KLM-NW joint-venture; likewise, Alitalia was never included (US Department of Transport, 2019). As such, unlike Northwest, CO only made minor adjustments to its network and had comparatively fewer flights to Amsterdam.

In September 2003, KLM merged with AF, a member of SkyTeam. One year later, KL along with CO and NW formally joined SkyTeam and Wings was formally dissolved.

5.2 Atlantic Excellence / Qualiflyer

Although Atlantic Excellence and Qualiflyer were separate entities, the common membership between the two facilitated a combined examination of their operations.

Atlantic Excellence began in June 1996 with Austrian, Delta, Sabena, and Swissair as founding members. One of the key aspects of the alliance was the granting of an immunised joint-venture, albeit with several carve-outs[64].

Qualiflyer was the frequent flyer program founded by Swissair along with Austrian Airlines and Crossair in 1992. However, in March 1998, the FFP program became the Qualiflyer Group[65] and strengthened the co-operation between the participating airlines (Qualiflyer, 2008). At the time, Austrian, Sabena and Swissair were members of both Atlantic Excellence and Qualiflyer. Despite Swissair being the alliance originator, JFK and ATL were the two most important airports for the program (Figure 5.1).

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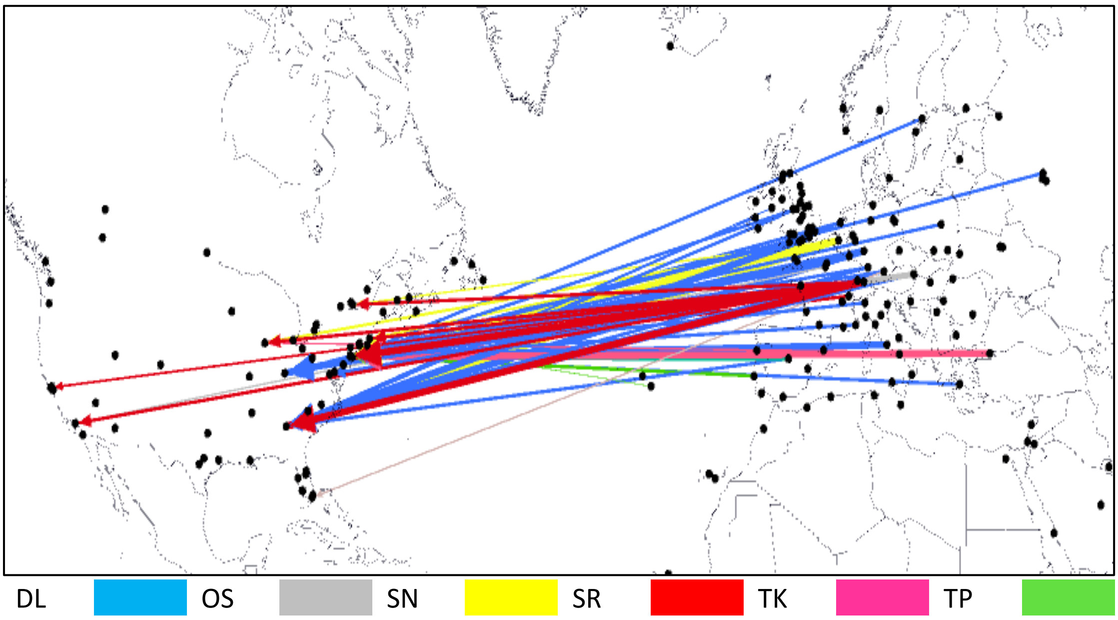
[64] The joint-venture was granted in June 1996 with carve-outs or exemptions on US point-of-sale traffic on the following routes: Atlanta-Zurich, Atlanta-Brussels, Cincinnati-Zurich, New York-Brussels, New York-Vienna, New York-Geneva, and New York-Zurich markets (US Department of Transport, 2019).
[65] Swissair, Crossair, Austrian and Sabena, TAP, AOM, THY, and Air Littoral were the founding members of the group (Qualiflyer, 2008).

Whilst 2000 began with the addition of LOT to the Qualiflyer Group, Austrian Airlines left in March to join Star Alliance. Delta then became a founding member of SkyTeam in June, leading to the dissolution of Atlantic Excellence and its joint-venture in August (US Department of Transport, 2019). The alliance was further reduced with the departure of Turkish Airlines later that year (October).

Although the alliance continued to operate throughout 2001, the events of September 11 contributed to its demise. The Qualiflyer Group was based primarily on Swissair, and when the airline filed for bankruptcy in March 2002[66], the alliance also ceased operations.

Although these two entities had a relatively short-lived existence, they were nonetheless comprised of airlines with North Atlantic operations. Prior to its demise, Swissair was considered a stable medium-sized airline, and Sabena also had a long history in air travel. The departure of both Austrian and Delta to new alliances underscored the volatility in the industry and the importance of partner connectivity.

Figure 5.1 - Overview of Qualiflyer Network – July 1998



[66] Sabena had already filed for bankruptcy in November 2001.

5.3 Oneworld

Oneworld was founded in February 1999 by American Airlines, British Airways, Canadian Airlines[67], Cathay Pacific and Qantas. As is evident in Figures 5.2 and 5.3, at its onset there was limited integration amongst its members although the inclusion of airlines from Canada, the US and the UK complemented each other and provided a strong basis for North Atlantic operations.

Figure 5.2 - Overview of Oneworld Eigencentrality – July 1999

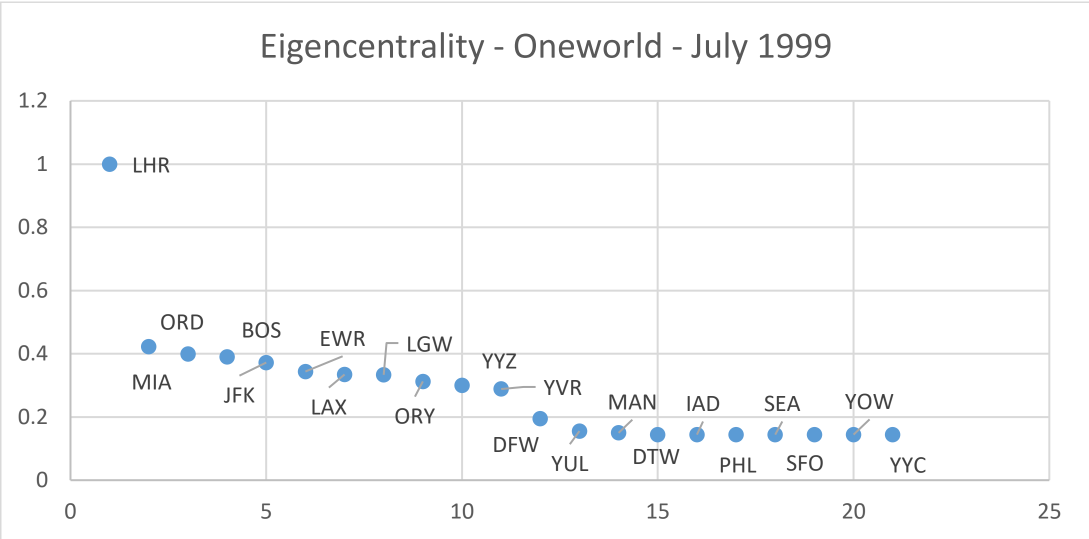
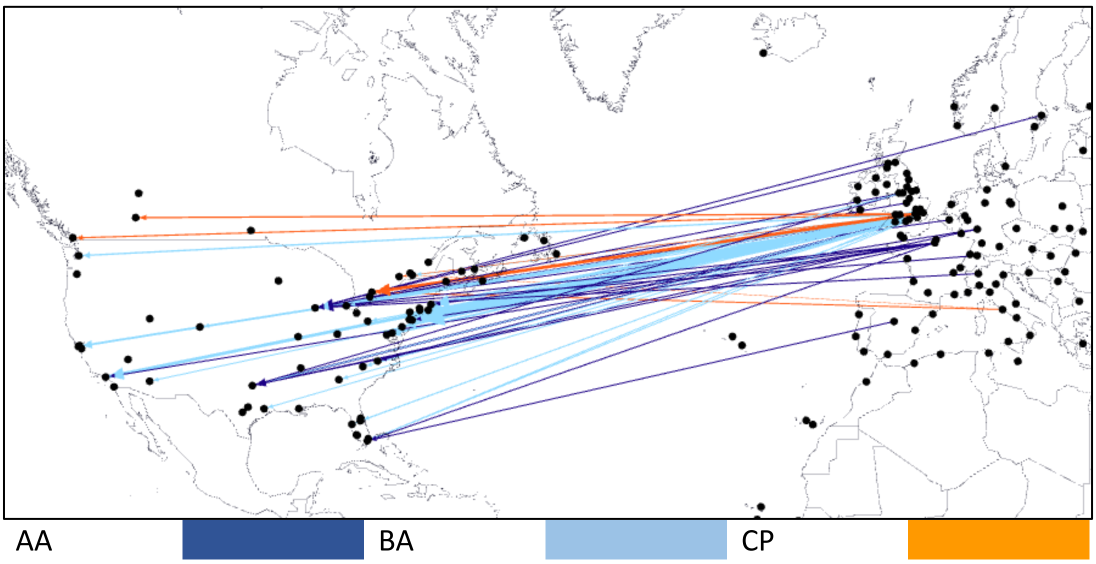


Figure 5.3 - Oneworld Network – July 1999



[67] Canadian Airlines withdrew from the alliance in June 2000 following its acquisition by Air Canada

Within two years, however, CP had left the alliance whilst both Alitalia and Iberia had joined. Although this improved services to the US, the withdrawal of the Canadian airline left a gap in that market as evidenced in the lack of Canadian airports within the top airports of the alliance (Figure 5.4).

Figure 5.4 - Oneworld Network – July 2002

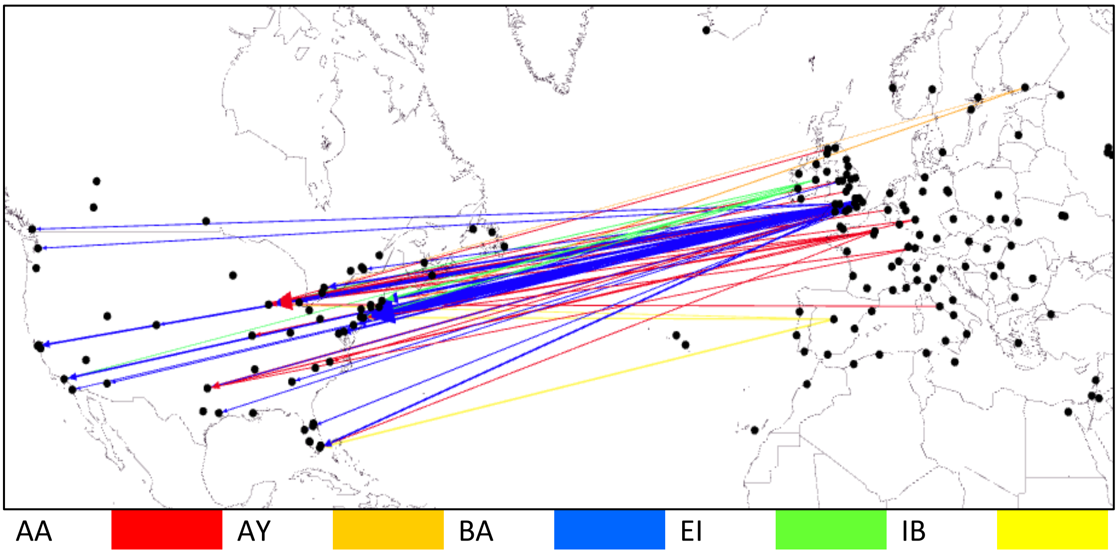


Table 5.2 - Overview of Oneworld – July 2002[68]

Code	Label	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
LHR	Heathrow Int. Airport	21	331	1
ORD	O'Hare Int. Airport	11	112	0.542334
JFK	JFK Int. Airport	9	150	0.524015
MIA	Miami Int. Airport	5	49	0.450006
BOS	Logan Airport	4	56	0.379185
LAX	Los Angeles Int. Airport	3	26	0.340642
CDG	Charles de Gaulle Int.	5	42	0.322019
EWR	Dallas-Fort Worth Int. Air.	2	23	0.306330
MAD	Madrid Int. Airport	4	38	0.303016
DUB	Dublin Int. Airport	3	19	0.218436

BA's hub LHR was the pre-eminent airport with the Oneworld alliance, as it was on the North Atlantic (Table 5.2). However, whilst JFK was similar in importance to LHR on the overall market, it was a distant third within the alliance, ranking behind ORD, which was 5th on the overall North Atlantic market (Table 4.4).

[68] DC is the number of routes; WDC is the number of weekly flights; and EC reflects relative importance.

One explanation for this is that access to LHR was limited due to Bermuda II. While the alliance benefitted from AA's inclusion under that agreement, there were no limitations hindering access to JFK. This was also evident when examining the HHI[69] score for Heathrow which was somewhat higher than that of JFK; 4166 versus 1777 for July 2002 (Appendices F and G).

Following LHR, the five most important airports in July 2002 were: ORD, JFK, MIA, and BOS – all AA hub airports. The next most important European airport was CDG – the primary airport of Air France, a non-Oneworld alliance member.

Despite a WDC of 80, LGW had a relatively low importance within the alliance (EC - 23rd); in contrast, DFW was 21st in importance with a WDC of 42.

By 2006, JFK had increased in importance to rank second within the network, slightly ahead of ORD (Table 5.3) – despite being the primary airport on the North Atlantic in 2007 (Table 6). This reflected the airport's international position as a gateway airport to the US and as a destination for airlines regardless of alliance membership.

Table 5.3 - Overview of Oneworld – July 2006

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
LHR	Heathrow Int. Airport	19	401	1
JFK	JFK Int. Airport	10	173	0.655290
ORD	O'Hare Int. Airport	10	126	0.631022
CDG	Charles de Gaulle Int Air.	5	42	0.459017
BOS	Logan Airport	5	69	0.392484
DFW	Dallas-Fort Worth Int. Air.	5	49	0.392474
MIA	Miami Int. Airport	3	47	0.335816
MAN	Manchester Int. Airport	3	21	0.319510
MAD	Madrid Int. Airport	3	39	0.307779
DUB	Dublin Int. Airport	3	32	0.291737

[69] The HHI (Herfindhal-Hirschman Index) scores were calculated using only North Atlantic flights and are, therefore, somewhat higher than if domestic and/or other international services were taken into account. A score of 4000-5999 indicated 'somewhat concentrated'; 6000-7999 was 'very concentrated'; and 8000 or higher was 'highly concentrated'.

Overall, the alliance expanded both in the number of flights and the scope of its network (Table 5.4). The dominant airlines within the alliance were clearly BA (most flights) and AA (most destinations). These two airlines accounted for over 80% of all destinations and over 85% of the alliance's flights on the North Atlantic.

2006 marked a peak in alliance operations that was not matched until 2012; Aer Lingus left the alliance in 2007, thus creating a gap in the alliance's coverage.

Table 5.4 - Overview of Oneworld Changes – July 2002 to July 2006

		2002	2006	Change
Total	DC	58	63	8.6%
	WDC	611	704	15.2%
BA	DC	24	24	0.0%
	WDC	278	329	18.3%
AA	DC	24	28	16.7%
	WDC	252	287	13.9%
IB	DC	3	3	0.0%
	WDC	31	32	3.2%
AY	DC	2	3	50.0%
	WDC	10	12	20.0%
EI	DC	5	5	0.0%
	WDC	40	44	10.0%

By 2012, the alliance network again shifted. An important factor within the alliance was the formation of the immunised joint-venture between American Airlines, British Airways, and Iberia in October 2010; this allowed the airlines to co-ordinate schedules and fares on the North Atlantic.

The alliance operated 730 flights on 73 routes in July 2012. Despite the growth, AA and BA continued to operate over 85% of the alliance's North Atlantic flights. In addition to BA operating over 90% of its flights from LHR, nearly half of all AA's flights were from LHR as well. As such, over 60% of the alliance's flights were from the airport; in contrast, only 28.6% of flights were to JFK. Given these results, LHR was clearly the most important airport within the alliance followed by JFK. In contrast, ORD dropped to 5th in importance and was surpassed by both MIA and MAD, despite being the third largest airport (Table 5.5).

Table 5.5 - Overview of Oneworld – July 2012

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
LHR	Heathrow Int. Airport	29	447	1
JFK	JFK Int. Airport	16	206	0.627116
MIA	Miami Int. Airport	8	65	0.499206
MAD	Madrid Int. Airport	8	64	0.488925
ORD	O'Hare Int. Airport	9	91	0.448269
LAX	Los Angeles Int. Airport	5	37	0.380616
DFW	Dallas-Fort Worth Int. Air.	5	55	0.364967
BOS	Logan Airport	4	55	0.357929
CDG	Charles de Gaulle Int Air.	5	42	0.295197
DUS	Dusseldorf Int. Airport	7	25	0.265290

Despite the high number of AA and BA flights to each other's hubs, JFK retained its low HHI score (2098) and LHR's scores decreased to 3775 (July 2012). LHR's lower score reflected the implementation of the EU-US Open Skies Agreement that enabled any airline to offer flights from the airport to the US and resulted in the transference of numerous services that had been previously offered from Gatwick.

The alliance was further affected by the merger between American Airlines and US Airways in 2013 which led to a re-organisation within the AA network that integrated both Philadelphia and Charlotte as North Atlantic hub airports. This resulted in PHL being ranked third on all three metrics (DC, WDC and EC) within the alliance in 2017, and CLT being 9th, 10th, and 11th respectively on the same three metrics (Table 5.6).

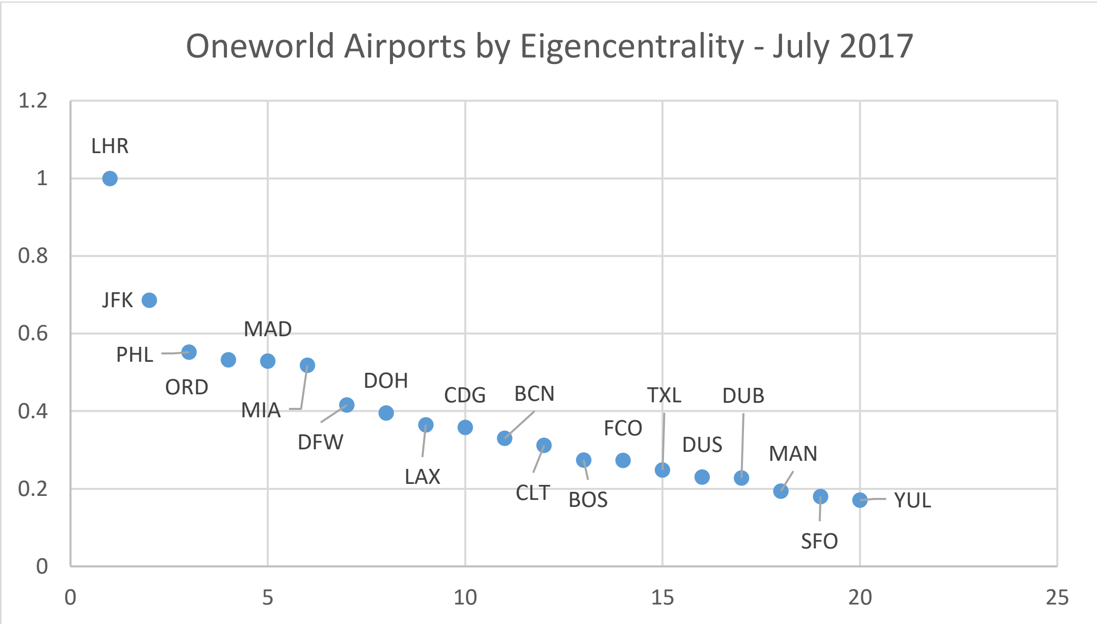
The merger strengthened AA's North Atlantic presence, and in conjunction with the implementation of the J-V, reinforced the alliance's position at some airports as both MAD (4375) and MIA (4277) became somewhat concentrated in 2013. Dallas-Fort Worth maintained its somewhat concentrated status (5458), and PHL retained its very concentrated HHI score (7548).

Despite having limited North Atlantic operations from Barcelona (to JFK from 1999 to 2001, and MIA in 2011), Iberia re-instated flights from the airport in 2017. This was a response to Norwegian initiating long-haul flights from the airport. Overall, IB's network increased from 43 flights (2012) to 54 in 2017, indicative of an expansionist strategy beyond those of the traditional major hubs on the North Atlantic. This also resulted in MAD increasing in importance within the alliance (Figure 5.5).

Table 5.6 - Overview of Oneworld – July 2017

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
LHR	Heathrow Int. Airport	33	444	1
JFK	JFK Int. Airport	20	235	0.686291
PHL	Philadelphia Int. Airport	17	126	0.552037
ORD	O'Hare Int. Airport	12	110	0.532445
MAD	Madrid Int. Airport	10	84	0.529036
MIA	Miami Int. Airport	10	89	0.518055
DFW	Dallas-Fort Worth Int.	8	70	0.415770
DOH	Hamad Int. Airport	10	73	0.395172
LAX	Los Angeles Int. Airport	6	47	0.365022
CDG	Charles de Gaulle Int.	7	56	0.358635
BCN	Barcelona Int. Airport	7	38	0.329878
CLT	Charlotte Int. Airport	7	55	0.311735

Figure 5.5 - Overview of Oneworld Eigencentrality – July 2017



Oneworld underwent some dynamic changes on the North Atlantic from 1999 to 2017, the result of changes within the individual airlines (Table 5.7).

British Airways operated services from five airports on the North Atlantic in 1997: LHR, LGW; BHX, GLA and MAN. By 2002, services had been discontinued from both BHX and GLA, and MAN was the only regional airport that retained operations (7 times/week to JFK). By 2012, the MAN-JFK service had been discontinued. The same year, BA began services from LCY[70] to JFK (13 times/week) although the airline continued to utilise LHR as its hub for international operations.

American Airlines primarily utilised JFK and ORD for its North Atlantic operations complemented by both DFW and MIA in 1997. This situation continued until its merger with US and the incorporation of its network into its own operations. Taking advantage of their geographic position, both PHL and CLT became key airports with PHL supplanting JFK as the primary airport for AA on the North Atlantic. There were also fewer services from ORD whose Midwest location had become less important as aircraft advances allowed for direct flights from the West Coast and no longer necessitated transfers at the airport.

Table 5.7 - Oneworld DC and WDC – July 1999-2017

		1999[71]	2002	2007	2012	2017	Change
Total	DC	59	58	65	73	121	105.1%
	WDC	584	611	687	730	1052	80.1%
BA	DC	27	24	24	25	33	22.2%
	WDC	288	278	324	343	359	24.7%
AA	DC	26	24	26	27	52	100.0%
	WDC	245	252	266	279	453	84.9%
IB	DC	*6*	3	5	5	7	16.7%
	WDC	*39*	31	41	43	54	38.5%
AY	DC	*3*	2	3	2	3	0.0%
	WDC	*13*	10	14	12	17	30.8%
CP	DC	6					
	WDC	51					
Other	DC		5	8	14	26	188.9%[72]
	WDC		40	49	53	169	218.9%

[70] The flight from LCY requires a technical stop on its westward path and as such is recorded as originating from its technical stop, Shannon Airport (SNN).
[71] Although the data for both AY and IB are included for 1999, neither was a member of the alliance nor are not included in the alliance total.
[72] As there were no 'Other' airlines in 1999, the percentage change is based on data from 2000, which is not included in this table.

The key route on the North Atlantic was LHR-JFK; AA and BA consistently controlled over 80% of the frequencies on the route. This was further facilitated by the approval in 2010 of the joint-venture between the two.

The alliance operations between January and July reflected the overall seasonal aspects of the region in general. The network structure in January 2000 had similar characteristics to that of July 1999, although the presence of CDG was a notable difference (Table 5.8).

Table 5.8 - Overview of Oneworld – January 2000

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
LHR	Heathrow Int. Airport	16	321	1
JFK	JFK Int. Airport	8	141	0.713324
ORD	O'Hare Int. Airport	10	98	0.693542
CDG	Charles de Gaulle Int. Air.	6	40	0.584084
LGW	Gatwick Int. Airport	12	95	0.561471
MIA	Miami Int. Airport	4	49	0.524343
MAD	Madrid Int. Airport	4	36	0.410431
FRA	Frankfurt Int. Airport	3	21	0.350128
BOS	Logan Airport	2	42	0.319972
LAX	Los Angeles Int. Airport	2	26	0.319972
DFW	Dallas-Fort Worth Int. Air.	3	35	0.308916
MAN	Manchester Int. Airport	2	14	0.286256

The network in January 2002 had drastic reductions when compared to the same month the year previous; the decrease was likely due to the events of September 11. The alliance operated 524 flights in January 2002, a decrease of 10.9%. More than half of the decrease was a result of contraction in the AA network (35 of 64 flights) (Table 5.9).

By 2006, the alliance's overall operations had rebounded to its 2001 flight levels (590 flights in 2006; 588 flights in 2001) but had not returned to the same network extent (a DC of 65 in 2001). As such, the alliance continued to utilise its more contracted post 9/11 network and instead concentrated its operations.

Table 5.9 - Overview of Oneworld Changes – January 2002 to January 2006

		2002	2006	Change
Total	DC	55	54	-1.8%
	WDC	524	590	12.6%
BA	DC	24	24	0.0%
	WDC	263	309	17.5%
AA	DC	21	21	0.0%
	WDC	196	218	11.2%
IB	DC	4	3	-25.0%
	WDC	29	27	-6.9%
AY	DC	1	1	0.0%
	WDC	5	5	0.0%
EI	DC	5	5	0.0%
	WDC	31	31	0.0%

The increase in network operations remained concentrated in the top two airports, LHR and JFK (Table 5.10). LHR accounted for over 60% of the traffic into North America, and over 27% of all flights from Afro-Eurasian Airports landed in JFK; ORD accounted for another 17% of arriving flights.

Table 5.10 - Overview of Oneworld – January 2006

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
LHR	Heathrow Int. Airport	18	353	1
JFK	JFK Int. Airport	9	161	0.713324
ORD	O'Hare Int. Airport	9	101	0.693542
CDG	Charles de Gaulle Int. Air.	4	33	0.584084
MIA	Miami Int. Airport	3	44	0.561471
MAD	Madrid Int. Airport	3	34	0.524343
DUB	Dublin Int. Airport	3	17	0.410431
SNN	Shannon Int. Airport	3	19	0.350128
BOS	Logan Airport	2	41	0.319972
LAX	Los Angeles Int. Airport	2	24	0.319972
BRU	Brussels National Airport	2	14	0.308916
MAN	Manchester Int. Airport	2	14	0.286256

London and Paris CDG were the only airports amongst the top five for the alliance to have a somewhat concentrated HHI score in January 2006, 4386 and 5111 respectively; LHR still had restricted access due to Bermuda II and CDG's score resulted from its position as an Air France/SkyTeam hub. Chicago's HHI score (3766) reflected the airport's position as a hub for both AA and UA.

The departure of EI in April 2007 had a minimal impact upon the alliance's overall North Atlantic operations. Whilst the airline accounted for about 5% of January operations in January 2007, other airlines subsequently increased the number of flights and both Malev and Royal Jordanian had joined the alliance, partially offsetting the loss of EI flights.

From 2006 to 2012, events occurred that influenced airline operations: the recession, EU-US Open Skies Agreement, and AA filing for Chapter 11 bankruptcy protection (November 2011). Despite these events, overall alliance operations remained relatively stable, although there was a decrease in flights from January 2011 to January 2012 (Table 5.11).

Table 5.11 - Overview of Oneworld Changes – January 2006 to January 2012

		2006	2007	2008	2009	2010	2011	2012
Totals	DC	54	54	56	57	57	54	57
	WDC	590	582	576	554	532	567	526
BA	DC	24	24	24	23	24	24	25
	WDC	309	300	306	292	279	307	289
AA	DC	21	21	23	24	24	22	22
	WDC	218	219	225	214	209	217	191
IB	DC	3	3	5	5	4	4	6
	WDC	27	27	27	31	27	27	30
AY	DC	1	1	1	2	2	1	1
	WDC	5	5	5	7	7	7	6
Other	DC	5	5	3	3	3	3	3
	WDC	31	31	13	10	10	9	10

AA transferred flights from LGW to LHR after the EU-US Open Skies Agreement, thus moving (and maintaining) all services but consolidating all their London operations; in 2012, there were no North Atlantic Oneworld flights from LGW.

Of greater impact was the filing for Chapter 11 by AA; the airline decreased its operations by 12.0% in January 2012 compared to the same month the previous year. This coincided with a re-alignment of BA operations, and a 5.9% decrease in flights over the same time period.

The integration of US Airways and American Airlines resulted in a 30% jump in operations from January 2014 to January 2015 (200 to 261 flights). However, this subsequently decreased to 226 flights in 2017.

Overall, the alliance increased both the number of destinations (+26.2%) and the number of flights (+16.8%) from January 2000 to January 2017 (Table 5.12). This growth was driven by BA's which accounted for more than half of the alliance's new flights (54 of 98 flights). Despite the integration of US Airways into its operations, AA operated 1.3% fewer flights in 2017 compared to 2000; however, the airline added four more destinations over the same time period. BA and AA remained the dominant forces within the alliance, consistently accounting for over 80% of all the alliance's North Atlantic flights.

Table 5.12 - Oneworld DC and WDC – January 2000-2017

		2000	2002	2007	2012	2017	Change
Totals	DC	61	55	54	57	77	26.2%
	WDC	585	524	582	526	683	16.8%
BA	DC	25	24	24	25	30	20.0%
	WDC	275	263	300	289	329	19.6%
AA	DC	24	21	21	22	28	16.7%
	WDC	229	196	219	191	226	-1.3%
IB	DC	5	4	3	6	3	-40.0%
	WDC	36	29	27	30	27	-25.0%
AY	DC	1	1	1	1	2	100.0%
	WDC	6	5	5	6	10	66.7%
Other	DC	6	5	5	3	14	133.3%
	WDC	39	31	31	10	91	133.3%

Overall, the Oneworld network increased in July compared to its January operations. This trend was relatively consistent throughout the existence of the alliance, although the seasonal ratio was neither consistent temporally nor within each airline.

Initially, there was some stability both at the airline and the alliance level with only gradual increases over time (Table 5.13). In terms of flights (WDC), AY and IB had the largest seasonal ratios; nonetheless, they remained relatively small within Oneworld's overall operations, and the changes had a minimal impact upon the alliance.

AA exhibited greater seasonality in its operations during this time in both its flights and routes (DC). Whilst BA increased its flights between January and July, the airline had a relatively small seasonal ratio[73]. This perhaps reflects the congestion issues at the airline's hub airport, Heathrow.

Table 5.13 - Oneworld Seasonal Ratio– 2001-2010

		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Alliance	DC	1.08	1.05	1.09	1.15	1.15	1.17	1.22	1.13	1.09	1.12
	WDC	1.14	1.17	1.14	1.16	1.17	1.19	1.19	1.18	1.19	1.24
BA	DC	1.00	1.00	1.00	1.04	1.00	1.00	1.00	0.96	1.00	1.04
	WDC	1.05	1.06	1.07	1.05	1.07	1.06	1.08	1.08	1.09	1.13
AA	DC	1.08	1.14	1.15	1.33	1.37	1.33	1.24	1.13	1.13	1.17
	WDC	1.18	1.29	1.17	1.29	1.31	1.32	1.21	1.17	1.26	1.31
IB	DC	1.00	0.75	1.00	1.00	1.00	1.00	1.67	1.00	1.00	1.25
	WDC	1.00	1.07	1.11	1.11	1.04	1.19	1.52	1.63	1.35	1.59
AY	DC	2.00	2.00	2.00	1.00	1.50	3.00	3.00	3.00	1.50	1.00
	WDC	2.00	2.00	1.67	1.67	1.71	2.40	2.80	2.40	2.14	1.71

However, the role of seasonality increased over time, and its impact became even more divergent between the different airlines within the alliance (Table 5.14).

While AY and IB already had relatively high seasonal ratios, AA also developed a pronounced seasonal aspect to its operations. The seasonal ratio was very high in 2014 and reflected the integration of AA-US. Nonetheless, from 2015 onwards, AA exhibited a high seasonality both in terms of routes and flights, and by 2017 had seasonal ratios of 2.00 and 1.86 for DC and WDC, respectively.

In contrast, BA had seasonal ratios of 1.10 (DC) and 1.09 (WDC) in 2017, and likely reflected the airline's reliance upon LHR and the airport's lack of expansion capacity.

[73] The seasonal ratio is the July value divided by the January value which represent the peak and nadir of airline operations, respectively. Please see Chapter 3, Section 3.4 for greater explanation.

Table 5.14 - Oneworld Seasonal Ratio – 2011-2017

		2011	2012	2013	2014	2015	2016	2017
Alliance	DC	1.22	1.28	1.19	1.62	1.33	1.31	1.42
	WDC	1.20	1.39	1.26	1.59	1.40	1.46	1.43
BA	DC	1.04	1.00	1.04	1.04	1.04	1.03	1.10
	WDC	1.05	1.19	1.09	1.12	1.13	1.14	1.09
AA	DC	1.32	1.23	1.29	2.48	1.67	1.51	1.86
	WDC	1.33	1.46	1.30	2.34	1.73	1.74	2.00
IB	DC	1.50	0.83	1.25	1.67	1.67	1.67	2.33
	WDC	1.63	1.43	2.04	2.00	2.20	2.17	2.00
AY	DC	2.00	2.00	2.00	2.00	1.50	1.50	1.50
	WDC	1.71	2.00	1.71	1.43	1.30	1.50	1.70

Given the strength and importance of BA, the overall alliance seasonal ratio was reduced. Nonetheless, the change in AA's operations was a primary driver in increasing the alliance's seasonal ratio from 1.20 in 2011 to 1.43 in 2017.

5.3.1 American Airlines / US Airways

American Airlines has operated on the North Atlantic since the 1980s. Its presence increased when the airline replaced TWA under the provisions of Bermuda II as one of the two US-based airlines with permission to operate certain routes into LHR.

In January 1997, AA operated 75% of their North Atlantic operations from three airports: ORD (34.4%), JFK (28.1%) and MIA (12.5%). In July of the same year, ORD, JFK and DFW accounted for 38.7%, 25.8% and 12.9% of the airline's traffic respectively (Table 5.15).

The airline took advantage of its Heathrow rights, and about 40% of their North Atlantic flights were to LHR. Approximately half of all LHR flights were to JFK; this proportion was consistent in both January and July.

Whilst AA continued to rely upon ORD, JFK and DFW for both its July operations (71.8% of 2001 operations) and January operations (72.7%), MIA was third in terms of flights in January 1999.

In 2001, the airline operated 231 flights on 25 different routes in January and 273 flights on 27 different routes in July. However, over 40% of the airline's flights continued to be to London Heathrow.

Table 5.15 – American Airlines Flight Distribution by US Airport – January 1997-2003

	1997	1998	1999	2000	2001	2002	2003
ORD	77	70	77	77	77	49	47
JFK	63	49	56	56	56	49	61
DFW	21	28	28	28	35	28	33
Others	63	56	80	68	63	70	66
Total	224	203	241	229	231	196	207

Like most US-based air carriers, the airline was negatively impacted following September 11, 2001, although the airline did not file for Chapter 11 bankruptcy protection. However, AA did re-organise its hub operations following the terror attacks and the airline noticeably reduced its operations from ORD: in 2003, there were 39.0% fewer flights in January and 26.7% fewer flights in July compared to the same months in 2001. Despite minor increases in other airports, the airline's North Atlantic overall decreased by over 10% (Table 5.16).

Table 5.16 – American Airlines Flight Distribution by US Airport – July 1997-2003

	1997	1998	1999	2000	2001	2002	2003
ORD	84	91	77	96	105	84	77
JFK	56	49	56	63	56	63	63
DFW	28	35	35	35	35	35	40
Others	49	78	77	70	77	70	62
Total	217	253	245	264	273	252	242

The airline altered its hub strategy, and from 2004 conducted their North Atlantic operations utilising a near dual-hub strategy between ORD and JFK. DFW continued to play a role, albeit as a less important third hub.

The airline then reverted to its operational structure of a primary and secondary hub. However, JFK became the focal point for North Atlantic operations and ORD relegated to second position. This pattern was evident in 2009 when examining the January schedule (Table 5.17); however, the airline did not fully implement this strategy until 2010 for the summer schedule (Table 5.18).

The use of LHR increased during this time period and accounted for over 45% of all AA's North Atlantic flights in 2009. This position was reinforced after the Open Skies Agreement enabled the airline to transfer most of its operations from LGW to LHR.

Table 5.17 – American Airlines Flight Distribution by US Airport – January 2004-2013

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
ORD	56	56	67	68	72	63	59	48	31	32
JFK	61	66	66	66	66	73	66	78	72	82
DFW	36	35	35	35	27	28	33	33	33	33
Others	50	57	50	50	60	50	51	58	55	52
Total	203	214	218	219	225	214	209	217	191	199

Table 5.18 – American Airlines Flight Distribution by US Airport – July 2004-2013

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
ORD	70	84	91	91	89	84	77	76	63	70
JFK	76	76	76	76	83	83	97	101	98	91
DFW	46	42	42	35	28	41	41	41	48	42
Others	70	71	78	64	64	61	59	70	63	56
Total	262	280	287	266	264	269	274	288	279	259

Although the airline did not file for Chapter 11 bankruptcy protection after 9/11, it did so in November 2011. The filing enabled the airline to restructure its internal operations and resulted in reduced flight operations.

After two years, the airline emerged from Chapter 11 and merged with US Airways as part of the court approved conditions. US Airways had a large North Atlantic network from its primary hub, Philadelphia and its secondary hub, Charlotte. At the time of amalgamation, US[74] operated 175 flights on 23 different routes during its summer schedule.

Although there was some overlap between their respective networks, US Airways had a strong presence in the southern states of the US, and the merger saw the incorporation of the US network almost unchanged into AA. However, the AA network and the relative importance of its hubs was altered as PHL supplanted JFK to become the primary hub for AA operations.

When the Beta Index[75] was examined, AA's Beta rose to 1.84 in July 2014. During the summer from 2004 to 2013, the index had fluctuated between 1.30 and 1.47. With the incorporation of the US network, more routes were added, and the number of destinations served nearly doubled.

Whilst ORD's Midwest locale gradually lost its importance as a transfer point, its strong local catchment enabled the airport to retain North Atlantic operations. Similarly, both DFW and MIA had strong local markets, and continued to facilitate transfers to Central and South America.

Nonetheless, ORD further decreased in importance and by July 2017 accounted for 13.9% of operations and could be considered a third-tier hub along with CLT and DFW, each of which accounted for about 12% of North Atlantic operations (Table 5.19).

During winter operations, PHL was the largest airport followed by JFK as DFW and MIA formed a third tier; they were followed by a fourth level comprising of CLT and ORD (Table 5.20).

[74] Please note that although US is the common abbreviation for the United States, it was also the airline code for US Airways. In this section, any reference to US should be interpreted as referring to the airline, not the country.
[75] The Beta Index is the ratio of edges or city-pairs compared to the number of nodes or airports. The lower the number, the more concentrated the airline network. The Beta Index values can be found in Appendices H (January) and I9 (July).

In contrast to the airline's summer operations, the Beta Index remained relatively consistent during the winter following the merger; the index was 1.40 in January 2013 and rose to 1.52 (in 2016) before returning to 1.40 in 2017.

Prior to that, the index had been consistent for the airline's winter operation from 2004 to 2012, with values ranging from 1.20 to 1.29.

Table 5.19 – American Airlines Flight Distribution by US Airport – July 2014-2017

	2014	2015	2016	2017
PHL	138	130	119	112
JFK	84	98	105	97
ORD	70	56	63	63
CLT	71	56	56	55
DFW	42	35	42	56
MIA	42	49	42	42
Others	21	28	28	28
Total	468	452	455	453

Table 5.20 – American Airlines Flight Distribution by US Airport – January 2014-2017

	2014	2015	2016	2017
PHL		71	66	51
JFK	75	62	62	47
ORD	35	20	20	16
CLT		19	19	20
DFW	35	37	34	33
MIA	41	38	30	39
Others	14	14	30	20
Total	200	261	261	226

Table 5.21 – American Airlines Seasonal Ratio – Flights - 2010-2017

	2010	2011	2012	2013	2014	2015	2016	2017
PHL						1.83	1.80	2.20
ORD	1.31	1.58	2.03	2.19	2.00	2.80	3.15	3.94
JFK	1.47	1.29	1.36	1.11	1.12	1.58	1.69	2.06
DFW	1.24	1.24	1.45	1.27	1.20	0.95	1.24	1.70
CLT						2.95	2.95	2.75
MIA	0.92	0.90	0.90	1.13	1.02	1.29	1.40	1.08
BOS	1.77	2.15	1.91	1.00				
LAX	1.00	1.00	1.17	1.00	1.00	2.00	0.82	1.08
RDU	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AA	1.31	1.33	1.46	1.30	2.34	1.73	1.74	2.00

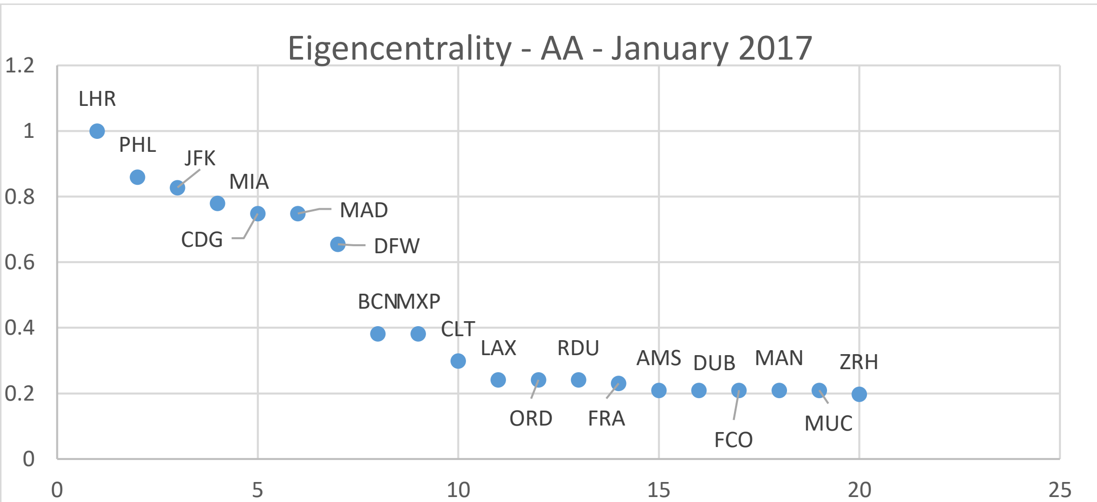
As seen in the winter/summer operational differential, another important factor was the growing importance of leisure travel to the airline's operations. Whilst the airline had a seasonal ratio of 1.20 in 2007 and 1.46 in 2012, by 2017 the seasonal ratio was 2.00 (Table 5.21).

Not all airports had the same function within the airline, and there were three distinct utilisation patterns. The two largest airports, PHL and JFK had seasonal ratios of about 2, indicating their importance in the provision of leisure flights during the summer. In contrast, the number of flights were consistent from LAX, MIA and RDU between January and July (Table 5.21).

Following the integration of US into the AA network, ORD's relative importance diminished and operated as a smaller hub alongside the former US Airways hub CLT. Despite being of lesser importance during the January schedule, the airline utilised both airports to accommodate the growing importance of summer leisure travel.

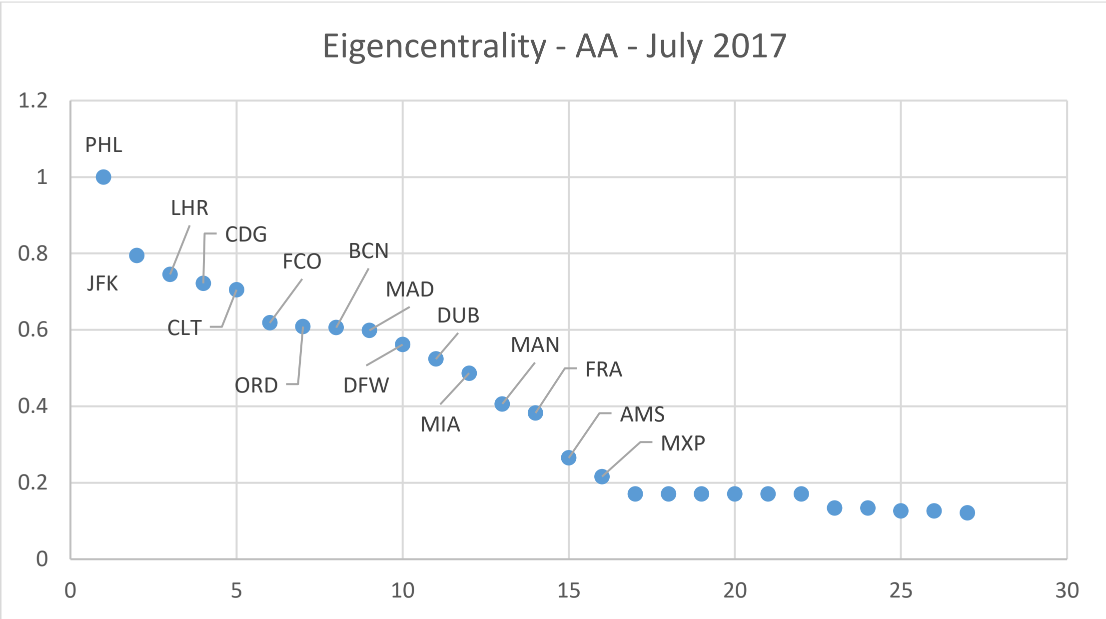
Despite the large increase in the airline's overall network, about 30% of AA's July operations were to LHR; in contrast, nearly 45% of the airline's January operations were to LHR. Although AA has no hub operations per se at LHR, the volume of flights operating from the airport made it the most important airport within the airline network in January 2017 (Figure 5.6).

<u>Figure 5.6 - Overview of AA Eigencentrality – January 2017</u>



It is interesting to note that despite the relatively low number of flights, CDG was the fourth most important airport in the AA network in July 2017. It is also interesting that there was a clear differentiation in importance between CLT, ORD and DFW despite all three having approximately the same number of flights (Figure 5.7).

Figure 5.7 - Overview of AA Eigencentrality – July 2017



American Airlines adjusted its hub strategy numerous times, most recently following its merger with US. It has developed PHL as its primary hub, capitalising upon the well-developed network of US Airways.

In addition to utilising LHR as a major focal point, the airline has pursued a strategy of dispersion, with almost all its routes operating only 7 times per week. This lack of concentration has enabled the airline to connect to numerous destinations and to provide direct services from some of its secondary hubs within the United States.

The airline has operated a more concentrated schedule during January, with dispersion occurring during the summer schedule. Whilst the airline increased its seasonal operations at its two major airports, PHL and JFK, they also utilised both CLT and ORD to further accommodate any increases in summer leisure travel.

US Airways

US Airways operated 49 flights on 6 separate routes in 1997 from its primary hub, Philadelphia and its secondary hub, Pittsburgh (Table 5.22). It also operated 7 flights on a route between BOS and FRA; there was no difference between the airline's January and July schedules.

The airline expanded its network when Charlotte became a hub for its North Atlantic services and ceased to use BOS for its North Atlantic flights.

In January 2001, the airline's network grew to 13 routes and 91 flights. However, the airline developed a seasonal dimension to its operations, and the airline's network doubled in size in July 2001 compared to 1997. The difference between January and July in 2001 was the growth in services from PHL: 7 additional weekly flights each to AMS, BRU and LGW. There was no change between the winter and summer schedules from either CLT or PIT.

Table 5.22 – US Airways Flight Distribution by Airport – July 1997-2001

		1997	1998	1999	2000	2001
PHL	AMS		7			7
	BRU					7
	CDG	14	14	14	7	7
	FCO	7	7	7	7	7
	FRA	7	7	7	7	7
	LGW		7	14	14	14
	MAD	7	7	7	7	7
	MAN				7	7
	MUC	7	7	7	7	7
CLT	CDG				7	7
	FRA				7	7
	LGW		7	7	7	7
PIT	CDG			7	7	7
	FRA	7	7	7	7	7
	LGW					7
BOS	FRA	7				
Total		**56**	**70**	**77**	**91**	**112**

US Airways maintained its network following the terrorist attacks of September 11, 2001, but was in difficulty following the general downward trend in air travel. The airline filed for bankruptcy protection in September 2004 but was able to successfully emerge one year later. It was during this time that US de-hubbed PIT, although it continued hub operations at CLT.

The airline joined Star Alliance in May 2004, an affiliation it maintained for nearly 10 years until it left in March 2014 following its merger with AA.

Joining Star Alliance influenced the network relatively quickly as the airline increased its connectivity from PHL to FRA from seven flights in July 2004 to 20 flights the following year; in July 2006, US revised its service to 14 flights per week.

From 2005 until 2009, the overall network did not change although there was some shifting amongst the destinations from PHL. During this time, the flights and destinations remained constant at CLT with 7 flights each to FRA and LGW. Another aspect is that seasonal changes only occurred at PHL; CLT operations remained consistent throughout the year.

US began to adjust its hub strategy in 2010 by introducing more services at CLT (Table 5.23). Of interest was the airline’s maintenance of a flight from CLT to LGW, although the airline moved its PHL flights to LHR. In addition, the airline began to utilise CLT to meet summer seasonal demand instead of relying solely upon PHL (Table 5.24).

Table 5.23 – US Airways Flights from CLT – July 2009-2013

	2009	2010	2011	2012	2013
CDG		7	7	7	7
DUB			7	7	7
FCO		7	7	7	7
FRA	7	7	7	14	14
LGW	7	7	7	7	7
MAD			7	7	7
Total	**14**	**28**	**42**	**49**	**49**

Table 5.24 – US Airways Seasonal Ratio – 2009-2017

		2009	2010	2011	2012	2013
PHL	DC	2.09	1.7	1.42	1.42	1.42
	WDC	2.59	1.97	1.64	1.66	1.59
CLT	DC	1.00	2.00	2.00	2.33	3.50
	WDC	1.00	2.00	2.33	2.58	3.50

In July 2013, the airline operated 175 flights on 23 different routes. The airline merged with AA in December 2013 and ceased operating under its own code by July 2014.

5.3.2 British Airways

In 1997, the British Airways' network operated with a dual-hub configuration based on LHR and LGW, with some additional flights from BHX, GLA and MAN (Table 5.25).

The airline's major destination in North America was JFK. This included all flights from BHX, GLA and MAN and when combined with the airline's hubs, JFK accounted for about 28% of BA's North Atlantic flights in both January and July[76]. The next two largest North American destinations were BOS and LAX.

[76] Under the terms of Bermuda II, flights from UK regional airports were not constrained in their destinations in the US.

Table 5.25: Distribution of BA North Atlantic Flights by UK Hub Airport, 1997

	January		July		Seasonal Ratio
LHR	146	62.7%	203	69.3%	1.39
LGW	68	29.2%	70	23.9%	1.03
MAN	7	3.0%	7	2.4%	1.00
BHX	6	2.6%	7	2.4%	1.17
GLA	6	2.6%	6	2.0%	1.00
Total	233		293		1.26

However, by 1999 the airline focused its North Atlantic operations almost exclusively at its London airports, especially at LHR (Table 5.26). Although JFK remained the most important destination, the airport accounted for only about 20% of the airline's flights. Another aspect is that whilst LHR had a seasonality ratio of nearly 1.4 in 1997, this had decreased to 1.1 in 1999.

Table 5.26: Distribution of BA North Atlantic Flights by UK Hub Airport, 1999

	January		July		Seasonal Ratio
LHR	181	66.8%	199	69.1%	1.10
LGW	83	30.6%	82	28.5%	0.99
MAN	7	2.6%	7	2.4%	1.00
Total	271		288		1.06

Despite the events of September 11, the airline's operations rebounded relatively quickly; this coincided with a change in its operations strategy and approach. Despite the continued restrictions of Bermuda II, the airline began to curtail its activities at LGW and develop LHR as its only intercontinental hub. Flights to both JFK and BWI were transferred to LHR from LGW and the LGW-CLT flight was discontinued, reflecting a greater focus on business-oriented destinations from LHR. In 2003, LHR accounted for 86% of all North American flights and had a seasonal ratio of 1.07 (Table 5.27).

Table 5.27: Distribution of BA North Atlantic Flights by Hub Airport, 2003

	January		July		Seasonal Ratio
LHR	247	86.1%	264	86.3%	1.07
LGW	33	11.5%	36	11.8%	1.09
MAN	7	2.4%	6	2.0%	0.86
Total	287		306		1.07

British Airways' strategy to focus operations primarily at LHR was reflected in the lower Beta Index for the airline during the summer season. Prior to 2002, the index was 1.00 or higher; in contrast, the Beta Index was always lower than 1.00 during the winter season which had more concentrated operations.

The consolidation of services continued and by 2009, over 90% of BA's North Atlantic flights operated from LHR and flights ceased from MAN. LGW only accounted for 26 and 22 flights in January and July respectively as the airline used the airport to provide services to leisure destinations; MCO and TPA had 12 flights in January and 17 flights in July, respectively.

BA subsequently started operations in 2010 from LCY[77] to JFK and in 2013 began to operate flights from Paris (ORY) to EWR and JFK.

Nonetheless, BA's strategy maintained LHR as its primary hub whilst increasing summer flights from LGW. BA continued to operate leisure-oriented services from LGW, and the increase in flights was likely a defensive measure to counter the development of LCC operations by Norwegian from the airport (Table 5.28). Although DY did not operate an LGW-JFK flight, it did have operations to another New York airport, Stewart Field (SWF).

[77] As the flight requires a technical stop in SNN on its westward flight, the schedule has the flight as originating in SNN, not LCY.

Table 5.28: British Airways Destinations from LGW, 2017

	January		July		Seasonal Ratio
JFK	7	35.0%	7	19.4%	1.00
MCO	7	35.0%	14	38.9%	2.00
TPA	6	30.0%	7	19.4%	1.17
FLL			4	11.1%	
OAK			4	11.1%	
Total	20		36		1.80

The expansion of services at LGW, LCY (SNN) and ORL reduced LHR's dominance; nonetheless, the airport still accounted for about 85% of the airline's operations. JFK also remained the airline's key destination and accounted for about 20% of the flights operated on the North Atlantic in 2017.

Congestion issues at the airport limited possibilities for expansion, and there was minimal difference between the January and July operations (Table 5.29); the seasonal ratio for the airport was only 1.04.

Table 5.29: British Airways Top North American Destinations, 2017

British Airways Top Destinations from LHR, 2017				
	January		July	
JFK	49	16.8%	56	18.4%
BOS	24	8.2%	25	8.2%
LAX	14	4.8%	14	4.6%
MIA	14	4.8%	14	4.6%
ORD	14	4.8%	14	4.6%
SFO	14	4.8%	14	4.6%
YYZ	14	4.8%	14	4.6%
EWR	13	4.5%	14	4.6%
IAD	13	4.5%	14	4.6%
IAH	12	4.1%	14	4.6%
Total LHR Flights	292		304	

JFK, IAD, LAX, MIA and ORD were all hubs of their American J-V and alliance partner AA. Although not a hub, BA's continued operations to BOS allowed AA to cease their BOS-LHR flights and to capitalise on BA's hub presence in London. YYZ may be the hub of rival AC, but it is also the largest Canadian airport and is a strong destination for both touristic and VFR reasons.

EWR, IAH and SFO were rival UA's hubs, and BA's flights to those markets may be competitive in nature, especially that of EWR which has a strong presence in the New York City area market.

The airline also introduced services into some smaller markets in recent years, notably AUS (2014), SJC (2016) and MSY (2017), although most services were to larger destinations.

Whilst the airline initially operated a dual-hub strategy from LHR and LGW, the airline moved to a single-hub strategy from LHR. From 1997 to 2012, BA gradually reduced its LGW operations to predominantly leisure-oriented destinations. The increase in services from LGW from 2012 to 2017 could be considered a response to growing LHLC operations by other airlines from the airport.

Overall, however, BA has not demonstrated the same level of growth exhibited by other airlines and had a relatively small seasonal ratio. This was likely the result of concentrating its operations at LHR, which has been operating at near capacity levels for years.

5.3.3 Other Oneworld Airlines

Whilst AA and BA were founding airlines and have held a dominant position within the alliance, there were other airlines that provided services on the North Atlantic.

Both Finnair and Iberia joined the alliance only months after the formation of Oneworld. The following year (June 2000), Aer Lingus also joined Oneworld; however, the airline subsequently left in April 2007[78].

[78] Aer Lingus' network development will be examined in Chapter 5.6.1

Malev belonged to the alliance from 2007 until its bankruptcy in 2012. Royal Jordanian (joined in 2007) and S7 (joined in 2010) are still members of the alliance; however, their contribution to North Atlantic operations is minimal and both airlines combined to operate 18 flights in July 2017.

Air Berlin joined the alliance as an affiliate member in 2012 and continued until October 2017 when the airline ceased operations. Qatar was the last airline with North Atlantic operations to join the alliance (October 2013) and has increasingly grown in importance.

Finnair

Finnair has operated its North Atlantic services almost exclusively from HEL. In July 1997, the airline had 7 services/week to JFK and another 3 to YYZ. AY has operated services to JFK continuously although services to YYZ were last operated in July 2015; in July 2015, the airline began services to ORD.

The airline also operated July services from NYO to BOS in 2005. In 2006 and 2007, the service to BOS was operated from ARN until it was transferred to HEL where it operated for two more years before being discontinued. In 2016, AY operated a service between HEL-MIA and then in 2017 between HEL and SFO.

The airline's January operations were almost exclusively flights between HEL and JFK, ranging from 4 to 7 times per week. There have also been some January flights to MIA for nine years during the scope of the study[79].

The airline relied upon HEL for its North Atlantic operations. It has never flown to more than three destinations, and its 10 flights in January 2017 and 17 flights in July 2017 was the highest ever for the airline.

[79] This includes 2009 and 2010; although the schedule indicates YHZ as the destination, this was only a technical stop on the way to MIA.

Although not a major operator on the North Atlantic, the airline nonetheless joined the AA-BA-IB joint-venture in March 2013, thus reflecting its relative importance in providing connectivity.

Iberia

Despite operating most of its services from two major airports, BCN and MAD, Iberia almost exclusively utilised MAD for its North Atlantic flights.

In 1997, the airline operated flights from MAD to New York (JFK), Miami (MIA), and Montreal (YMX). These routes operated in both January and July, with minimal seasonal variation, although IB did have more flights to MIA in both 1998 and 1999 (Table 5.30).

Unlike other airlines, IB did not transfer its Montreal operations from Mirabel to Dorval when restrictions were lifted, but operated flights from both airports in both 1998 and 1999. The airline ceased operations from Dorval and continued to operate one flight/week from Mirabel until withdrawing from the Montreal market in 2002.

Table 5.30: Iberia North Atlantic Operations, 1997-2002

			1997	1998	1999	2000	2001	2002
January	MAD	JFK	7	7	7	7	7	7
		MIA	10	7	7	14	14	14
		ORD				7	7	7
		YMX	3	1	1	1	1	1
		YUL		2	2			
	BCN	JFK				7	7	
July	MAD	JFK	9	7	7	7	7	10
		MIA	14	14	14	14	14	14
		ORD			7	7	7	7
		YMX	3	1	1	1	1	
		YUL		3	3			
	BCN	JFK			7	7	7	

In September 1999, the airline joined Oneworld; this precipitated the airline's seasonal increase to MIA into year-round service. The airline also started services to ORD (an AA hub) in July 1999, just prior to joining the alliance.

Following the events of September 11, 2001, the airline ceased flights from BCN and consolidated its operations at MAD. The IB network remained stable from 2003 to 2006 with services to JFK, MIA and ORD and minimal seasonal variations limited to increases to JFK, and MIA in 2006.

In 2007, IB began year-round services to both BOS and IAD, albeit with a seasonal summer increase in frequencies (Table 5.31). Despite expanding services, all North Atlantic flights continued to be operated from Madrid.

In October 2010, the North Atlantic joint-venture with AA and BA was approved; in January 2011, IB and BA formed IAG although both brands continued to operate as separate entities.[80]

Table 5.31: Iberia North Atlantic Operations, 2007-2010

			2007	2008	2009	2010
	MAD	BOS		3	3	3
		IAD		3	3	
January		JFK	14	8	11	11
		MIA	7	7	7	7
		ORD	6	6	7	6
	MAD	BOS	5	7	7	7
		IAD	5	5	6	4
July		JFK	14	14	14	14
		MIA	10	11	8	11
		ORD	7	7	7	7

[80] Whilst passenger services remained separate operations, cargo operations were merged under IAG Cargo.

In July 2011, IB ceased flights to IAD and initiated seasonal services to LAX, an AA hub. The network stabilised between 2013-2017 reverting to its core schedule of JFK, MIA, and ORD with additional seasonal services to both BOS and LAX (Table 5.32). Services focussed on both JFK and MIA, relegating ORD to a secondary role; although year-round services were maintained, its summer operations mirrored that of seasonal destinations BOS and LAX.

Another aspect which occurred was the re-introduction of North Atlantic flights from BCN. However, the flights introduced were to leisure destinations LAX and OAK; these services coincided with the initiation of flights to both destinations by Norwegian.

Table 5.32: Iberia North Atlantic Operations, 2013-2017

			2013	2014	2015	2016	2017
January	MAD	BOS	3				
		JFK	9	10	10	8	11
		LAX					
		MIA	7	10	9	11	11
		ORD	5	6	6	5	5
July	MAD	BOS	7	7	13	7	7
		JFK	17	17	14	14	14
		LAX	4	4	4	7	7
		MIA	14	14	14	14	14
		ORD	7	10	10	10	7
	BCN	LAX					2
		OAK					3

Given the airline’s continued focus on MAD, it is evident that BCN was a defensive measure by the airline to preserve its market dominance in Spain against Norwegian. The LHLCC’s lower fares were an obvious threat to IB’s market share during the summer season and amongst leisure travellers.

IB gradually focussed its operations on AA hubs, especially JFK, a major tourist destination, and on MIA, which has a large Spanish-speaking community. In addition, AA has numerous flights from MIA to Central and South America with whom Spain has longstanding cultural and linguistic connections. This connectivity was facilitated by both IB’s alliance and joint-venture participation.

5.4 SkyTeam

SkyTeam was founded by Aeromexico, Air France, Delta, and Korean Airlines in May 2000. Alitalia joined in 2001, with Continental, Northwest and KLM joining in 2004. Continental, however, left the alliance in October 2009.

In January 2002, the SkyTeam network was dominated by ATL (Delta), CDG (Air France) and JFK (Delta). Despite having fewer flights (the impact of September 11), JFK retained its primacy position within the alliance (Table 5.33). Malpensa International and Fiumicino Airport were the primary airports for Alitalia and were the 4th and 5th most important airports within the alliance.

Table 5.33 - Overview of SkyTeam Network – January 2002

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
CDG	Charles de Gaulle Airport	16	139	0.989990
JFK	JFK Int. Airport	16	110	1
ATL	Hartsfield Int. Airport	14	114	0.765034
MXP	Malpensa Int. Airport	6	40	0.487947
FCO	Fiumicino Int. Airport	4	28	0.489325
LGW	Gatwick Int. Airport	3	32	0.214414
FRA	Frankfurt Int. Airport	3	28	0.330396
CVG	Cincinnati Int. Airport	3	23	0.252501
BOS	Logan Airport	3	21	0.277465
LAX	Los Angeles Int. Airport	2	17	0.240992

Table 5.34 - Overview of SkyTeam – July 2002

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
CDG	Charles de Gaulle Airport	17	202	1
JFK	JFK Int. Airport	17	152	0.982680
ATL	Hartsfield Int. Airport	16	140	0.810549
MXP	Malpensa Int. Airport	8	54	0.609495
FCO	Fiumicino Int. Airport	6	40	0.571170
CVG	Cincinnati Int. Airport	5	35	0.452883
YYZ	Pearson Int. Airport	4	19	0.351754
FRA	Frankfurt Int. Airport	3	28	0.329900
EWR	Newark Liberty Airport	3	26	0.318352
PRG	Vaclav Havel Int. Airport	3	11	0.222367
LGW	Gatwick Int. Airport	2	31	0.186291
BOS	Logan Airport	2	21	0.235732
AMS	Schiphol Airport	2	14	0.264040

Despite an increase in flights between January and July, CDG remained the alliance's largest airport, and overtook JFK as the alliance's most important airport in July 2002 (Table 5.34).

The sixth most important airport within the alliance was Delta's third hub, CVG; however, the seven next most important airports, YYZ, FRA, EWR, AMS, BRU, MAD and BCN (Figure 5.8) had no affiliation with any of the alliance's airlines. This reflected the relative importance of these airports as summer destinations and the comparative lack of integration within the alliance, and to a lesser extent, the impact of September 11. A notable absence was that of LHR, a result of Bermuda II restricting Delta's access to the airport and the lack of a UK-based airline in the alliance (Figure 5.9).

Figure 5.8 - Eigencentrality – SkyTeam – July 2002

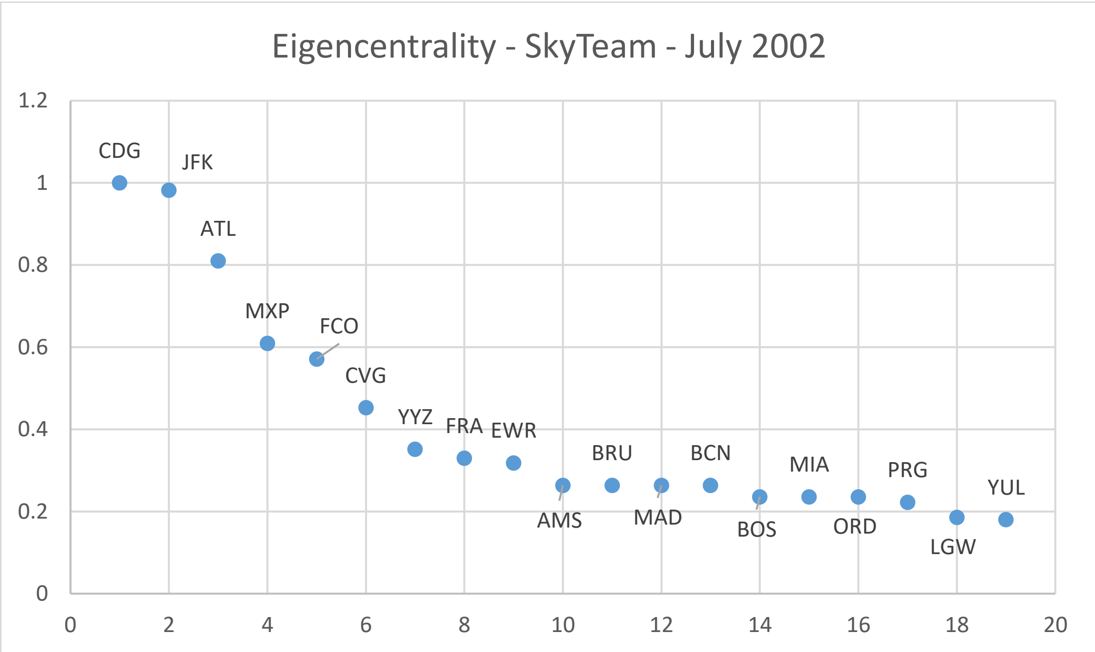
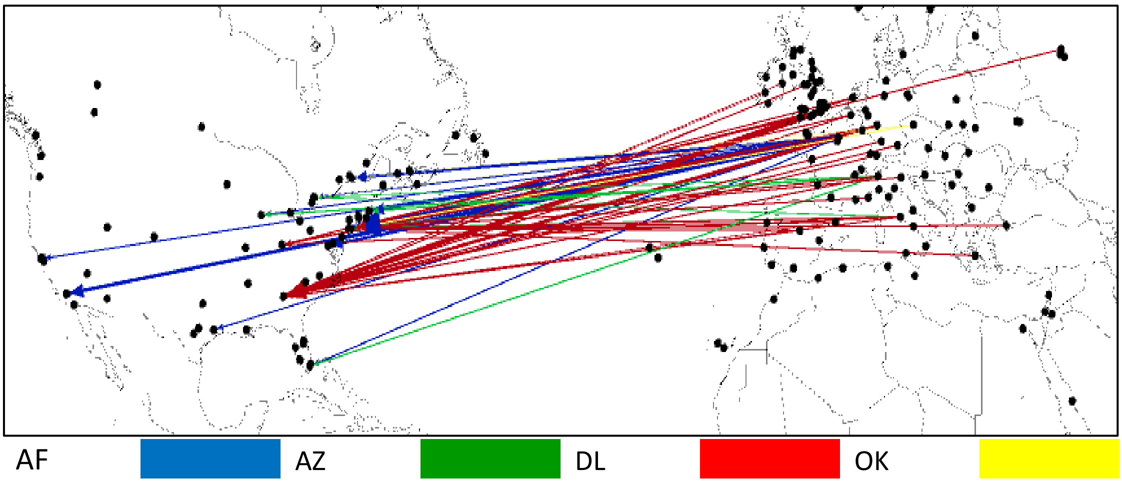


Figure 5.9 - SkyTeam Network – July 2002

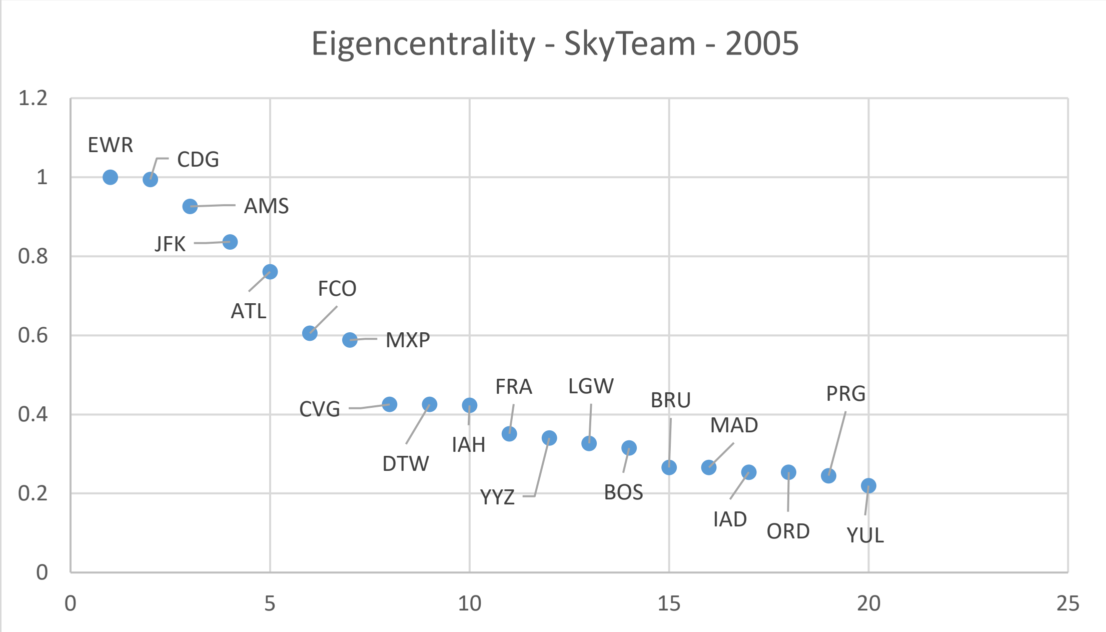


In November 2004, CO, KLM, and NW joined the alliance. The impact of these three airlines was immediately evident with the number of routes and flights nearly doubling from 2004 to 2005: 84.4% more flights in January (409 to 754 flights) and 89.3% more flights in July (540 to 1022 flights). Continental Airlines had an extensive network on the North Atlantic, and the addition of the airline contributed to about half of the year over year increases.

The alliance's growth resulted in greater dominance and concentration at its key airports. In July 2005, AMS had an HHI score of 6675 (up from 5070 a year earlier); CDG rose to 4813 (up from 3684), EWR rose to 5189 (from 3433) and FCO rose to 4843 (up from 3640); Milan Malpensa also became totally dominated by alliance operations with a HHI of 10000. The impact upon ATL was evident in 2006 when the airport became highly concentrated (8819). The airport's scores in July 2004 and 2005 were 7792 and 7942 respectively.

The addition of CO made that airline's primary hub, EWR, the most important airport within the alliance, followed closely by CDG (Figure 5.10). KLM's primary hub, AMS, ranked third whilst DL hubs JFK and ATL were 4th and 5th respectively. The next important airports were Alitalia hubs FCO and MXP in 6th and 7th place. However, NW's main hub, DTW, was in 9th, reflectively the airline's smaller North Atlantic network.

Figure 5.10 - Eigencentrality – SkyTeam – July 2005



However, the expansion of the DL network from 2006 onwards resulted in an internal shift within SkyTeam. In 2007, the most important airports were New York area EWR (January) and JFK (July) (Tables 5.35 and 5.36). Although EWR was second in importance in July, CDG was in secondary position in January and was the 2nd largest airport within the alliance. Nonetheless, there were more alliance connections in EWR in both January and July, primarily reflecting the breadth of Continental's network. ATL was the 4th most important airport in both January and July.

Table 5.35 - Overview of SkyTeam – January 2007

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
EWR	Newark Liberty Airport	34	236	1
JFK	JFK Int. Airport	28	177	0.846837
ATL	Hartsfield Int. Airport	23	150	0.729336
CDG	Charles de Gaulle Airport	22	204	0.913533
AMS	Schiphol Airport	20	170	0.758353
MXP	Malpensa Int. Airport	9	60	0.508208
LGW	Gatwick Int. Airport	7	67	0.333775
IAH	Bush Int. Airport	5	55	0.349932
DTW	Detroit-Wayne County Int.	5	47	0.305395
FRA	Frankfurt Int. Airport	5	37	0.290289
FCO	Fiumicino Int. Airport	5	28	0.424077
SVO	Sheremetyevo Int. Airport	5	27	0.273985

Amsterdam Schiphol was a top airport within the alliance reflecting KLM's growing presence within the alliance just as Rome Fiumicino and Milan Malpensa reflected Alitalia's importance on the North Atlantic (and the airline's dual hub strategy).

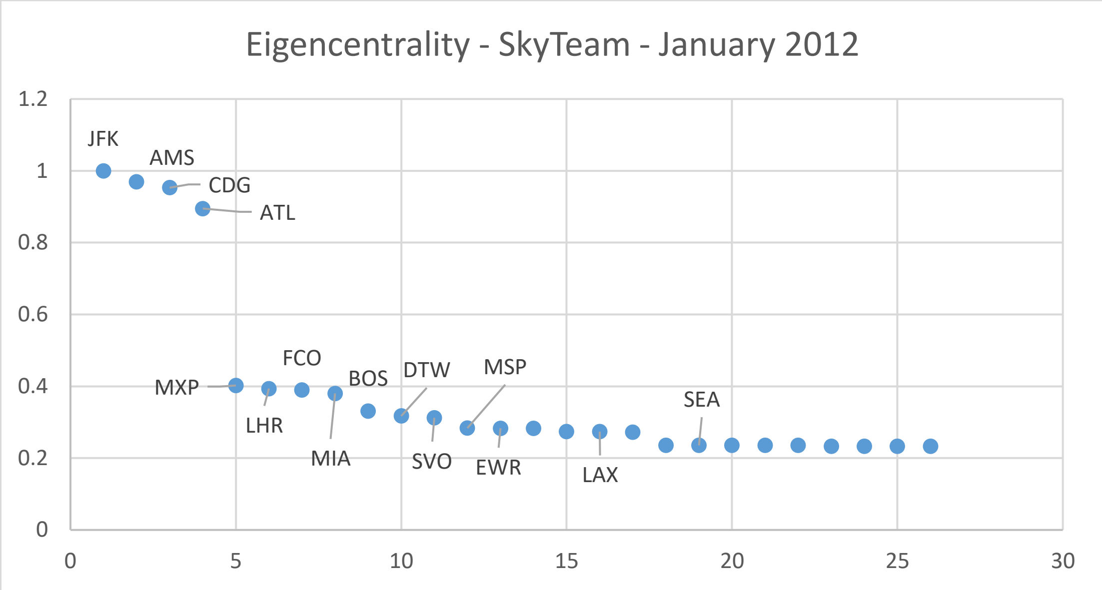
Table 5.36 - Overview of SkyTeam – July 2007

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
EWR	Newark Liberty Airport	33	318	0.995642
JFK	JFK Int. Airport	30	258	1
ATL	Hartsfield Int. Airport	28	221	0.895040
AMS	Schiphol Airport	22	236	0.886239
CDG	Charles de Gaulle Int	21	258	0.904875
MXP	Malpensa Int. Airport	9	63	0.555369
LGW	Gatwick Int. Airport	8	91	0.388191
FCO	Fiumicino Int. Airport	8	78	0.548389
DTW	Detroit-Wayne County Int.	7	84	0.364600
YYZ	Pearson Int. Airport	6	39	0.327358
SVO	Sheremetyevo Int. Airport	6	31	0.343921
IAH	Bush Int. Airport	5	59	0.375260

In 2008, DL and NW merged, although the complementary nature of the airlines had a minimal impact upon the alliance compared to CO's departure for Star Alliance in October 2009 which had a more profound effect.

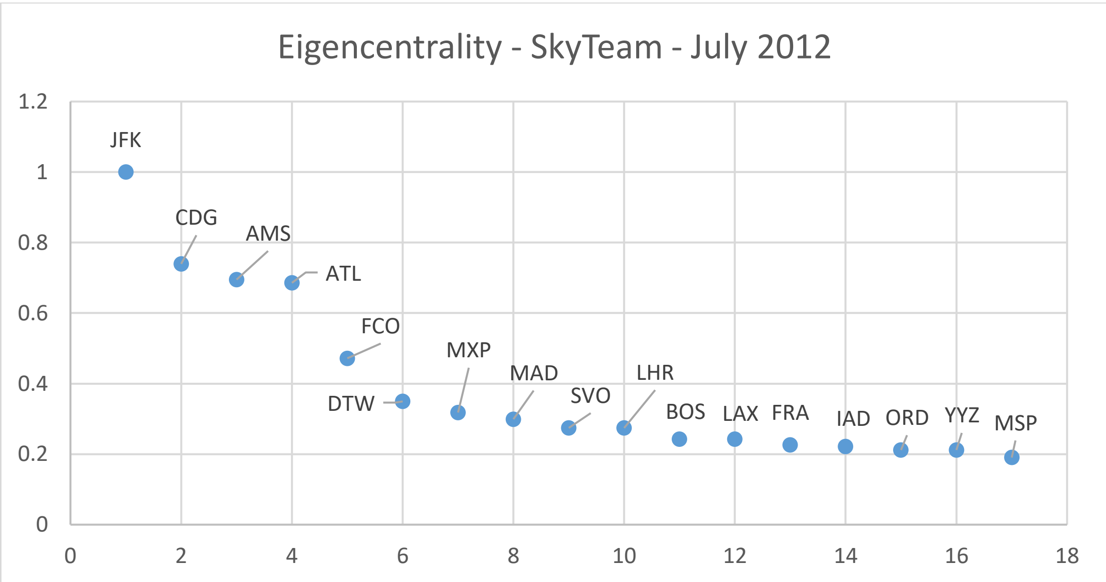
These changes were evident by 2012: EWR was no longer amongst the alliance's top airports, and the Open Skies Agreement diminished LGW's importance and was replaced by LHR. In addition, JFK consolidated its position as the alliance's primary airport, followed by CDG, AMS and ATL although the relationship between the airports was not consistent throughout the year (Figures 5.11 and 5.12).

Figure 5.11 - Eigencentrality – SkyTeam – January 2012



Whilst in January there was minimal differentiation amongst the top four airports, in July, JFK was clearly in a primacy position with CDG, AMS and ATL (in that order) were in a secondary tier (Figure 5.12). Nonetheless, the dominance of Delta and AF-KLM within the alliance was evident.

Figure 5.12 - Eigencentrality – SkyTeam – July 2012



Delta Airlines and Northwest Airlines were fully integrated by 2010. Northwest services were integrated under the Delta brand and DL operations remained dominant as did the role of Atlanta and JFK on the North Atlantic market.

The other aspect which impacted operations was the EU-US Open Skies Agreement. Prior to its implementation, both DL and NW were limited to LGW; once enacted both airlines moved all services to LHR.

Although the alliance network continued to evolve, the four most important airports in 2017 were the same as in 2012, although there were noticeable differences between the January and July network structures: whilst JFK continued to be the most important airport during summer operations, it was only the third most important airport during the winter (Tables 5.37 and 5.38). Despite having more connections and routes than any other airport, JFK relinquished primacy to CDG in January 2017.

Table 5.37 - Overview of SkyTeam – January 2017

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
CDG	Charles de Gaulle Airport	23	172	1
AMS	Schiphol Airport	22	169	0.916183
JFK	JFK Int. Airport	24	176	0.909175
ATL	Hartsfield Int. Airport	13	107	0.649726
DTW	Detroit-Wayne County Air.	5	45	0.421770
BOS	Logan Airport	4	23	0.393158
LHR	Heathrow Int. Airport	8	65	0.388312
FCO	Fiumicino Int. Airport	4	29	0.336750
MIA	Miami Int. Airport	5	28	0.322882
IAD	Dulles Int. Airport	5	22	0.303885

Although JFK and CDG flipped positions between January and July, AMS remained in the top three whilst ATL was a distant fourth. MXP was also absent from amongst the most important airports in 2017, the result of a re-alignment within the Alitalia network from a dual hub to a primary hub strategy focusing on FCO.

The increased importance of JFK reflected DL's utilisation of the airport in conjunction with ATL for transfer passengers, thus diluting the latter's importance within the alliance.

Table 5.38 - Overview of SkyTeam – July 2017

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
JFK	JFK Int. Airport	37	325	1
CDG	Charles de Gaulle Airport	26	260	0.888721
AMS	Schiphol Airport	23	241	0.805563
ATL	Hartsfield Int. Airport	20	182	0.675757
FCO	Fiumicino Int. Airport	9	84	0.453696
BOS	Logan Airport	7	59	0.404024
MSP	Minneapolis Airport	6	59	0.398283
DTW	Detroit-Wayne County Air.	7	72	0.380686
LHR	Heathrow Int. Airport	8	91	0.349663
MAD	Madrid Int. Airport	5	31	0.340156

Overall, there were some unique aspects within the SkyTeam alliance. Both AF and KL utilised a single primary airport for their operations and dominated their respective hub airports, CDG and AMS.

In contrast, AZ utilised both FCO and MXP in the time period examined for their North Atlantic operations, although they reverted to a single airport (FCO) strategy in 2008, thus reducing MXP's importance within the alliance.

AF exhibited the most growth amongst the three European-based airlines, although all showed relatively low levels of growth compared to some of their peers in other alliances (Table 5.39). KLM's WDC grew a mere 9.0% over the entire 20-year period. However, there appeared to be some re-allocation of services within the alliance; whilst both KL and DL used to fly the AMS-DTW route, KL ceased flights in 2007 leaving DL as the sole operator.

Table 5.39 - SkyTeam DC and WDC by Key Airlines – July 1997-2017

		1997	2002	2007	2012	2017	1997-2017
AF	DC	9	14	15	13	15	66.7%
	WDC	92	167	195	164	176	91.3%
DL	DC	32	32	55	67	73	128.1%
	WDC	245	252	408	536	625	155.1%
AZ	DC	6	9	10	9	7	16.7%
	WDC	52	59	71	61	63	21.2%
KL	DC	12	10	11	12	14	16.7%
	WDC	100	70	100	102	109	9.0%

In April 2009, the North Atlantic joint-venture of AF, DL, and KL was approved; Alitalia joined in July 2010. This agreement allowed for the utilisation of a single carrier within the joint-venture to operate the route, thus allowing partner airlines to re-allocate resources to other areas if desired.

From 2012 onward, DL increased its services to AMS, CDG, and LHR. In July 2007, the airline operated 18 flights from AMS; in July 2017, there were 132 flights. The numbers for CDG rose over the same time period from 28 flights to 84 flights. Delta also had 35 flights from LGW in 2007; this increased to 91 flights from LHR in 2017. In conjunction with more flights to their alliance partners' primary airports, AMS and CDG, the airline developed operations to many regional airports within Europe and larger airports in Africa and Asia (Figure 5.13).

In January 2017, over 25% of DL's flights were to AMS, with CDG and LHR accounting for about 20% each. In July 2017, about 21% of DL's flights were to AMS, whilst CDG and LHR accounted for about 15% each; this reflects the airline's increased seasonal services to Europe.

Figure 5.13 - Overview of SkyTeam Network – July 2017

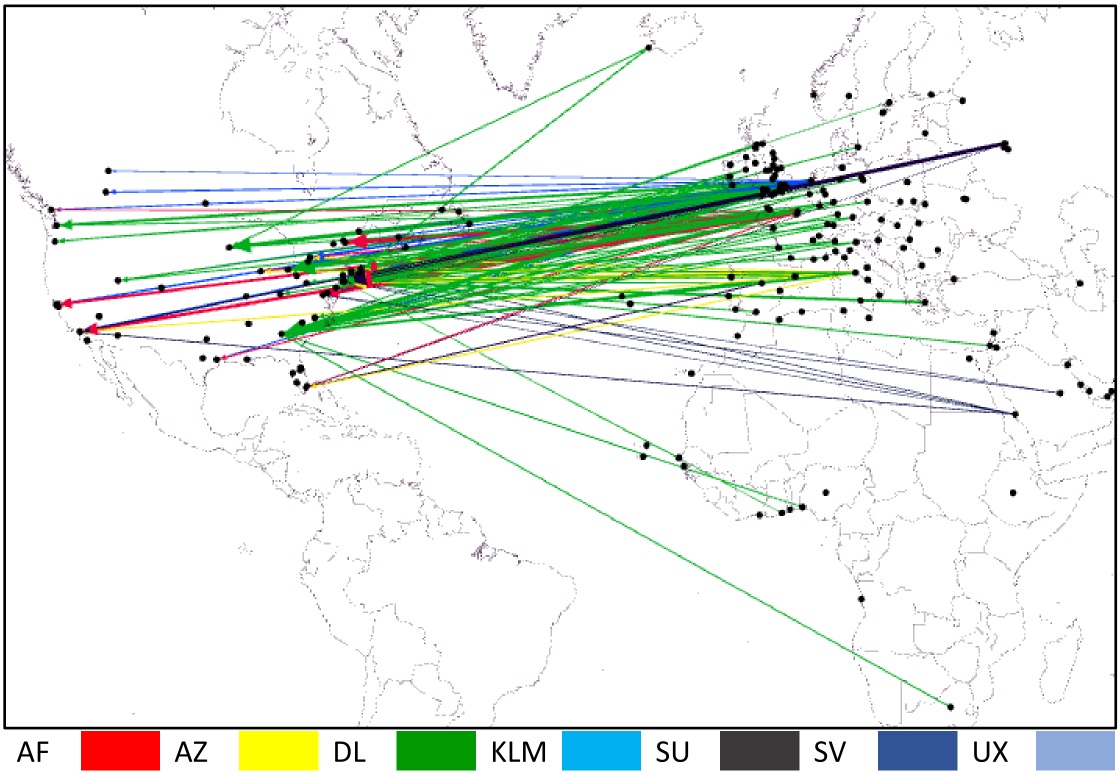


Table 5.40 – SkyTeam Seasonal Ratio – 2011-2017

		2011	2012	2013	2014	2015	2016	2017
Alliance	DC	1.16	1.24	1.29	1.35	1.36	1.36	1.34
	WDC	1.36	1.49	1.61	1.64	1.68	1.65	1.74
AF	DC	1.07	0.93	1.18	1.18	1.27	1.25	1.15
	WDC	1.30	1.29	1.63	1.59	1.67	1.68	1.54
DL	DC	1.23	1.29	1.41	1.43	1.49	1.45	1.46
	WDC	1.40	1.54	1.70	1.70	1.77	1.75	1.98
AZ	DC	1.00	1.29	1.17	1.40	1.75	2.33	2.33
	WDC	1.48	1.69	1.69	1.97	2.50	2.17	2.25
KL	DC	1.08	1.00	1.09	1.09	1.18	1.08	1.08
	WDC	1.16	1.26	1.36	1.42	1.42	1.30	1.25

As is evident in Table 5.40, the seasonal ratio gradually increased within the alliance, primarily driven by Delta; although AZ had a higher seasonal ratio, the airline accounted for only about 5% of alliance flights in contrast to DL which accounted for 50% and 60% of the alliance's winter and summer operations respectively. In contrast, KLM had the lowest seasonal ratio, a reflection of either capacity constraints at Schiphol Airport or of a deployment of aircraft on non-North Atlantic routes.

5.4.1 Air France

In 1997, Air France operated its North Atlantic operations exclusively from Charles de Gaulle Airport in Paris. This differed from the airline's domestic operations which utilised secondary hubs throughout the country.

Despite utilising only one hub, the airline's network was geographically balanced with destinations distributed in the US and to Canada's two major airports, Pearson and Mirabel. Overall, the airline had 99 flights to 10 destinations (Table 5.41).

The airline continued to grow, and in addition to expanding its own network joined the SkyTeam alliance in May 2000. This provided more codeshare and connection opportunities for the airline to complement its own expansion.

Table 5.41 - AF Destinations from CDG – July 1997 and July 2000

Destination	1997	2000
ATL		14
BOS		12
CVG		7
EWR	7	7
IAD	7	14
IAH	7	7
JFK	25	28
LAX	11	13
MIA	7	11
ORD	7	14
PHL		7
SFO	7	7
YMX	14	
YUL		14
YYZ	7	7
Total	**99**	**162**

Of note were the flights to ATL and CVG, which in addition to JFK were Delta hubs for both North Atlantic and domestic services. This was especially true of Atlanta, which was the dominant hub for DL's domestic operations.

The change in Montreal airports from YMX to YUL occurred once the Canadian Government lifted restrictions on intercontinental flights and airlines were able to have flights to Dorval Airport.

The events of September 11, 2001 had a minimal impact upon AF's North Atlantic operations. Whilst the number of flights in January 2002 declined 13.3% compared to the previous year (128 flights to 111 flights), there were only six fewer flights in July 2002; (167 flights compared to 173 the previous year). These changes were achieved through a reduction of frequencies on some routes (especially in January), although there was an increase in flights to JFK.

In September 2003, the airline merged with KLM to form the largest airline (by revenue) at the time. The merger, however, had little impact upon the airline's North Atlantic operations, although the airline did begin service to NW hub DTW in 2005[81]. Despite the merger, the airlines maintained separate operations.

Likewise, the joint-venture with DL and KL in May 2009 had little impact upon their North Atlantic operations. In 2007, AF operated 195 flights on 15 routes from CDG; in 2010, there were 194 flights to 14 destinations.[82]

Air France's July services from 2011 to 2017 remained stable despite the re-allocation of flights. The airline continued to focus its operations from CDG, although it also operated a flight from Paris Orly to JFK in both 2016 and 2017 (Table 5.42).

AF's top two destinations in 2017 were New York and Montreal with whom France has a strong cultural and linguistic connections: the exact same as in 1997.

[81] KL and NW had an existing joint-venture relationship which shall be discussed further under section 5.4.2.
[82] AF operated a flight between LHR and LAX in July 2008.

Table 5.42 - AF Destinations - July 2010 to July 2017

		2011	2012	2013	2014	2015	2016	2017
CDG	ATL	14	14	14	14	13	14	14
	BOS	14	14	14	14	14	14	14
	DTW	7	7	7	7	7	7	7
	EWR	7						
	IAD	14	14	14	14	14	14	14
	IAH	7	7	7	7	7	7	7
	JFK	33	35	35	35	35	28	28
	LAX	20	15	17	17	17	17	17
	MCO	3	3					
	MIA	7	7	7	7	7	7	7
	MSP			7	7	7	7	7
	ORD	7	7	7	7	7	7	7
	SEA	7						
	SFO	10	14	14	12	14	19	14
	YUL	19	20	21	21	21	21	21
	YVR					5	5	5
	YYZ	7	7	7	7	7	7	7
ORY	JFK						7	7
Total Flights		176	164	171	169	175	181	176

In contrast, Air France reduced its January services from 2013 onwards; there was a 17.2% decrease in flights from January 2012 to January 2013. Whilst some services ceased or had reduced services, flights to ATL increased (Table 5.43).

Table 5.43 - AF Destinations – January 2012 and January 2013

	2012	2013
ATL	7	14
BOS	7	7
DTW	7	5
EWR	5	
IAD	11	7
IAH	7	6
JFK	27	25
LAX	15	10
MCO	3	
MIA	6	6
SEA	5	
SFO	7	6
YUL	13	13
YYZ	7	6
Total	**127**	**105**

The number of January services remained relatively consistent up to and including 2017, although the airline did introduce a flight from Orly to JFK.

The decrease in January flights combined with the consistent number of July flights led to a noticeable rise in the seasonal ratio: 1.29 in 2012 compared to 1.63 in 2013.

The airline's top four destinations in January (JFK, ATL, LAX and YUL) accounted for over half of all flights in 2017. In July, the top three destinations were JFK (28), YUL (21) and LAX (17) and accounted for 37.5% of flights; there were another four destinations with 14 flights per week (ATL, BOS, IAD and SFO).

Except Montreal, the top three destinations for Air France were DL hubs JFK, ATL and LAX, which enabled passengers to transfer to domestic US flights.

5.4.2 KLM

In 1997, KLM was an established airline on the North Atlantic and was already in an immunised joint-venture partnership with Northwest Airlines. This J-V developed from their partnership in the Wings alliance that had been formed in 1989.

Unsurprisingly, the airline operated from Amsterdam's Schiphol Airport and in 1997, flew 100 flights to 12 destinations. This included both DTW and MSP, key NW hubs. From 1997 to 2001, KLM reduced its North Atlantic operations, although this corresponded with an increase in NW operations. The addition of CO to the alliance in 1999 had no visible impact upon KLM operations.

Unlike some other European airlines, KLM was impacted by the events of September 11, 2001, and the airline reduced services on two routes and eliminated two others (Table 5.44).

Table 5.44 - KLM Flights - July 1997 to July 2002

	1997	1998	1999	2000	2001	2002
ATL	7	7	7	7	7	
DTW	14	7	7	7		7
EWR					7	
IAH	7	7	7	7	7	7
JFK	12	14	14	7	7	5
LAX	9	13	10	10	11	9
MEM	7	7	7	7	7	7
MSP	7	7	7	7	7	
ORD	7	7	7	7	7	7
SFO	7	7	7	7	7	7
YUL	7	7	7	7	7	7
YVR	7	7	7	7	7	7
YYZ	9	10	7	7	7	7
Total	100	100	94	87	88	70

Despite the addition of CO, the Wings alliance was in its final days. Competition from the three new global alliances and the events of September 11 spurred the alliance's demise and it officially ceased to exist in September 2004 when CO, KLM and NW all joined SkyTeam. By the following July, KLM had ceased operations to MSP but re-initiated services to Delta hub, ATL.

KLM also entered into a merger with AF which was finalised in the spring of 2004 once the EU granted permission. However, as the airlines continued to maintain separate operations, the merger had minimal impact upon operations.

KLM continued to be conservative in its expansion on the North Atlantic, even following the implementation of the J-V with AF and DL (which had acquired NW). Although there had been some adjustments, KLM's network remained relatively stable, even following the recession of 2008 (Table 5.45).

KLM experienced minimal change over the study period. It was the only European airline to have been part of a J-V in 1997, and the airline relied upon its US partner to enhance its North Atlantic connectivity; KLM only expanded its network and frequencies in the Canadian market where they lacked a J-V or alliance partner.

Table 5.45 - KLM Flights - July 2008 to 2017

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
ATL	7	5	7	7	7	7	7	7	7	7
DFW	7	5	5	5	5	5	5	5		
DTW	7									
IAD	7	7	7	7	10	10	7	7	7	7
IAH	13	13	13	12	7	7	9	7	7	7
JFK	14	14	14	14	14	14	21	24	14	14
LAX	7	7	7	8	10	11	11	12	14	14
MIA				4						
MSP										3
ORD	7	6	7	7	7	7	7	7	7	7
SFO	7	7	7	7	7	7	7	7	9	10
SLC									3	3
YEG								4	4	4
YUL	7	7	7	7	7	7	7	7	7	7
YVR	7	7	7	7	7	7	7	7	7	7
YYC		5	5	5	7	7	7	7	7	7
YYZ	13	13	10	14	14	14	14	14	12	12
Total	103	96	96	104	102	103	109	115	105	109

The purchase of NW by DL contributed to the subsequent J-V with DL and partner AF and reinforced the airline's strategy to rely upon its US partners for increasing frequencies and improved connectivity.

This strategy was perhaps pursued to increase connectivity to other markets either within Europe or to the growing Asian market.

5.4.3 Delta Airlines / Northwest Airlines

Like other US airlines, DL operated their North Atlantic operations using a multi-hub system. In 1997, the airline utilised a primary hub (JFK), a secondary hub (ATL) and a tertiary hub (CVG) (Table 5.46). The airline's most important destinations in Europe were FRA (35 flights), and CDG and LGW with 21 flights each. At the time, Delta did not have the right to operate flights to LHR, necessitating the use of LGW instead.

The airline operated 245 flights in July 1997; this rose to 270 flights in July 2001. This was similar to the growth during the winter season over the same time period, 192 flights to 234 flights. However, DL's operational structure remained consistent until 2002 – following the events of September 11, 2001 (Table 5.46)

Table 5.46 - Distribution of DL Flights - July 1997 to 2001

	1997	1998	1999	2000	2001
JFK	45.7%	47.4%	41.5%	51.2%	50.4%
ATL	40.0%	36.8%	40.7%	39.9%	39.3%
CVG	14.3%	13.2%	12.7%	12.0%	7.8%
IAD		2.6%	5.1%		
BOS					2.6%

There was a decline in air travel following the terrorist attack which included the North Atlantic. DL reduced its services to 252 flights in 2002, and then even further to only 230 flights in 2003. In addition, the airline adjusted its hub strategy, and from 2002 began to utilise ATL as its primary hub for North Atlantic services. This continued for summer operations until 2009 when JFK once again became the airline's primary hub. However, ATL continued to be the primary hub for winter services until January 2016.

Delta found itself in difficult financial circumstances and applied for Chapter 11 bankruptcy protection in September 2005[83]. The protection afforded by the courts enabled the airline to restructure and it expanded its North Atlantic services, especially during the summer season. On a year-over-year basis, Delta added 25% more flights and added 30% more routes in July 2006. The airline continued its expansionist strategy through organic growth until 2008 when it increased its network through the acquisition of Northwest Airlines (Table 5.47).

The merger with NW expanded the airline's network, but also resulted in internal restructuring. From 2009 onwards, JFK was reinstated as the primary hub for DL's

[83] The airline exited bankruptcy protection in April 2007.

summer operations with ATL returning as a secondary hub. DTW was integrated into the DL network as a tertiary hub, followed by MSP. CVG ceased to be an important airport for North Atlantic services and was de-hubbed.

In addition to its four hubs, DL operated services on the North Atlantic from nine other airports throughout the year. These airports provided services almost exclusively to its J-V partners' hubs, AMS and CDG, as well as LHR. Services to AMS and CDG accounted for about 45% of all January flights and about 35% of all July flights in 2017.

Table 5.47 - Delta DC and WDC by Airport - July 2005 to 2009

		2005	2006	2007	2008	2009[84]
ATL	DC	16	23	26	28	28
	WDC	147	198	207	214	193
JFK	DC	14	18	24	31	31
	WDC	105	126	169	211	203
CVG	DC	5	5	5	5	4
	WDC	35	35	32	35	28
SLC	DC				1	1
	WDC				7	7
PIT	DC					1
	WDC					5
Total	DC	35	46	55	65	65
	WDC	287	359	408	467	436

Despite the addition of these US airports to the Delta network, the Beta Index did not noticeably increase following the merger for either summer or winter operations although it did begin to rise from 2015 onwards; the levels seen in July 2016 and 2017 (1.58 and 1.59 respectively) returned to the levels seen in 1999 (1.52) and 2000 (1.56). This reflected a greater dispersion within the airline's network in the US although many routes were focussed on its partners' hubs in Europe.

In contrast, prior to the signing of the J-V in July 2008, Delta operated 21 flights to AMS and 35 flights to CDG. The integration of the NW network, which had strong

[84] This only includes flights with a DL code; the NW code was still in utilisation in 2009 and those flights are not included in this table.

connections to AMS through its own J-V facilitated this increase as well as greater integration within the alliance network. It also reflected DL's reliance upon AF and KLM for transfer options.

In tandem with increasing flights to its partner hubs, DL also increased its flights to LHR. In 2011, LHR accounted for about 12% of the airline's flights; by 2017 that figure had risen to 20% in January and nearly 15% in July. The rationale for this strategy could be twofold: the first would be to preclude BA from controlling the route, and the second to provide direct services from some of its smaller airports that would minimise the need to transfer at its hubs or those of its partners. Being a large touristic destination there was likely sufficient demand to sustain these direct flights.

Another aspect was the airline's growing emphasis on seasonal services. Whilst the growth in July flights had been steady since the merger, the airline drastically reduced in January services (Table 5.48).

Table 5.48 - Delta DC and WDC for January and July - 2011 to 2017

		2011	2012	2013	2014	2015	2016	2017	Change
January	DC	60	52	46	46	47	49	50	-16.7%
	WDC	413	349	323	332	329	345	315	-23.7%
July	DC	74	67	65	66	70	71	73	-1.4%
	WDC	580	536	548	564	582	603	625	7.8%

Delta has implemented a two-pronged strategy: 1) the smaller hubs within its network have flights almost exclusively to AMS, CDG and LHR and 2) the major hubs have flights not only to its J-V partners' hubs but to rival hubs, including LHR. This second strategy is complemented by additional routes and services to major regional airports, predominantly in Europe, during the summer season.

Northwest Airlines

Northwest Airlines operated its flights utilising a dual hub strategy with DTW as its primary hub and MSP as its secondary hub. In addition, the airline operated North Atlantic flights from other airports within its domestic network.

NW was part of a J-V with KL in 1997 and a member of the Wings alliance; therefore, it is not surprising that all of its secondary airport flights were to AMS. Although the airline used its hubs to connect to other airports, there were nonetheless strong links between DTW and AMS (Table 5.49).

NW was not permitted to operate flights to LHR and was required to utilise LGW instead. AZ was briefly part of the Wings alliance from May 1999 to November 2001, and NW as such operated summer seasonal flights to both FCO and MXP, but not any winter flights. However, most of the growth in NW's network from 1997 to 2001 resulted from more flights to AMS and some seasonal growth from additional frequencies to existing destinations.

Table 5.49 - NW Flights - January 1997 to 2001

		1997	1998	1999	2000	2001
DTW	AMS	7	7	14	14	28
	CDG	7	7	7	7	7
	FRA	8	7	7	7	7
	LGW	8	7	7	7	7
MSP	AMS				7	14
	LGW	7	7	7	7	7
BOS	AMS	7	7	7	7	7
EWR	AMS		7	7	7	
IAD	AMS	7	7	7	7	7
SEA	AMS			7	7	7
Total		51	56	70	77	91

The general travel downturn following September 11, 2001, impacted NW like many other airlines. Although the airline initiated a new service from MEM to AMS in July 2003, it ceased operations from many regional airports (IAD, JFK and MIA), and by January 2004 also stopped its EWR-AMS flight.

Despite consolidating its network operations, the airline was forced to apply for Chapter 11 bankruptcy protection in September 2005[85]. The contraction left the airline with only 89 flights in January 2006 (98 flights in July of the same year).

However, the airline began to expand again, and its network grew to 135 flights in July 2007 and then to 150 flights in July 2008 (Table 5.50).

Table 5.50 - NW Flights - July 2007 to 2009

		2007	2008	2009
DTW	AMS	35	28	28
	BRU	7		
	CDG	7	7	
	DUS	7	7	
	FCO			7
	FRA	14	7	7
	LGW	7	7	
	LHR		2	7
	MXP			
MSP	AMS	21	21	21
	LGW	7		
	LHR		7	7
	CDG		7	7
BOS	AMS	9	14	13
BDL	AMS	7	7	
EWR	AMS		14	7
JFK	AMS			7
MEM	AMS	7	7	7
PDX	AMS		7	7
SEA	AMS	7	7	7
SEA	LHR		1	
Total		135	150	132

Although flights still operated under the NW code in 2009, the airline was in the process of being merged into Delta. As such, the expansion that had been underway was halted to integrate the airline's operations into Delta's overall network.

[85] The airline successfully emerged from bankruptcy protection in May 2007.

Prior to its purchase, NW developed a network that was designed to feed into KLM's hub, AMS. Every NW airport had flights to AMS, some only exclusively, although its main hub at DTW had additional flights to other European destinations.

NW was a good complementary addition to DL as it facilitated that airline's integration into its own joint-venture with KLM and AF.

5.4.4 Other SkyTeam Airlines

In addition to the major airlines, there were some smaller air carriers that also contributed to the alliance. These include OK which became a member in March 2001, although they have not consistently operated North Atlantic services. Other airlines include KQ, ME, RO, SU, SV and UX. Altogether, however, these airlines combined to operate only 74 flights in July 2017: 7.1% of the alliance's entire North Atlantic operations.

Although Alitalia only operated 63 flights, it was nonetheless a member of the joint-venture and has been an alliance member since July 2001.

Alitalia

The airline's North Atlantic operations were relatively dynamic over the study period, a reflection of AZ's inconsistent hub strategy.

In 1997 and 1998, AZ's North Atlantic flights were operated with FCO as the primary hub with approximately 2/3 of operations and MXP as the secondary hub (Table 5.51). In 1999, the airline changed direction and MXP became the primary hub, initially controlling 76.9% of flights in July 1999. Although the airport's dominance receded in following years, MXP remained AZ's primary hub until 2008.

The airline then reversed its hub strategy and moved all North Atlantic services to FCO except the MXP-JFK route. The only additional route from MXP was in 2010-2012 when the airline operated a service to MIA. The change in strategy resulted in about 85%-90% of AZ's North Atlantic services being operated from FCO.

These changes were seen in the airline's summer Beta Index. Prior to 2008, the index was consistently over 1.00 due to AZ's dual hub strategy; once operations were focused on FCO, the index dropped and was either at or below 1.00 for the remainder of the study period.

Despite the fluctuation in hub operations, they were consistent in maintaining flights to select destinations: BOS, JFK, and MIA. In addition, there have been near continuous flights to ORD (excepting July 2009), and AZ also had flights to YYZ 1999 onwards.

Table 5.51: - Distribution of Alitalia flights, July 1997-2017 (odd years only)

	1997	1999	2001	2003	2005	2007	2009	2011	2013	2015	2017
FCO to											
BOS	7				6	5	7	7	7	14	7
EWR			7	7	7	7	5	13			
JFK	21	14	13	7	7	12	12	13	19	21	21
LAX								7	7	7	7
MIA		2					7	7	7	7	7
ORD	7							6	7	7	7
YYZ			7		7	5	7	7	7	7	7
Percentage	67.3	22.9	33.3	25.0	36.5	40.8	84.4	88.2	88.5	90.0	88.9
MXP to											
BOS		7	7	7	7	7					
EWR			7	7	7	7					
IAD					6						
JFK	7	14	7	7	7	7	7	5	7	7	7
LAX	7	7	7								
MIA	3	7	7	7	7	7		3			
ORD		7	7	7	7	7					
SFO		7	7								
YYZ		5	5	7	6	7					
Percentage	32.3	76.9	66.4	74.7	63.2	58.8	15.3	11.6	11.3	9.9	11.0

The airline expanded operations until July 2001 when the airline operated 81 flights on 11 different routes: a number that has not been matched since. The airline lost over a quarter of its operations in 2002 and had even fewer flights in 2003 (56). In 2004, the airline expanded again (80 flights) but began to decrease its network almost immediately and matched its smallest size in 2009 when the airline operated only 45 flights, the same as in 1998.

From July 2012-2017, the airline consistently operated about 60 flights, except in 2015 when they had 70 flights (Table 5.51).

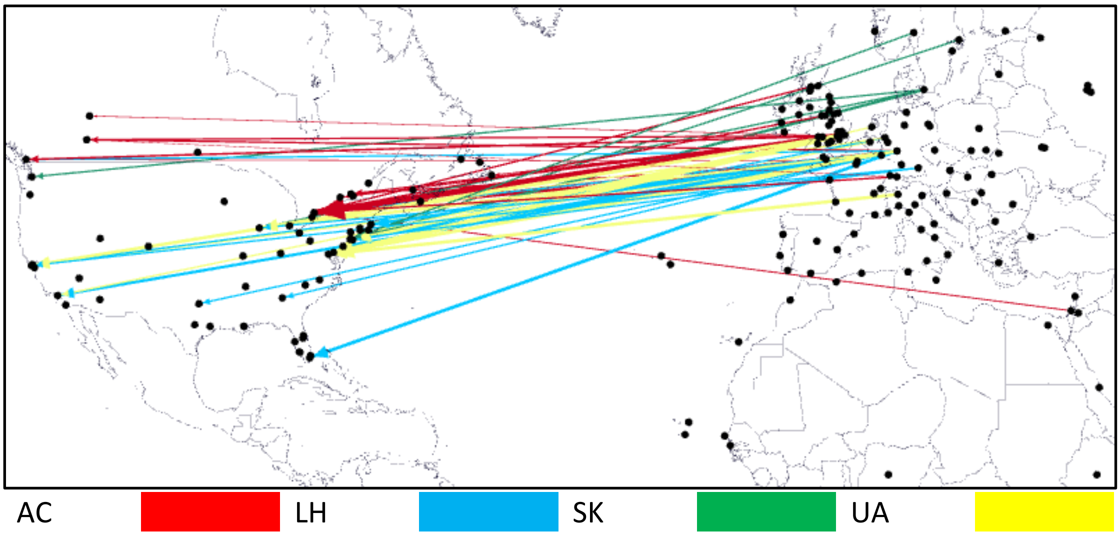
Alitalia's operations relied upon summer leisure travel. Although the airline had continuous year-round service between FCO and JFK, the average seasonal ratio was 1.53. Likewise, whilst YYZ had continuous summer services from FCO from July 2004, it only had winter services from 2009-2014 inclusive.

This reflects the strong attraction of Italy as a leisure destination, both for tourism and VFR purposes. The utilisation of FCO reinforced this as Rome is a more touristic destination compared to Milan which is more business oriented.

5.5 Star Alliance

The Star Alliance, the first of the major global alliances, was formed in 1997 and had a strong presence on the North Atlantic from the outset[86] (Figure 5.14).

Figure 5.14 - Overview of Star Alliance Network – July 1997



[86] The original airlines were Air Canada (AC), Lufthansa (LH), SAS Airlines (SK), United Airlines (UA) and Thai Airways (TG), with the first four having operations on the North Atlantic.

Table 5.52 - Overview of the Star Alliance – July 1997

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
FRA	Frankfurt Int. Airport	18	157	1
LHR	Heathrow Int. Airport	14	140	0.666838
ORD	O'Hare Int. Airport	7	59	0.545736
YYZ	Pearson Int. Airport	8	80	0.532917
IAD	Dulles Int. Airport	7	77	0.510402
YVR	Vancouver Int. Airport	4	22	0.470621
CDG	Charles de Gaulle Int. Air.	6	42	0.396371
SFO	San Francisco Int. Airport	4	35	0.348332
EWR	Newark Liberty Airport	6	47	0.331358
JFK	JFK Int. Airport	3	35	0.277539

As can be seen in Table 5.52, FRA was clearly the most important airport within the Star Alliance network on the North Atlantic; being the hub airport of Lufthansa (LH), this is not surprising. The strong presence of non-alliance hubs LHR and CDG were noteworthy and clearly indicate how at this initial phase there was relatively minor alignment and co-operation between alliance partners. The presence of EWR and JFK also highlighted the lack of a UA hub in the New York area.

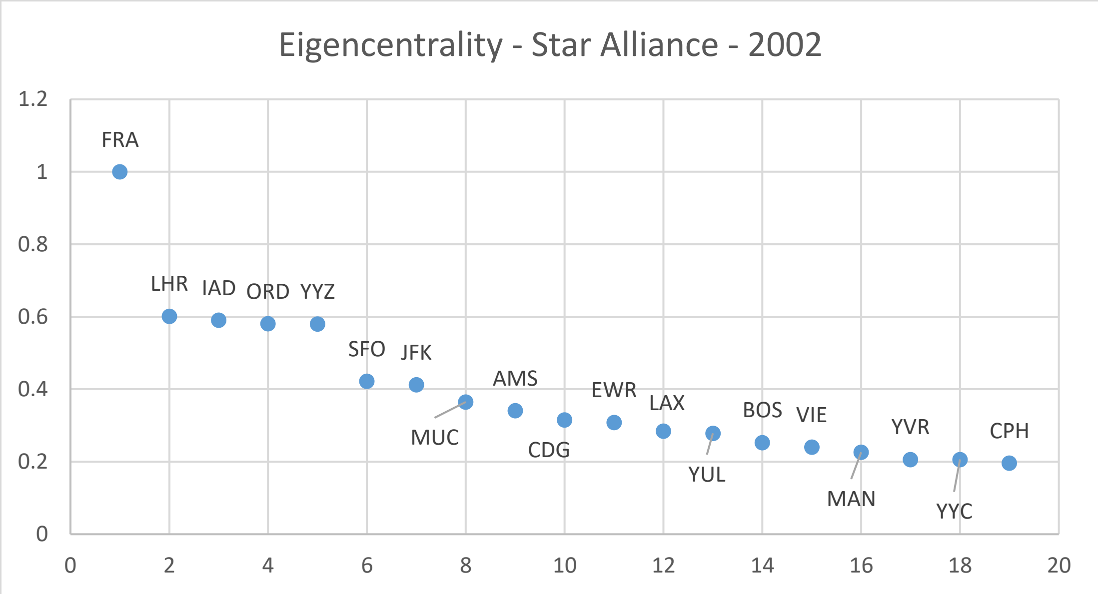
Table 5.53 - Overview of the Star Alliance – January 2002

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
FRA	Frankfurt Int. Airport	24	174	1
LHR	Heathrow Int. Airport	14	154	0.593269
IAD	Dulles Int. Airport	11	90	0.547659
ORD	O'Hare Int. Airport	10	85	0.525685
YYZ	Pearson Int. Airport	8	69	0.448627
SFO	San Francisco Int. Airport	4	35	0.399245
JFK	JFK Int. Airport	4	38	0.375800
CDG	Charles de Gaulle Int. Air.	5	35	0.302263
LAX	Los Angeles Int. Airport	3	21	0.301906
EWR	Newark Liberty Airport	5	31	0.292222

Star Alliance continued to grow with the addition of both OS and BD, however, the five most important airports in 1997 were the same as in 2002 (Table 5.53). This was consistent between January and July, although YYZ was buoyed in July because of increased seasonal flights. As the relative importance of LHR decreased and that of

IAD, YYZ and ORD increased, a cluster of secondary hub airports developed within the alliance during summer operations (Figure 5.15).

Figure 5.15 - Eigencentrality – Star Alliance – July 2002



The alliance continued to expand with both LOT and Spanair joining in 2003. Although both airlines had limited North Atlantic frequencies, they nonetheless expanded the scope of the alliance's network. US Airways (US) joined the Star Alliance in May 2004, but the airline's inclusion had a limited initial impact upon the alliance. United Airlines remained the dominant US-based airline within the alliance, and UA-hubs ORD and IAD retained their importance within the alliance (Tables 5.54 and 5.55).

Table 5.54 - Overview of the Star Alliance – January 2005

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
FRA	Frankfurt Int. Airport	27	204	1
IAD	Dulles Int. Airport	12	93	0.550593
ORD	O'Hare Int. Airport	12	104	0.540001
YYZ	Pearson Int. Airport	9	73	0.461589
MUC	Franz Joseph Strauss Air.	10	53	0.457337
LHR	Heathrow Int. Airport	12	147	0.449511
PHL	Philadelphia Int. Airport	9	63	0.415375
JFK	JFK Int. Airport	6	54	0.406241
SFO	San Francisco Int. Airport	5	38	0.397627
CDG	Charles de Gaulle Int Air.	6	42	0.319328

However, PHL, like YYZ, had nearly twice as many flights in July compared to January; nonetheless, there was minimal change in their relative importance. In contrast, the increase in flights from MUC led to that airport becoming the second most important airport within the alliance in July 2005 (Table 5.55).

Munich's importance coincided with changes in FRA: MUC's HHI in July 2005 increased to 7980 (7138 in July 2004) whilst FRA's decreased to 5658 (from 6025). In January, however, the HHI increased at both airports, and both were very concentrated.

Overall, the alliance had nearly doubled in size from its inception in July 1997 (470 flights) to 900 North Atlantic flights in July 2005.

Table 5.55 - Overview of the Star Alliance – July 2005

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
FRA	Frankfurt Int. Airport	26	265	1
MUC	Franz Joseph Strauss Air.	13	89	0.645777
ORD	O'Hare Int. Airport	13	118	0.621878
IAD	Dulles Int. Airport	12	118	0.602072
YYZ	Pearson Int. Airport	15	142	0.588841
PHL	Philadelphia Int. Airport	14	111	0.492403
LHR	Heathrow Int. Airport	12	189	0.456367
JFK	JFK Int. Airport	7	70	0.425155
SFO	San Francisco Int. Airport	5	42	0.394798
CDG	Charles de Gaulle Int Airport	6	56	0.345474

Six airlines with North Atlantic operations joined the alliance between 2005 and 2010. Portuguese-based TAP Airlines (March 2005), Swiss Airlines (April 2006), Turkish Airlines (April 2008), Continental Airways (October 2009), and Brussels Airlines (December 2009).

The addition of Swiss saw the integration of Zurich amongst the top European airports in the alliance; with CO, the alliance gained a dominant presence in the New York area, something that had been absent from the network (Table 5.56). Both airports had HHI scores that were highly concentrated in July 2009: ZRH (6578) and EWR (6314).

Table 5.56 - Overview of the Star Alliance – January 2012

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
FRA	Frankfurt Int. Airport	31	249	1
EWR	Newark Liberty Airport	39	280	0.961456
IAD	Dulles Int. Airport	21	161	0.661812
MUC	Franz Joseph Strauss Air.	14	84	0.653360
ORD	O'Hare Int. Airport	14	110	0.590192
ZRH	Zurich Int. Airport	12	83	0.539027
PHL	Philadelphia Int. Airport	13	85	0.504020
LHR	Heathrow Int. Airport	15	182	0.492920
YYZ	Pearson Int. Airport	12	88	0.489189
JFK	JFK Int. Airport	10	83	0.371916

Continental Airways subsequently merged with United Airlines (March 2012), and the incorporation of CO’s hubs and their North Atlantic network strengthened UA; this included a new focal point in the New York area with the incorporation of EWR as a hub. The additional seasonal summer flights increased the airport’s importance within the network with EWR supplanting FRA (as a close second) in July 2012 as the most important airport within the Star Alliance (Table 5.57).

Table 5.57 - Overview of the Star Alliance – July 2012

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
EWR	Newark Liberty Airport	40	331	1
FRA	Frankfurt Int. Airport	30	299	0.970604
IAD	Dulles Int. Airport	22	210	0.709634
MUC	Franz Joseph Strauss Air.	14	105	0.659746
YYZ	Pearson Int. Airport	18	148	0.624869
PHL	Philadelphia Int. Airport	18	138	0.590207
ORD	O'Hare Int. Airport	14	132	0.567896
ZRH	Zurich Int. Airport	12	95	0.540384
LHR	Heathrow Int. Airport	16	217	0.488107
FCO	Fiumicino Int. Airport	8	50	0.425521

Despite being third in terms of flights, the importance of non-alliance hub LHR continued to decrease and was only 9th on the EC ranking. This reflects the importance of London as a tourist destination and the alliance’s composition of AC and three American-based airlines: CO, UA, and US. In addition, AC utilised a strategy of providing flights from non-hub airports (e.g., YOW), thus reducing LHR’s EC score.

The time period between 2012 and 2014 was marked by internal adjustment within the alliance. Spanair ceased operations in January 2012 and LH sold its stake in BD to British Airways a few months later, thus necessitating the airline's departure from the alliance. US Airways also left the alliance in March 2014 as it moved to Oneworld in preparation for its merger with AA. However, AI joined the alliance in July 2014.

Whilst Spanair's departure caused minimal disruption within the alliance, BD's departure had a greater impact. Although not a major North Atlantic operator, the airline provided transfer connections from LHR to other UK cities, an important factor for both AC and UA in the UK market.

UA mitigated this loss of connectivity when its merger with CO was finalised in early 2014, as US Airways routes from EWR to UK regional destinations were integrated. AC also launched its low-cost arm, AC Rouge, or Rouge in July 2013. Although the subsidiary was created to compete for market share in the leisure market, it was able to partially offset BD's departure by introducing routes to UK regional markets.

These changes were evident when examining the top alliance airports in July 2014 (Table 5.58). EWR remained the largest airport (DC and WDC) although FRA remained the most important airport (EC). PHL was no longer present and reflected the departure of US from the alliance. MUC remained the 4th most important airport within the alliance behind YYZ. Istanbul was the 11th most important airport and reflected TK's membership in the alliance and the airline's expansionist strategies.

Even though the loss of US Airways reduced Star's total connectivity, the alliance still had a DC of 175 and a WDC of 1389 in July 2014 (Table 5.58).

Although the alliance maintained a stable membership from 2014 to 2017, the Star Alliance continued to expand its overall network.

Table 5.58 - Overview of the Star Alliance – July 2014

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
FRA	Frankfurt Int. Airport	29	264	1
EWR	Newark Liberty Airport	39	326	0.996390
YYZ	Pearson Int. Airport	25	177	0.800663
MUC	Franz Joseph Strauss Air.	16	111	0.768954
IAD	Dulles Int. Airport	22	176	0.758029
ORD	O'Hare Int. Airport	18	162	0.658011
ZRH	Zurich Int. Airport	11	89	0.539842
YUL	Trudeau Int. Airport	13	71	0.509826
LHR	Heathrow Int. Airport	15	203	0.491918
JFK	JFK Int. Airport	12	116	0.441935
IST	Istanbul Int. Airport	9	72	0.417948

Whilst UA, LH and LX posted relatively small increases in their overall networks, other airlines were actively enlarging their networks (Table 5.59). Of greatest significance was the expansion of AC, not only in percentages but in absolute numbers: the airline's activities were responsible for nearly half (49.2%) of the alliance's WDC growth from July 2014 to July 2017.

Table 5.59 - Star Alliances DC and WDC by Key Airlines – July 2014-2017

		2014	2015	2016	2017	2014-2017
Totals	DC	175	184	203	217	24.0%
	WDC	1389	1487	1607	1625	17.0%
UA	DC	59	63	62	60	1.7%
	WDC	536	563	562	546	1.9%
LH	DC	32	32	34	34	6.3%
	WDC	255	256	266	269	5.5%
AC	DC	35	37	45	53	51.4%
	WDC	239	280	325	345	44.4%
LX	DC	9	9	9	9	0.0%
	WDC	75	82	88	81	8.0%
TK	DC	8	9	11	11	37.5%
	WDC	65	71	93	84	29.2%
SK	DC	7	8	9	11	57.1%
	WDC	54	60	68	75	38.9%
OS	DC	5	5	6	7	40.0%
	WDC	33	35	41	43	30.3%
SN	DC	2	2	3	3	50.0%
	WDC	12	12	18	18	50.0%
Other	DC	18	19	24	29	61.1%
	WDC	120	128	146	164	36.7%

The increase in Air Canada's routes and flights was reflected in the importance of YYZ within the alliance (Table 5.60).

Despite ranking lower than EWR in WDC (frequency), and both EWR and YYZ in DC (direct connection) rankings, FRA maintained its position as the most important airport in the alliance network. Likewise, LHR maintained its position as 4th in terms of WDC within the alliance.

Table 5.60 - Overview of the Star Alliance – July 2017

Code	Name	Degree Centrality (DC)	Weighted Degree Centrality (WDC)	Eigencentrality (EC)
FRA	Frankfurt Int. Airport	33	284	1
YYZ	Pearson Int. Airport	37	242	0.968450
EWR	Newark Liberty Airport	41	339	0.960576
MUC	Franz Joseph Strauss Air.	18	126	0.730242
IAD	Dulles Int. Airport	23	177	0.703881
ORD	O'Hare Int. Airport	20	172	0.626385
LHR	Heathrow Int. Airport	15	199	0.513368
YUL	Trudeau Int. Airport	20	117	0.486523
ZRH	Zurich Int. Airport	11	95	0.484257
SFO	San Francisco Int. Airport	10	84	0.427072

AC's increased network resulted in the growing importance of both YYZ (2nd) and YUL (8th) (Figure 5.16). Another aspect of interest was the development of three first-tier airports: FRA, YYZ and EWR. Although FRA remained the most important airport, the difference between the three was slim.

Overall, the Star Alliance was dynamic in terms of its membership. This was reflected in the changing importance of airports within the overall alliance.

Figure 5.16 - Eigencentrality – Star Alliance – July 2017

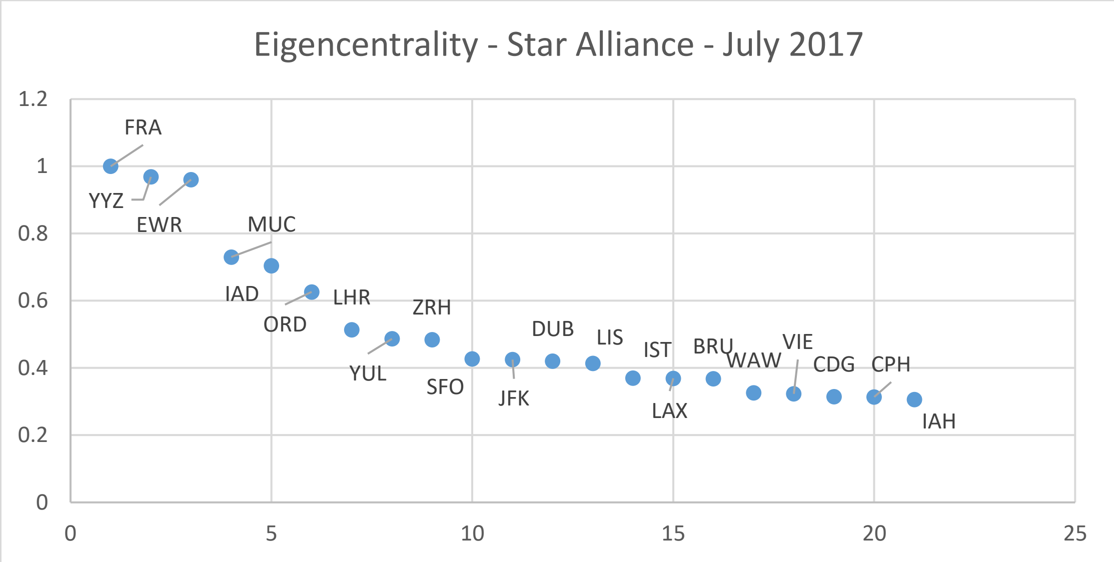
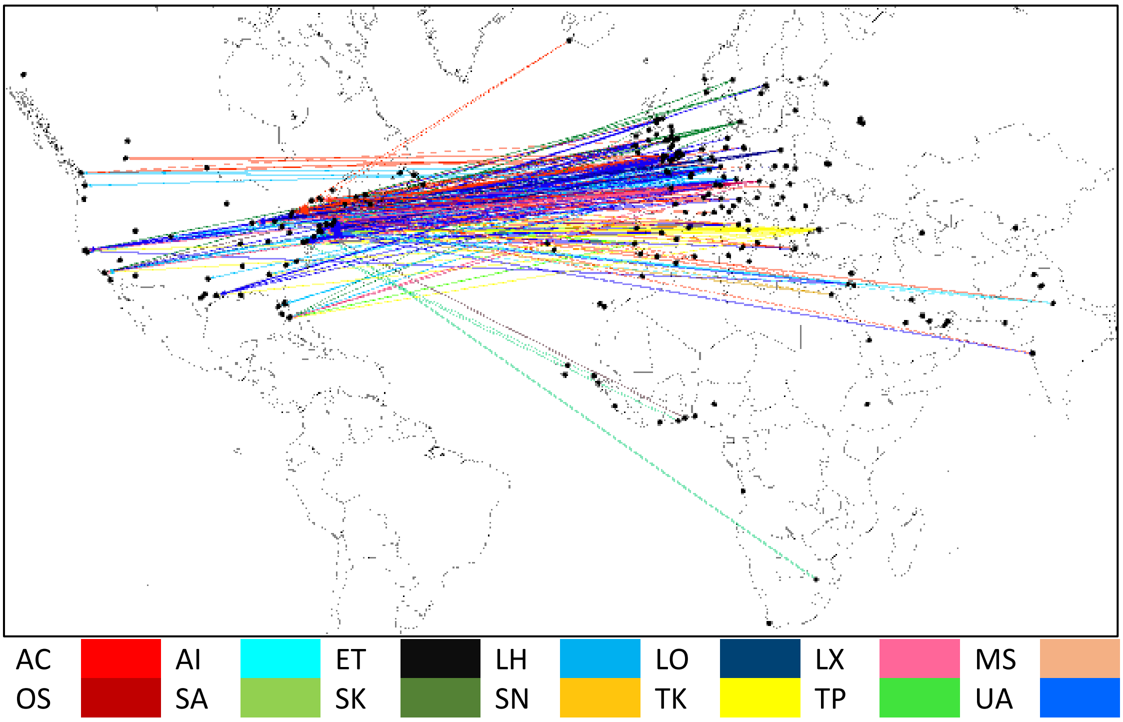


Figure 5.17 - Overview of Star Alliance Network – July 2017



Despite not being an alliance hub, LHR continued to have a large percentage of both AC and UA flights to, a reflection of London's importance as a destination (Figure 5.17).

Air Canada services included the operations of its low-cost subsidiary Rouge. Rouge was created in response to the competitive threat and downward price pressure exhibited by new entrants like Norwegian, but also the inception of services from its main Canadian competitor WestJet. Whilst AC retained mainline service to more business-oriented destinations, they utilised Rouge to serve predominantly leisure-oriented destinations. Catering to the Canadian travel market, Rouge flies to Europe during the summer and to sun destinations during the winter; all Rouge services operate on a seasonal basis.

There was significant growth in both summer and winter operations by all original four airlines of the alliance although January growth was not as robust (Tables 5.61 and 5.62). UA saw the greatest growth over the 20-year period, although the threefold growth in July operations from 2007 to 2012 reflects the UA-CO merger and the incorporation of routes that had been operated by Continental. Whilst UA previously utilised both IAD and ORD for its North Atlantic operations, Newark provided not only a presence in the New York City area but a new focal point for the airline from which to operate its flights. In addition, CO's operations from EWR to regional airports in Europe expanded UA's presence on the continent. In addition to utilising EWR, UA also increased its July flights at ORD by nearly 50% from 2012 to 2017.

Table 5.61 - Star Alliance DC and WDC of founding airlines – January 1997-2017

		1997	2002	2007	2012	2017	1997-2017
LH	DC	15	18	26	32	32	113.3%
	WDC	104	121	189	200	194	57.7%
SK	DC	5	6	6	6	11	120.0%
	WDC	32	42	34	33	67	71.8%
AC	DC	14	15	16	19	23	91.7%
	WDC	86	118	119	141	153	80.0%
UA	DC	16	18	16	23	43	168.8%
	WDC	133	175	164	196	352	151.4%

Table 5.62 - Star Alliance DC and WDC of founding airlines – July 1997-2017

		1997	2002	2007	2012	2017	1997-2017
LH	DC	16	22	29	30	34	112.5%
	WDC	138	194	256	248	269	94.9%
SK	DC	5	6	6	6	11	120.0%
	WDC	40	49	46	49	75	87.5%
AC	DC	20	20	20	28	53	165.0%
	WDC	135	194	208	217	345	155.6%
UA	DC	15	19	17	59	60	300.0%
	WDC	157	203	185	547	546	247.8%

LH expanded both its network and flights into North America with MUC becoming more important within the airline's network. Although FRA remained the airline's primary airport, MUC developed into a secondary base for operations, the result of capacity constraints at FRA.

SK operated North Atlantic flights from three airports in 1997 (ARN, CPH and OSL). Although there was no service from 2004 to 2010 from OSL, the airline subsequently reintroduced operations with a route to EWR in 2011. Although this was not surprising considering the nature of the airline[87], the reintroduction of service from OSL was mostly likely a defensive response to the recent growth by Norwegian Airlines.

One of the key aspects of Star Alliance operations was that of the Star++ J-V approved in 2013 between AC, UA, and LH (and included LX, OS and SN through the Lufthansa Group). In addition, there were numerous codeshare arrangements with other Star partners on the North Atlantic providing seamless transfer traffic between airlines.

Although there was growth throughout the temporal scope of this study, the operational strategies of the individual airlines were heterogeneous and was reflected in the differing seasonal ratios.

[87] SAS was jointly founded by the governments of Denmark, Norway and Sweden thus lending itself to the possibility of service from each country.

During the initial years of the alliance, there was a relatively consistent seasonal ratio at both the airline and alliance level (Table 5.63). The variation at individual airlines was due to a variety of factors. The high seasonal ratio for LH's WDC in 2002 resulted from a drastic reduction in January flights following September 11, 2001. The low seasonal ratio for AC in 2001 reflected the continuing network integration following the Air Canada and Canadian Airlines merger. The low UA numbers in 2003 were due to network re-alignment after filing for bankruptcy in December 2002.

Table 5.63 - Star Alliance Seasonal Ratio – 1998-2007

		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Totals	**DC**	1.21	1.11	1.20	1.13	1.18	1.10	1.32	1.18	1.23	1.22
	WDC	1.34	1.30	1.40	1.26	1.40	1.31	1.59	1.42	1.48	1.44
LH	**DC**	1.13	1.19	1.00	1.21	1.22	1.23	1.08	1.08	1.08	1.12
	WDC	1.27	1.32	1.34	1.29	1.60	1.45	1.40	1.37	1.31	1.35
SK	**DC**	1.00	1.00	1.00	1.17	1.00	1.17	0.86	1.00	1.00	1.00
	WDC	1.08	1.07	1.07	1.17	1.17	1.22	1.26	1.00	1.20	1.35
AC	**DC**	1.75	1.20	1.29	0.95	1.33	1.47	1.20	1.43	1.13	1.25
	WDC	1.80	1.64	1.78	1.29	1.64	1.70	1.72	1.88	1.69	1.75
UA	**DC**	0.94	1.00	1.06	1.11	1.06	0.65	1.07	0.94	1.00	1.06
	WDC	1.19	1.20	1.12	1.18	1.16	0.99	1.09	1.04	1.11	1.13

From 2010 to 2012, the seasonal ratio for the alliance remained consistent (Table 5.64). Although the seasonal ratio for UA was exceptionally high in 2012, this reflects the integration of alliance member Continental. From 2015 onwards, there was a growing seasonal differential between the winter and summer schedules.

Table 5.64 - Star Alliance Seasonal Ratio – 2008-2017

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Totals	**DC**	1.24	1.25	1.13	1.14	1.12	1.19	1.09	1.24	1.32	1.34
	WDC	1.37	1.42	1.32	1.30	1.31	1.39	1.27	1.48	1.53	1.51
LH	**DC**	1.18	1.07	1.10	0.97	0.94	1.07	1.10	1.10	1.13	1.06
	WDC	1.32	1.32	1.31	1.16	1.24	1.41	1.44	1.45	1.45	1.39
SK	**DC**	1.00	1.00	1.00	1.20	1.00	1.17	1.00	1.00	1.29	1.00
	WDC	1.35	1.26	1.30	1.35	1.48	1.68	1.54	1.25	1.26	1.12
AC	**DC**	1.19	1.40	1.65	1.47	1.47	1.67	1.84	1.76	1.96	2.30
	WDC	1.40	1.65	1.75	1.67	1.54	1.61	1.80	2.00	2.15	2.25
UA	**DC**	1.06	1.17	1.25	1.04	2.57	1.02	1.09	1.29	1.29	1.40
	WDC	1.16	1.23	1.24	1.14	2.79	1.23	1.27	1.47	1.49	1.55

Despite the relatively consistent trends, the individual airlines have distinct operational differences.

Whereas from 1998-2003, LH's DC seasonal ratio averaged 1.16, from 2004 onwards their DC seasonal ratio averaged only 1.08. In contrast, the airline's WDC seasonal ratio remained relatively stable, indicative of a strategy that focused on increasing services on existing routes.

Similarly, SK had a low DC seasonal ratio, although there was some fluctuation in terms of services. From 2001 to 2006, the WDC seasonal ratio averaged 1.17; from 2007 to 2017, the average was 1.36. The airline's strategy was also to increase services on existing routes.

Except for 2012 (UA-CO integration), UA's DC average seasonal ratio was 1.03 from 1998 to 2014 inclusive; the airline's WDC seasonal ratio averaged 1.14 until 2011. Although the airline's DC was stable in 2013 and 2014, the WDC seasonal ratio jumped to an average of 1.25. From 2015 onwards, the airline pursued a seasonal expansionist strategy in both destinations and frequencies.

In contrast, Air Canada had a relatively high seasonal ratio and consistently expanded its services seasonally, although there were distinct phases within the airline's strategy. From 1999-2008, the airline's average DC seasonal ratio was 1.24; this subsequently rose to 1.57 (2009-2013). However, the airline's average WDC seasonal ratio averaged 1.65 during this entire time. The airline launched its subsidiary Rouge in 2013 and began an aggressive expansionist strategy from 2014 onwards. This resulted in an average DC seasonal ratio of 1.97 and an average WDC seasonal ratio of 2.05 from 2014-2017, a near doubling of both routes and flights.

The increases exhibited by AC were the basis for the strong seasonal growth within the alliance overall, and contrasted with the other founding airlines, LH, SK, and UA, which tended to increase flights on existing routes with only minimal seasonal network expansion.

5.5.1 Air Canada

Air Canada was founded in the 1930s as the nation's flag carrier, and despite the development of other airlines remained the country's largest airline. Its strongest competition in the 1990s was from Canadian Airlines, an amalgamation of airlines including Canadian Pacific and Wardair.

In 1997, the airline operated a multi-hub system due to the size of the country. The country's geography has also resulted in about half of AC's North Atlantic operations from the airline's major hub, YYZ[88].

The country's geography resulted in additional services being operated from smaller secondary hubs and larger regional airports. Air Canada had services from six airports in January and eight airports in July 1997. All these airports had services to LHR and accounted for 50.6% (January) and 46.7% (July) of the airline's North Atlantic flights; the two next largest AC destinations were CDG and FRA.

In December 1999, AC bought its main Canadian competitor, CP; however, the airline struggled with the integration. Whilst flight operations were brought under the AC code within a year, the airline was still dealing with labour issues when the events of September 11, 2001, occurred.

The airline's January operations subsequently decreased to 118 flights in 2002, down from 143 flights the previous year; the decline was mostly due to fewer flights from YYZ. Despite this, AC increased its July North Atlantic operations from 184 flights in 2001 to 194 flights in 2002. However, with the overall decline in air travel and the lingering issues from the CP merger, the airline requested bankruptcy protection from the courts in the spring of 2003.

[88] In 1997, AC operated flights from YMX, but transferred all flights to YUL in 1998.

From 2003 until 2007, the airline's North Atlantic overall operations remained relatively stable (Tables 5.65 and 5.66). Following minor increases in January 2008, both summer and winter services declined.

Table 5.65 – Breakdown of Air Canada flights by airport – January 2003-2009

	2003	2004	2005	2006	2007	2008	2009
YYZ	63	71	61	61	60	67	56
YUL	21	21	21	21	21	21	21
YVR	7	7	7	9	9	9	7
YYC	14	14	14	14	14	14	11
YHZ				5	5	5	4
YYT	7	7	7				
YOW	7	7	7	7	7	7	10
YEG				3	3	7	4
Total	**119**	**127**	**117**	**120**	**119**	**130**	**113**

Whilst January operations decreased 5.0% from 2003 to 2009, the rate of contraction for July operations was twice as large (9.9%) over the same time period. A key aspect was the re-allocation of flights between airports (Table 5.65). Both YYZ and YVR had fewer flights from 2003 to 2009: YYZ decreased from 57.9% of July 2003 operations to 46.2% of July 2009 operations. Over the same time period, YVR's allocation decreased from 10.4% to 4.9%. In contrast, YUL's share increased from 14.4% to 23.1% of AC's North Atlantic operations. Although YYZ retained its importance as the primary airport for North Atlantic operations, it also established YUL as the secondary airport; YVR's reduced importance resulted in YYC becoming the third largest AC airport for North Atlantic operations in 2009.

Table 5.66 – Breakdown of Air Canada flights by airport – July 2003-2009

	2003	2004	2005	2006	2007	2008	2009
YYZ	117	108	122	112	96	91	84
YUL	29	42	42	42	49	28	42
YVR	21	21	21	14	14	14	9
YYC	21	21	21	21	21	21	19
YHZ	3				7	7	7
YYT	4	7	7	7	7		
YOW	7	7	7	7	7	14	14
YEG					7	7	7
Total	**202**	**206**	**220**	**203**	**208**	**182**	**182**

The stability in the airline's network was reflected in AC's Beta Index which remained steady from 2001 to 2009 for both summer and winter operations: for summer operations, the index ranged from 1.11 to 1.18 while for winter operations, the index ranged from 1.14 to 1.17.

From 2010 onwards, the services added at each airport were strategically chosen to emphasize the advantages of each airport.

At YUL, the airline added four new destinations in 2010: ATH, BCN, BRU and GVA. BRU and GVA are situated in French speaking regions, as is YUL, whilst ATH reinforced the cultural links resulting from immigration following the war; BCN remains a popular tourist destination. The same year, YYZ added both ATH and BCN for the same reasons, and added CPH, the main SK hub.

January services remained relatively stable from 2012-2017, although the airline began routes from YYZ to both AMS and DEL in 2016 as well as a new service to LYS from YUL in 2017 (Table 5.67).

Table 5.67 – Breakdown of Air Canada flights by airport – January 2012-2017

	2012	2013	2014	2015	2016	2017
YYZ	69	64	65	75	84	83
YUL	31	31	31	31	32	36
YVR	7	7	7	7	7	7
YYC	14	14	14	13	14	14
YHZ	4	4	6	4	4	3
YYT				3	3	3
YOW	12	12	10	7	7	7
YEG	4	3				
Total	**141**	**135**	**133**	**140**	**151**	**153**

In 2013, the airline began a new direction that was capitalised upon the resilient trend for Canadian residents to travel. More flights were concentrating at its main hubs, YYZ and YUL, especially for summer operations. Services from regional airports were maintained throughout the year, although many routes had fewer flights in January compared to July.

In the summer of 2013, the airline launched seasonal Rouge services on the North Atlantic. The development of Rouge resulted in new destinations added to the network, and also transferred flights that were predominantly leisure in nature from AC 'mainline' services to Rouge (such as flights to Athens).

AC transferred older B767-300 aircraft to Rouge which were subsequently refurbished into a two-class configuration comprising of Premium Economy and Economy. Newer aircraft like the B787-800 (Dreamliner) were introduced into the mainline network. In this manner, the airline introduced new fuel-efficient aircraft onto competitive business routes whilst not incurring aircraft acquisition/leasing costs for Rouge.

Rouge initially developed routes from both YYZ and YUL with YVR being added in 2016 (Table 5.68). Although the airport had been utilised predominantly for Pacific operations rather than North Atlantic services, Vancouver is still the country's third largest city and as such has a relatively large local catchment area.

Table 5.68 – Rouge flights by airport – July 2013-2017

	2103	2014	2015	2016	2017
YUL	2	14	19	21	37
YYZ	10	33	45	60	74
YVR				3	6
Total	**12**	**47**	**64**	**84**	**117**

Air Canada's overall number of flights rose from 217 in 2012 to 345 in 2017: the importance of Rouge in the airline's expansion is evident with over 90% of the airline's expansion attributable to Rouge (Table 5.69).

Table 5.69 – Distribution of Mainline and Rouge Flights – July 2013-2017

	2103	2014	2015	2016	2017	Change
Mainline	206	192	216	241	228	10.7%
Rouge	12	47	64	84	117	875.0%
Total	218	239	280	325	345	58.3%

A key advantage that benefitted Rouge is the seasonal nature of the Canadian travel market. Demand for travel to Europe is high during the summer and low during the winter months: the inverse of demand for travel to 'sun' destinations like the Caribbean. As such, the airline could have full aircraft utilisation throughout the year, reallocating the aircraft twice a year to the appropriate destinations as befitting the seasons.

Another attribute of Rouge was its being based in AC's main hubs, a key difference from other airlines which have launched low-cost arms. By being based at a hub, the airline has been able to funnel feed from smaller airports to its flights.

Whilst the airline has always adjusted its schedule to take advantage of the seasonal tendencies of Canadian residents, this has become even more evident since the introduction of Rouge. The airline's seasonal ratio has increased markedly since the subsidiary's creation, both in terms of flights and destinations (Table 5.70, Figure 5.18 and Figure 5.19).

Table 5.70 – Air Canada Seasonal Ratio – 2012-2017

		2012	2013	2014	2015	2016	2017
AC	DC	1.47	1.67	1.84	1.76	1.96	2.30
	WDC	1.54	1.61	1.80	2.00	2.15	2.25
YYZ	DC	1.71	2.50	2.25	1.90	2.08	2.45
	WDC	1.68	1.88	2.06	2.17	2.27	2.29
YUL	DC	1.60	1.40	1.80	2.00	2.40	2.67
	WDC	1.45	1.35	1.58	1.97	2.34	2.58
YYC	DC	1.00	1.00	1.00	1.00	1.00	1.00
	WDC	1.00	1.00	1.00	1.38	1.00	1.00
YVR	DC	1.00	1.00	1.00	1.00	2.00	4.00
	WDC	1.00	1.00	1.00	1.00	2.43	2.86

Although AC underwent some initial challenges at the beginning of the study period, the airline has since stabilised. The airline has maintained YYZ as its primary hub with YUL as its secondary hub for North Atlantic services. Conversely, the airline continued to have a high proportion of its services to LHR, especially from regional airports; the second most important destination for the airline in July 2017 was FRA (28 flights).

Figure 5.18 - Overview of Air Canada Network – January 2017

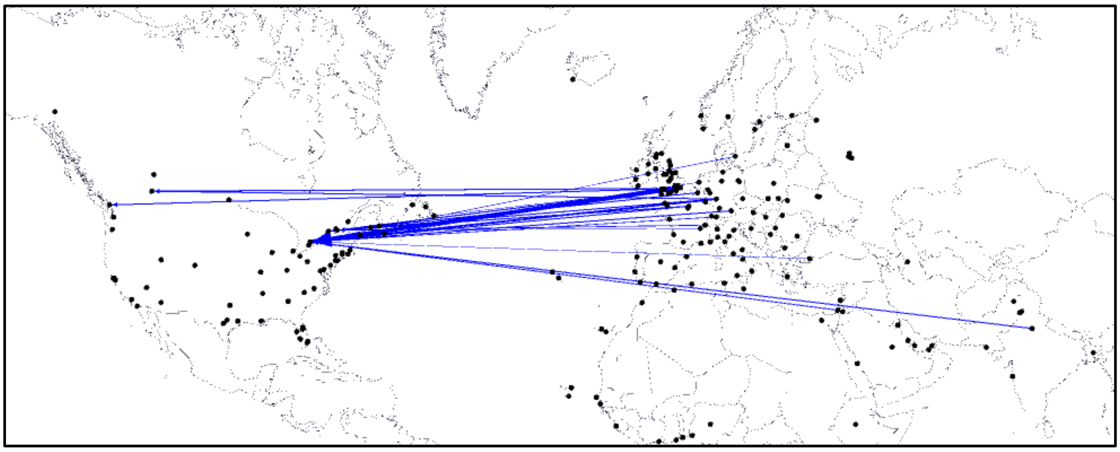
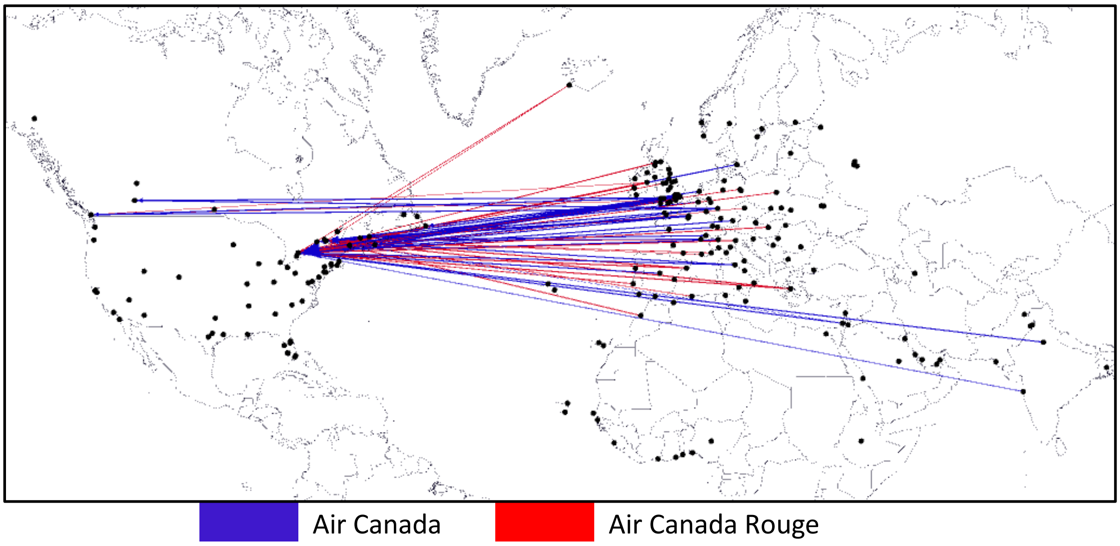


Figure 5.19 - Overview of Air Canada Network – July 2017



Despite the addition of more flights, the hubs utilised has remained consistent, and the Beta Index only increased to 1.29 in July 2017 while the winter value was a more moderate 1.10.

The airline has pursued a strategy of utilising its mainline services to target competitive markets, especially hubs of airline rivals. To complement this, the airline has utilised Rouge to combat low-cost carriers on the North Atlantic with the establishment of services to KEF (WOW), and LGW (WestJet).

5.5.2 Lufthansa

Lufthansa was one of the founding airlines of Star Alliance and has played an important role in the alliance ever since.

The airline operated most of its North Atlantic operations from FRA with some additional services from MUC and DUS in 1997 (Table 5.71). At the time, LH operated a single hub system with about 80% of its flights from FRA. This pattern did not vary throughout the year, and FRA's primacy was maintained throughout the year.

Table 5.71 – Breakdown of Lufthansa flights by airport – July 1997-2002

	1997		1998		1999		2000		2001		2002	
FRA	110	79.7%	128	82.1%	133	82.6%	146	83.9%	152	78.8%	161	83.0%
MUC	21	15.2%	21	13.5%	21	13.0%	21	12.1%	28	14.5%	27	13.9%
DUS	7	5.1%	7	4.5%	7	4.3%	7	4.0%	7	3.6%	6	3.1%
TXL									6	3.1%		
Total	**138**		**156**		**161**		**174**		**193**		**194**	

The airline continued with this network structure until 2003 when LH developed MUC as a secondary hub (Table 5.72).

Table 5.72 – Breakdown of Lufthansa flights by airport – January 2003-2007

	2003		2004		2005		2006		2007	
FRA	127	74.3%	138	73.0%	138	73.0%	147	70.0%	133	67.9%
MUC	32	18.7%	39	20.6%	39	20.6%	51	24.3%	46	23.5%
DUS	12	7.0%	12	6.3%	12	6.3%	12	5.7%	17	8.7%
Total	**171**		**189**		**189**		**210**		**196**	

LH initiated both more flights and destinations from MUC: January destinations rose from three in 2001 to seven in 2007 whilst July destinations rose from four to 10 over the same time period. In contrast, LH flew to 17 destinations from FRA in 2007, the same number as in 2002.

Table 5.73 - Overview of LH Flights from Frankfurt - July 1997 to 2017

	1997	2002	2007	2012	2017
ATL	7	7	7	7	7
BOS	14	14	14	14	14
DEN		7	7	7	7
DFW	7	7	7	7	7
DTW		7	14	7	7
EWR	7	7	14	7	7
IAD	7	14	14	14	14
IAH		7	7	7	7
JFK	14	21	21	14	14
LAX	12	14	14	14	14
MCO				7	7
MIA	14	7	7	7	7
ORD	7	14	14	14	14
PDX			7		
PHL		7	7	5	7
SEA				7	7
SFO	7	7	7	7	7
SJC					5
TPA					6
YUL					7
YVR	7	7	7	7	7
YYZ	7	7	7	7	7
Total	**110**	**161**	**175**	**159**	**179**

LH's North Atlantic operations from Frankfurt remained relatively stable over the study period. This reflects the constraints at the airport which restricted the airline's ability to expand. Nonetheless, the airport remained the airline's primary hub (Table 5.73).

In contrast, services from MUC expanded both in terms of total flights and in number of destinations served (Table 5.74).

Table 5.74 - Overview of LH Flights from Munich - July 1997 to 2017

	1997	2002	2007	2012	2017
BOS		6	7	7	7
CLT			7	7	7
DEN			7		7
EWR	7		6	7	7
IAD			7	14	7
JFK		7	7	7	7
LAX			7	7	7
ORD	7	7	7	7	7
SFO	7	7	7	7	7
YUL			7	7	7
YVR					7
YYZ					7
Total	**21**	**27**	**69**	**70**	**84**

LH's North Atlantic operations have not been developed solely to increase connectivity with its alliance partners. The choice of destinations from FRA is driven equally between a city's importance and to counter competitors' incursion into FRA. In contrast, there was more connectivity to alliance partner hubs from MUC.

Although the airline continued to operate some flights from DUS, the airport was operated as a major regional airport rather than as a hub. The airport did, however, have continuous services to EWR since 1998, and had services to YYZ (July 2008-2013), MIA (January 2009-2013) and ORD (2003-2015).

Cologne may, however, be developed in the future as the base for Eurowings operations[89]. In July 2016, Eurowings operated three flights between CGN and BOS. The following July, EW operated nine flights to four different destinations LAS, MCO, MIA and SEA. In addition, Eurowings operated a twice weekly service to MIA in January 2017. Whilst Lufthansa may develop EW to meet seasonal demand on the North Atlantic, leisure operations are susceptible to any economic downturn that reduces disposable income.

[89] Eurowings flight data are not included in the LH data referenced in this section.

During the study period, LH had a relatively low seasonal ratio, especially in destinations (DC). However, there were differences between FRA and MUC, with MUC having higher DC and WDC seasonal ratios (see Table 5.75). MUC increased flights to more destinations whilst increases from FRA normally entailed the addition of more flights on existing routes.

Table 5.75 – Lufthansa Seasonal Ratio – 2008-2017

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
FRA	DC	1.11	1.00	1.00	1.00	0.95	1.00	1.06	1.06	1.11	1.05
	WDC	1.28	1.28	1.24	1.20	1.20	1.37	1.47	1.47	1.55	1.48
MUC	DC	1.25	1.29	1.43	0.90	1.00	1.25	1.22	1.22	1.20	1.09
	WDC	1.37	1.50	1.57	1.11	1.40	1.56	1.46	1.45	1.33	1.25

It is likely that Lufthansa will continue to pursue a dual hub strategy with FRA as its primary hub and MUC as a secondary hub. Its recent operational history suggests that any expansion to new destinations is more likely to occur at MUC rather than FRA and would strengthen that airport's importance within the airline. It is also possible that Eurowings could be utilised to meet any variations in seasonal demand instead of increasing operations under the LH brand.

This possibility would be a challenge as it would require the development of CGN as a hub airport to draw upon feeder flights from within the LH network. A development of this nature would impact both Lufthansa's overall structure and the nature of their North Atlantic operations.

5.5.3 United Airlines / Continental Airlines

United Airlines had more North Atlantic flights than any of the other Star Alliance founders in 1997. Its two-hub system accounted for over 60% of the airline's flights, both in January and July, and relied upon IAD as its primary hub and ORD as its secondary hub.

A challenge for the airline was the lack of a New York hub, the country's primary tourism destination. Although UA operated flights from both EWR and JFK to counter this, the strategy proved ineffective, and the airline withdrew from the city altogether by 2007.

By 2001, the airline had expanded its operations by over 47% (Table 5.76). The airline added more flights at all its airports, and although IAD and ORD still accounted for more than 60% of January flights, the two airports' share in July had slipped to 57.6%.

Table 5.76 - Overview of UA Flights - 1997 to 2001

		1997	1998	1999	2000	2001	Change
January	**DC**	16	16	16	17	19	18.8%
	WDC	133	140	175	182	196	47.4%
July	**DC**	15	15	16	18	21	40.0%
	WDC	157	166	210	203	231	47.1%

LHR was a key destination and consistently accounted for nearly half of all UA's North Atlantic flights. Frankfurt was the second largest destination and accounted for 35 flights and 42 flights in January and July 2001 respectively.

The events of September 11, 2001 severely impacted the airline. Even though the airline reduced its North Atlantic operations by over 10% in 2002, UA had to file for Chapter 11 bankruptcy protection later that year. Although the airline maintained its January operations, the airline cut their summer flights by another 14% in July 2003. The challenges facing the airline were protracted and it emerged from court protection in February 2006.

As part of its restructuring, the airline ceased operations from both EWR and JFK. The airline refocused its operations at both IAD and ORD, and increased services from its western hub at San Francisco.

Whilst LHR remained UA's most popular destination in 2008, flights increased to FRA and made that airport a close second; the two airports accounted for about 60% of

UA's North Atlantic flights. In January 2008, LHR and FRA accounted for 36% and 24% of all flights respectively; in July, it was 34% and 31% respectively.

From 2009 to 2011, the airline expanded its operations, especially at IAD. The airline expanded further following its merger with Continental, more than doubling in size in 2012.[90] The new airline blended the operations of both air carriers and acquired new hubs in both New York (EWR) and Houston (IAH), although CLE was de-hubbed.

EWR provided a much-needed base in New York and became the primary hub for the North Atlantic operations. Flights at ORD were increased, though it remained smaller than IAD; IAH was relegated to tertiary hub status along with SFO (Table 5.77).

The airline continued to use LHR as a focal point attracting more than 20% of its services. However, as CO's network was more dispersed in nature, this reduced the importance of LHR in UA's network. UA had connections to both FRA and MUC from each of its five hubs, with another three connections to BRU and two more to ZRH, thus maintaining strong connections with its alliance partners.

Table 5.77 - Overview of UA Flights - July 2011 to 2017

	2011	2012	2013	2014	2015	2016	2017
EWR	7	267	259	252	257	265	252
ORD	62	63	68	77	92	91	91
IAD	131	140	119	116	123	119	112
SFO	28	28	35	35	35	38	49
LAX	7	7	7	7	7	7	7
IAH		42	40	49	49	42	35
Total	**235**	**547**	**528**	**536**	**563**	**562**	**546**

One of the aspects that changed following the merger was the increase in summer operations and therefore the seasonal ratio (Table 5.78). From 1998 to 2008 (excluding

[90] Although the UA-CO merger was approved in 2010, the CO code was still in use in July 2011, with operations not fully integrated until March 2012.

2003), the DC seasonal ratio averaged 1.03 and the WDC averaged 1.13. This changed dramatically once the CO and UA networks amalgamated.

Table 5.78 – United Airlines Seasonal Ratio – 2013-2017

		2013	2014	2015	2016	2017
UA	DC	1.02	1.09	1.29	1.29	1.40
	WDC	1.23	1.27	1.47	1.49	1.55
EWR	DC	1.00	1.04	1.21	1.26	1.29
	WDC	1.25	1.27	1.46	1.56	1.58
IAD	DC	0.93	1.08	1.40	1.40	1.63
	WDC	1.10	1.15	1.52	1.49	1.60
ORD	DC	1.17	1.33	1.83	1.67	1.67
	WDC	1.13	1.40	1.70	1.69	1.69

In addition to EWR becoming the dominant hub within the network, the airline also adopted a strategy of increasing its summer seasonal operations. Whilst ORD had already been utilised to absorb some of the additional leisure demand, from 2015 onwards all three major hubs (EWR and IAD in addition to ORD) added more destinations and flights to provide greater capacity.

This new direction was a strategy change and reflected the philosophy that had been utilised at Continental: an unsurprising event given that the boardroom was dominated by executives from the now-extinct Continental Airlines even though the United brand continued to be used.

Continental Airlines

Continental operated a dual-hub network for its North Atlantic operations with EWR as its primary hub and IAH as a smaller secondary hub. In January 1997, the airline had a DC of 10 and a WDC of 77; in July, the DC and WDC were 12 and 107 respectively.

In early 1999, the airline joined the Wings Alliance, which was anchored by NW and KLM, and remained a member until the alliance's dissolution in 2004; at that time, the airline joined SkyTeam.

The airline did not file for bankruptcy protection following September 11, 2001, although they did undergo a slight contraction in its operations in 2002. However, from 2003 onwards the airline embarked upon an expansionist program that resulted in significant growth in both destinations and frequencies (Table 5.79). Most new routes (and flights) were based at EWR; IAH had minimal growth and CLE was utilised primarily during the summer season until 2009[91].

Table 5.79 - Overview of CO Flights from Newark Airport - 2003 to 2008

		2003	2004	2005	2006	2007	2008	Change
January	DC	15	16	19	28	28	30	100.0%
	WDC	106	107	135	201	201	231	117.9%
July	DC	17	19	24	28	29	31	82.4%
	WDC	126	165	221	258	290	301	138.9%

The economic downturn that began in autumn 2008 had a minimal impact on the airline overall although the airline ceased its expansionist strategy and focused on consolidating its operations. CLE ceased to be used for North Atlantic operations from 2010 onwards, thus leaving the airline with a dual-hub structure.

The expansionist strategy that had been utilised included a highly seasonal element and enabled the airline to target the leisure market. However, most destinations within the CO network had year-round service, and the airline predominantly accommodated increased demand through an increase in flights on existing routes rather than adding new destinations (Table 5.80). As noted previously, most seasonal demand was absorbed through EWR and not IAH.

Table 5.80 – Continental Seasonal Ratio – 2003-2011

	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	1.17	1.54	1.57	1.71	1.42	1.35	1.20	1.33	1.25
EWR	1.19	1.54	1.64	1.28	1.44	1.30	1.22	1.39	1.26
IAH	1.04	1.07	1.03	1.00	1.07	1.22	0.88	1.00	1.00

[91] CO operated summer seasonal flights from CLE from 1999-2009 inclusive. They also operated a January service to LGW in 2000, 2001 and 2003. There was also a summer service between LAX-LGW in July 2004.

The change in strategy coincided with the airline's change in alliance membership and impending merger with UA. The airline left SkyTeam and joined Star Alliance in October 2009; in October 2010, the merger with UA received government approval.

Continental and United Airlines were not fully integrated until March 2012; as such, the CO code was still in use until that time. Most of CO's operations were absorbed and EWR became the airline's primary hub for North Atlantic operations.

5.5.4 Other Star Airlines

In addition to the original members, other alliance airlines have provided services on the North Atlantic. The four largest airlines, Austrian Airlines, Brussels Airlines, Swiss, and SAS are all based in Europe and except for SAS are currently operating as independent airlines in the Lufthansa Group.

<u>Austrian Airlines</u>

Austrian Airlines joined Atlantic Excellence in 1996 and subsequently joined Qualiflyer in March 1998. During its association with these programs, the airline was part of a joint-venture that included Delta, Sabena and Swissair[92]. Just prior to the dissolution of Atlantic Excellence two years later, the airline left the alliance (and Qualiflyer) to join Star Alliance and has been a member ever since. In September 2009, the airline became part of the Lufthansa Group, but continues to have independent operations.

The airline utilises VIE as its hub and has had service to JFK throughout the study period. The airline added flights to IAD (2000) and YYZ (2001) and maintained year-round services. In 2013, the airline added flights to ORD, a destination that it had sporadic service to previously, and in 2014 to EWR, both UA hubs (Table 5.81). However, flights were later added to both MIA and then LAX, neither UA hubs.

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[92] The joint-venture, which began in 1996, was subject to numerous carve-outs and ceased operations when Atlantic Excellence dissolved in August 2000 (US Department of Transport, 2019).

Table 5.81 – Austrian Flights – 2012 to 2017

	July						**January**				
	2012	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
EWR			5	7	7	7			4	4	4
IAD	7	7	7	7	7	7	6	6	5	5	5
JFK	7	7	7	7	7	6	7	7	5	5	3
LAX						6					
MIA					6	4				5	5
ORD		5	7	7	7	7		5	4	5	4
YYZ	7	6	7	7	7	6	3	4	4	4	4

As can be seen above, Austrian maintained its destinations throughout the year, and any seasonal variations were related to frequency. Although some destinations were alliance-oriented, fewer additions were more leisure oriented.

Brussels Airlines (Sabena)

The Belgian national airline, Sabena, was founded in 1923 and began services from its Brussels hub to JFK in the 1960s. In 1995, Swissair purchased 49% of the airline, beginning an association that involved Atlantic Excellence, Qualiflyer, and joint-venture participation (footnote 62, page 155).

The dissolution of Atlantic Excellence coincided with the cessation of the joint-venture and resulted in changes in the network (Table 5.82). Services to ATL and CVG (DL hubs) were halted, and new routes were initiated to IAD and DFW.

Table 5.82 – Sabena Flights – 1997 to 2001

	January					**July**				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
ATL			5	7			5	6	7	
BOS	6	5	5	7	7	5	5	7	7	7
CVG		5	7	7		5	7	7		
DFW					7					7
EWR			7	7	7		7	7	7	
IAD				4	7				7	7
JFK	7	7	7	7	14	7	7	7	13	14
ORD	5	5	6	6	7	5	6	6	7	7
YUL			4	5	5		4	6	6	7

Following the events of September 11, 2001, the airline declared bankruptcy later that year amidst contentious circumstances (Swissinfo.ch, 2003). The remnants of the airline were later purchased and reincarnated as Brussels Airlines in 2006 (keeping the same flight code, SN), and joined Star Alliance in December 2009.

The airline resumed North Atlantic operations in 2012 with service to JFK. The airline subsequently added flights to both IAD and YYZ, but operations remain well-below 2001 levels: there were 11 North Atlantic flights in January 2017 and 17 in July 2017. It should also be remembered that the Brussels National Airport was the subject of a terrorist attack just before Easter 2016, ceasing all operations from the airline's hub for several weeks.

Lufthansa purchased 45% of the airline in 2008, and the remainder in December 2016, although the airline continued to operate independently.

Swissair (Swiss Airlines)

Swissair was founded in the 1930s and began direct North Atlantic services, with the aid of technical stops, in the aftermath of World War II. In the early 1990s, the airline began an expansionist strategy that included initiating both Atlantic Excellence, Qualiflyer, and joining a joint-venture (footnote 62, page 155).

The airline operated flights to seven North American destinations in 1997, and also had a GVA-JFK flight to complement its Zurich operations. The airline reached its zenith in July 2000 when it operated 99 flights to 10 destinations. Atlantic Excellence, however, ceased operations that year, and the impact of September 11,2001 resulted in Swissair's bankruptcy (thus also dissolving Qualiflyer). Unlike Sabena, however, Swissair (SR) was resurrected shortly thereafter as Swiss (LX), and the impact upon the airline's network was negligible with only ATL and SFO were dropped although there were about 30% fewer flights.

Despite its relative stability, Lufthansa acquired the airline in July 2005 and Swiss joined Star Alliance the following year. Through its acquisition, Swiss also became part of the Star++ joint-venture. The airline's network has been stable with only SFO being added back into the network (Table 5.83). There was minimal seasonality with operations being virtually the same throughout the year.

Unlike its Belgian counterpart, Swiss was able to resume its strong North Atlantic presence and is an integral part of the alliance.

Table 5.83 – Swiss Flights – July 2012 to 2017

		2012	2013	2014	2015	2016	2017
ZRH	BOS	7	7	7	7	14	13
	EWR	7	7	7	7	7	7
	JFK	14	14	14	14	14	14
	LAX	7	7	7	7	7	7
	MIA	7	7	7	7	7	7
	ORD	11	11	12	13	12	12
	SFO	7	7	7	13	13	7
	YMX/YUL	7	7	7	7	7	7
GVA	JFK	7	7	7	7	7	7

SAS (Scandinavian Air Services)

SAS was founded through the co-operation of three governments: Denmark, Norway, and Sweden. Unsurprisingly, North Atlantic services have operated from all three respective capital cities (Copenhagen, Oslo, and Stockholm Arlanda). The airline has, however, relied upon Copenhagen as its primary hub.

Although one of the founding members of Star, SAS had the smallest presence on the North Atlantic (save Thai Airways which had no services) and has been overshadowed by its larger partners.

The airline has focussed almost all its operations to its partner hubs (EWR, IAD, and ORD) (Table 5.84). Surprisingly, the airline has never operated flights to AC hub YYZ or to New York JFK. SAS also operated a flight from Stavanger to Houston in 2015, although the importance of the oil industry in both cities explains this route.

Table 5.84 – SAS Flights – July 2010 to 2017

		2010	2011	2012	2013	2014	2015	2016	2017
CPH	BOS							7	7
	EWR	7	7	7	11	12	12	12	12
	IAD	7	7	14	7	7	7	7	7
	MIA								4
	ORD	7	7	7	7	7	7	7	7
	SFO				6	7	7	7	7
ARN	EWR	7	7	7	7	7	7	7	7
	ORD	7	7	7	7	7	7	7	7
	LAX							7	7
OSL	EWR		7	7	7	7	7	7	7
	MIA								3
SVG	IAH						6		

In the latter years of the study period, the airline re-instated OSL-EWR services[93]. They also subsequently added a MIA service, and additional routes from CPH (BOS) and ARN (LAX). Whilst they were the only operator on the OSL-MIA route, SAS faced competition from Norwegian on the other two routes. This was indicative of a defensive response to the presence of the LHLCC on these routes, as neither of the destinations are UA hubs which was the predominant strategy of the airline.

5.6 Non-Aligned Airlines

Several key airlines on the North Atlantic were un-aligned during the temporal scope of this study. Despite the dominance of alliances, these airlines were nonetheless important operators in the market.

[93] The airline had OSL-EWR services until January 2004.

5.6.1 Aer Lingus

Aer Lingus was established as Ireland’s flag carrier in the 1930s and began Trans-Atlantic services in the late 1950s. The country’s geographic position as Europe’s western edge made it ideally situated for long-haul flights. The airline reinforced its geographic advantage by utilising Shannon Airport, situated in the country’s southwest corner rather than Ireland’s capital Dublin; in actuality, EI had services that began in DUB but stopped in SNN before continuing to North America[94].

One advantage that benefitted EI was the establishment of a US Border and Customs Pre-Clearance Facility in 1986 (Shannon Commercial Properties, no date). This enabled passengers to avoid delays upon arrival in the United States and facilitated onwards domestic connections.

Table 5.85 – Allocation of Aer Lingus Flights – 1997 to 2002

		1997		**1998**		**1999**		**2000**		**2001**		**2002**	
		Jan	July	Jan	July	Jan	July	Jan	July	Jan	July	Jan	July
DUB	BOS		6		3		4		7	3	7		
	EWR							5					
	JFK	7	8	7	8	12	7	7	7	7	7	7	7
	LAX						3		6	3	6	3	5
	ORD	3	6	4	6	6	7	6	7	6	7	6	7
SNN	BOS	5	4	6	7	7	7	7	7	7	7	8	14
	BWI									3	7		
	EWR		6		7		7		7	4	6		
	JFK	7	9	3	7	7	7	7	9	7	8	7	7
	LAX						3		1		1		
	ORD								2		4		
Total Flights		**22**	**39**	**20**	**38**	**20**	**45**	**32**	**53**	**40**	**60**	**31**	**40**
Yearly Pct. Change				**-9.1**	**-2.6**	**0.0**	**18.4**	**60.0**	**17.8**	**25.0**	**13.2**	**-22.5**	**-33.3**

By 1997, EI utilised SNN and DUB almost equally, though it should be remembered that some Shannon flights started in Dublin (Table 5.85). In both 1997 and 1998, DUB had year-round service to JFK and ORD with seasonal service to BOS; SNN had year-

[94] Due to the treatment of data in this study, this resulted in SNN being designated as the origin of these flights instead of DUB.

round service to BOS and JFK with seasonal service to EWR. In 1999, the airline also implemented seasonal service to LAX from both of its hub airports.

Starting in 1999, the airline embarked upon a network and operational expansion which coupled with its new membership in the Oneworld Alliance (June 2000), greatly extended EI's connectivity.

In addition to adding services to LAX and BWI, some seasonal routes became year-round services. Overall, from 1999 to 2001, January flights doubled, and July flights rose by a third.

The events of September 11 impacted the airline and only retained year-round flights from DUB to JFK, LAX and ORD whilst SNN kept flights to BOS and JFK; DUB's flights to BOS were redirected via SNN, hence the increase in flights in 2002 (Table 5.85).

From 2003 until 2007, the airline's operations remained stable with only small short-term variations. It was during this time of economic prosperity and expansion that the decision to partially privatise the airline was made, and in the autumn of 2006, Aer Lingus was first listed on the stock exchange (BBC News, 2006).

This time period also coincided with the growth of Irish-based rival Ryanair. Although the LCC did not have North Atlantic flights, it did compete against EI on short-haul and mid-haul routes that Aer Lingus utilised for feed on its long-haul flights. This precipitated EI marketing itself as an LCC instead of an FSC and triggered its departure from the Oneworld Alliance.

Over the next two years, the airline proceeded to re-align its network (Table 5.86). In July 2007, EI reinstated direct flights between DUB and BOS and added year-round service from DUB to IAD, MCO and SFO in January 2008. The route from DUB to LAX, an AA and Oneworld partner hub, however, was suspended from 2009.

The economic downturn of 2008 initiated a contraction in the EI network. From January 2010, the airline ceased operations to both IAD and SFO (Table 5.86). It also began utilising DUB as its primary hub, and SNN was relegated to a secondary position and from 2010 onwards only offered summer flights to BOS and JFK.

Table 5.86 – Allocation of Aer Lingus Flights – 2007 to 2012

		2007		**2008**		**2009**		**2010**		**2011**		**2012**	
		Jan	July	Jan	July	Jan	July	Jan	July	Jan	July	Jan	July
DUB	BOS		7	4	7	4	7	5	7	7	10	7	11
	IAD			4	4	3	4						
	JFK	7	14	7	14	14	14	11	14	14	14	11	14
	LAX	3	7	3	5								
	MCO			3	4	3	3	3	3	3	3	3	2
	ORD	7	7	7	7	7	7	6	7	7	7	7	7
	SFO			4	6	4	4						
SNN	BOS	7	7	7	7	7	7	4	5		3		4
	JFK	7	7	7	7	4	5	3	5		4		3
	ORD		7				3						
Total Flights		**31**	**56**	**46**	**61**	**46**	**54**	**32**	**41**	**31**	**41**	**28**	**41**

Following the initial downsizing measures following the recession, the airline began to increase flights, initially through summer flights; from 2010 to 2012 the seasonal ratio averaged 1.36, and then jumped to 1.71 in 2013 (Table 5.87).

Table 5.87 – Allocation of Aer Lingus Flights – 2013 to 2017

		2013		**2014**		**2015**		**2016**		**2017**	
		Jan	July	Jan	July	Jan	July	Jan	July	Jan	July
DUB	BDL									4	7
	BOS	7	13	7	14	7	14	15	14	7	14
	EWR									7	7
	IAD						4		7	4	7
	JFK	11	14	11	14	11	21	12	20	12	14
	LAX								4	3	7
	MCO	3	3	3	3	2	4	2	3	3	4
	ORD	7	11	7	14	7	11	8	13	7	14
	SFO				5	4	7	5	7	5	7
	YYZ				7	3	7	3	7	3	7
SNN	BOS		4		7	6	7	5	7	5	7
	JFK		3		6		6		6		6
Total Flights		**28**	**48**	**28**	**70**	**40**	**81**	**50**	**88**	**60**	**101**
Seasonal Ratio		1.71		2.50		2.03		1.76		1.68	

This pattern continued in 2014, although many summer seasonal services became year-round services. The airline continued to add more routes and flights and by 2017 EI had more than doubled its January flights and more than tripled its July flights when compared to 2013.

During this time period, EI became fully privatised. Aer Lingus rebuffed numerous takeover offers from both Ryanair and IAG before finally accepting a bid from IAG in early 2015 (BBC News, 2015). The deal was formalised later that year, although due to competition concerns the airline was required to provide connection services to rival airlines from not only DUB and SNN, but also AMS, LGW, LHR and MAN (European Commission, 2015).

Although a part of IAG, EI became neither a member of IAG's immunised joint-venture on the North Atlantic nor did it re-join the Oneworld alliance.

5.6.2 Emirates Airlines

Emirates Airlines began flights on the North Atlantic in July 2004 when it began a daily service to JFK; this remained the airline's only destination until 2008 when the airline expanded its services to both IAH and YYZ (Table 5.88). The airline exhibited steady growth, although from July 2009 to July 2010 their operations remained static. However, from 2008 to 2012, the airline nearly doubled both its January and July operations.

As dynamic as this expansion was, the airline continued to develop their network even further. Starting in 2014, in each new scheduling season the airline added the equivalent of a daily flight to their North Atlantic network, either by adding a new route or by adding flights to an existing route (or both) (Table 5.89).

Table 5.88 – Allocation of Emirates Flights – 2008 to 2012

	2008		2009		2010		2011		2012	
	Jan	July	Jan	July	Jan	July	Jan	July	Jan	July
DFW										7
IAH	3	7	7	7	7	7	14	14	14	7
JFK	21	14	14	14	14	14	14	14	14	14
LAX			3	7	7	7	14	7	14	14
SEA										7
SFO		7	3	7	7	7	7	7	7	7
YYZ	3	3	3	3	3	3	3	3	3	3
Total	**27**	**31**	**30**	**38**	**38**	**38**	**52**	**45**	**52**	**59**

Table 5.89 – Allocation of Emirates Flights – 2013 to 2017

		2013		2014		2015		2016		2017	
		Jan	July	Jan	July	Jan	July	Jan	July	Jan	July
DXB	BOS				7	7	7	14	14	14	7
	DFW	7	7	7	7	7	7	7	7	7	7
	FLL									7	5
	IAD	7	7	7	7	7	7	7	7	7	7
	IAH	7	7	7	7	7	7	7	7	7	7
	JFK	14	14	14	14	14	21	21	21	21	21
	LAX	7	7	7	7	7	7	7	14	14	7
	MCO							7	7	7	5
	ORD					7	7	7	7	7	7
	SEA	7	7	7	7	7	14	14	14	14	7
	SFO	7	7	7	7	7	7	7	7	7	7
	YYZ	3	3	3	3	3	3	3	3	3	3
ATH	EWR										7
MXP	JFK			7	7	7	7	7	7	7	7
Total		**59**	**59**	**66**	**73**	**80**	**94**	**108**	**115**	**122**	**104**

The airline negotiated 5th Freedom rights and started MXP-JFK services (2014) and flights between Athens and Newark (2017). Although these flights initially started in Dubai, they nonetheless continued to these European airports and were able to both transfer and collect passengers. The only airport that did not have daily service was that of YYZ, a constraint due to the bilateral air services agreement with Canada.

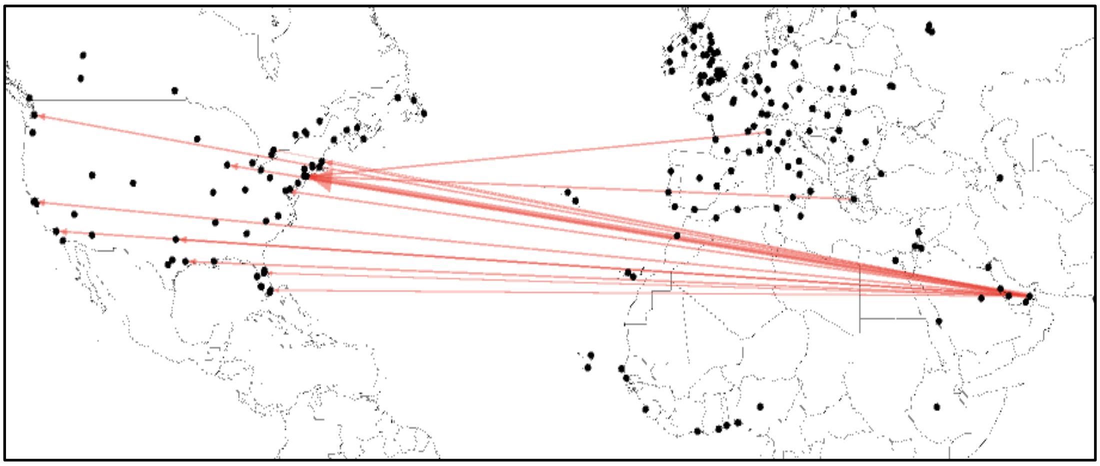
The decrease in flights during July 2017 reflects the previously mentioned US-imposed ban on computers being transported within the cabin of Middle Eastern based airlines.

Although most services were to major hubs, Emirates also had two services to predominantly leisure-oriented destinations: FLL and MCO.

Unlike many other airlines, there was no seasonal component within EK operations. The tendency to have a higher seasonal ratio reflected the introduction of new flights rather than an annual pattern of re-allocating services to accommodate traditionally summer leisure travel.

Nonetheless, the airline has grown from 1 route with 7 flights in July 2004 to 14 routes and 104 flights in2017 (Figure 5.20).

Figure 5.20 - Overview of Emirates Network – July 2017



5.6.3 Etihad

Etihad began North Atlantic operations in 2006 with services from AUH to both JFK and YYZ, although the Toronto service did require a stop in BRU until the summer of 2007; these remained Etihad's only two destinations until 2010.

Starting in 2010, EY added 7 flights per week to ORD to its existing 7 flights to JFK and 3 flights to YYZ; there was no difference between the airline's January and July operations. The airline began adding destinations to its network in July 2013, although its expansion was more limited than that of Emirates with the network being static from July 2015 onwards (Table 5.90).

Table 5.90 – Allocation of Etihad Flights – 2013 to 2017

	2013		2014		2015		2016		2017	
	Jan	July	Jan	July	Jan	July	Jan	July	Jan	July
DFW					3	3	3	3	3	6
IAD		7	7	7	7	7	7	7	7	7
JFK	7	7	7	14	7	14	14	14	14	14
LAX				7	7	7	7	7	7	7
ORD	7	6	7	7	7	7	7	7	7	7
SFO					7	7	7	7	7	3
YYZ	3	3	3	3	3	3	3	3	3	3
Totals	**17**	**23**	**24**	**38**	**41**	**48**	**48**	**48**	**48**	**47**

EY's operations consisted of daily flights to major North American airports that operated as hubs for other airlines; only JFK had twice daily flights. Similar to Emirates, Etihad did not have a seasonal aspect to its operations, either in terms of flights or destinations.

5.6.3 Icelandair

Icelandair was Iceland's flag carrier and operated all its flights from Keflavik Airport in Reykjavik. It had a long history of providing North Atlantic services and was able to benefit from the country's advantageous geographic location.

In 1997, the airline had flights to six North American destinations: BOS, BWI, FLL (January only), JFK, MCO and YHZ. Unlike some other airlines, FI operated a more contracted summer network compared to its January operations (Table 5.91). This was in part due to the airline's operations to sun destinations FLL and MCO; FLL had only January flights and the airline reduced its services to MCO during July as well. Beginning in 1999, the airline ceased operations to FLL and flights to MCO became January only whilst starting flights to MSP.

Table 5.91 – Allocation of Icelandair Flights – 1997 to 2001

	1997		1998		1999		2000		2001	
	Jan	July	Jan	July	Jan	July	Jan	July	Jan	July
BOS	4	5	5	6	7	12	7	7	7	7
BWI	6	7	7	7	7	7	7	7	7	7
FLL	2		1							
JFK	8	7	7	7	7	7	7	7	6	7
MCO	3	1	2	2	2		2		2	
MSP					3		7	7	5	7
YHZ	2	2	3	3	3	3	3	3	3	3
Seasonal Ratio	0.88		1.04		1.00		0.94		1.07	

Following September 11, the airline ceased operations to JFK, and although the airline later resumed flights in July 2002, it became a summer seasonal service[95].

From 2002 to 2012 inclusive, the airline operated to four destinations during their winter operations except from 2006 to 2009 when they had only three destinations; in contrast, the airline expanded its summer operations. Although there were only about six destinations during the same time period, the seasonal ratio rose considerably. From 2002 to 2005, the seasonal ratio averaged 1.52; from 2006 to 2012 it had risen to 2.63, a clear contrast from the airline's operations from 1997-2001. It was also during this time that Iceland underwent a banking crisis which required the country to ask for an emergency loan from the IMF in the autumn of 2008 (International Monetary Fund, 2008).

From 2013 onwards, the airline embarked upon an expansionist strategy that further emphasised its seasonal operations, although both winter and summer operations more than doubled in size from 2013 to 2017 (Table 5.92).

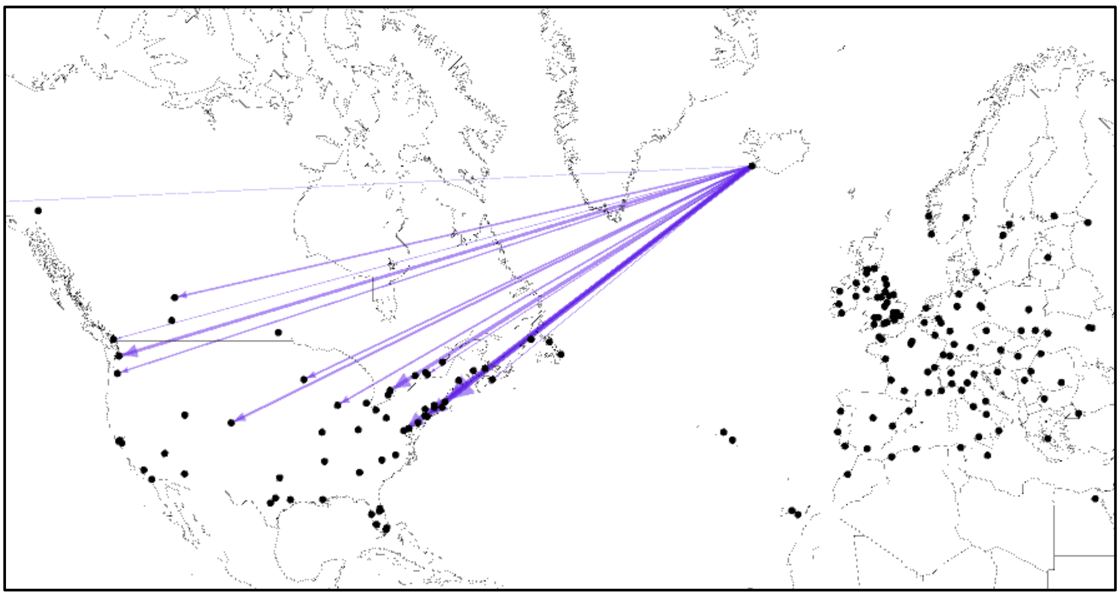
[95] In 2006, flights to JFK resumed year-round operations.

Table 5.92 – Icelandair Flights – 2012 to 2017

		2012	2013	2014	2015	2016	2017
January	**DC**	4	5	7	8	10	11
	WDC	21	27	33	38	49	57
July	**DC**	8	9	12	12	15	16
	WDC	59	68	84	95	121	134
Seasonal Ratios	**DC**	2.00	1.80	1.71	1.50	1.50	1.45
	WDC	2.81	2.52	2.55	2.50	2.47	2.35

This expansion could be attributed to different factors. Key among them was the recovering economy, both in Iceland and globally, which helped increase discretionary spending and in turn travel spending. Another factor was the development of LHLCCs on the North Atlantic like Norwegian but especially WOW Airlines which was also based in Iceland. Although FI was a legacy carrier, it marketed itself as a lower cost option to other FSCs. Based in KEF, WOW had the same geographic advantages as FI and provided direct competition in Icelandair's home market. Interestingly, many of the newer routes added by FI were not in direct competition against WOW but to larger US airports. Nonetheless, the changes greatly expanded the airline's network capacity (Figure 5.21).

Figure 5.21 - Overview of Icelandair Network – July 2017



5.6.5 Norwegian Airlines

Norwegian Air Shuttle was founded in the 1990s and focussed primarily on domestic flights within Norway before expanding to neighbouring countries. The airline transformed into an LCC in the early 2000s and later created Norwegian[96] as a separate entity to initiate long-haul flights.

The airline began long-haul services during the summer of 2013 from ARN and OSL, each with 3 flights/week to JFK (Table 5.93). The following year, the airline added services from CPH, LGW and BGO.

Table 5.93 – Allocation of Norwegian Flights – 2013 to 2016

		2013	2014		2015		2016	
		July	Jan.	July	Jan.	July	Jan.	July
ARN	DC	1	2	4	3	4	4	5
	WDC	3	5	11	7	11	8	12
CPH	DC		1	3	3	4	5	6
	WDC		2	9	7	10	9	12
LGW	DC			3	3	4	3	6
	WDC			7	7	12	12	22
OSL	DC	1	2	5	3	5	4	6
	WDC	3	6	12	7	11	8	13
BGO	DC			1		1		1
	WDC			1		1		1

The airline had a seasonal ratio of just over 1.6 in both 2015 and 2016, as could be expected from an LCC whose primary market was leisure travellers. The growth at this time was relatively moderate; in 2017, however, the airline embarked on a rapid expansion program.

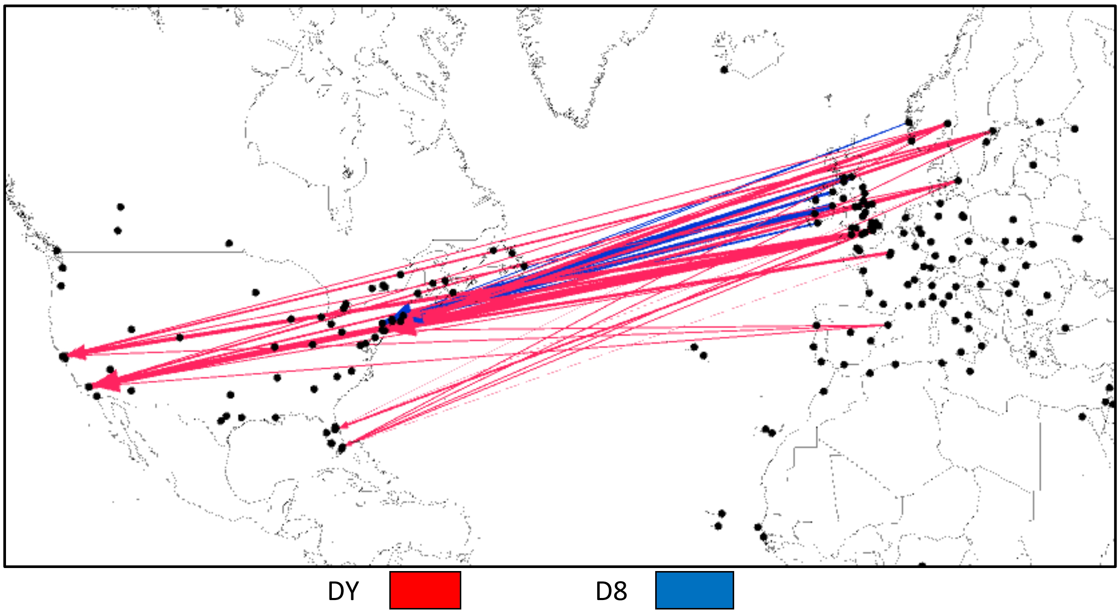
In July 2017, Norwegian operated flights from 12 airports (up from five in 2016), added 65% more destinations and doubled the number of flights compared to the same period the year before. However, of the 64 new flights added, the majority were to

[96] There are two separate Norwegian airline codes: Norwegian Air Shuttle (DY) and the subsequently created Norwegian Air International (D8). For the purposes of this study, they will be treated as one entity.

secondary airports like New York's Stewart Field (22 flights) and Providence (14 flights). In addition to its SWF flights, Norwegian also had 24 flights to JFK which together amounted to 46 flights and over 35% of all operations.

Norwegian operated DY services to JFK from ARN, CDG, CPH, LGW and OSL, all relatively large European airports, whilst services to SWF were by D8 and from smaller secondary airports: BFS, BGO, DUB, EDI, ORK and SNN. Nonetheless, the expansion resulted in a large and diverse network with New York as the primary destination (Figure 5.22).

Figure 5.22 - Overview of Norwegian Network – July 2017



As noted above, DY had flight operations from larger airports whilst D8 tended to operate flights from smaller secondary airports.

Although developments concerning the long-term feasibility of this strategy have subsequently occurred, they are beyond the temporal scope of this study.

5.6.6 Virgin Atlantic Airways

The airline was founded in 1984 by Sir Richard Branson and shortly thereafter began flights between LGW and EWR. In 1991, VS was granted permission to utilise LHR for its operations, thus enabling the airline to compete with BA on North Atlantic routes.

In January 1997, the airline operated 65 flights on 9 routes; in July 1997, the airline operated 83 flights on 10 routes. Although the airline had permission to operate from LHR, LGW remained Virgin's primary hub; VS also had operations from MAN, but only to MCO (Table 5.94).

The airline continued to balance operations between the two London airports and shifted some of its services, including the temporary reallocation of services to MIA from LGW to LHR (1997) and then back again to LGW (2000).

It was during this time that Singapore Airlines[97] acquired 49% of the airline (BBC News, 1999), although this did not have any noticeable impact upon VS's North Atlantic operations.

Following the events of September 11, the airline realigned its network reducing services to JFK (21 flights to 14 flights), transferring services from LGW to LHR (BOS and EWR), and suspending both LGW-SFO seasonal flights and year-round service to ORD. Overall, both Virgin's winter and summer operations decreased by over 15% between 2001 and 2002.

North Atlantic operations remained relatively static[98] until July 2007, which coincided with the expiration of the airline's 10-year codeshare/blocked seat arrangement with Continental (Reuters, 1997; Walters, 1999).

[97] Singapore was un-aligned at the time of acquisition and did not join Star Alliance until April 2000.
[98] In 2004, the airline transferred its LGW operations to LHR.

Table 5.94 – Allocation of Virgin Flights – 1997 to 2002

		1997		1998		1999		2000		2001		2002	
		Jan	July	Jan	July	Jan	July	Jan	July	Jan	July	Jan	July
LGW	BOS	7	7	7	7	7	7	7	7	7	7		
	EWR		7	7	7	7	7	7	7	7	7		
	LAS								2	2	2	2	2
	MCO	7	7	7	14	14	14	14	14	12	14	13	14
	MIA	5						7	7	7	7	7	7
	SFO								4		4		
LHR	BOS											7	7
	EWR	7	7	7	7	7	7	7	7	7	7	12	13
	IAD	7	7	7	7	7	7	7	7	7	7	7	7
	JFK	13	14	14	14	14	20	21	21	21	21	14	14
	LAX	7	14	14	14	14	14	14	14	14	14	14	14
	MIA		7	7	7	7	7						
	ORD							7	7	7	7		
	SFO	6	7	7	7	7	7	7	7	7	7	7	7
MAN	MCO	6	6		6		6	5	6		6		6
Total Flights		**65**	**83**	**77**	**90**	**84**	**96**	**103**	**110**	**98**	**110**	**83**	**91**

By this time, LHR had supplanted LGW as Virgin's main hub; LGW functioned similarly to both GLA and MAN in providing flights to leisure destinations (Table 5.95). There were also more flights to leisure destinations in general, specifically LAS and MCO (29.1% of all flights in July 2012). These destinations were marketed toward leisure passengers and primarily drove the increase in the seasonal ratio from 2010.

In addition, Virgin reduced summer flights to IAD, the overall number of flights to JFK, and adjusted ORD operations to summer only service.

2012 was a pivotal year for Virgin as it announced the creation of a subsidiary, Little Red, to provide domestic services (BBC News, 2013). Delta also purchased Singapore's share in the airline in December (BBC News, 2012); this resulted in a code-share arrangement which subsequently became an immunised joint-venture on 1 January 2014 (Delta Airlines, 2015).

Table 5.95 – Allocation of Virgin Flights – 2007 to 2012

		2007		**2008**		**2009**		**2010**		**2011**		**2012**	
		Jan	July	Jan	July	Jan	July	Jan	July	Jan	July	Jan	July
LGW	LAS	7	7	7	7	7	7	7	7	7	7	6	7
	MCO	11	14	9	14	14	15	11	14	7	15	7	15
LHR	BOS	7	7	7	7	7	7	7	7	7	7	7	6
	EWR	14	14	14	14	14	14	14	14	14	14	14	14
	IAD	7	14	7	14	7	14	7	7	7	7	7	7
	JFK	28	28	28	28	21	21	18	21	21	21	21	21
	LAX	14	14	14	14	14	14	13	14	14	14	13	14
	MIA	7	7	7	7	7	7	7	7	7	7	6	7
	ORD		7	7	7	5	7		7		7		7
	SFO	7	7	7	7	7	7	7	7	7	7	6	10
	YVR												4
GLA	MCO		1		1		1				2		2
MAN	LAS										2	2	2
	MCO	8	9	9	8	7	9	9	10	7	11	9	11
Total Flights		**110**	**129**	**116**	**128**	**110**	**123**	**100**	**115**	**98**	**121**	**98**	**127**
Seasonal Ratio		1.17		1.10		1.12		1.15		1.23		1.30	

Following the joint-venture, Virgin re-organised its network ceasing operations to many Asian destinations and increasing its North Atlantic flights; it also resulted in the termination of Little Red in 2015. Although initiated to compete against BA and deliver more feed to LHR, the subsidiary had suffered from poor load factors and could no longer be sustained (Topham, 2014).

The impact of the joint-venture was evident as the airline initiated new routes to Delta hubs ATL and DTW and increased flights to JFK (Table 5.96). Another change was the increase in summer services which raised the seasonal ratio.

Table 5.96 – Allocation of Virgin Flights – 2014 to 2017

		2014		2015		2016		2017	
		Jan	July	Jan	July	Jan	July	Jan	July
LGW	LAS	5	7	4	7	4	7	3	7
	MCO	8	14	8	13	8	14	6	14
LHR	ATL			7	14	6	14	7	7
	BOS	6	7	7	7	7	7	7	7
	DTW				7	4	7	4	
	EWR	14	14	13	7	7	7	6	7
	IAD	6	7	6	7	6	7	6	7
	JFK	25	28	25	35	31	35	29	35
	LAX	14	14	7	14	10	14	10	21
	MIA	7	7	7	7	10	7	8	7
	ORD		7		7		7		
	SEA								7
	SFO	7	7	7	12	12	13	11	12
	YVR		5						
MAN	ATL				7	6	7	5	6
	BOS								2
	JFK								7
	LAS		2		2		2		2
	MCO	7	11	6	11	6	11	6	13
	SFO								3
BFS	MCO				1		1		2
GLA	MCO		2		3		3		5
Total Flights		**99**	**132**	**97**	**161**	**117**	**163**	**108**	**171**
Seasonal Ratio		1.33		1.66		1.39		1.58	

Overall, the airline's operations became more aligned with that of Delta, an expected result since the inception of the joint-venture. The airline's operations have been strongly influenced by their North Atlantic partnerships.

5.7 Summary

One of the greatest changes observed in this study is the development of the global alliances and their overall dominance on the North Atlantic. In January 1997, the two alliances in operation, Qualiflyer and Wings, accounted for 21.2% of all North Atlantic flights; by 2017, the three global alliances accounted for 78.3% of all flights. By July 1997, Star Alliance had been formed, and 40.6% of all flights were by alliance carriers; in July 2017, the global alliances operated nearly 75% of all North Atlantic flights.

Amongst the three global alliances, Oneworld became the largest operator on the North Atlantic upon its formation in 1999, although Star surpassed its rival in summer operations in July 2001. The addition of both Continental and KLM resulted in SkyTeam becoming the largest alliance on the North Atlantic during both seasons. However, Star Alliance became dominant in 2010 when Continental joined the alliance after leaving SkyTeam. Star maintained its dominant position even after US Airways left to join Oneworld in 2014; this did, however, leave SkyTeam in third position amongst the alliances on the North Atlantic.

Oneworld was dominated by LHR and JFK, with MIA providing a key role in January operations; they were joined by MAD, ORD and PHL during the summer season, providing a greater balance amongst its network. In contrast, the key hubs of AMS, CDG and JFK were clearly dominant in SkyTeam operations.

FRA (LH) and EWR (UA) anchored Star Alliance's network in January and was joined by YYZ in July as AC's summer schedule became operational. MUC, IAD and ORD rounded out the alliance's top airports although ORD played a lesser role during summer operations. Although the alliance had the largest membership, LH, UA, and AC continued to dominate operations.

Despite technological advances, the most important North Atlantic alliance airports remained the same key western European hubs and North American eastern based airports. However, as more flights were capable of direct flights to the US West Coast, Midwest hubs like ORD and MSP gradually lessened in importance. Despite the increase in flights, however, the only West Coast hub of any importance was SFO – 10^{th} amongst Star Alliance airports.

With alliances being dominated by key airlines and their airports, an alliance's primacy bestows greater relative importance upon its hub airports and therefore imparts greater economic benefits through their enhanced connectivity.

Another aspect was the growing importance of airlines based neither in North America nor in Europe but in the Middle East. The ME3[99] accounted for 191 flights or about 3.8% of all North Atlantic operations in July 2017 in stark contrast to July 2003 when they had no North Atlantic flights.

The global alliances dominated traffic between Europe and North America whereas the ME3 provided alternatives for travellers based in Asia and even in Africa. With its geographic advantages and access to fuel supplies, a key cost in aviation, the ME3 were able to provide cheaper fare options than their competitors.

Whilst business travel had been a primary driver in initial route development and operations, leisure travel has developed to become a more important element. This was evident both in the growing divergence between the winter and summer schedules as well as in the development of LHLCCs on the North Atlantic. Leisure travel is possible through the availability of discretionary income. As such, it is necessary to consider both general economic conditions and disposable income to assess future passenger demand and the presence of touristic attractions to determine the strength of existing or future destinations.

Like leisure carriers, LHLCCs target leisure travellers rather than business passengers. Although not a major force on the North Atlantic, they nonetheless do divert market share away from FSCs, especially through the provision of predominantly point to point services. In this aspect, FSCs have adopted one of three defensive measures, or some combination of all three: 1) the creation of a leisure-oriented arm, 2) the initiation of seasonal flights from secondary (hub) airports within their networks, or 3) seasonal flights to leisure destinations. However, given their low margins and dependency upon price-conscious leisure travellers, LHLCCs are susceptible to an increase in aviation fuel costs or any economic downturn.

[99] The ME3 encompasses Emirates (EK), Etihad (EY) and Qatar (QR).

Despite the growth of leisure travel and the development of LHLCCs, FSCs continued to control most North Atlantic traffic. The largest FSCs maintained their market positions within collaborative alliance frameworks and through joint-venture agreements which collectively dominated the market. Nonetheless, non-aligned carriers, especially those based in the Middle East have gained market share to the detriment of European-based airlines that have historically dominated the North Atlantic.

CHAPTER 6 – TEMPORAL ASSESSMENT OF REGIONAL TRAVEL PATTERNS

This chapter appraises the changes in passenger travel in contrast to the previous chapter that examined the changes in airline and alliance networks and strategies in the provision of direct flights.

Despite the growing provision of direct services on the North Atlantic, about half of all passengers remained reliant upon a connection(s) for their journey in 2017. As noted previously, some research utilised both direct and indirect flights in assessing connectivity (Arvis and Shepherd, 2011; Burghouwt and Redondi, 2013; ACI Europe, 2015b; Allroggen, Wittman and Malina, 2015). Some of the new direct flights provided alternatives to previous transfer options, and one of the key aspects that was investigated was the choice of hubs for transfer traffic; as most hubs are dominated by one airline, this reflected a change in airline selection. This is indicative of a loss of market share for an airline within a particular market and less feeder traffic that could reduce the viability of certain North Atlantic services.

Whilst passengers tend to prefer direct flights, this is not always feasible nor is it always selected. Factors such as flight departure/arrival times, quality of service, frequent flyer programs, and price can influence passenger travel decisions; in addition, there may simply not be a direct flight (Nenem, Graham and Dennis, 2020).

Although the temporal scope of the study is from 1997 to 2017, the availability of PaxIS travel data precluded a similar comparison and the analysis in this chapter is from 2005 onwards. Due to the growing use of data imputation[100], most analysis refers to the percentage or proportion of traffic rather than absolute passenger numbers.

[100] As noted earlier in Chapter 3 (footnote 30, page 57), imputation is the attribution of characteristics to incomplete or unavailable records based on completed records with a similar profile and/or characteristics. As passenger self-booking has increased so has the level of imputation. Although it is a statistically accepted technique, it is nonetheless of less utility than a dataset of all actual trips as the use of imputation introduces a variation that increases correspondingly with the level of imputation.

It should be remembered that overall traffic from 2005 to 2017 rose 38.4% and 61.6% for travel in January and July, respectively. As such, a decline in proportional traffic and therefore market share, may actually reflect stable passenger numbers; in contrast, a rise in proportional traffic indicated a relatively strong increase in passenger travel.

The subsequent analysis examines temporal differences from a regional perspective.

6.1 North America

Comprised of Canada and the United States, the latter unsurprisingly draws more North Atlantic traffic compared to its northern neighbour. However, the higher propensity to travel among Canadian residents has resulted in a larger market share than perhaps anticipated.

Although Canada is geographically larger than the US, its population has consistently been only one-tenth the size. Most of Canada's population is situated close to its southern border and has resulted in a ribbon-like urban structure to take advantage of the relatively warmer climate[101]. As a consequence of the low population density, the airport network mirrors the country's urban hierarchy (and spatial dispersion) and has resulted in a lack of secondary airports that could be used as viable alternatives.

In addition, the country does not have multi-airport cities; although Toronto has two airports, Pearson International (YYZ) and Billy Bishop Airport (YTZ)[102], the latter is situated on an island and lacks a full-length runway. Whilst Montreal did have at one time two fully functional airports, this was an artificial situation created through government regulation and did not reflect market conditions[103].

[101] Only five of the country's 26 CMAs (Census Metropolitan Areas) are situated more than 200 km from the US border: Edmonton, Regina, Saskatoon, St. John's, and Sudbury.
[102] YTZ has also been known previously as Toronto City Centre Airport and Toronto Island Airport.
[103] This situation was discussed previously in Chapter 4.

In contrast, the US has a larger more evenly distributed population and consequently a more developed urban structure. Although the West North Central division in the Midwest and the Mountain Division[104] have a more disperse population, other regions have sufficient population density for self-supporting aviation services; this was especially evident in the Middle Atlantic region which has a high urban concentration supported by a developed airport network with numerous air transport options.

Some cities have multi-airport systems, although some airports are only domestic[105]. Except for New York, each city has only one major international airport, although the proximity of other urban centres creates a competitive environment and provides passengers with alternative options. Nonetheless, airports are associated with a city and tend to be the primary choice for people traveling there. The airports also reflect the relative attraction and importance of their urban locale.

New York's JFK was the most important airport and the destination for about 1 in 6 travellers to North America, a figure that was consistent throughout the year and the duration of the study period. Although situated in New Jersey, EWR functioned as New York's second international airport, and consistently attracted another 5% of all travellers to the continent. Despite being a hub initially for CO and then UA, its relative importance during the winter season declined from the second place in 2005 to sixth in 2017; in contrast, the percentage of travellers to JFK increased over the same time.

Both LAX and YYZ attracted a greater proportion of travellers from 2005 to 2017 to become the second and third largest destinations. However, ORD dropped from 4th to 9th position, and ATL slipped from 10th to 12th amongst North American destinations during January. In addition, destinations on the west coast became more popular and the number of travellers rose from 13.8% (in 2005) to 16.0% in 2017[106].

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[104] There are four statistical regions which include nine divisions in the US: Northeast (New England and Middle Atlantic), South (South Atlantic, East South Central and West South Central), Midwest (East North Central and West North Central), and West (Mountain and Pacific) (US Department of Commerce, 2010).

[105] Examples include LaGuardia Airport (New York), Midway Airport (Chicago), and Reagan National (Washington, DC).

[106] The selected airports situated on the west coast are: LAX, PDX, SAN, SEA, SFO and YVR.

Although Canada was a destination for only 10.8% of all travellers in January 2005, this figure increased to 14.4% by January 2017.

Whilst proportion reflects market share, in terms of passenger numbers six airports had a decline in travellers from 2005 to 2017: ORD (-3.0%), ATL (-11.0%), MEM (-11.6%), CVG (-17.1%), PHL (-26.5%), and DTW (-36.8%). The reliance of transfer traffic was evident in that four of the six were hub airports: ORD (AA and UA), ATL (DL), PHL (AA) and DTW (DL). In addition, MEM and CVG previously operated as NW and DL hubs respectively and were subsequently de-hubbed following the DL-NW merger.

Nonetheless, the 40 destinations selected consistently accounted for at least 85% of all North Atlantic traffic during the winter season from 2005-2017.

As noted above, JFK was the most popular destination for travellers in the summer months as well as during the winter. The next most popular destinations in July 2005 were (in order): YYZ, LAX, EWR and SFO. These five airports were consistently the top five destinations up to and including 2017[107].

Similarly, BOS, IAD, MCO, MIA, ORD, and YUL were the next most popular destinations from 2005 to 2017 inclusive. Although there was some shifting amongst these airports, they nonetheless formed a consistent second tier of destinations on the continent.

About 65% of all travellers ended their trips at these 11 airports, highlighting their dominance of the travel market and the stability of the top destinations in the continent; the 40 selected airports accounted for about 87% of all traffic.

However, the market was not static. Similar to January travel patterns, west coast-based airports gained a greater market share, increasing its proportion of travellers from 16.7% (2005) to 17.9% in 2017. Unlike the January trend, which was consistently upward, summer travel to the west coast peaked in 2015 with 18.8% of the total

[107] The only exception was in July 2016 when BOS replaced EWR.

market. Amongst the west coast airports, SFO had the largest decline with a 0.6% market share loss although there were actually more passengers in 2017 than in 2015.

In terms of actual passenger numbers, there were only four airports that had declines in North Atlantic travel from 2005 to 2017, CVG (-25.1%), CLE (-2.9%), MEM (-2.8%), and DTW (-2.5%); all four airports are in the American Midwest.

Similarly, Canada's market share rose from 16.8% in 2005, to 18.1% in 2017. In terms of passenger numbers, this represented an increase of nearly 75% more travellers.

Despite decreases in both January and July 2009 following the economic downturn, passenger travel on the North Atlantic consistently rose. Travel to the west coast helped spur this increase as did more passenger travel to Canada. Whilst travel to these areas increased, it would be a fallacy to assume that this solely represents a rise in travel from non-residents to these regions. The increase in passenger numbers also encompasses returning travel by residents of these regions.

6.2 Europe

Of all the Afro-Eurasian regions, Europe had the most North Atlantic connections. This was primarily due to its geographic location which had enabled Europe to create settlements and subsequently develop the North American continent. These historical actions created both strong cultural ties through migration to the 'New World' and embedded strong economic links which have persisted to the present-day.

During the initial formation of the aviation industry, airlines relied upon shorter routes to facilitate trans-Atlantic crossing due to the range limitations of aircraft. This created Europe's position as a springboard for North Atlantic routes, and enabled airlines based in the most westerly airports to develop first-mover advantages over its competitors. It also established Shannon Airport in Ireland and Prestwick Airport in

Scotland as logical choices for technical stops, especially for airplanes on their westbound journey[108].

Whilst post-war technological advances eased some of their initial advantages, the early airlines of Europe, Air France, British Airways, and KLM (Netherlands) maintained their dominance, although they were subsequently joined by others like Lufthansa (West Germany). These airlines were situated in countries that were undergoing regeneration and concomitant strong economic development that complemented their geographic advantage.

These two factors were key to the high proportion (consistently more than 50%) of passengers travelling on direct flights between Europe and North America. In concurrence with its high number of flights, Europe dominated westbound traffic across the North Atlantic and accounted for more than 80% of all trips to North America in 2005. Similar to flight schedules (discussed in Chapter 5), travel between Europe and North America had the highest seasonal ratio[109] of the four Afro-Eurasian regions, emphasizing the strong role of leisure travel during the summer when students have school breaks and families often take vacations.

Despite the high number of direct flights, some trips still had a transfer. Most indirect trips had a connection(s) in either Europe or North America; a relatively small proportion of trips had a connection in both continents. In 2005, only 3.2% of all January and 4.1% of all July traffic had a stop in both Europe and North America (Figures 6.1 and 6.2).

[108] Flights times are approximately an hour longer flying westbound over the North Atlantic than eastbound flights which have the advantage of the North Atlantic Current. The use of Prestwick Airport was later embedded in air services agreements mandating the use of the airport.

[109] As noted previously, the seasonal ratio divides the highest seasonal value (July) by the lowest seasonal value (January).

Figure 6.1 – Distribution of Travel from Europe to North America, January 2005

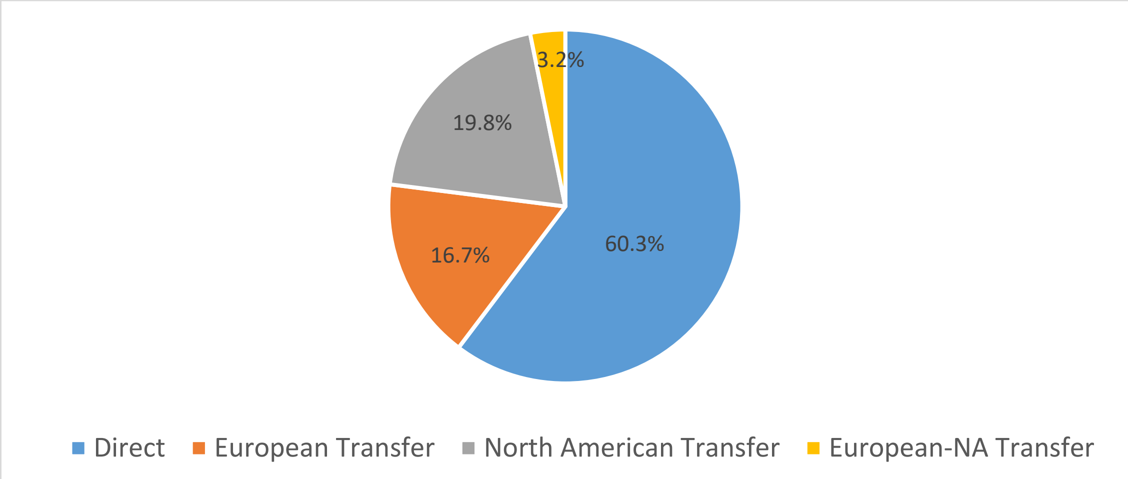
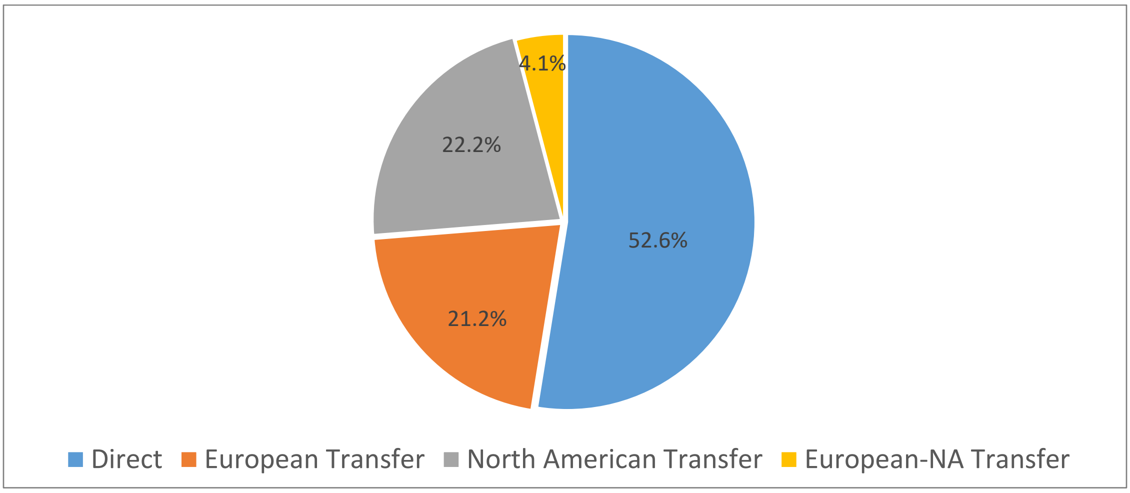


Figure 6.2 – Distribution of Travel from Europe to North America, July 2005



By 2017, the proportion of direct traffic remained relatively consistent. In addition, a small proportion of traffic originating in Europe began to utilise Middle Eastern hubs. However, the distribution of transfer traffic utilising only North American hubs decreased whilst European hubs increased their market share of North Atlantic traffic (Figures 6.3 and 6.4).

Figure 6.3 – Distribution of Travel from Europe to North America, January 2017

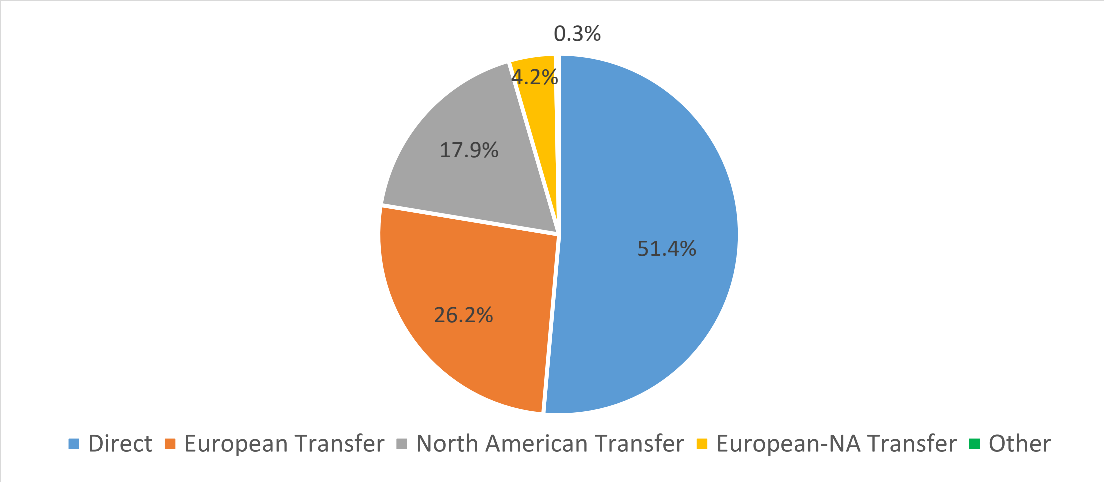
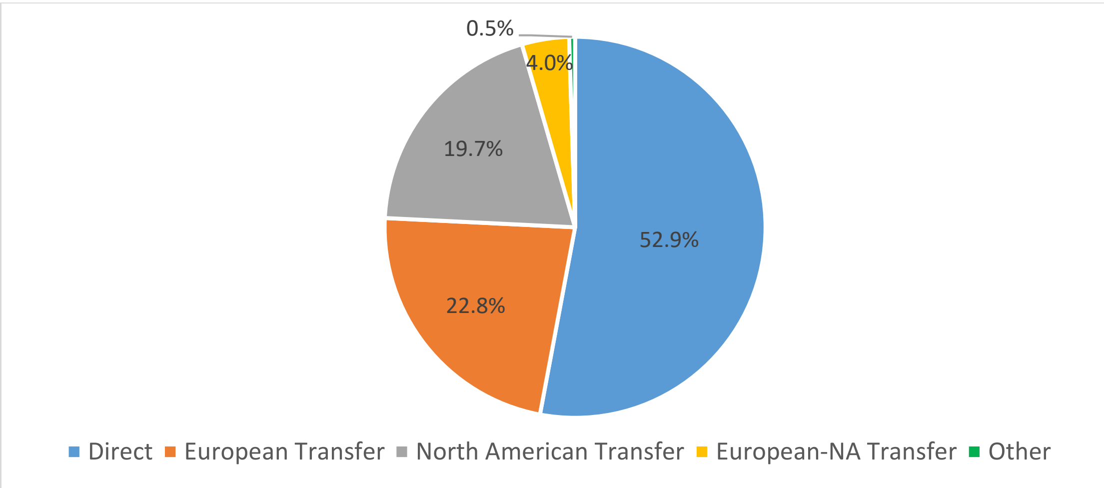


Figure 6.4 – Distribution of Travel from Europe to North America, July 2017



Transfer traffic through European hubs has increased in importance with the four largest hubs in Europe (AMS, CDG, FRA and LHR) dominating European originating transfer traffic. As seen in Figure 6.4, 22.8% of all traffic transited only through European hubs; during this same time period 14.6% of all traffic transited through AMS, CDG, FRA or LHR (Table 6.2).

Overall, the four largest hubs in Europe (AMS, CDG, FRA and LHR) dominated transfer traffic in Europe accounted for an annual average of over 17.5% of all traffic in January and over 16% of all July transfer traffic[110] (Tables 6.1 and 6.2).

Table 6.1 - Percentage of European Traffic Transferring via Key European Hubs, January 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
AMS	3.1	3.0	2.9	3.6	3.7	3.6	3.2	3.6	3.6	4.1	4.5	4.1	3.7
CDG	2.6	3.7	3.3	3.0	3.2	3.5	3.0	3.1	2.8	2.8	3.3	3.2	2.5
FRA	5.0	5.7	5.5	6.7	5.4	5.1	5.2	5.7	5.0	5.7	5.5	5.6	5.4
LHR	3.6	4.4	3.8	4.6	4.9	5.0	5.1	5.4	6.4	5.9	7.3	7.0	7.0
Total	14.3	16.8	15.5	17.9	17.3	17.2	16.4	17.7	17.8	18.5	20.6	19.9	18.6

Table 6.2 - Percentage of European Traffic Transferring via Key European Hubs, July 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
AMS	2.8	2.5	2.8	3.3	3.0	2.8	2.7	3.1	3.3	3.6	3.6	2.9	2.4
CDG	3.5	3.5	3.5	3.4	3.3	3.3	2.8	2.7	3.0	3.1	2.9	2.2	2.1
FRA	5.9	5.5	4.9	5.1	4.7	4.6	5.2	4.7	4.8	4.9	5.1	4.6	4.8
LHR	4.8	4.6	3.9	4.5	5.2	5.2	6.1	6.5	5.7	5.2	6.3	5.8	5.3
Total	17.0	16.3	15.1	16.3	16.1	16.0	16.8	17.0	16.8	16.7	17.9	15.5	14.6

The most important hub for European indirect traffic in January from 2005-2012 was FRA although from 2013 onward, LHR occupied this position; AMS was the third most important transfer hub as CDG was fourth.

This was akin to the summer season, although FRA was supplanted by LHR in July 2009. Whilst AMS was the third most important airport during the winter season, it did not attain this position during the summer season until 2012 when it supplanted CDG.

Some trips necessitated a transfer within North America, and there were four key hubs there that facilitated travel: ATL, EWR, JFK and ORD. Unlike their European

[110] Indirect trips may involve more than one stop; regardless of whether the stop is the first stop or a subsequent stop, any stop is counted in an airport's transfer traffic.

counterparts, there was no change amongst their importance with ORD having the largest market share followed by ATL, EWR and then JFK (Tables 6.3 and 6.4).

Table 6.3 - Percentage of European Transfer Traffic, American Hubs, January 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
ATL	3.8	4.1	3.7	3.8	4.1	3.8	3.7	3.6	3.1	3.2	3.7	3.5	3.0
EWR	2.6	3.0	3.5	3.0	3.3	3.3	3.0	3.5	3.8	3.4	3.4	2.8	2.6
JFK	1.6	1.8	2.3	2.2	2.1	2.2	2.5	2.7	2.7	3.0	3.1	2.8	2.8
ORD	3.7	5.2	5.1	5.3	4.3	4.6	4.1	3.2	3.7	3.9	3.5	3.0	2.7
Total	11.7	14.1	14.6	14.2	13.8	13.9	13.3	13.0	13.4	13.5	13.6	12.1	11.1

Table 6.4 - Percentage of European Transfer Traffic, American Hubs, July 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
ATL	3.2	4.2	3.8	3.7	3.5	3.1	3.2	2.5	2.6	2.6	3.2	2.9	2.6
EWR	3.3	3.4	3.7	3.4	3.0	3.3	3.3	3.0	3.2	2.9	2.9	2.3	2.0
JFK	2.0	2.6	2.5	2.5	2.6	2.7	2.9	3.0	3.1	2.8	2.8	2.5	2.4
ORD	4.3	4.1	4.0	3.7	3.6	3.7	3.6	3.1	3.9	4.0	3.6	3.1	2.8
Total	12.8	14.4	13.9	13.2	12.8	12.8	13.1	11.6	12.8	12.3	12.5	10.8	9.8

As in Europe, the major hubs in North America were dominated by one airline (ORD is an exception). The difference is that North American based airlines have multiple hubs within their networks, although those hubs may perform different functions. Given that North Atlantic traffic is entering the continent from the east, eastern hubs provide greater opportunity for transfers to regional airports than those situated in the Midwest (e.g., DFW or ORD). Transferring through the Midwest could necessitate a connection that backtracks eastward thus reducing the hub's utility, although some communities may only have links to these centrally located hubs. Within this context, west coast airports were even less practical for transfer traffic from Europe as their location limited the feasibility of realistic transfers as most of the population is located east and would involve backtracking if passengers transferred on the west coast.

As such the primary hubs for North Atlantic traffic varied by airline. They were for Air Canada, YUL and YYZ; for American Airlines, JFK, ORD and since 2014 PHL; for Delta, ATL, JFK and from 2009 both DTW and MSP; and for United, IAD and ORD and since

2010 EWR. Changes in hub status and importance were influenced by the airline consolidation that occurred in the US market from 2008-2013.

Air Canada utilised YUL and YYZ as transfer hubs both to other Canadian cities and to US destinations, a strategy that was aided by their relatively advantageous geographic location. These airports could be considered gateway airports to the country, with language being a key differentiator with French-speaking traffic and destinations more likely to be served by YUL than YYZ.

Table 6.5 - AC Transfer Traffic, YYZ and YUL, January 2005, 2007, 2012 and 2017[111]

	2005	2007	2012	2017
Total European Traffic at YYZ	**80,908**	**88,750**	**81,053**	**110,413**
AC % of Total YYZ Traffic	35.2%	29.3%	29.2%	30.2%
Transfer Traffic as a % of AC's Total YYZ Traffic	19.2%	22.4%	28.7%	27.6%
% of AC's YYZ Transfer Traffic to the US	6.8%	10.8%	11.3%	19.6%
Total European Traffic at YUL	**54,346**	**58,666**	**58,004**	**72,239**
AC % of Total YUL Traffic	29.9%	25.2%	28.7%	28.2%
Transfer Traffic as a % of AC's Total YUL Traffic	17.7%	28.0%	33.0%	28.0%
% of AC's YUL Transfer Traffic to the US	6.9%	5.9%	3.4%	9.1%

As seen in Tables 6.5 and 6.6, AC commanded a strong proportion of traffic in both airports. Although AC's proportion of total traffic in both airports remained relatively consistent, the percentage of both overall and US transfer traffic increased at YUL during both seasons and YYZ during the winter. This reinforced the position of both airports within the AC network as transfer hubs for North Atlantic traffic.

Unlike the pattern at US hubs, the proportion of transfer traffic at YUL and YYZ varied with the season. AC increased its network during the summer, a tactic also utilised by US airlines. The greater seasonal variation reflected the harsher winter conditions in

[111] The travel data for AC includes traffic that is solely on Air Canada (e.g., AC-AC). As such, any tickets sold by other airlines for use on AC flights, be they codeshare, interline or sold by another carrier for use on AC flights is not included.

Canada, and lower touristic attractiveness, in contrast to the summer when Canadian residents tend to prefer European travel – and the country is much warmer and more appealing to foreign tourists.

Although AC was the dominant North Atlantic airline at YYZ (about twice as important as second place TS), the situation differed at YUL, where both AF and TS were key competitors: in July 2017, 34.0% of all passengers used TS at YUL compared to AC's 26.5%. Whilst AF maintained services, TS expanded their network and supplanted the French carrier at YUL. With the airport's continued growth, AF's market share was halved from 2005 to 2017.

Table 6.6 - AC Transfer Traffic, YYZ and YUL, July 2005, 2007, 2012 and 2017

	2005	2007	2012	2017
Total European Traffic at YYZ	**217,076**	**206,141**	**277,629**	**396,632**
AC % of Total YYZ Traffic	36.6%	31.6%	28.5%	36.8%
Transfer Traffic as a % of AC's Total YYZ Traffic	38.0%	32.3%	42.6%	35.7%
% of AC's YYZ Transfer Traffic to the US	24.1%	17.5%	21.0%	28.6%
Total European Traffic at YUL	**129,765**	**130,192**	**161,625**	**238,977**
AC % of Total YUL Traffic	22.5%	23.9%	20.0%	26.5%
Transfer Traffic as a % of AC's Total YUL Traffic	32.5%	44.5%	43.6%	43.1%
% of AC's YUL Transfer Traffic to the US	13.6%	17.6%	11.3%	28.4%

New York was the primary gateway for European traffic to the United States as most international travellers arrived at one of two airports, JFK and EWR[112]. Despite the growth of travellers at both airports and the seasonal variation in arrivals, the role of the airports within their respective airline networks remained consistent (Table 6.7).

112 LGA is also a New York airport but can only accept international visitors who have already crossed US Border Pre-Clearance prior to arrival. Stewart Field (SWF) has been marketed as a New York airport, but has relatively few arrivals: In July 2017, just over 13,000 arrived from Europe at SWF whereas the combined number of passengers using EWR and JFK was well over 1.2 million.

Table 6.7 - JFK Traffic, AA and DL, July 2005, 2007, 2012 and 2017

	2005	2007	2012	2017
Total European Traffic at JFK	**509,530**	**571,042**	**630,376**	**730,432**
AA % of Total JFK Traffic	11.8%	11.6%	8.8%	7.2%
Transfer Traffic as a % of AA's Total JFK Traffic	16.1%	21.0%	34.6%	18.7%
DL % of Total JFK Traffic	14.9%	20.3%	21.7%	18.2%
Transfer Traffic as a % of DL's Total JFK Traffic	41.8%	41.4%	36.0%	37.2%

Although there was a jump in AA's transfer traffic in 2012, this was quickly reversed, and JFK returned to its former role within the AA network. DL played a more important role at JFK, and the airport was crucial in transferring European passengers within the DL network.

In contrast, EWR has been consistently dominated by one airline: initially CO and then following its merger, United Airlines (Table 6.8). The merger incorporated the CO network into the new UA, including North Atlantic services from EWR. The airport was developed into a key hub with about half of all EWR passengers transferring to other destinations.

Table 6.8 - EWR Traffic, CO and UA, July 2005, 2007, 2012 and 2017

	2005	2007	2012	2017
Total European Traffic at EWR	**272,488**	**324,504**	**274,647**	**301,377**
CO % of Total EWR Traffic	54.4%	58.1%		
Transfer Traffic as a % of CO's Total EWR Traffic	55.2%	54.4%		
UA % of Total EWR Traffic	1.8%	1.8%	54.6%[a]	46.9%
Transfer Traffic as a % of UA's Total EWR Traffic	--	--	51.2%[a]	46.2%

a - Although both CO and UA codes were used, the data are presented as UA

Historically America's second city, Chicago has always been an important transfer point due to its strategic geographic position facilitating travel to both the west coast and the Midwest. Its primary airport, Chicago O'Hare (ORD) is utilised as a hub by both AA and UA, reinforcing its position within European air travel although AA reduced services from the airport in more recent years (Table 6.9).

Despite AA's reduced presence, both airlines consistently relied upon the hub for transferring European passengers with more than half of all travellers continuing their journey beyond the airport.

Table 6.9 - ORD Traffic, AA and UA, July 2005, 2007, 2012 and 2017

	2005	2007	2012	2017
Total European Traffic at ORD	**270,892**	**287,770**	**251,089**	**290,134**
AA % of Total ORD Traffic	27.1%	23.9%	19.3%	14.4%
Transfer Traffic as a % of AA's Total ORD Traffic	65.3%	65.2%	64.6%	58.9%
UA % of Total ORD Traffic	18.9%	14.8%	18.7%	23.4%
Transfer Traffic as a % of UA's Total ORD Traffic	73.2%	64.6%	60.4%	65.3%

ORD's change within the AA network followed the airline's merger with US (December 2013) and the integration of US hub PHL into the new network. Although overall traffic into the AA/US network declined following the merger, the proportion of passengers using PHL to transfer rose to 86.9% (Table 6.10). Whilst AA's dominance decreased following the merger, its J-V partner BA more than doubled its importance at PHL. Delta implemented flights from the airport after the EU ruled that AA had to release slots on the LHR-PHL route to maintain competition (European Commission, 2013).

Table 6.10 - PHL Traffic, US, AA, BA and DL, July 2005, 2007, 2012 and 2017

	2005	2007	2012	2017
Total European Traffic at PHL	**110,255**	**150,288**	**138,264**	**130,427**
US % of Total PHL Traffic	67.2%	77.6%	80.2%	
Transfer Traffic as a % of US's Total PHL Traffic	76.2%	74.2%	76.0%	
AA % of Total PHL Traffic	0.2%	0.3%	0.3%	53.7%
Transfer Traffic as a % of AA's Total PHL Traffic				86.9%
BA % of Total PHL Traffic	10.1%	6.8%	6.2%	16.1%
DL % of Total PHL Traffic	1.2%	1.6%	3.0%	4.6%

As noted, both the UA-CO and the AA-US mergers integrated new hubs into the resultant entities. This was also the case with the DL-NW merger which saw both DTW and MSP incorporated into the new Delta. However, whilst traffic at DTW remained static, the number of passengers travelling either to or through MSP rose by over 50% from 2012 to 2017 (Tables 6.11 and 6.12).

DTW's role as a transfer hub decreased following the merger, whilst DL's European traffic rose at MSP. There were also fewer KL passengers at DTW, which had a pre-existing J-V with NW. There was also a noticeable reduction in KL passengers at MSP, but this decrease was offset by increases in DL's market share, indicating a re-allocation of services within the J-V rather than a withdrawal from MSP. Of interest was the strong presence of FI in MSP, a reflection of historical immigration patterns.

Table 6.11 - DTW Traffic, NW, DL, KL and AF, July 2005, 2007, 2012 and 2017

	2005	2007	2012	2017
Total European Traffic at DTW	**89,719**	**96,848**	**83,865**	**83,050**
NW % of Total DTW Traffic	55.3%	49.8%		
Transfer Traffic as a % of NW's Total DTW Traffic	72.0%	85.5%		
DL % of Total DTW Traffic	2.1%	1.8%	52.7%	46.9%
Transfer Traffic as a % of DL's Total DTW Traffic			66.6%	69.4%
KL % of Total DTW Traffic	14.4%	22.3%	15.3%	13.3%
AF % of Total DTW Traffic	6.3%	4.2%	7.3%	8.1%

Table 6.12 - MSP Traffic, NW, DL, and KL, July 2005, 2007, 2012 and 2017

	2005	2007	2012	2017
Total European Traffic at MSP	**50,559**	**53,361**	**51,705**	**79,598**
NW % of Total MSP Traffic	41.1%	36.1%		
Transfer Traffic as a % of NW's Total MSP Traffic	55.0%	69.0%		
DL % of Total MSP Traffic	2.3%	3.1%	37.1%	54.1%
Transfer Traffic as a % of DL's Total MSP Traffic			67.4%	59.7%
KL % of Total MSP Traffic	14.6%	21.5%	19.9%	4.3%
FI % of Total MSP Traffic	8.4%	10.5%	10.5%	9.1%

Nonetheless, the largest DL hubs for European traffic remained JFK and ATL. Although the airline had strong passenger numbers at JFK, they were not the dominant carrier. This contrasted with ATL, where DL dominated North Atlantic traffic; also, 76.0% of all DL passengers from Europe used ATL to transfer (Table 6.13).

Table 6.13 - ATL Traffic, DL, AF, KL and VS, July 2005, 2007, 2012 and 2017

	2005	2007	2012	2017
Total European Traffic at ATL	**164,981**	**181,227**	**158,091**	**181,417**
DL % of Total ATL Traffic	70.9%	74.8%	58.1%	56.2%
Transfer Traffic as a % of DL's Total ATL Traffic	69.2%	78.8%	65.4%	76.0%
AF % of Total ATL Traffic	7.1%	3.7%	17.2%	10.5%
KL % of Total ATL Traffic	2.8%	2.5%	6.4%	6.6%
VS % of Total ATL Traffic	0.0%	0.1%	0.0%	7.3%

DL's dominance at the airport was buoyed by the presence of J-V and alliance partners AF and KL; together, the three airlines transported more than 73% of all European passengers at ATL. Delta signed a J-V with VS exclusive of its alliance partners on January 1, 2014. This resulted in VS aligning its network with its partner and having flights to ATL. With the addition of the Virgin routes, over 80% of all European passengers travelled to ATL on DL J-V flights in July 2017.

Whilst these airports were key hubs enabling passengers to transfer, some of them were also key destinations. Overall, about 15% of all European passengers arrived in JFK during the summer season and slightly more during the winter (Tables 6.14 and 6.15). When considered in combination with EWR, about 20%-25% of all Europeans travelled to New York, dependent upon the season and the year.

During the winter season, MIA increased its share of travellers to become the second most popular destination in January 2017. In contrast, ORD's market share declined, and the airport slipped from 5th to 8th in importance for travel with Europe. MIA's importance is related to its warm January weather (and proximity to Disneyland) while ORD has a relatively harsh winter climate. In contrast, YYZ and YUL, both of which endure cold winters, move from 7th and 10th positions respectively in January to 3rd and 7th positions in July (Tables 6.14 and 6.15).

Table 6.14 – Top 10 Destinations from Europe by Percentage, January 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
JFK	15.5	17.0	16.9	16.7	17.1	16.8	16.5	15.7	16.9	16.4	16.7	16.9	16.6
MIA	5.5	5.3	5.4	5.8	6.0	6.2	6.7	6.9	7.1	7.2	7.9	7.3	7.0
LAX	6.3	6.0	5.7	5.7	5.8	6.2	6.1	5.7	6.0	6.4	6.4	6.3	6.9
EWR	6.2	6.7	6.9	8.0	7.1	8.1	7.5	6.9	7.3	6.6	6.1	5.4	5.8
SFO	4.2	4.5	4.6	4.7	4.5	4.3	4.7	4.9	4.9	5.2	5.2	5.7	5.2
BOS	4.0	4.4	4.2	4.3	4.2	4.4	4.4	4.5	4.2	4.2	4.2	4.5	4.7
YYZ	4.3	4.0	4.6	3.8	4.0	3.7	3.7	4.1	3.9	3.9	4.1	4.4	4.5
ORD	6.0	4.7	4.9	4.3	4.1	3.8	4.1	4.4	4.0	3.9	3.3	3.5	3.6
IAD	4.6	3.7	3.8	3.5	4.0	3.8	4.2	4.3	4.0	4.0	3.5	3.3	3.6
YUL	2.9	2.8	3.0	2.9	2.8	2.9	3.0	2.9	3.0	2.9	3.1	2.9	3.1
Total	59.5	59.0	59.9	59.7	59.8	60.2	60.8	60.4	61.3	60.6	60.5	60.2	61.0

Table 6.15 – Top 10 Destinations from Europe by Percentage, July 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
JFK	15.5	15.4	15.4	14.8	15.4	15.6	15.2	15.7	15.4	15.0	15.3	14.9	14.6
LAX	6.8	6.7	7.1	7.3	6.9	7.0	7.1	7.1	7.1	7.2	7.2	6.9	7.3
YYZ	6.1	6.0	5.5	5.9	6.0	6.1	6.5	6.6	6.1	6.4	6.7	7.3	6.9
SFO	5.6	5.7	5.7	6.2	5.7	6.2	5.9	6.2	6.8	6.3	6.4	6.1	5.7
EWR	6.1	6.3	6.5	6.4	6.2	6.2	5.8	5.2	5.1	5.2	4.8	4.9	5.0
BOS	4.9	5.2	5.0	4.7	5.2	5.1	5.2	4.9	4.9	5.1	4.6	5.1	4.9
YUL	3.9	3.8	3.4	3.7	4.1	4.1	4.2	4.1	4.1	4.2	4.3	4.3	4.3
MIA	3.3	3.1	3.2	3.8	3.6	4.0	4.2	4.1	3.8	3.9	3.9	4.0	4.1
ORD	5.0	5.2	5.1	4.9	4.9	4.8	4.4	4.3	4.6	4.5	3.7	4.1	3.9
IAD	3.9	3.9	3.8	3.7	3.9	3.7	3.5	3.9	3.9	3.5	3.7	3.5	3.7
Total	61.2	61.2	60.6	61.4	61.9	62.7	62.1	62.1	61.9	61.2	60.8	61.0	60.4

Regardless of the season, the top 10 destinations accounted for 60% of all travel from Europe. Although the relative importance of the top 10 has shifted, the composition remained consistent both seasonally and temporally, with only MCO occasionally disrupting the status quo.

The distribution of trips also slightly shifted with Canada increasing its market share in both seasons. In January 2005, the country accounted for 10.6% of all European trips; this rose to 11.8% in January 2017. Likewise, July travel was 16.0% in 2005 but had increased to 17.9% in 2017. However, this was a decrease from July 2016 when 18.9% of all European travel was destined for Canada.

West coast destinations grew in importance, and an examination of three west coast airports, SEA, SFO and LAX, showed their overall growth and the importance of transfer traffic (Tables 6.16 and 6.17). The tables show the high level of seasonality at all three airports, and the consistently higher proportion of direct travel during the winter season compared to the summer. The lower passenger growth during the winter season contributed to the rising seasonal differentiation at the airports.

Table 6.16 – Total Traffic to SEA, SFO and LAX and Proportion of Direct Traffic for Selected Years (January)

	2005	2007	2012	2017
SEA	26,077	19,721	25,745	29,615
Direct	56.4%	43.6%	47.8%	56.0%
SFO	70,817	78,930	80,917	101,036
Direct	65.3%	56.0%	51.8%	58.0%
LAX	108,134	97,359	93,619	134,652
Direct	68.6%	55.5%	53.5%	58.4%

Table 6.17 – Total Traffic to SEA, SFO and LAX and Proportion of Direct Traffic for Selected Years (July)

	2005	2007	2012	2017
SEA	45,082	49,345	54,925	69,492
Direct	32.8%	33.0%	42.3%	44.1%
SFO	164,241	182,616	207,356	247,075
Direct	38.3%	37.3%	41.6%	45.7%
LAX	196,729	225,935	237,854	312,900
Direct	45.8%	48.6%	42.4%	49.4%

The introduction of direct services by EI, DY and WW helped spur traveller growth from 2012 to 2017. However, indirect traffic continued to play a significant role although most transfer growth was in European rather than North American hubs.

Perhaps because of its smaller market, from July 2012 to July 2017 the largest increases in transfer[113] traffic to SEA occurred in FRA (+3,600 passengers) and LHR (+2,000); KEF transfer traffic also rose by 2,000 passengers. However, AMS and CDG

[113] As noted previously, indirect traffic can have multiple stops.

had 2,500 fewer transfer passengers. Transfers through US hubs, most notably JFK, ORD and PHL declined by a combined 1,900 passengers.

Similarly, from July 2012 to July 2017 indirect traffic to SFO increased through non-US hubs DUB (+6,900 travellers), MUC (+3,700) and YYZ (+2,400) whilst traffic through EWR and ORD decreased by 3,700 and 3,800 passengers, respectively.

Indirect traffic to LAX from July 2012 to July 2017 also increased substantially from DUB (+6,800 travellers) with noticeable increases from FRA (+4,400), VIE (+2,900), ZRH (+2,700) and KEF (+1,700); except for FRA, the other airports were smaller European hubs. Within North America, passengers transferring through CLT and YYZ rose by nearly 1,400 and 1,600 passengers, respectively. In contrast, transfer traffic through JFK and PHL decreased by half and ORD had 40% fewer transfer passengers to LAX.

This examination of west coast hubs revealed some key trends. First, a greater proportion of winter traffic was on direct flights and reflects the high levels of seasonal travel. Second, transfer traffic through US hubs declined overall to the benefit of major European hubs in SEA (a smaller market) and to secondary European hubs in the larger markets of LAX and SFO.

All three markets had greater transfer traffic from KEF with FI serving smaller SEA and WW flying to LAX and SFO; EI also had services to the latter two. Whilst Norwegian flew nearly 26,000 passengers to LAX in July 2017, nearly 90% were on direct flights.

6.3 Africa

Although northern Africa is situated mere kilometres from the southern coast of Europe, North Atlantic travel patterns were extremely different both in terms of passenger numbers and destinations.

This was not merely due to the size of the continent (three times the size of Europe), but also geopolitical and economic factors. Whilst the focus of this research is historically relatively recent, the events of previous centuries have influenced both the economic development of the continent and its subsequent connections to Europe, and to a lesser extent, North America.

The Netherlands founded the first European settlement at present-day Cape Town during the 17th century as a refuelling stop for its shipping vessels and were followed by other European powers who not only established coastal ports but moved inland and acquired vast areas of the continent and created colonies. At the onset of World War I, Africa was divided between Belgium, France, Germany, Italy, Portugal, Spain, and the United Kingdom[114] who utilised the continent's natural resources to fuel their manufacturing industries.

Whilst the post-World War II era led to the establishment of independent countries, it also led to instability, and conflict has been continuously present somewhere in the continent ever since. This has hindered economic development and resulted in migration from the continent, mostly to Europe and North America, helping to spur VFR traffic. This is especially evident in Quebec which has been the destination of numerous migrants from North and West Africa due to their common use of French.

However, geography has hampered the establishment of direct air links; whilst it is 5,800 km from JFK to CMN (Casablanca), it is over 12,800 km to JNB in South Africa[115]. As such, much of the continent relies upon previously established economic and transport links; these links were often developed to link the African colony to its European ruler rather than neighbouring African regions, especially if they were under the control of a rival European power. Regardless of the circumstances surrounding independence, many of these links have continued; they often supersede any connections with other African countries, perpetuated by the continent's instability and lack of a cohesive and functioning open skies agreement. With 54 countries, there

[114] At the time, only the Kingdom of Ethiopia was not a colony. The Dutch had ceded its settlement in South Africa to the British during the early 19th century.
[115] Although not as common in 2005, technical stops were common for flights from Africa during the early years of this research.

are a plethora of air services agreements within the continent, hindering connectivity and limiting transfer options for travel on the North Atlantic.

African travellers relied upon indirect air travel as only about 28% of all winter trips and about 31% of all summer trips were direct flights, and although there were seasonal differences, the most important transfer airports remained the same throughout the year (Tables 6.18 and 6.19). There were, however, some temporal variations. Of the top six transfer airports, four were situated in Europe (CDG, AMS, FRA and LHR), and all four registered a decrease in their market share from 2005 to 2017 in both January and July. Whilst ATL's market share was higher in January 2017 than in 2005, there was nonetheless a decrease from 2011 and 2012 (both 11.7%) when it was the most important transfer airport in the African market; this pattern was similar for July travel although the airport had a minimal increase.

Table 6.18 - Percentage of African Transfer Traffic, January 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
CDG	14.7	10.2	8.3	9.7	11.0	11.7	8.9	10.7	14.0	14.9	13.4	14.5	12.0
AMS	13.9	11.6	8.8	7.3	10.1	10.6	9.7	8.8	10.8	10.3	8.5	9.3	8.3
ATL	7.3	8.2	5.5	9.9	11.3	10.3	11.7	11.7	9.6	10.8	10.5	8.9	7.8
FRA	9.1	9.0	8.2	5.8	7.0	7.3	6.8	6.9	6.8	7.4	7.3	8.2	7.1
LHR	10.2	13.7	12.8	10.4	11.7	9.3	8.9	9.3	9.3	9.1	9.5	8.1	7.0
DXB	1.0	1.5	1.5	1.5	1.5	1.6	1.5	2.9	2.4	2.7	3.8	5.2	6.0
Total	56.2	54.2	45.1	44.5	52.6	50.8	47.5	50.2	53.0	55.3	52.9	54.2	48.3

Table 6.19 - Percentage of African Transfer Traffic, July 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
CDG	12.1	9.9	10.7	10.1	12.3	10.3	10.8	12.5	11.3	10.5	12.3	12.9	11.4
FRA	9.4	8.5	5.9	5.4	5.7	6.0	5.9	6.2	5.8	6.1	7.6	5.8	7.3
DXB	1.6	2.4	2.1	3.0	2.6	2.1	2.9	3.6	5.4	5.1	6.1	8.3	6.7
ATL	6.6	3.7	4.8	8.3	10.6	11.3	11.1	9.2	9.4	8.5	7.6	8.0	6.5
LHR	11.2	11.5	11.4	8.7	7.9	7.4	9.0	10.9	7.1	10.1	8.5	6.5	6.1
AMS	11.5	10.2	9.6	8.0	9.9	11.3	9.5	8.5	9.3	6.9	7.9	6.1	5.5
Total	52.5	46.1	44.4	43.6	49.0	48.3	49.2	50.9	48.3	47.2	50.0	47.6	43.3

Amongst the transfer airports, DXB rose from a minor position to the 6th and 3rd most important airport in January and July respectively as its market share rose by a full five percentage points in both seasons; DOH accounted for another 2% of all African transfers furthering the role of Middle Eastern airports in indirect travel.

Although individually minor players, the African airports of ADD, CAI and CMN gradually increased their importance and in 2017 accounted for 6.5% and 7.4% of January and July transfer traffic respectively; in 2005 those figures were 1.4% and 3.5% respectively. However, other airports fared differently and whilst JNB and NRB retained their market share in January, the airports, especially JNB, lost market share during the summer, down from 8.4% in 2005 to 2.4% in 2017.

Another important aspect of the African market was that the same four destinations dominate travel (Tables 6.20 and 6.21). JFK was consistently the most popular destination, although YUL ranked first in July 2017. The top four airports accounted for more than half of all travel with a slightly higher market share in July than in January.

Table 6.20 - Top Destinations from Africa by Percentage, January 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
JFK	22.3	25.2	27.6	26.2	24.1	21.8	22.8	19.4	19.4	19.5	19.0	20.0	18.6
YUL	6.8	12.3	11.1	12.4	11.9	12.4	11.6	11.8	12.4	12.8	14.4	13.7	13.3
IAD	6.4	6.0	7.3	7.1	5.9	10.1	9.2	9.2	9.7	7.4	7.8	9.1	12.4
YYZ	5.3	12.3	11.8	9.6	10.3	9.9	9.3	8.2	9.0	9.3	9.9	8.1	9.8
Total	40.8	55.9	57.9	55.3	52.2	54.2	52.8	48.6	50.4	48.9	51.1	50.9	54.1

Table 6.21 - Top Destinations from Africa by Percentage, July 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
YUL	14.2	15.2	15.4	15.4	16.5	13.7	15.0	13.8	13.1	12.9	13.0	15.7	18.9
JFK	26.5	22.6	26.0	25.8	22.6	20.3	21.4	19.4	20.3	21.5	19.4	20.6	18.4
IAD	8.9	14.5	12.4	7.0	7.0	11.7	11.2	15.4	10.1	12.3	11.1	10.6	11.8
YYZ	9.1	7.1	7.7	7.6	7.8	7.4	7.0	6.6	7.2	6.5	6.7	7.4	7.2
Total	58.6	59.4	61.6	55.9	54.0	53.1	54.6	55.2	50.6	53.2	50.1	54.3	56.3

Another aspect of African travel was the importance of Canada as a destination with the country consistently accounting for about 30% of all trips, both in winter and summer. This reflects both recent immigration patterns as well as cultural and linguistic connections with Montreal and the province of Quebec.

One of the legacies of France's presence was the continued use of French in numerous West African countries as well as Algeria, Morocco, and Tunisia in North Africa. Their use of the French language facilitated emigration to Quebec which has its own immigration policy and considers French language knowledge to be an essential qualification for possible migrants. In addition, Canada welcomed numerous migrants and refugees from other parts of the continent, many of whom settled in English-speaking Ontario where YYZ is situated.

Whilst the economic attraction of JFK and the political aspect of IAD were key features, immigration also played a principal role that was highlighted in the disproportionate market share held by Canada in the African market.

6.4 Middle East[116]

Despite being somewhat smaller geographically than either Africa or even Europe, the region nonetheless has many linguistic, cultural, and religious differences. The area holds a geopolitical importance that has been influenced by its history. Unfortunately, these factors have contributed to various conflicts that have occurred in the region, some of which have been relatively recent.

Whilst Arabic is the predominant language, there are also countries where Hebrew, Persian and Turkish are the main languages spoken; French is also common in Lebanon and Syria. The region is divided religiously between Judaism and Islam, with the latter being divided between Sunni and Shia adherents. In addition, cultural variations exist contributing to a heterogeneous region that has created singular travel patterns.

Another aspect is the development of Middle Eastern airlines. For many years, the largest airline in the region was Israel's El-Al. Whilst Royal Jordanian and Turkish

[116] As noted previously, in this study the countries that comprise the Middle East are: Bahrain, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, Turkey, the UAE (including both Abu Dhabi and Dubai) and Yemen.

Airlines also had intercontinental destinations, they lagged the Israeli airline in the scope of their North American networks. In the mid-2000s, Emirates Airlines began an expansionist phase that increased its network; other airlines in the region followed suit, notably Etihad, Qatar, and Turkish Airlines. These additional flights greatly increased the region's connectivity.

Despite this, many passengers still relied upon European hubs and their usage has not been altogether replaced by direct connections from the region.

Just over a third of all trips from the Middle East in 2005 were on direct flights (about 38% in July); by 2017, this had risen to nearly 50%. The top North American destinations have consistently accounted for more than two-thirds of all trips, although this figure was slightly higher in July compared to January (Tables 6.22 and 6.23).

Whilst the top destinations remained relatively stable, there were noticeable changes within each airport's market share. New York, represented by both JFK and EWR remained the most important market, but its dominance as a destination declined drastically. During the winter season from 2005 to 2017, JFK and EWR lost 7.3% and 4.5% of their market share respectively; during the summer, these changes were -10.2% and -3.6%. As such, although JFK remained the most popular destination, EWR slipped to 8th place in both the winter and summer seasons.

Table 6.22 - Top Destinations from the Middle East by Percentage, January 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
JFK	26.4	30.5	28.2	26.0	25.3	22.7	19.8	20.6	21.5	21.2	17.5	20.5	19.1
EWR	8.4	7.3	9.6	8.3	6.4	5.4	4.6	5.1	5.2	3.8	3.3	3.6	3.9
YYZ	6.8	10.2	8.9	8.2	8.5	8.6	7.9	7.0	6.3	6.3	6.1	6.5	6.4
ORD	4.7	3.7	3.4	3.0	3.1	4.3	5.2	5.7	4.5	5.2	5.6	5.6	5.3
LAX	4.4	3.2	4.2	5.0	4.9	5.2	6.3	8.3	7.3	7.8	8.9	7.5	9.1
MIA	4.1	2.4	2.2	3.0	2.2	2.4	2.3	2.1	2.5	2.1	2.1	3.1	3.3
BOS	3.6	2.5	2.2	2.5	2.2	2.3	2.4	2.3	2.5	2.5	4.2	4.1	4.0
IAD	3.6	4.2	2.4	4.2	4.6	4.9	6.5	7.2	9.5	10.4	9.7	9.3	8.7
IAH	3.5	2.8	2.6	3.4	4.2	4.2	4.3	3.9	3.8	5.9	5.2	4.4	3.7
SFO	3.5	2.7	2.1	2.4	2.8	3.7	4.6	3.6	3.6	3.9	3.8	4.8	4.4
Total	69.1	69.6	65.8	65.9	64.2	63.7	63.9	65.7	66.8	69.1	66.5	69.3	68.1

Table 6.23 - Top Destinations from the Middle East by Percentage, July 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
JFK	30.2	28.0	27.5	25.2	22.7	22.0	22.0	23.6	23.3	24.2	23.2	22.4	20.0
YYZ	11.1	10.8	8.9	9.2	10.8	9.6	9.3	8.1	8.0	7.7	7.4	8.1	7.5
EWR	7.5	7.0	8.0	6.1	5.4	4.7	4.7	5.1	4.6	3.2	3.4	3.0	3.9
YUL	4.6	4.8	5.0	4.9	5.8	5.3	5.1	4.3	4.0	4.1	3.5	3.9	4.5
ORD	4.3	4.9	4.7	4.1	4.1	4.5	5.2	4.9	4.9	3.9	5.8	5.2	5.0
LAX	3.6	3.8	5.5	6.2	5.9	6.3	7.7	8.7	8.1	10.1	10.4	9.9	9.4
IAD	2.9	3.2	4.0	4.7	4.0	5.1	6.2	5.4	7.2	7.0	7.1	7.1	7.1
IAH	2.7	2.5	2.5	3.7	3.9	3.3	3.2	2.4	4.4	4.7	4.0	3.8	4.0
SFO	2.5	2.5	2.4	3.0	3.5	4.0	3.5	3.5	3.6	3.7	4.4	3.8	4.5
BOS	2.4	2.5	2.1	2.4	2.6	2.2	2.4	2.3	2.5	3.8	3.9	4.0	3.7
Total	71.8	70.0	70.5	69.6	68.8	67.1	69.4	68.2	70.6	72.4	73.2	71.3	69.5

In contrast, travel to both LAX and IAD rose noticeably over the time period in both seasons with LAX becoming the second largest destination and IAD becoming 3rd (winter) and 4th (summer). Other destinations also had market share increases, reflecting a dispersion of travel throughout the continent and the impact of greater connectivity in the country following the expansionist strategies of the Middle Eastern airlines.

Overall, Canada was a notable destination for Middle East travel, both in January and July. From 2005-2011, nearly 18% of all January travel and over 20% of July travel was to Canada. Subsequently, travel decreased and in 2017, 13.5% of January travel and 16.7% of July travel was between the Middle East and Canada.

In tandem with their provision of direct flights, the new destinations provided new connection opportunities for travellers from the region. This resulted in a greater proportion of indirect flights making stopovers in Middle Eastern airports (Tables 6.24 and 6.25).

Table 6.24 - Percentage of Middle Eastern Transfer Traffic, Largest Middle Eastern Hubs, January 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
IST	2.6	1.6	1.6	1.7	1.5	2.4	2.1	3.9	4.5	5.5	6.1	6.0	6.0
DXB	0.3	0.6	0.5	0.7	0.8	0.9	1.4	1.7	2.0	2.2	2.1	2.2	2.4
DOH	0.0	0.1	0.1	0.6	0.7	1.4	1.5	1.8	1.8	2.6	3.0	2.3	4.0
AUH	0.0	0.2	0.5	0.9	0.6	0.6	0.8	0.8	1.0	0.9	1.2	1.4	1.8
Total	2.9	2.4	2.7	3.9	3.5	5.2	5.7	8.1	9.2	11.2	12.5	11.9	14.2

Table 6.25 - Percentage of Middle Eastern Transfer Traffic, Largest Middle Eastern Hubs, July 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
IST	2.9	2.5	2.5	2.2	2.4	2.6	4.0	5.3	5.9	5.6	4.8	4.2	5.2
DXB	0.5	0.9	0.7	1.0	2.4	2.4	2.4	1.8	1.6	3.4	5.2	4.5	2.9
DOH	0.2	0.2	0.7	1.0	1.2	1.6	2.0	1.2	1.3	3.0	2.3	3.1	2.0
AUH	0.2	0.2	1.5	1.4	0.9	1.2	1.0	0.9	0.6	1.6	1.5	1.4	1.8
Total	3.8	3.9	5.3	5.6	6.9	7.8	9.4	9.2	9.4	13.5	13.7	13.2	11.9

Amongst the Middle Eastern hubs, IST was the most important for transfer traffic originating in the region. This is linked to the country's relatively large size, both in terms of geography and population, which is covered by TK's large domestic network. In contrast, DXB, DOH and AUH are bereft of both and do not have a natural hinterland. BAH was also utilised for transfers within the region although this diminished over time; AMM's hub importance increased proportionally with BAH's decline, although neither airport exceeded a 1.2% market share at any time from 2005 to 2017. A notable omission from the tables above was that of TLV. The cultural and religious differences are such that the airport was not utilised for transfers by passengers from the region; a situation that is not likely to change in the foreseeable future.

There were also four key European airports that were utilised for transfers on trips from the Middle East: AMS, CDG, FRA and LHR. They accounted for about 80% of all European transfers in 2005 and increased to about 90% in 2017.

Nonetheless, the proportion of traffic from the Middle East using these airports have steadily declined over time with each airport affected (Tables 6.26 and 6.27). In 2005, the four airports accounted for nearly 40% of all January traffic and nearly one-third of all July traffic; by 2017, this dropped to less than 20% in both seasons.

AMS was hardest hit as its market share in 2017 was less than one-third of its market share in 2005 and had slipped to fourth amongst the European airports; LHR has also ceded its top position to FRA over the same time period.

Table 6.26 - Percentage of Middle Eastern Transfer Traffic, Largest European Hubs, January 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
LHR	12.1	9.3	8.4	9.7	10.0	9.5	9.0	8.5	7.8	7.8	6.9	6.2	5.6
FRA	10.8	11.7	10.7	8.2	8.0	8.9	9.1	8.2	7.5	7.2	6.8	6.9	6.2
AMS	10.5	9.3	7.8	6.0	5.5	4.8	4.7	3.6	3.3	3.2	2.4	2.7	3.0
CDG	6.1	8.2	7.2	5.3	5.3	4.9	4.4	4.0	3.4	3.5	3.9	3.9	3.6
Total	39.4	38.5	34.0	29.2	28.8	28.2	27.3	24.2	22.0	21.7	20.0	19.6	18.3

Table 6.27 - Percentage of Middle Eastern Transfer Traffic, Largest European Hubs, July 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
LHR	9.3	9.7	9.1	8.7	10.8	6.7	7.6	10.6	7.1	7.2	6.1	6.1	5.6
FRA	9.2	8.6	8.9	8.4	7.7	7.2	6.8	5.5	4.9	5.1	5.3	6.4	6.0
AMS	7.8	8.0	6.6	5.2	4.8	3.7	4.0	2.3	3.2	2.4	2.5	2.7	2.1
CDG	6.2	5.6	6.4	7.3	6.9	6.8	6.1	4.5	4.9	4.6	4.8	5.7	4.7
Total	32.5	31.9	31.0	29.6	30.1	24.4	24.5	23.0	20.1	19.3	18.6	21.0	18.4

Indirect travel patterns from the Middle East were influenced by numerous factors. Religion was a key factor and resulted in TLV not being utilised as a transfer airport despite its connectivity and advantageous geographic location. There have also been recent conflicts and disputes within the region that have influenced air travel, the most recent of which was in June 2017 when neighbouring countries closed their air space to Qatar, impacting not only QR but also their own airlines (BBC News, 2017). Aviation politics continued to play a role as UAE was unable to acquire greater landing rights in Canada[117]. Regional development, both economic and historical has not resulted in

[117] The current air services agreement restricts EK and EY to 3 flights/week each to YYZ.

strong connectivity within the region, thus reinforcing traditional links and domestic networks.

Nonetheless, the growth of Middle Eastern airlines has altered the travel patterns of the region's residents, buoyed by the region's advantageous geographic position.

6.5 Asia

Given its geographic expanse and situation, the Asian continent must be examined not only as a whole but also from a sub-continental perspective.

The most eastern countries of the continent such as Japan and South Korea have had air links to North America for decades, although due to their location these flights operated over the Pacific Ocean instead of the North Atlantic. Countries like Singapore, however, are almost equidistantly situated between the Atlantic and Pacific Oceans from the eastern seaboard of North America[118]. Given technological aircraft limitations, many flights by airlines from the region have traversed the North Atlantic through the utilisation of technical stops and 5th Freedom rights[119].

However, given its geographic location in conjunction with aircraft limitations, the region, especially India and Pakistan, have had a relative dearth in direct flights. This situation has been compounded by the relative state of airlines within both countries[120]. As such, the Indian sub-continent was heavily reliant upon transfer flights for trips to North America; also, dependent upon their destination, it may be more beneficial for passengers to traverse the Pacific Ocean instead.

[118] For many years, SQ operated a flight between SIN and EWR whose flight path traversed the North Pole almost exactly, and thus could not be deemed to have crossed either the Atlantic or the Pacific.
[119] Flights from the region operated by US airlines traversed the Pacific Ocean with stops in either Japan or on the US West Coast before continuing to their final destinations; these airlines did not have 5th Freedom rights in Europe for their operations.
[120] The Indian aviation industry is economically volatile with large airlines like Jet Airways and Kingfisher having declared bankruptcy in recent years; being a state-owned airline, Air India continues to function. PIA dominates the Pakistani market but has had on occasion been suspended from international operations to North America because of safety concerns.

In most years, travel from Asia had a seasonal ratio of less than 1, an inverse of northern hemisphere travel patterns. In situations where the seasonal ratio exceeds 1, this could reflect an increase in traffic originating from North America as July coincides with the continent's summer holidays.

Overall, both winter and summer travel increased noticeably with winter travel more than doubling and summer travel experiencing a threefold increase from 2005 to 2017. The differential increases led to an almost equal travel market in both January and July 2017, although the levelling of the travel market was achieved in 2009 (Table 6.28).

Table 6.28 - Total Number of Trips from Asia (000s), 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
January	139	143	162	177	209	251	268	275	296	306	374	395	432
July	103	118	157	157	212	231	239	273	284	327	378	435	421

This expansion in the market highlighted the region's reliance upon transfer hubs as the increase in traffic in the region is dominated by indirect travel (Table 6.29). Although it may appear that the total number of trips via direct flights has declined, it is more accurate to note that the overall market has increased without a concurrent increase in direct travel (Table 6.30).

Table 6.29 - Percentage of Asian Traffic via Direct Flights[121], 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
January	6.8	12.9	13.3	19.2	13.1	12.7	12.6	12.0	7.2	7.6	7.2	7.1	6.9
July	14.5	12.1	18.6	23.9	14.8	16.1	12.8	6.1	8.6	9.2	7.6	6.6	8.6

Table 6.30 - Total Number of Trips from Asia via Direct Flights (000s), 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
January	9	18	22	34	27	32	34	33	21	23	27	28	30
July	15	14	29	38	31	37	30	17	25	30	29	29	36

[121] IATA classifies one-stop flights as being direct flights. This contrasts to the parameters of this study which defines the stopover as the point of origin and has been applied to the OAG schedule data.

Travel via direct flights peaked in 2008, decreased until 2012/2013, and then began another upward trend; as noted earlier, this included one-stop flights. Airlines based in the region often had 5th Freedom rights in Europe and long-standing arrangements with European-based airlines, thus facilitating transfer traffic through Europe.

Not surprisingly, the largest European airports (AMS, CDG, FRA and LHR) were the most important transfer points for Asian traffic in 2005 (Tables 6.31 and 6.32).

Table 6.31 - Percentage of Total Asian Traffic Transferring through Main European Hubs, January 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
LHR	11.9	12.1	16.5	13.2	21.6	14.8	16.9	19.2	19.2	21.8	16.5	11.7	10.1
FRA	20.6	14.5	17.5	10.3	13.5	16.8	12.1	9.8	11.8	11.0	10.1	8.2	7.3
CDG	13.8	10.8	9.0	6.4	6.5	5.9	6.0	6.9	6.3	5.7	4.9	4.8	4.7
AMS	11.2	9.9	8.0	7.0	6.1	4.7	5.0	5.7	5.9	5.1	4.6	2.8	3.8
Total	57.5	47.4	51.0	36.9	47.8	42.3	39.9	41.6	43.2	43.6	36.1	27.4	26.0

The main European hubs had their market share of Asian transfer traffic decline by about half, with the decline being more pronounced during the winter travel season. In 2017, AMS had only about 35% of the market share it had in 2005; CDG and FRA had about 35% of its winter market but maintained more than 40% of its summer market share over the same time period.

Table 6.32 - Percentage of Total Asian Traffic Transferring through Main European Hubs, July 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
LHR	11.3	14.6	14.2	10.1	10.7	10.5	11.6	16.4	13.2	15.7	10.4	9.8	8.9
FRA	17.5	17.9	18.6	12.2	16.6	18.1	13.8	12.9	11.9	11.0	10.2	8.6	7.4
CDG	9.5	9.1	6.6	5.2	5.7	5.4	6.4	5.0	4.5	4.6	3.8	3.0	4.1
AMS	7.1	8.3	6.0	6.3	4.0	4.4	3.5	3.1	3.2	3.0	1.8	3.0	2.6
Total	45.4	50.0	45.5	33.8	36.9	38.4	35.2	37.5	32.7	34.2	26.3	24.4	23.0

Whilst LHR also lost market share, its losses were less pronounced, and the airport became the most important European transfer point for Asian traffic. This resilience may be the result of strong historical and cultural links between the UK and India and Pakistan and reinforced by the presence of a large diaspora.

Despite these links, most trips from Asia now transfer via the Middle East. Although only about 4% of all trips transferred via the top four hubs (AUH, DUH, DXB and IST) in 2005 (Tables 6.33 and 6.34), the growth in routes to North America in addition to its advantageous geographic position has facilitated travel on the North Atlantic.

Table 6.33 - Percentage of Total Asian Traffic Transferring through Main Middle Eastern Hubs, January 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
DXB	3.1	3.1	4.7	6.5	8.2	12.9	15.2	15.2	17.7	16.4	20.2	25.4	25.9
DOH	0.6	1.0	1.4	3.0	4.8	7.0	6.0	6.2	6.6	8.0	9.2	11.7	13.7
AUH	0.0	0.9	1.3	1.6	1.9	4.8	4.6	5.2	5.2	6.0	10.0	10.3	9.2
IST	0.4	0.3	0.4	0.1	0.2	0.5	1.0	2.1	2.9	2.9	2.7	3.6	3.3
Total	4.2	5.3	7.8	11.2	15.2	25.2	26.7	28.8	32.4	33.2	42.1	51.1	52.1

DXB was the largest transfer hub within the Middle East, and by 2017 accounted for over 25% and 20% of all Asian traffic in January and July, respectively.

Table 6.34 - Percentage of Total Asian Traffic Transferring through Main Middle Eastern Hubs, July 2005-2017

	05	06	07	08	09	10	11	12	13	14	15	16	17
DXB	2.2	2.5	4.1	5.6	11.2	11.2	18.5	20.0	19.4	19.3	24.1	25.4	21.2
DOH	1.1	1.0	3.2	2.6	8.0	9.1	9.3	9.2	11.0	13.5	11.8	15.5	15.2
AUH	0.0	0.8	2.4	1.8	3.5	5.3	4.9	5.6	8.8	10.4	12.9	13.0	12.8
IST	0.5	0.2	0.2	0.4	0.4	0.3	0.6	1.9	2.3	1.8	2.5	3.3	3.3
Total	3.8	4.5	9.9	10.4	23.2	25.9	33.3	36.6	41.5	45.0	51.4	57.2	52.5

Although neither Emirates (DXB) nor Etihad (AUH) belong to an alliance, Qatar Airways (DOH) and Turkish Airlines (IST) are affiliated with Oneworld and Star Alliance, respectively. Although alliance membership may be an inducement to travel with certain airlines, neither Emirates not Etihad have been hampered by not belonging to an alliance.

One of the main challenges for direct air services from the region has been the rise of the Middle Eastern airlines. Although the overall number of trips from the region has grown, more than half of all trips transferred via the Middle East in 2017.

The changes seen from 2005 to 2017 have reduced the importance of European hubs for transfer traffic from the region. It also shows how the Middle Eastern airlines have risen in importance vis-à-vis its European competition.

6.6 Summary

Travel on the North Atlantic has increased over the years, and the number of trips from 2005 to 2017 rose nearly 40% and over 60% during the winter and summer seasons, respectively.

During this time, European originating traffic dominated the North Atlantic although its predominance has declined from 2005 to 2017: January trips declined from 82% to 67% of all traffic whilst July trips declined from 88% to 80%. Despite the decrease in market share, there was an absolute growth in trips, especially during the summer which saw nearly 50% more trips. This growth created a greater seasonal travel imbalance and is reflected in the higher seasonal ratio (1.69 to 2.21).

With about half of all trips from Europe being undertaken on non-stop flights, transfers continue to play an important role. Although about 20%-25% of all trips rely only on European transfers, about 20% of all trips rely only on North American transfers; about another 3%-4% of trips have transfers on both sides of the Atlantic. The trip data also show that whilst some airports are important destinations, they are not necessarily important transfer airports. These variations highlight the diverse roles that hub airports have within different airline networks as well as the changes that have occurred following airline mergers.

Travel from Africa increased, but the number of trips from the continent accounted for only about 5% of all North Atlantic traffic; with limited direct connections available, only about 30% of all trips are on direct flights. Most transfers occurred outside of the continent with the most important transfer points being in Europe, although DXB and other Middle Eastern hubs have increased in importance over the years. However, most African travel has been to the same four airports, and about 30% of all trips from the continent were to Canada.

Travel from the Middle East also increased and had a concurrent rise in the number of direct trips. This coincided with the expansion of Middle Eastern airline operations on the North Atlantic, notably that of airlines like EK and TK; this also resulted in more transfers occurring within the region. The increase in both direct flight and transfers within the Middle East resulted in a dramatic decrease in the proportion of transfers occurring within Europe for trips from the region to North America.

Trips from Asia in 2017 were over 200% and 300% higher from January and July 2005, respectively. Whilst the number of travellers on direct flights increased to reflect this, the proportion of trips not requiring transfers has either stayed at 2005 levels (winter travel) or decreased (summer travel). The main European hubs maintained their passenger numbers but saw a reduction in their market share of transfer trips from Asia. In contrast, more than half of all North Atlantic trips from Asia to North America utilised Middle Eastern hubs as transfer points, thus significantly increasing their importance to the Asian market.

Travel on the North Atlantic increased but passengers continue to rely upon transfers to facilitate their trips. There are variations within the market reflecting both destination choice and airline selection with the latter influencing the transfer hub utilised if necessary. These differences were the result of many factors, each of which impact trip decisions.

These factors are examined in the subsequent chapter in the discussion and identification of key drivers in the development of a modelling framework.

CHAPTER 7 – MODELLING FRAMEWORK

This chapter aims to identify the key factors for airports to develop direct connectivity on the North Atlantic. These factors will be used in the regression modelling in the subsequent chapter, which will provide the foundation of the model in the case study to ascertain the viability of services from regional airports.

The previous three chapters examined aviation on the North Atlantic from three different perspectives: airports, airlines, and passenger travel. Although distinct, these factors are intertwined and influence one another. There were also other factors external to the industry that have influenced airline networks and route development that must be considered as well as two geographically related factors that form the basis for different subsets within the modelling. The first was an examination from the different regions to North America; the second was based on airlines' region of registry.

The airline factors noted previously were used in creating different subsets in the modelling rather than as drivers in the model itself. This provided the data necessary to answer two of the research questions: RQ1.1, Are joint-ventures and/or alliances influencing airport selection? and RQ2.2, Are different airlines or alliances pursuing different strategies and what are the different strategies?

The drivers used in the model were derived from other key areas identified in the research analysis: airport, seasonality, urban importance, spatial aspects as well as other external drivers.

The chapter concludes with a discussion of these factors and drivers, and the rationale for their inclusion in the modelling framework.

7.1 Geography Related Factors

There were two main geographic subsets utilised in the modelling conducted in the subsequent chapter.

One of the most important factors was that of location. An examination of the routes from a geographic perspective provided insight into regional differences. This entailed a delineation of flights from the regions outlined in Chapter 3.3 (Africa, Asia, Europe, and Middle East) to North America, with a subsequent examination of flights into Canada and the US.

Another important factor is the airline's country of registry. The geographic base of an airline can influence airline operations and strategies. This can include but is not limited to single or multi-hub networks, as well as viable destinations.[122] Unlike the shipping industry, airlines are registered in the country where they were founded (and have their primary operations) and do not operate under 'flags of convenience'.

7.2 Airline Related Factors

There were three main airline related factors utilised to create subsets within the modelling presented in the subsequent chapter.

The first key factor was that of network strategy which manifests itself primarily in an airline's operational structure and route selection. As identified in Section 2.2.2, there are three distinct operating models, FSCs, Leisure and LHLC, with FSCs using a hub and spoke network whilst the other two utilise PTP (Alderighi et al., 2005; Pels, 2008; Doganis, 2010). This factor is important as FSCs often direct their operations to feed their hubs or that of their partner airlines. In contrast, whilst leisure or LHLC may have flights from their bases, they have greater flexibility in selecting their airports, and

[122] Please see Chapter 2 (sections 2.1.2 and 2.2.2) for an overview of the regional factors that can influence airlines.

have a tendency to offer flights to smaller rather than larger airports (De Poret, O'Connell and Warnock-Smith, 2015).

As such, one modelling subset analysed the differences between the different airline types: full-service carriers, leisure carriers and long-haul low-cost carriers.

The second key factor was that of airline alliances which were developed to expand their network's range and connectivity (see Section 2.3). Although prior to deregulation, all airlines had interline arrangements with one another to facilitate passenger transfers, the development of codeshare arrangements have primarily replaced that of interline agreements. Although some codeshare arrangements exist between airlines from different alliances or with non-aligned carriers, the majority occur within the alliance structure and have become an important factor in facilitating connections (Dennis, 2005; Bilotkach, 2007; Button, 2009). The data confirm that these codeshare flights often operate through alliance hubs and facilitate transfers within the alliance.

As such, a second modelling subset analysed the differences between the alliances: Oneworld, Qualiflyer, SkyTeam, Star, Wings, or none.

Most joint-ventures developed within alliance structures, resulting in even greater co-operation and integration, enabling airlines to coordinate schedules and allocate resources according to the route regardless of the operator; this is supported by the literature as well as the schedule and trip data. The first joint-venture with anti-trust immunity on the North Atlantic was approved in the early 1990s (KLM-NW), more have since been approved and have gained in importance (Pearce and Doernhoefer, 2012; Zou and Chen, 2017). Although some of the earlier approvals had 'carve-outs'[123], these are not present in more recently approved joint-ventures (US Department of Transport, 2019).

[123] A carve-out was a route that was not included within the immunized joint-venture. Although the carve-out was sometimes only applicable to specific point of sale traffic, it nonetheless did not allow airlines to co-ordinate schedules and reduced the overall effectiveness of the joint-venture.

Joint-ventures are dynamic and have evolved with alliance expansion, the absorption of existing J-Vs and the removal of carve-outs; the nomenclature has changed to reflect this. The joint-ventures that are of consequence are listed in Table 7.1:

Table 7.1 - Overview of North Atlantic Joint-Ventures

Name	Members	Validity	Carve-Outs
AA+	AA-AY	Aug 2002-July 2010	none
One	AA-BA-IB	Oct 2010-present	none
	AY	from July 2013	
	US	from July 2014	
Qualiflyer	DL-OS-SN-SR	June 1996-Aug 2000	ATL-BRU; ATL-ZRH; CVG-ZRH; NYC-BRU; NYC-VIE; NYC-GVA; NYC-ZRH
Wings[124]	KL-NW	1996-May 2008	none
Sky	AF-AZ-DL-KL-NW	May 2008-present	none
	VS	from Jan 2014	
Star+	LH-UA	Nov 1996-Sept 2009	IAD-FRA; ORD-FRA
Star++	AC-CO-LH-UA	Oct 2009-present	none
	LX-OS	from July 2011	
	SN	from March 2012	

The DL-VS joint-venture was examined as part of the SkyTeam J-V even though it is a separate agreement[125]. This was because VS flights on the North Atlantic fly to DL destinations, not to those of AF and KL. Likewise, DL operations have the same incentives to operate to AF, KL or VS destinations. The lack of a VS domestic network did not detract from possible DL connections to AMS to serve UK airports.

The third modelling subset was based on joint-ventures.

The three modelling subsets identified above provided greater context and understanding of airline networks on the North Atlantic and answered two of the research questions identified.

[124] Although the Wings alliance dissolved in 2004, the nomenclature was kept for simplicity.
[125] Virgin Atlantic has subsequently been integrated into the SkyTeam J-V. However, that development is beyond the temporal scope of this research.

7.3 Airport Related Drivers

Every airport provides access to its respective city and surroundings, although some airports are hubs in addition to being destinations. The decision to operate services to airports is based on both aspects and is unique to each airline.

As noted in Section 2.2, an airline hub operates numerous flights to facilitate passenger transfers. As such, the first driver, **hub status** is a primary aspect in the development and provision of services on the North Atlantic for both the airline utilising the airport as a hub and facilitating transfers for partner airlines.

Whilst all hubs are relatively large airports, hub status is not determined by its size but by its operational role within an airline network (Doganis, 2010). As such, total passenger numbers or air traffic movements (ATM) was not a viable metric in determining hub status; however, the number of air traffic movements for a given airline would be representative. Whilst the percentage of an airline's ATM at an airport would indicate dominance at an airport, it would not reflect the importance of an airport. Using total airline ATM at an airport addressed both the airport's size as well as the airport's importance to an airline. This also identified the airport's role, especially in a multi-hub network (Ryerson and Kim, 2013).

The variable was called Hub Factor: the total number of weekly ATM (divided by 1000) from an airport based in the airline's country of registration or last point of departure[126]. The variable was divided by 1000 for simplicity in the modelling; thus 1012 weekly movements is 1.012.

Alliance participation enhanced the likelihood of operating flights to partners' hub airports for more connection and destination options, a choice that was influenced by that airport's role within its partner's network. The strength of its partner airport (represented by Hub Factor) was utilised for the variable Partner Concentration. As

[126] This refers to airports used as technical stops, the use of 5th Freedom rights, and European airports outside of their home country utilised by European airlines.

the variable indicated the number of available flights, it was a good proxy measure for the airport's importance and the viability of transfer opportunities for beyond traffic. For non-alliance airlines, the value of .0001 was entered to enable modelling.

The variable for Partner Concentration: Hub Factor of alliance airport (if applicable).

The third key driver identified from the research was that of **airport congestion**; a lack of slot availability reflects insufficient capacity and hinders expansion opportunities both in adding frequencies on existing routes and in developing new destinations (Bel and Fageda, 2010). This constraint creates spillage and diverts possible services to other airports be they within the same urban airport system or to airports in other cities (Gudmundsson, Paleari and Redondi, 2014; Redondi and Gudmundsson, 2016). Under current procedures, the allocation process favours existing operations, and therefore the 'home' airline based at the airport[127]. However, whilst the lack of available slots reinforces the home airline's dominance at its hub, it nonetheless inhibits developing more services, regardless of the airline.

Most hub airports, especially in Europe, have insufficient slots to meet demand; these airports are deemed by IATA Slot Coordination Committee to be Level 3 or Fully Coordinated Airports. There are also Level 2 or Schedules Facilitated Airports, and Level 1 or Non-Coordinated Airports. Although most countries utilise these definitions, the US relies upon airlines to agree amongst themselves to facilitate and coordinate operations and a limited number of US airports are either Level 2 or Level 3[128].

As such, airports can be Fully Coordinated (3), Schedules Facilitated (2) or Non-Coordinated (1). Operational constraints can occur at either end of the route, and as such both airports must be considered. All airports not listed as either Level 3 or 2 were assumed to be Level 1 in this research.

[127] For a more in-depth discussion of slot-allocation within airports, please refer to Graham (2018).
[128] Congestion at US airports is determined by the FAA and does not necessarily follow IATA guidelines in terms of classification.

The variable for Congestion ranged from 2 (both airports Non-Coordinated) to 6 (both airports Fully Coordinated).

Despite issues such as congestion, some airports continue to attract services be they from alliance partners or others. These airports have a high attraction because they function as **gateway airports**. Gateway airports are key entry points to a country or region and are key transfer points and some are also important destinations. They are often situated in a geographically advantageous location that facilitates transfers to onward destinations (Taaffe, Morrill and Gould, 1963; Weber and Williams, 2001).

The two most advantageously situated gateway cities on the North Atlantic are those of London and New York. Due to historic factors, the airport associated with London is LHR, whilst the airport associated with New York is JFK. Even though there are other airports associated with each city (New York: EWR and SWF; London: LGW, LUT and STN), none of them possess the same airport attraction[129].

To address this, two dichotomous variables were created:

GLHR: 1 - LHR is a terminus on the route; 0 – LHR is not a terminus on the route
GJFK: 1- JFK is a terminus on the route; 0 – JFK is not a terminus on the route

7.4 Seasonal Related Drivers

The results from the research clearly indicated the importance of seasonality in both the provision of flights and the number of trips being undertaken. Whilst seasonality is of limited importance in Africa, Asia, and the Middle East, it is significant in Europe which dominates North Atlantic travel.

The fifth driver, **seasonality**, was identified as an important operational determinant whether operations would function throughout the year or only during the summer

[129] This is evident in the terms and conditions of Bermuda II which highlighted JFK within the US and deemed all London airports other than LHR as being regional airports.

peak holiday period. Although especially important for leisure carriers, it has also influenced FSCs, both in terms of destinations and frequency (Bel and Fageda, 2010; Jimenez, Claro and de Sousa, 2012; Belkoura et al., 2016).

The variable for seasonality: proportion of services in July from the total combined January and July services.

7.5 Spatial Related Drivers

One of the aspects underlying all interaction is that of distance. As per the Gravity Model (Chapter 3.6), the further the distance the less likely there is to be interaction between two places. This is evident in this research when considering the dominance of Europe, the closest region to North America, especially to eastern seaboard hubs rather than those in the Midwest or on the Pacific coast.

The sixth driver, **distance**, was deemed to have an inverse relationship with attraction; the greater the distance the less likely there is to be interaction.

Air travel has limited geographic impediments, and aircraft on the North Atlantic utilise Great Circle[130] routes to reduce flying times, thus making longer flights possible. Whilst flight time was considered, distance was determined to be a better metric as North Atlantic flight times vary with direction.

The variable for distance: actual geographic distance.

[130] Whilst the shortest distance between two points on a map appears as a straight line, the shortest route between two points on the Earth, which is a globe, is an arc that in the northern hemisphere is further north than it would be if the Earth was flat (as displayed on a map).

7.6 Urban Related Drivers

Major airports provide access to their respective city and its surrounding environs and are often affiliated with a particular airline; something urban centres are not. However, urban centres enhance the attractiveness and viability of airports situated nearby. As such, it was necessary to assess both airports and urban centres independently of one another.

The seventh driver is **urban importance**. Although many airports are often assessed independently of its affiliated city, urban attraction needs to be considered (Smith and Timberlake, 2001; Zook and Brunn, 2006; Grubesic, Matisziw and Zook, 2009).

As discussed in Section 3.6, whilst the Gravity Model uses population to assess an urban centre's attraction, it was posited that an urban centre's economic importance may be of greater utility. The metric chosen was the Global and World Cities Index (GaWC) which does not consider aviation when assessing urban importance, thus maintaining independence in determining the urban impact.

The GaWC allocates 200+ major global cities into 12 cohorts following the assessment of various factors. Each airport has been given a score based upon the cohort to which its affiliated city has been allocated. The GaWC is a dynamic index that is periodically updated to reflect the changing global situation and cities shift their positions, accordingly, thus reinforcing the index's utility as a metric.

The index scores for Urban Importance have been allocated as follows: 12 (Alpha ++), 11 (Alpha +), 10 (Alpha), 9 (Alpha -), 8 (Beta +), 7 (Beta), 6 (Beta -), 5 (Gamma +), 4 (Gamma), 3 (Gamma), 2 (High Sufficiency), or 1 (Sufficiency).

As both ends (cities) of the route are relevant, the scores for both cities were added. As such, the variable could range from 0 to a maximum of 24.

7.7 External Related Drivers

In addition to aviation and geographic drivers, there are other factors that can influence airline operations and travel patterns; these include cultural links.

These links have developed through historical (or ongoing) immigration. Whilst recent migration may be a catalyst for VFR travel, historic trends are also the basis for travel to the 'home' country. These links allow for the development of niche markets that may otherwise not be viable (Dennis, 2005; Sismanidou et al., 2013).

These groups are often referred to as diasporas, or 'ex-pat' communities. Whilst most people accept the existence of such communities, there is no agreed-upon definition (Migration & development: Diasporas, 2020), and defining diasporas for statistical purposes remains challenging (IOM, 2018). The UN Agency, the International Organization for Migration (IOM), referred to diasporas as:

> Migrants or descendants of migrants whose identity and sense of belonging, either real or symbolic, have been shaped by their migration experience and background. They maintain links with their homelands, and to each other, based on a shared sense of history, identity, or mutual experiences in the destination country (IOM, 2019, p49).

The importance of these groups in international connectivity is highlighted by the IOM who refer to them as:

> transnational communities, because in a world of unprecedented global mobility, they comprise people who are connected to more than one country.
>
> The transnational nature of diaspora implies that these people are crucial when it comes to connecting countries and communities, because they can call on multiple networks, relate to different identities and share a sense of belonging to more than one community (IOM, no date, p1).

Examples of these links can be seen in connections between Ireland (including Northern Ireland) and Boston, Chicago, Montreal, New York, and Toronto (cities with high levels of Irish immigration), the Nordic countries with the US states of Minnesota and North Dakota.

This can be reinforced by language as seen in the strong links that continue to exist between France and Canada, and especially the French-speaking province of Quebec.

Both Canada and the US have developed through immigration, but more recent post-World War II migration to Canada has in popular thinking developed a cultural mosaic in contrast to the 'melting pot' of the US; recent immigration contributes to VFR trips which historical immigration does not. Whilst immigration is a starting point for establishing cultural links, those links are not limited to the emigrants themselves but can extend to subsequent generations who identify with their historical ethnic origins. Likewise, whilst language capacity can indicate strong links, this is not necessarily the case as English is the dominant language in both Canada and the US.

Canada and the US collect administrative data on ethnic origin or ancestry respectively, as well as language. As these values can reach the millions, all values were divided by 1,000,000 to facilitate modelling; groups not identified were assigned a '.000001' to enable the regression analysis.

There are therefore two cultural drivers: **Language** and **Ethnicity**. Both variables reflect the number of people in each category.

7.8 Modelling Limitations

The factors identified above are all key drivers that influence airport operations; there were, however, other factors that would have provided greater context and understanding that could not be operationalised due to data availability.

One of the most important factors for any airline is that of costs. While it is acknowledged that this would have provided greater understanding, it was quite understandably not possible to obtain this data for the routes and the airlines involved.

Although one of the largest expenses for any airline is that of aviation fuel (in US Dollars), and could have been obtained, it would have been problematic without corresponding exchange rates for each of the airlines involved in the study. In addition, the common practice of fuel hedging would have reduced the utility of relying solely upon aviation fuel prices. Likewise, the lack of labour costs, another key aspect for airlines could not be reliably obtained.

Along with costs, fare data would have also been beneficial. Although there was fare data included in the PaxIS data, there were numerous instances of mismatches between the PaxIS fare codes (or fare buckets) for economy and business class fares data and airline fare codes. Any comparison would have entailed the use of misaligned or incomparable fare data; this would have resulted in erroneous analysis or conclusions. There were not other available sources of fare data, and as a result, fare data were also omitted from the modelling framework.

Another factor that would have assisted in the modelling framework is that of aircraft. Aviation technology has advanced, and most aircraft are not only more fuel efficient than their predecessors, but also have longer distance range capabilities, and even somewhat smaller aircraft are capable of long-range flights. In addition to lowering costs, this has drastically reduced the need for technical stops on long-range flights as well as the numbers required to make a route viable. Although it is accepted that this would have been a key driver in the modelling framework, it was not possible to obtain the data needed and operationalising it. Similar aircraft have different configurations, sometimes even within the same airline, and it is not unusual for airlines to change aircraft on a route several times a year to match passenger demand.

7.9 Summary

This chapter identified 9 key drivers influencing airport operations: Hub Factor, Airport Congestion, Gateway, Partner Concentration, Seasonality, Distance, Urban Importance, Language, and Ethnicity (Table 7.2).

Table 7.2 - Overview of Modelling Metrics

Modelling Subsets	Source	Variable Options
Regional Operations	Geographic Location	Africa, Asia, Europe, Middle East
Airline by Region	(Country) Region of Registration	Africa, Asia, Europe, North America, Middle East
Airline Type	Airline Websites	Full-Service Carriers, Leisure, Long-Haul Low-Cost
Alliance	Alliance Websites	Oneworld, Qualiflyer, SkyTeam, Star, Wings, none
Joint-Venture Membership	https://www.transportation.gov/office-policy/aviation-policy/airline-alliances-operating-active-antitrust-immunity	One, Qualiflyer, Sky, Star++, Wings
Airline	OAG Data	major airlines with North Atlantic operations

Dependent Variable	Source	Variable Options
Flights	OAG Data	total number of flights operated

Independent Variables	Source	Variable Options
Hub Factor	Airline Business; OAG Data	total number of ATM (divided by 1,000
Partner Concentration	Airline Business; OAG Data	Hub Factor of alliance airport (if applicable)
Airport Congestion	www.iata.org/en/policy/slots/slot-guidelines/; www.wwacg.org;	2 (both Non-Coordinated) to 6 (both Fully Coordinated
The Gateway Variables (GLHR, GJFK)	OAG Data	**GLHR**: 1 – LHR is used; 0 - LHR not on the route / **GJFK**: 1 – JFK is used; 0 - JFK not on the route
Seasonality	OAG Data	July proportion of total annual services
Distance	OAG Data	geographic distance (divided by 1,000
Urban Importance	GaWC Database	0 (neither city on the index) to 24 (both cities listed as Alpha ++)
Language	Census of Canada (1996, 2001, 2006, 2016); NHS (2011); US Census Data (2000; 209-2013)	Number of people reporting divided by 1,000,000 (minimum of '.000001')
Ethnicity	Census of Canada (1996, 2001, 2006 2016); NHS (2011); American Community Survey (2012, 2017)	Number of people reporting divided by 1,000,000 (minimum of '.000001')

These drivers were used in the following chapter in determining their respective influence in airline operations. The assessment was conducted from a holistic perspective and then utilising the subsets outlined above.

Although other factors would have provided utility as drivers (costs, fares, and aircraft technology), the data could not be obtained and as such were not included in the modelling framework.

The overall perspective enabled the research to highlight key differences on the North Atlantic. The subsets allowed for the discernment of more subtle variations amongst the geographic and airline related factors, the results of which are presented in the following chapter.

CHAPTER 8 – NETWORK MODELLING

The previous chapter provided an overview of the key factors and drivers that were identified in the research and provided the basis for the modelling framework used to examine services on the North Atlantic. The metrics utilised assess the impact of each respective factor in determining whether a service will operate, and the frequency.

8.1 Modelling Parameters

SPSS was used to conduct a linear multiple regression analysis to develop a model utilising the drivers identified in the previous chapter as independent variables and the number of flights as the dependent variable.

The model produced is as follows:

$$y = \beta_0 + \beta_1 X_1 + \cdots + \beta_n X_n$$

In the model, y is the predicted value of the dependent variable (flights), β_0 is the y-intercept (when all other parameters are 0), $\beta_1 X_1$ is the regression coefficient (β_1) of the first variable (X_1), and $\beta_n X_n$ is the regression coefficient of the last variable[131].

The July schedules on the North Atlantic from 1997, 2002, 2007, 2012, and 2017 were selected for the temporal framework of the regression analysis. The 5-year intervals provide a good overview of the changes that have occurred, although it is accepted that selecting other years could produce different results and thus reflect the market's changes within another perspective. Overall, the years selected reflect the dynamic nature of the market and key events. In 1997, there were a total of 249 airline routes[132], a number which was virtually unchanged in 2002, the result of post-9/11 contractions (Table 8.1). The increase in the Mean (weekly flights) indicated that there was a concentration of flights on routes, although the higher Standard Deviation

[131] For further information concerning the specifics of the model, including technique, significance. and collinearity, please refer to Section 3.5

[132] If two airlines operate flights on a route, for example, LHR-JFK, that would count as 2 airline routes.

showed that along with some route concentration, other routes operated with fewer flights. The expansion of leisure airlines on the North Atlantic was evident in 2007 although the subsequent contraction following the recession resulted in fewer routes but more flights in 2012. The expansion of LCCs on the North Atlantic contributed to the increase in airline routes and flights. This variation within the data is evidence of the dynamic nature of the North Atlantic and the utility of the years chosen.

Table 8.1 – Overview of North Atlantic Modelling Data

	Airline Routes	Flights	Mean	Standard Deviation (SD)
1997	249	2412	9.12	8.728
2002	248	2739	9.85	12.303
2007	405	3798	9.38	11.644
2012	394	3857	9.79	11.800
2012	518	4975	9.60	10.621

8.2 Results of the Analysis[133]

The regression analysis was conducted using different subsets: regional flows, airline by region, airline type, alliance, joint-venture membership, and individual airlines. The subsequent tables present the values for each of the variables (coefficients)[134] entered. Variables that were statistically significant[135] are highlighted in the tables.

8.2.1 The North Atlantic

The first analysis was conducted at the route level without any airline related factors and drivers. Hub Factor and Partner Concentration were removed from the model, and all operations on a route were aggregated into one category or input (Table 8.2).

This initial or base model identified key drivers that were significant throughout the research: GLHR and Urban Importance.

[133] For full results, please refer to Appendix L.
[134] The SPSS outputs refer to variables or drivers as coefficients.
[135] Statistical significance is determined by significance values of .05 or less.

Table 8.2 – Initial (Base Model) North Atlantic Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	0.361	-1.967	6.524	-8.546	5.497
Congestion	0.390	0.552	0.363	-0.154	0.628
GLHR	9.778	17.755	17.844	15.506	11.926
GJFK	1.268	1.674	1.876	4.038	3.847
Seasonality	-5.022	-7.423	-9.346	3.034	-5.778
Distance	-0.813	-0.863	-1.065	-1.146	-1.530
Language	0.034	0.464	0.358	0.624	0.483
Ethnicity	2.157	0.991	0.209	-0.055	0.886
Urban	0.713	0.944	0.711	1.182	0.656
R Square	0.406	0.405	0.383	0.387	0.357

indicates statistical significance at .05

Language was significant from 2002 onwards and reflected the common links between communities; in 1997, Ethnicity was significant, but not thereafter. The negative impact of distance upon services increased over time and the variable was statistically significant from 2007. Seasonality had an inconsistent impact and was significant in three of the five time periods; although predominantly negative, it also had a positive impact (2012). Only one variable was not significant at any time – Congestion.

The model, although statistically significant, only had an R-Square value of .357 in 2017. Subsequent models, therefore, included airline drivers to estimate their impact, especially regarding hub operations and alliance membership, which have been identified in the literature as important factors. The regression analysis was then conducted examining all flights on the North Atlantic with the inclusion of airline specific variables (Table 8.3).

The two consistent statistically significant factors were GLHR and Urban (Table 8.3). Hub Factor, GJFK, and Partner Concentration have all been significant from 2002 onwards and the change in the model's utility coincides with the inclusion of these variables. This reflects the introduction and development of the major alliances and their subsequent importance on attracting partner services. Except for Congestion, all the other variables were significant as some point.

Table 8.3 – Overall North Atlantic Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	4.702	2.510	6.339	-0.296	3.446
Hub Factor	0.245	0.647	0.621	0.677	0.530
Congestion	-0.226	0.186	-0.110	-0.162	0.169
GLHR	3.714	5.126	6.018	4.646	4.564
GJFK	0.367	2.041	2.989	2.972	2.489
Partner Concentration	0.313	0.494	0.583	0.528	0.373
Seasonality	-2.505	-1.735	-2.872	0.592	-1.220
Distance	-0.001	-0.708	-0.876	-0.356	-0.472
Language	2.48E-07	1.27E-01	1.25E-01	3.31E-01	1.74E-01
Ethnicity	1.03E-06	3.18E-01	-8.30E-02	-1.99E-01	-1.29E-01
Urban	0.326	0.251	0.224	0.330	0.180
R Square	0.257	0.416	0.463	0.424	0.369

indicates statistical significance at .05

Unlike the base model, Language was not consistently significant, although both GLHR and Urban Importance mirror the findings of the base model. The concentration/dispersion of services to smaller urban centres was reflected in the fluctuations in Urban Importance, and the continued significance of GLHR and GJFK reinforces the importance of those airports as destinations. The significance of airline related variables Hub Factor, and Partner Concentration reflect the development of the global alliances.

8.2.2 Regional

The regression analysis was conducted from a regional perspective to determine if there were any underlying geographic reasons behind airline behaviour. Flights to North America were analysed using the same regions identified previously in the research: Europe, Africa, the Middle East, and Asia.

For regional flows between Europe and North America, there were four variables that were consistently significant – Hub Factor, GLHR, GJFK, and Urban Importance (Table 8.4). Partner Concentration was significant from 2002 onwards as was Distance, albeit negatively. Language was significant except for 2002. Despite the high number of congested (Level 3) airports in Europe, Congestion was not a significant variable.

Table 8.4 – Europe - North America Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	2.540	2.602	5.749	1.008	4.342
Hub Factor	0.652	0.664	0.659	0.739	0.557
Congestion	-0.093	0.079	-0.087	-0.078	0.281
GLHR	3.780	5.104	5.972	4.849	4.618
GJFK	1.858	2.234	2.959	3.077	2.046
Partner Concentration	0.311	0.508	0.607	0.605	0.432
Seasonality	-1.249	-1.279	-2.476	1.052	-1.197
Distance	-0.442	-0.830	-0.966	-0.817	-0.815
Language	0.181	0.134	0.161	0.333	0.166
Ethnicity	0.555	0.322	-0.058	-0.224	-0.115
Urban Importance	0.241	0.278	0.240	0.304	0.171
R Square	0.351	0.419	0.475	0.457	0.389

indicates statistical significance at .05

With the relatively few flights from either Africa or Asia, it was not possible to produce statistically viable results. As such, an aggregated regional analysis was conducted on all operations from Africa, Asia, and the Middle East to North America (Table 8.5).

Table 8.5 – Non-European Regions to North America Regression Analysis Results

Coefficients	2007	2012	2017
(Constant)	7.645	-2.401	1.831
Hub Factor	0.438	0.181	0.398
Congestion	0.803	-1.101	-0.049
GJFK	2.564	0.771	3.946
Partner Concentration	0.595	-0.147	-0.022
Seasonality	-2.268	-2.081	-0.029
Distance	-0.943	-0.303	-0.089
Language	-0.509	0.066	-4.624
Ethnicity	-9.224	-2.143	1.380
Urban Importance	--	0.928	0.210
R Square	0.385	0.324	0.354

indicates statistical significance at .05

Given the variety of operators, and the geographic differences, both in terms of location and distance, it is not surprising that a statistically significant model was only produced from 2007 onwards. In addition, the variables identified as being significant lacked any continuity between the time periods examined.

Although 2017 produced the strongest model, it only had a utility of 0.354 – a figure that was smaller than the result obtained in the base model (Table 8.2). It was concluded that the heterogeneity present when the three regions were combined negated its utilisation as a viable model.

Although most research focuses on the United States, inferring that North America is a homogenous entity, the drivers influencing services to Canada and the US vary in importance.

The US market dominates North American operations, and with the majority of flights originating in Europe, it is not surprising that the variables influencing services to the country are similar to those seen in Table 8.1 (Table 8.6). Of interest is the positive significance of Congestion in 2017. The omission of GJFK in 2002 unsurprisingly reflects the aftermath of September 11.

Table 8.6 – Services to the United States - Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	3.715	3.138	6.160	-2.197	1.273
Hub Factor	0.620	0.570	0.491	0.545	0.514
Congestion	0.024	0.577	-0.079	0.243	0.792
GLHR	5.704	5.327	6.021	5.181	4.932
GJFK	1.705	1.170	2.044	1.868	1.463
Partner Concentration	0.276	0.456	0.524	0.494	0.344
Seasonality	-0.991	-0.210	-1.007	2.392	-0.834
Distance	-0.574	-1.093	-1.044	-0.360	-0.450
Language	0.076	0.092	0.125	0.284	0.174
Ethnicity	0.684	0.141	0.032	-0.291	-0.127
Urban Importance	0.176	0.199	0.255	0.324	0.145
R Square	0.350	0.360	0.362	0.374	0.370

indicates statistical significance at .05

The regression analysis results for travel to Canada provided distinctive results which produced consistently higher values compared to services to the US (Table 8.7).

Table 8.7 – Services to Canada - Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	1.336	-4.484	3.580	3.021	7.196
Hub Factor	1.559	1.349	1.178	1.106	0.592
Congestion	-0.475	-0.773	0.079	-0.058	-0.084
GLHR	1.363	5.302	5.011	2.847	2.157
Partner Concentration	0.315	0.445	0.536	0.229	0.310
Seasonality	-0.819	-0.469	-2.124	-1.831	-2.524
Distance	-0.233	0.928	-0.558	-0.715	-0.990
Language	--	--	--	--	--
Ethnicity	1.489	1.680	0.578	1.349	0.826
Urban Importance	0.237	0.360	0.116	0.204	0.163
R Square	0.614	0.593	0.624	0.581	0.381

indicates statistical significance at .05

Both Hub Factor and Ethnicity were consistently significant while, in contrast, Language, was consistently omitted due to collinearity (Table 8.7). This differs to the US where Ethnicity was not significant. GLHR was significant from 2002 onwards and Urban Importance was significant in three of the last four time periods in contrast to the US where the variable is significant throughout the study period.

The reasons for these differences could be attributed to numerous factors, one of which could be the strength of leisure airline Air Transat which has a different operating model and strategy from FSC airline, Air Canada.

The models above (Tables 8.2 to 8.7) examined operations from a regional basis. However, an airline's operations are influenced by the nation where they are based. This could be due to the geographic scope of the country and any bilateral/multilateral agreements to which the airline must adhere. The dominant airline(s) in each market tend to be based in that country, and subsequent analysis was based on the country (region) of registry.

Whilst there were sufficient European and North American based airlines with North Atlantic services, the comparatively fewer services from other regions proved problematic, and no model could be produced for 2002 (Table 8.8); this reflects the heterogeneity of the regions and reinforced the need to examine operations from a more regional perspective rather than only a macro assessment.

Table 8.8 – Afro-Asian Airlines Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	-1.531		3.024	1.251	1.579
Hub Factor	2.040		1.487	1.048	0.445
Congestion	-0.342			-0.967	-0.114
GLHR				-0.681	0.928
GJFK	2.167		2.564	1.072	5.165
Partner Concentration			0.782	-0.361	0.069
Seasonality				-3.188	0.288
Distance	0.001		-0.524	-0.216	0.006
Language			-0.250	-0.340	-0.232
Ethnicity				0.047	-0.683
Urban Importance	0.084		0.220	0.632	0.187
R Square	0.326	no model	0.369	0.384	0.446

indicates statistical significance at .05

The most consistently significant factor was that of GJFK, reflecting the airport`s importance as a gateway to the US. Hub Factor was significant in both 2012 and 2017, while Urban Importance was significant in earlier time periods (2007 and 2012).

In contrast, the analysis consistently produced statistically significant models for European-based airlines. There was only one variable that was significant throughout the analysis: GJFK (Table 8.9). However, there were a number of other factors that were consistently significant. Interestingly, although GLHR has been significant (except for 2012), the coefficient value has halved from 1997 to 2017; Urban Importance also ceased to be significant in 2017. This reflects the presence of LHLC and Charter airlines based in the continent and is especially evident in 2017 when both WOW and Norwegian expanded their networks into many smaller US cities. Distance also had a significant negative influence on operations from 2002 onwards.

Table 8.9 – European Airlines Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	3.603	4.546	5.692	1.337	2.529
Hub Factor	0.848	1.419	1.335	1.236	0.875
Congestion	0.035	-0.334	0.248	0.364	0.909
GLHR	5.902	3.292	4.187	1.325	2.987
GJFK	2.214	2.657	3.705	4.014	2.563
Partner Concentration	0.372	0.086	0.037	0.070	0.163
Seasonality	-2.871	0.698	-2.854	0.982	-0.232
Distance	-0.001	-1.013	-0.965	-1.084	-0.934
Language	0.000	0.480	0.433	0.798	0.326
Ethnicity	0.000	-0.542	-0.936	-1.648	-0.214
Urban Importance	0.305	0.221	0.147	0.277	0.080
R Square	0.368	0.499	0.550	0.526	0.401

indicates statistical significance at .05

For airlines based in North America, GLHR and Urban Importance, were the only variables that had a consistent significant impact upon route selection (Table 8.10). Contrary to European-based airlines, the GLHR coefficient has increased over time, perhaps reflecting the opportunities provided following the EU-US Open Skies Agreement. Both Hub Factor and Partner Concentration have been significant variables since 2002 although they have both decreased in importance from that time.

Table 8.10 – North American Airlines Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	2.198	-2.032	3.980	-4.159	2.879
Hub Factor	2.923	0.647	0.571	0.630	0.446
Congestion	-0.572	0.432	-0.350	-0.223	-0.186
GLHR	3.370	5.438	6.744	5.530	5.657
GJFK	-0.588	3.115	2.628	2.285	0.747
Partner Concentration	0.191	0.975	1.219	1.067	0.694
Seasonality	-2.148	-0.879	-1.282	1.551	-1.197
Distance	0.000	-0.647	-0.867	-0.296	-0.610
Language	0.000	0.354	0.275	0.358	0.211
Ethnicity	0.0000014	0.485	0.065	0.290	-0.016
Urban Importance	0.486	0.314	0.308	0.446	0.325
R Square	0.297	0.495	0.532	0.547	0.500

indicates statistical significance at .05

There were, however, differences between Canadian and US-based airlines; these differences are similar to those noted in the regional examination.

Hub Factor was significant for both Canadian and US-based airlines from 2002 onwards (Tables 8.11 and 8.12). GLHR was significant for US airlines from 1997; for Canadian airlines, from 2002 onwards. What is of interest is that GJFK was significant for North American airlines, but when the region is disaggregated, the factor is not significant.

Table 8.11 – US Airlines Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	8.700	1.883	4.742	-3.470	1.396
Hub Factor	1.174	0.496	0.279	0.359	0.378
Congestion	-0.172	0.500	-0.075	-0.169	0.338
GLHR	6.960	4.915	8.036	5.918	6.082
GJFK	-0.729	2.387	0.211	0.750	-0.340
Partner Concentration	0.055	0.925	0.997	0.978	0.667
Seasonality	-0.043	0.675	1.072	3.630	-0.733
Distance	-0.001	-1.191	-0.972	-0.256	-0.588
Language	0.000	0.360	0.288	0.320	0.232
Ethnicity	0.0000013	0.294	0.234	0.334	-0.039
Urban Importance	0.157	0.217	0.268	0.416	0.286
R Square	0.303	0.393	0.409	0.455	0.430

indicates statistical significance at .05

Partner Concentration was significant for US airlines more often than for Canadian airlines, and although significant for US carriers, Language was not significant for Canadian based airlines.

Table 8.12 – Canadian Airlines Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	-5.179	-12.168	2.673	-4.422	6.837
Hub Factor		1.735	1.297	0.986	0.788
Congestion	-0.254	-1.025	-0.072	0.432	-0.442
GLHR	0.432	7.283	5.945	4.915	3.289
Partner Concentration	0.499	0.789	0.771	0.644	0.476
Seasonality	-3.631	1.417	-1.375	-0.188	-2.868
Distance	0.000	1.699	-0.590	-0.224	-0.838
Language	0.000	0.472		0.266	
Ethnicity	0.000002	0.904	0.671	0.916	0.720
Urban Importance	0.862	0.558	0.172	0.267	0.265
R Square	0.743	0.665	0.657	0.615	0.475

indicates statistical significance at .05

Whilst the decrease in Partner Concentration can be explained by the importance of charter airline Air Transat which does not have partners, and the development of AC Rouge to target smaller markets, it is interesting that Ethnicity was significant to Canadian airlines only twice given the multicultural nature of the country.

However, when all variables are considered, the regression modelling was a better fit for Canadian airlines than US airlines, especially prior to the development of Rouge.

In contrast to their European counterparts, distance was a significant factor for US airlines only in 2007 (and Canadian airlines in 2017). Interestingly, Congestion was only significant in 2017 and exhibited a positive impact upon European airlines but a negative impact upon North American airlines.

When examining the regression modelling, the best fit was found for Canadian airlines (1997-2012) and North American carriers in 2017.

8.2.3 Airline Type

The airlines were then disaggregated according to their business model: Full-Service Carriers, Leisure Carriers and Long-Haul Low-Cost Carriers. The LHLC category was, however, problematic as airlines designated as such only operated in 2007 and 2017; for these years they were included with leisure carriers in the regression analysis.

The regression analysis conducted for FSCs provided statistically significant models although they provided less utility than either the overall model or even the base model; the results for non-FSCs were of even less utility (Tables 8.13 and 8.14).

This leads to the conclusion that airline type is not a relevant factor when examining North Atlantic operations.

Table 8.13 – Full-Service Carriers Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	2.137	1.774	4.752	-1.481	3.398
Hub Factor	0.646	0.579	0.511	0.560	0.439
Congestion	-0.064	0.348	-0.216	-0.145	0.153
GLHR	3.837	4.737	5.404	4.248	4.111
GJFK	1.831	1.443	2.111	2.305	2.267
Partner Concentration	0.295	0.446	0.532	0.478	0.298
Seasonality	-1.104	-0.497	-0.864	2.212	-1.209
Distance	-0.370	-0.789	-0.894	-0.347	-0.465
Language	0.163	0.158	0.200	0.354	0.218
Ethnicity	0.578	0.470	0.266	-0.084	-0.251
Urban Importance	0.237	0.252	0.310	0.371	0.223
R Square	0.328	0.340	0.366	0.346	0.306

indicates statistical significance at .05

Table 8.14 – Non-Full-Service Carriers Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)		5.155	3.754	2.626	4.112
Hub Factor		-0.805	6.998	0.679	0.235
Congestion		-0.266	-0.005	-0.005	0.409
GLHR			1.724		
GJFK		-0.770	3.053	2.364	1.369
Partner Concentration				-0.117	1.039
Seasonality		-4.042	-1.940	-3.768	-0.778
Distance		-0.186	-0.308	0.003	-0.623
Language		0.042	0.128	0.215	0.057
Ethnicity		0.269	-0.054	0.198	0.491
Urban Importance	0.119	0.160	0.048	0.189	0.023
R Square	0.274	0.350	0.352	0.401	0.302

indicates statistical significance at .05

8.2.4 Alliance

As alliances were deemed a key aspect, the analysis was then run utilising this factor for Qualiflyer, Wings, Oneworld, Star, and SkyTeam. To provide a base comparison, the analysis was first conducted on airlines with no alliance affiliation.

The significant variables for non-aligned airlines were Hub Factor and GLHR, and GJFK was also significant except for 2002 (post 9/11) (Table 8.15). This reflects a concentration of services at the domestic base and a focus upon the high-volume markets of London and New York.

Table 8.15 – No Alliance Affiliation - Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	2.601	6.460	8.009	5.102	4.793
Hub Factor	1.070	0.659	2.046	2.251	1.743
Congestion	-0.204	0.176	-0.053	0.169	0.403
GLHR	4.699	3.115	3.375	3.260	6.833
GJFK	2.859	0.475	2.383	2.069	3.209
Partner Concentration[136]				-2.755	0.122
Seasonality	-0.590	-4.311	-4.261	-3.284	-1.055
Distance	-0.326	-0.481	-0.752	-0.521	-0.693
Language	0.220	-0.020	0.078	0.110	0.128
Ethnicity	0.217	-0.158	-0.254	-0.081	-0.173
Urban Importance	0.150	0.098	0.111	0.118	0.021
R Square	0.403	0.450	0.433	0.401	0.357

indicates statistical significance at .05

One of the first major alliances on the North Atlantic was that of Wings. Its initial membership was limited (KL-NW) and this is perhaps why the regression modelling in 1997 produced such strong results with GJFK, Language, and Ethnicity as significant variables (Table 8.16). The membership then expanded to include Continental, and whilst Hub Factor and Partner Concentration were significant variables, the model for 2002 was of limited utility. The alliance dissolved in September 2004, thus permitting only two time periods for comparison.

The Qualiflyer alliance was formed in 1996 and is often referred to in tandem with the Atlantic Excellence group. However, the alliance was short-lived, impacted by the onset of the global alliances, and the events of September 11. The regression analysis was run for 1997 but produced limited results.

[136] Although not a member of an alliance, Virgin Atlantic was in a joint-venture agreement with Delta.

Table 8.16 – Wings Alliance - Regression Analysis Results

Coefficients	1997	2002
(Constant)	3.649	1.660
Hub Factor	-0.352	0.800
Congestion	0.031	
GJFK	5.356	
Partner Concentration	0.317	0.650
Seasonality	1.520	-2.215
Distance	0.867	
Language	0.509	0.134
Ethnicity	4.468	
Urban Importance	-0.061	0.188
R Square	0.796	0.252

(highlighted) indicates statistical significance at .05

The Star Alliance was the first of the global alliances to be formed, and continues to be the largest, both in terms of members and operations.

Table 8.17 – Star Alliance - Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	-1.596	-0.697	6.126	-1.853	0.713
Hub Factor	0.696	1.203	0.749	0.756	0.716
Congestion	-1.182	-0.569	-0.857	-0.662	-0.372
GLHR	0.913	4.564	5.361	4.955	5.872
GJFK	1.681	1.487	1.856	3.770	2.704
Partner Concentration	0.065	0.237	0.436	0.467	0.194
Seasonality	2.441	-0.313	-0.548	0.426	-0.048
Distance	-0.254	-0.637	-1.203	-0.268	-0.496
Language	0.273	0.270	0.292	0.491	0.197
Ethnicity	0.678	1.615	0.504	0.206	0.095
Urban Importance	0.664	0.453	0.449	0.497	0.402
R Square	0.461	0.431	0.447	0.365	0.363

(highlighted) indicates statistical significance at .05

Both Hub Factor and Urban Importance were significant throughout the research; unlike the overall North Atlantic results, GLHR only became significant in 2002 (Table 8.16). Although there was no alliance presence in JFK, the GJFK factor was significant in both 2012 and 2017. The models produced, although significant, were similar to the overall North Atlantic modelling results (Table 8.3). This could perhaps be due to the sheer number of airlines within the alliance, as each airline would have its own operating strategy.

According to the regression analysis results for Oneworld, the most important variables were GLHR and GJFK although the latter`s importance has decreased noticeably (Table 8.18). Language and Urban Importance were significant from 2007 onwards, although their importance has also decreased substantially. Interestingly, Hub Factor only appeared as a significant variable in 2017.

Table 8.18 – Oneworld Alliance - Regression Analysis Results

Coefficients	2002	2007	2012	2017
(Constant)	-2.329	-16.288	-12.784	-2.273
Hub Factor	0.803	0.450	0.580	0.456
Congestion	-1.437	-0.514	-0.521	-0.136
GLHR	6.704	5.125	5.863	3.577
GJFK	9.124	5.766	6.585	3.426
Partner Concentration	0.316	0.296	0.150	0.324
Seasonality	6.501	6.140	10.375	-0.231
Distance	-0.759	0.670	-0.415	-0.025
Language	0.528	1.203	0.911	0.428
Ethnicity	-1.244	-1.628	-2.060	-0.431
Urban Importance	0.563	0.850	0.727	0.423
R Square	0.511	0.681	0.632	0.431

indicates statistical significance at .05

indicates statistical significance at .051

In contrast, the only consistent significant variable for SkyTeam was Urban Importance (Table 8.19). Hub Factor and Partner Concentration were significant from 2012 onwards. These two variables have maintained their strength whilst Urban Importance has decreased by nearly half from 2002 to 2017. The modelling results for SkyTeam were the weakest amongst the alliances.

Table 8.19 – SkyTeam Alliance - Regression Analysis Results

Coefficients	2002	2007	2012	2017
(Constant)	-2.469	7.365	-7.206	-3.810
Hub Factor	0.323	0.286	0.566	0.519
Congestion		-0.513	0.510	0.919
GLHR			2.788	3.296
GJFK	1.393	0.637	-0.157	-0.592
Partner Concentration	0.531	0.343	0.826	0.886
Seasonality			4.877	0.399
Distance	-0.808	-1.077	-0.699	-0.566
Language	0.317	0.077	0.197	0.151
Ethnicity		0.305	0.513	0.594
Urban Importance	0.621	0.362	0.516	0.346
R Square	0.246	0.113	0.307	0.283

indicates statistical significance at .05

The regression analysis results for the alliances are varied and indicate a lack of consistent variables in the models. Hub Factor and Partner Concentration appeared for Star and SkyTeam but only once for Oneworld. In contrast, both gateway variables were consistently significant for Oneworld, they were not factors for SkyTeam and GLHR was significant more often than GJFK for Star. The only variable that was significant for all three major alliances was that of Urban Importance.

These results led the research to the next factor to be investigated, joint-ventures.

8.2.5 Joint-Ventures

An integral aspect of many alliance operations was that of joint-ventures, and was therefore, deemed to be an important factor in assessing services. The agreements that have been approved are both metal-neutral and immunised[137], and enables them to coordinate both schedules and fares to optimise operations.

Each major joint-venture (J-V) is situated within an alliance. This included the initial North Atlantic J-V between Northwest and KLM within the Wings alliance. Qualiflyer

[137] A joint-venture pools all operational revenues to be divided amongst members. The term, 'metal-neutral' means that the actual operator of the service is not relevant; immunisation allows the J-V to co-ordinate schedules and fares whilst being granted immunity from anti-trust or collusion charges.

also had a J-V within its membership although there were numerous carve-outs[138] which lessened its ability to co-ordinate operations; as such, a regression analysis was not conducted for Qualiflyer.

The model for the Wings J-V produced very strong results in 1997 (identical to the alliance); however, the model for 2002 was of lower utility although both Hub Factor and Partner Concentration were significant (Table 8.20).

Table 8.20 – Wings Joint-Venture - Regression Analysis Results

Coefficients	1997	2002
(Constant)	3.649	5.480
Hub Factor	-0.352	0.728
Congestion	0.031	
GLHR		
GJFK	5.356	
Partner Concentration	0.317	0.726
Seasonality	1.520	-3.081
Distance	0.867	
Language	0.509	
Ethnicity	4.468	
Urban Importance	-0.061	
R Square	0.796	0.345

indicates statistical significance at .05

The regression analysis consistently produced statistically significant models for the Star J-V[139], although there were differences within the temporal scope (Table 8.21). The transformation of Star+ to Star++ in 2009 is evident in the modelling, as there was surprisingly only one significant variable in the 2007 (GLHR). This is in stark contrast to the alliance results in 2007 which had five significant variables (Table 8.17).

[138] A carve-out is a route that is excluded from the anti-trust protection of a J-V. The Qualiflyer J-V had numerous exclusions (Table 7.1).

[139] The initial joint-venture, Star+, began in November 1996 and included only LH and UA with carve-outs on the FRA-IAD and FRA-ORD routes. This was replaced in October 2009 with Star++ when both AC and CO joined, and the carve-outs were eliminated. By July 2012, LX, OS, and SN (all part of the Lufthansa Group) had become members.

Table 8.21 – Star Joint-Venture - Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	14.893	0.636	5.101	-7.028	-0.251
Hub Factor	1.175	1.214	0.620	0.530	0.719
Congestion	-3.083	-3.132	-1.358	-1.088	-0.432
GLHR			9.580	5.467	6.962
GJFK	7.421	5.187	4.900	3.432	2.362
Partner Concentration	0.649	0.370	0.202	0.535	0.358
Seasonality	10.808	4.146	6.087	1.293	-0.014
Distance	-0.687	-0.159	-1.337	-0.148	-0.391
Language	0.584	0.730		0.581	0.322
Ethnicity		1.156	0.272	0.114	-0.208
Urban Importance		0.726	0.484	0.874	0.442
R Square	0.501	0.445	0.518	0.452	0.422

(yellow) indicates statistical significance at .05

Except for 2007, both Hub Factor and Language were consistently significant. The implementation of Star++ resulted in more consistent significant variables for the J-V. Partner Concentration was significant in both 2012 and 2017 in contrast to the alliance results. Likewise, Urban Importance played a lesser role whilst Distance was not significant.

There were two J-Vs that came under the Oneworld umbrella. The first was AA+ (AA-AY) which operated from August 2002 until July 2010. In October 2010, AA formed a J-V with BA and IB, which subsequently included AY (July 2013) and US (July 2014).

The Language variable was significant through all three time periods while GLHR and Urban Importance were significant in 2012 and 2017; Hub Factor was only significant in 2017 (Table 8.22). Nonetheless, the regression analysis produced strong results, although the strength did diminish over time.

Although the inclusion of BA, IB, and US in the J-V model caused the results to bear closer resemblance to the alliance model, the utility of the J-V model remained less than that of the Oneworld Alliance model (Table 8.18).

Table 8.22 – Oneworld Joint-Venture - Regression Analysis Results

Coefficients	2007	2012	2017
(Constant)	-12.363	-21.334	-2.518
Hub Factor	0.446	0.785	0.593
Congestion	0.334	-0.258	0.064
GLHR		6.519	4.328
GJFK	5.185	7.728	2.918
Partner Concentration	1.785	0.094	0.272
Seasonality	2.371	12.675	1.576
Distance	0.052	-0.635	-0.988
Language	1.149	0.823	0.454
Ethnicity	-0.735	-1.764	-1.024
Urban Importance	0.630	1.018	0.502
R Square	0.736	0.624	0.426

indicates statistical significance at .05

It is interesting to note that not only were the models of lesser utility than their alliance counterpart, but that Partner Concentration was of no consequence. It was postulated that one of the advantages of J-Vs is the ability to co-ordinate operations between partners, and the results for this J-V do not support this.

The first J-V in SkyTeam was the KL-NW agreement that had been part of Wings and then carried over when both airlines joined the alliance in September 2004. In May 2008, the J-V was expanded to included AF, AZ, and DL.

Hub Factor, Partner Concentration and Urban Importance were significant in both 2012 and 2017 whilst Seasonality was only significant in 2012 (Table 8.23). The modelling from 2007 produced insignificant results and although from 2012 onwards the models were significant, they were relatively weak.

In both 2012 and 2017, the significant variables are the same as those in the alliance model and indicates that the joint-venture reflects overall alliance operations. Although it was expected that the J-V model would produce stronger results than for the alliance, this was not the case.

Table 8.23 – SkyTeam Joint-Venture - Regression Analysis Results

Coefficients	2007	2012	2017
(Constant)		-7.259	-3.384
Hub Factor		0.527	0.455
Congestion		0.382	0.748
GLHR		2.626	3.026
GJFK		-0.077	-0.668
Partner Concentration		0.801	0.818
Seasonality		5.102	0.409
Distance		-0.654	-0.389
Language		0.200	0.161
Ethnicity		0.422	0.539
Urban Importance		0.550	0.353
R Square	no model	0.277	0.229

indicates statistical significance at .05

The overall results for the joint-ventures show more consistent significant variables as the J-Vs expanded their membership. Often the results mirrored those seen in their respective alliances, but this was not always the case and only the Star J-V had stronger utility than its alliance counterpart.

These results indicate the lack of homogeneity amongst the joint-ventures – each J-V is pursuing different strategies and utilising its resources differently.

8.2.6 Airline

Following the results from the alliance and joint-venture analyses, an examination of individual airlines was deemed warranted. It must be remembered, however, that although there are numerous major airlines with North Atlantic flights, there may be an insufficient number of routes operating to have robust results.

One of the major airline operators was that of American Airlines. Although the modelling did not identify one factor that was a consistent driver throughout the research, the models were of some utility (Table 8.24).

In 2017, however, both Partner Concentration and Language were statistically significant. The former reflects the importance of alliance partners and the latter in selecting possible destinations. However, the consistent lack of significant variables limits any interpretation of the data.

Table 8.24 – American Airlines - Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	-18.177	-5.218	-11.281	-13.516	1.373
Hub Factor	10.643	1.508	0.511	1.052	0.363
Congestion			0.472		-0.454
GLHR	11.900				
GJFK	11.585	13.275	6.425	-1.439	0.288
Partner Concentration		2.878	1.966	1.727	1.308
Seasonality	55.333	2.915	1.908	1.063	-1.890
Distance		-2.956	0.002	-4.864	-0.166
Language	0.000002	0.572	1.106	0.455	0.399
Ethnicity	0.000002	1.171	-0.777	1.526	1.015
Urban Importance	-0.451	0.564	0.528	1.759	0.376
R Square	0.628	0.712	0.728	0.687	0.632

indicates statistical significance at .05

Although a major airline, the regression analysis for Delta produced models of limited utility and could not produce a model in 2002. (Table 8.25). Hub Factor became significant in 2007 and was joined by Partner Concentration in 2012 following the integration of NW into the DL network in October 2008. GLHR also became significant in 2017. GJFK was not a viable factor in the modelling due to collinearity issues.

Table 8.25 – Delta Airlines - Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	-1.429		2.535	-3.968	0.830
Hub Factor	-7.767		0.271	0.372	0.585
Congestion					1.023
GLHR				4.317	4.724
GJFK					
Partner Concentration			0.358	1.143	1.249
Seasonality			-0.869	3.919	-0.897
Distance	0.002		-0.136	-0.151	-0.726
Language			0.142	0.192	0.196
Ethnicity	0.0000013		0.811	0.775	0.036
Urban Importance	0.229		0.207	0.347	0.051
R Square	0.310	no model	0.269	0.345	0.373

indicates statistical significance at .05

Similar to American, UA had significant results but did not have drivers that were consistent throughout the modelling except for GLHR (Table 8.26). The model for 2002 produced the weakest model for the airline; like DL, UA was beset with collinearity issues, perhaps reflecting network realignment issues following 9/11.

Table 8.26 – United Airlines - Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	-19.944	3.836	17.309	0.007	-1.022
Hub Factor	19.227	1.057	-2.166	0.117	0.323
Congestion				-0.552	
GLHR	6.662	7.189		8.837	10.018
GJFK	6.228				
Partner Concentration	0.464		1.476	0.848	0.412
Seasonality	25.864		3.991	1.319	
Distance	0.002		-2.422	-0.428	-0.653
Language			1.690	0.376	0.304
Ethnicity				-0.255	0.261
Urban Importance			0.186	0.526	0.496
R Square	0.827	0.333	0.712	0.543	0.511

indicates statistical significance at .05

The regression analysis for Air Canada produced significant models for each year although few variables were deemed to be significant (Table 8.27); however, the strength of the model has consistently decreased. The most important variable was GLHR, reflecting the airline`s consistent operations to London from multiple Canadian airports. Surprisingly, Language was not a significant variable and Ethnicity was significant only in 1997. Partner Concentration became a significant variable in 2017 to complement GLHR.

The introduction of Rouge as an LCC arm within the airline also influenced the modelling results. When the regression analysis was re-run with only Mainline flights in 2017, the model's utility rose to 0.555, a noticeable increase (Table 8.27). The regression analysis conducted on Rouge flights did not produce a significant model. This reflects the airline's dual strategy: year-round service with Mainline operations and seasonal services utilising Rouge. Unlike the LCC operations of other FSCs, Rouge operates from AC hubs and benefits from feed carried on AC flights.

Table 8.27 – Air Canada - Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017	2017M
(Constant)	-5.304	-14.754	-30.788	-19.218	4.014	-0.867
Hub Factor		2.119	-0.065		1.394	
Congestion	-0.594			1.859		
GLHR	0.154	8.606	6.687	5.201	4.175	1.656
Partner Concentration	0.411	1.182	0.791	0.872	0.565	0.552
Seasonality	-3.977		12.465	5.351	-3.773	-4.282
Distance	-0.000041		0.801	-0.823	-0.79	-1.359
Language	-0.00000143			0.607		
Ethnicity	0.0000025	3.236	2.506	0.849	0.814	2.242
Urban Importance	0.988	0.622	1.413	0.682	0.205	0.823
R Square	0.743	0.559	0.658	0.573	0.414	0.555

indicates statistical significance at .05
indicates statistical significance at .051

Although a leisure operator, Air Transat was Canada's second largest airline on the North Atlantic throughout the study period, and the analysis produced significant models for the airline (no operations in 1997). The most consistently important variable was Urban Importance (Table 8.28). Seasonality also appears significant (2007 and 2012) as does Congestion (2002) and Ethnicity (2012 and 2017). The GLHR variable appears once when TS operated flights to LHR (2007-2011).

Table 8.28 – Air Transat - Regression Analysis Results

Coefficients	2002	2007	2012	2017
(Constant)	11.465	12.752	-1.055	-1.288
Hub Factor	-21.765	13.554	11.313	7.916
Congestion	-0.821	0.366	-0.098	-0.171
GLHR		-1.570		
Seasonality	-9.019	-13.895	-3.535	-2.450
Distance	-0.396		0.291	0.331
Language	0.103			
Ethnicity	0.340	0.428	1.160	1.042
Urban Importance	0.311		0.282	0.270
R Square	0.470	0.531	0.447	0.404

indicates statistical significance at .05

The most important variables for British Airways were GJFK and to a lesser extent, Hub Factor; GLHR was excluded during modelling due to collinearity (Table 8.29). The importance of GJFK reflects not only New York`s importance but the presence of J-V partner AA. Urban Importance was also significant in 2007 and 2012.

Table 8.29 – British Airways - Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	-9.845	-43.311	-32.289	-37.904	-16.417
Hub Factor	24.53	4.455	2.269	1.606	2.650
Congestion	-1.865	-1.409	-1.567	1.957	
GLHR					
GJFK	18.765	21.877	17.981	29.904	13.968
Partner Concentration		0.009	-0.034	-0.435	-0.339
Seasonality	2.714	47.385	31.698	12.851	15.036
Distance	0.002	1.101	-0.514	0.089	-1.689
Language			0.301		
Ethnicity	-0.000001	-0.377	-2.268	-4.190	-1.062
Urban Importance	0.340	0.967	1.629	1.563	0.806
R Square	0.468	0.742	0.726	0.868	0.416

indicates statistical significance at .05

indicates statistical significance at .051

The regression analysis of AF operations produced consistently significant models with high R-Square values (Table 8.30). The importance of GJFK supports the airport's presence as a key destination in the US; it was excluded in 2017 due to collinearity but was replaced by Urban Importance. Hub Factor was not significant prior to 2017 because it was omitted from the modelling because the airline only utilised CDG in previous time periods, thus making the variable redundant.

Table 8.30 – AF - Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	-1.509	-13.930	18.905	-8.129	-54.577
Hub Factor					5.062
Congestion	-0.691	-3.065	-2.386	-1.496	
GJFK	18.099	22.954	35.773	21.191	
Partner Concentration		-0.091	-0.345	0.352	1.597
Seasonality		17.961	-5.880	18.011	
Distance	0.001	0.273	1.415	0.871	
Language	0.0000014	0.539	2.148	1.516	2.319
Ethnicity					
Urban Importance	0.386	1.346		0.527	2.092
R Square	0.978	0.875	0.779	0.930	0.634

indicates statistical significance at .05

KLM operations produced significant but strong models except for 2007. GJFK was significant in 1997 and 2002 but was replaced by Language in 2012 and Urban Importance in 2017 (Table 8.31). This could indicate a shift in strategy from JFK to other airports or that Urban Importance was a more appropriate variable in accounting for the airline's operations.

Table 8.31 – KLM - Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	5.192	5.192		1.608	-17.401
Congestion				-1.468	0.934
GJFK	-1.832	-1.832		4.446	2.750
Partner Concentration				-0.222	-0.003
Seasonality				-5.880	-1.965
Distance	0.451	0.451		0.032	1.754
Language				142.383	
Ethnicity					4.417
Urban Importance				0.832	0.757
R Square	0.676	0.676	no model	0.929	0.849

indicates statistical significance at .05

Emirates had limited North Atlantic operations for many years, thus negating the possibility of running regression modelling prior to 2012. No model could be produced for 2012, but the 2017 model produced was of extremely high utility with Hub Factor, GJFK, Language and Urban Importance being significant factors (Table 8.32). The results from 2017 indicate that the primary strategy of the airline was to major urban centres that are normally more populous.

Table 8.32 – Emirates - Regression Analysis Results

Coefficients	2012	2017
(Constant)		-7.716
Hub Factor		1.321
Congestion		
GJFK		12.459
Seasonality		3.567
Distance		
Language		-47.684
Ethnicity		
Urban Importance		0.516
R Square	no model	0.916

indicates statistical significance at .05

8.3 Summary

The regression analysis was conducted from different perspectives utilising various factors. Although significant models were produced, it should be noted that as the models are not being used in a predictive capacity, they also include variables that are not significant; the results presented in subsequent tables reflect this.

The difference in utility between the Initial and Overall North Atlantic models show that airline related variables are useful in predicting services (Table 8.33).

Table 8.33 – Regional Level - R Square Values

Model	1997	2002	2007	2012	2017
Initial	0.406	0.405	0.383	0.387	0.357
Overall North Atlantic	0.257	0.416	0.463	0.424	0.369
Europe-N. America	0.351	0.419	0.475	0.457	0.389
Afro-Eurasia-N. America	No model	No model	0.385	0.324	0.354
Routes to US	0.350	0.360	0.362	0.374	0.370
Routes to Canada	0.614	0.593	0.624	0.581	0.381

The analysis was conducted from a geographic perspective by analysing the origin. Europe produced a more consistent model compared with that of the Afro-Eurasia region. The lack of consistently significant variables and results reduced the utility of the non-European aggregation.

When analysing the destination, it was found that models of Canadian-bound services were of consistently higher utility than US-bound services, thus demonstrating the heterogeneity between the two markets.

The analysis of airlines based upon their country (region) of registration also produced some interesting results. The model for European based airlines produced some good results (Table 8.34). The model for non-European based airlines was weak with no model in 2002.

North American airlines similarly had good results, but a disaggregation of the airlines showed that the results for Canadian-based airlines were noticeably higher than for those based in the US. This reinforces the previous finding that the two markets are heterogeneous.

Table 8.34 – Airline Location - R Square Values

Model	1997	2002	2007	2012	2017
European	0.368	0.499	0.550	0.526	0.401
Non-European	0.326	no model	0.369	0.384	0.446
North American	0.297	0.495	0.532	0.547	0.500
American	0.303	0.393	0.409	0.455	0.430
Canadian	0.743	0.665	0.657	0.615	0.475

The next factor that was assessed was airline type (Table 8.35). As the model produced had greater utility only once of 10 possible instances than the base model, it was concluded that airline type was of limited importance when predicting North Atlantic services.

Table 8.35 – Airline Type - R Square Values

Model	1997	2002	2007	2012	2017
Full Service Carriers	0.328	0.340	0.366	0.346	0.306
Non-Full Service Carriers	0.274	0.350	0.352	0.401	0.302

The next subsets examined were those of alliance and joint-venture respectively. These subsets are fundamentally linked as each joint-venture operates within an alliance structure.

For comparison purposes, the first analysis was conducted on airlines outside of the alliance structure. The model produced for non-Alliance airlines had a greater utility than SkyTeam but was consistently surpassed by Oneworld and occasionally Star (Table 8.36).

Table 8.36 – Alliance - R Square Values

Model	1997	2002	2007	2012	2017
No Alliance	0.403	0.450	0.433	0.401	0.357
Wings	0.796	0.252			
Star	0.461	0.431	0.447	0.365	0.363
Oneworld		0.511	0.681	0.632	0.431
SkyTeam		0.246	0.113	0.307	0.283

In can be inferred from the low utility of some alliance models that there is no comprehensive alliance approach on the North Atlantic. The variations between the alliance models also indicates that the level of co-ordination differs between the alliances. This is not surprising as each airline has its own operational constraints and individual strategy and following an alliance strategy may be neither feasible nor to an airline’s benefit.

Table 8.37 – Joint-Ventures - R Square Values

Model	1997	2002	2007	2012	2017
Wings	0.796	0.345			
Star	0.501	0.445	0.518	0.452	0.422
Oneworld			0.736	0.624	0.426
SkyTeam			no model	0.277	0.229

As each J-V coordinates the operations of participating members, it would be expected that the utility of each model would be higher than its alliance counterpart: this was only the case with Star (Tables 8.36 and 8.37). The relatively low values could infer that the members of the J-V are pursuing strategies that complement each other, thus expanding the overall J-V network. The higher utility seen in Star could reflect an alignment of operations between the hub airports to facilitate connectivity.

Regardless of the interpretation of the values, the models for both alliances and joint-ventures are of relatively low utility, and could be excluded from further analysis.

Both alliances and joint-ventures are comprised of individual airlines, and as such the next subset examined was that of airlines (Table 8.38). Although this produced some interesting results, this level of disaggregation was problematic as many individual airlines had insufficient flights to produce significant results.

Table 8.38 – Airline - R Square Values

Model	1997	2002	2007	2012	2017
American Airlines	0.628	0.712	0.728	0.687	0.632
Delta Airlines	0.310	no model	0.269	0.345	0.373
United Airlines	0.827	0.333	0.712	0.543	0.511
Air Canada	0.743	0.559	0.658	0.573	0.414
Air Transat		0.470	0.531	0.447	0.404
British Airways	0.468	0.742	0.726	0.868	0.416
Air France	0.978	0.875	0.779	0.93	0.634
KLM-Royal Dutch Airlines	0.676	0.676	no model	0.929	0.849
Emirates Airlines				no model	0.916

Whilst airline related variables (e.g., Hub Factor) are significant and need to be considered, the regression analysis run on airline factors (Airline Type, Alliance, and Joint-Venture) produced models of limited utility. The more viable models produced were derived from the geographic factors of regional flows and airline by region.

It must be concluded that any model to predict future operations must have a geographic basis as its foundation.

The regression analysis has highlighted a number of key variables, but the models, although statistically significant, are of varying utility from weak to very strong. These results lead us to the conclusion that North Atlantic operations are being influenced by other aspects not incorporated into the models, both endogenous and exogenous to the industry. It is also accepted that the utilisation of other regression models such as log or non-linear, could have produced different results.

Economic aspects such as exchange rates and the overall health of the economy could not be incorporated into the model. Exchange rates will impact leisure travel as a decrease in the value of one's currency will make the destination more expensive and less attractive; conversely, an increase in value could make some destinations more affordable and attractive. The overall health of a country's economy is difficult to measure but an extremely important for travellers. Although the economic recession of 2008/2009 affected several countries, its impact differed. Resource driven countries like Canada and Norway were less affected by the recession than the downturn in the price of oil and natural gas in 2012.

Political aspects, terrorist threats and even natural events can also influence travel patterns. The rise in tensions between India and Pakistan resulted in closed airspace, the events of September 11 led to a fear of flying in the US and elsewhere, and the volcanic eruption of Eyjafjallajökull in Iceland all led to flight cancellations. A change in Visa requirements can also reduce travel and therefore the demand for flights.

Another policy-related aspect is that of bilateral or multilateral agreements: these by their very nature will influence the number and destinations of services that can be offered. An example of this is the flights between Canada and the UAE which have been limited to three flights/week for both EK and EY; attempts to expand this agreement have been unsuccessful.

The airline industry, like other industries, undergoes cyclical variations. This includes periods of expansion and contraction as well as bankruptcies, consolidation within the industry. Even airlines that remain intact or unchanged, may change their operational strategies to optimise their revenues.

Whilst Congestion was incorporated into the model, this variable could not fully capture this aspect and did not address any other constraints at the airport (runway length, operational hours, etc.). Despite the challenges that congestion poses to airline operations, the airports with the highest congestion scores were also the largest and the most important airports and was considered to be a 'confounding' variable as its scores were linked with both Gateway variables (GLHR and GJFK) and Urban Importance, all of which were of varying statistical significance.

One key aspect that could not be incorporated into the model is that of fares. It has been shown that lower fares can not only stimulate the market, but also induce travellers to select one airline over another, thus influencing the provision of services. Conversely, an increase in fares can reduce travel demand and reduce the viability of services. This could be the result of the introduction of air taxes, airport fees, an increase in the price of aviation fuel or even through a strategy to increase revenues (diversion of previously included items into ancillary fee items).

The utilisation of hub operations has resulted in an airline's need to provide feed for flights, especially long-haul intercontinental flights. Many airlines will use fares as an inducement to travellers to select indirect routings rather than direct flights to achieve this strategic goal. An examination of the provision and availability of indirect routings in satisfying consumer demand would complement the results of the modelling and provide a more complete picture.

In addition, the role of geography has not been incorporated into the model. This needs to be more fully investigated through an examination of the proximity of airports to one another and any prior existence of services at nearby airports.

Not all the aforementioned aspects can be feasibly incorporated into the model. However, both indirect flights and geographic proximity can be incorporated into the analysis.

The subsequent chapter will conduct a case study of the United Kingdom. This will include a modification of the regional model developed in this chapter to a UK-only based model to project expected flight provision.

CHAPTER 9 –
UK CONNECTIVITY WITH CANADA AND THE UNITED STATES

The previous chapter developed a regression model which identified the most important factors in predicting future flight developments.

An important factor that was identified was that of geography, both in terms of proximity and regional differences. Whilst the model produced provides an overall picture of the North Atlantic, the geographic differences identified underlies the need to examine flight developments at each component region level, be it Africa, Asia, Europe or the Middle East.

Connectivity is one of the primary benefits of air travel, and one that continues to grow in importance as globalisation develops. The reasons for this are varied and include stronger links between commercial enterprises (both at the intra and inter-continental levels), greater population mobility be it for temporary labour relocation or for permanent migration purposes, as well as tourism. These factors, amongst others, have combined to spur demand for increased air routes and frequency.

In the UK, the country's largest airport, London Heathrow (LHR) has been at near capacity for decades, and the second largest airport, London Gatwick (LGW), is only marginally less so; this has resulted in reduced connections from UK regional airports to London. Although there is a lack of available connections to LHR, this in itself does not mean that a regional airport is isolated. To maintain and develop connectivity there are two options available: 1) develop links to another hub airport or 2) develop point to point services that bypass hub airports altogether.

There have been direct services between regional airports and North American airports over the scope of this research, with the majority connecting into hub airports in Chicago, New York, and Toronto. In the mid-2000s, there were also services between non-hub airports on either side of the Atlantic; the majority of these services connected to Canadian airports rather than in the United States.

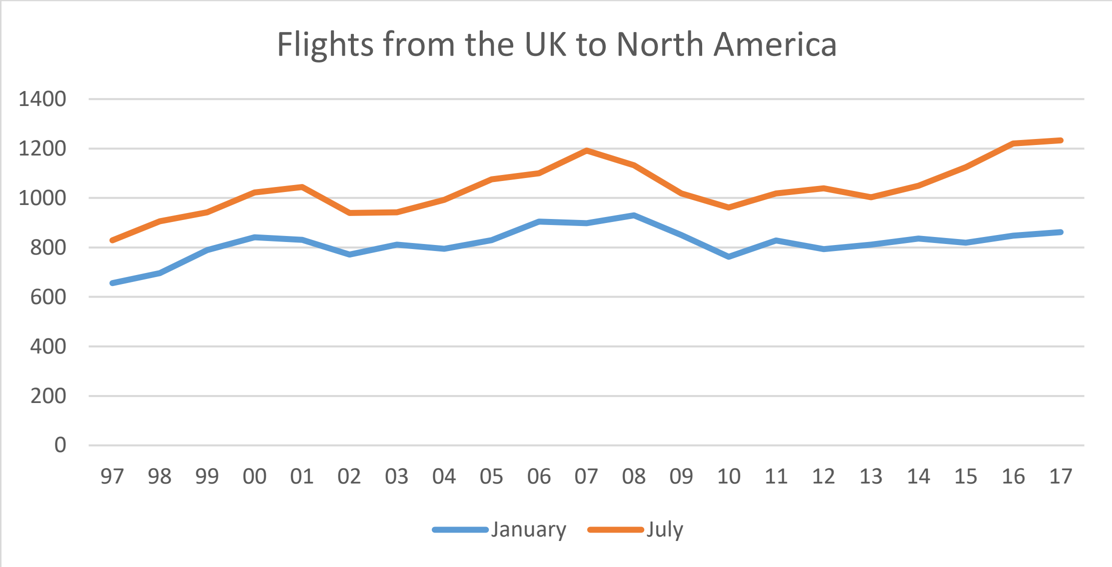
This chapter first examined flights between the UK and North America, identifying any temporal changes that have occurred. A regression analysis was undertaken for this market to address any specific regional factors. The results were then applied to a number of regional airports to determine their viability for operating North Atlantic services from a seasonal perspective. There was then an overview of indirect routings from the UK and the airports utilised for transferring. An examination of the relative location of the larger UK airports vis-à-vis smaller airports identified the spatial influence of larger airports with existing services. The chapter then concludes with a discussion of the viability of flights to North America and the implications for regional economic development in the UK.

9.1 Flights between the UK and North America

The UK has always held a dominant position on the North Atlantic, and in 1997, about 34% of all flights were between the UK and North America. With the growth of aviation, enabled through bilateral and multilateral agreements and technological developments, more direct flights were introduced at a faster pace from non-UK destinations than from the UK. Nonetheless, about a quarter of all North Atlantic flights in 2017 were still UK-originating.

The number of UK flights increased from 1997 to 2017, although the rate of increase was higher during the summer than the winter: 48.7% versus 31.4% (Figure 9.1).

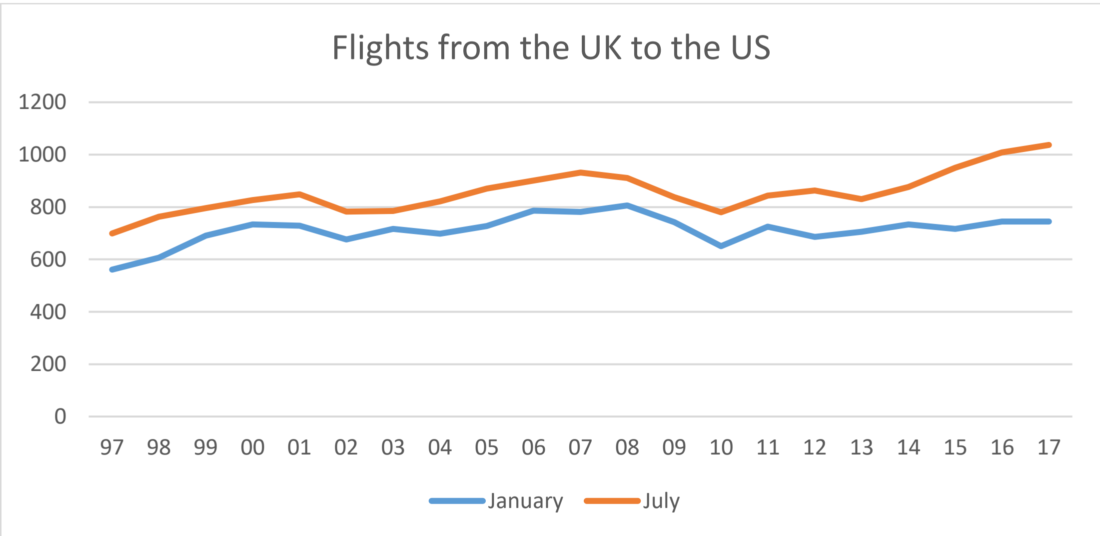
Figure 9.1 – Flights from UK to North America, 1997 to 2017



The North American market is dominated by the US, an unsurprising situation given its substantially larger population (approximately 10 times) than its northern neighbour, Canada. As such, the overall figures mask different trends between the two.

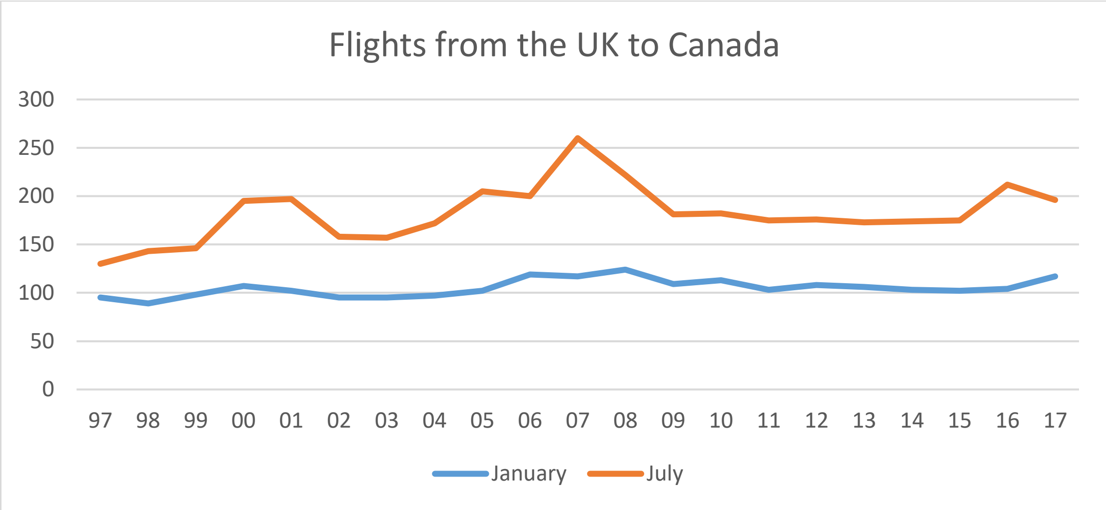
For UK flights to the US, the lowest point for both winter and summer flights was in 1997 (Figure 9.2). However, whilst the peak for summer flights was in 2017, for winter flights this was in 2008 (806 flights).

Figure 9.2 – Flights from UK to US, 1997 to 2017



Similarly, the lowest number of flights to Canada was at the beginning of the research period (summer 1997 and winter 1998 (89 flights)) (Figure 9.3). In contrast to the US, the summer peak was in 2007 and winter flights reached their zenith in 2008 (124 flights).

Figure 9.3 – Flights from UK to Canada, 1997 to 2017



The overall change reflects these trends, and although the increase in summer services is similar, the lower increase in winter services has resulted in an even more marked seasonal aspect to the Canadian market. In 2017, the seasonal ratio[140] (SR) for the Canadian market was 1.68 and 1.39 for the US market. Whilst the SR of 1.39 was the highest recorded for the US over the study period, it should be noted that over the same time period, the lowest Canadian SR was in 1997 at 1.37.

There are numerous factors which could influence the changes in the seasonal ratio. Given that January travel is underpinned by business travel, and that July travel reflects leisure travel, business travel normally declines during economic downturns, although this could be more keenly felt by leisure travellers if their disposable income declines, thus reducing the opportunity to travel. Leisure travellers are also more likely to be influenced by the availability of not only direct services but also lower fares and could

[140] The Seasonal Ratio reflects the number of summer flights compared to winter flights and was discussed in Section 3.4.

therefore be adversely affected by increases in fuel prices; in contrast, the introduction of LHLC services could stimulate demand. Both travel purposes could also be influenced by exchange rates as these would have a direct impact on the affordability of the possible destination. Given the different currencies involved, and the variation in the impact of economic downturns upon the countries being assessed, it is not surprising that there will be a distinctive influence upon each market.

Nonetheless, services to both Canada and US are dominated by two London airports, Heathrow, and Gatwick with the former in a clear primacy position: a minimum of 80% of all North Atlantic flights have been from these airports and in some years over 90%. Whilst some regional airports have also had direct services, only BHX, GLA, and MAN have had continuous services during the temporal duration of this research.

Although the London airports have dominated UK services, the relationship between them has shifted. In 1997, about 65% of flights were to LHR and another 25% to LGW. The attraction of LGW for North Atlantic and more specifically US services was artificially maintained through the Bermuda II agreement which regulated which airlines and US routes could operate from LHR. It should be remembered that airports other than LHR and LGW had no constraints upon them, and both LTN and STN were deemed to be regional airports.

When Bermuda II was superseded by the EU-Open Skies Agreement in March 2008, a radical shift occurred with airlines migrating en-masse from LGW to LHR. This was extremely evident in the winter season which tends to be more business-oriented than the summer season which relies upon vacation and VFR travel. In order to appreciate this shift, flight connectivity was examined from a seasonal perspective.

As noted, LHR and LGW dominated the UK market in January 1997 (Table 9.4). However, LGW began to lose market share in 2002 in part due to the aftermath of September 11 but also a change in BA strategy from a dual-hub to a single-hub strategy focussing on LHR. LHR had a slight downward trend from 2004 onwards as its share was diluted to MAN, STN, and other regional airports.

LHR's dominance jumped following the revocation of Bermuda II and had gained an additional 20% market share by 2012 (Table 9.1). This primacy continued to grow during the winter season and LHR accounted for more than five out of six January flights in 2017. LGW lost half of its market share (2008 to 2017), and no airports outside of the top six intercontinental operators had any North Atlantic flights.

Table 9.1 – Market Share of January Flights from UK to North America by Airport, 1997 to 2017 (selected years)

	1997	2002	2007	2012	2017
LHR	62.8%	66.8%	65.1%	85.4%	85.3%
LGW	25.8%	24.5%	18.4%	5.5%	8.5%
MAN	5.8%	7.0%	8.4%	5.9%	4.3%
GLA	3.0%	0.8%	1.3%	0.9%	0.8%
BHX	2.0%	0.9%	1.3%	0.8%	0.5%
EDI			1.3%	0.9%	0.7%
LTN/STN	0.3%		2.7%		
Others	0.3%		1.4%	0.6%	
Total	100%	100%	100%	100%	100%

When examined at the country level, LHR's importance grew in the US but not the Canadian market (Tables 9.2 and 9.3). This is explained in part by two factors: air travel to Canada was not restricted at LHR, and new services by Westjet from LGW increased that airport's importance vis-à-vis LHR in 2017. Nonetheless, LHR and LGW combined to dominate winter flights to Canada. This is also evident in US travel, although MAN has been a consistent player and even surpassed LGW in 2012 (Table 9.2).

Table 9.2 – Market Share of January Flights from UK to US by Airport, 1997 to 2017 (selected years)

	1997	2002	2007	2012	2017
LHR	58.3%	62.7%	62.5%	84.5%	85.8%
LGW	30.1%	27.8%	20.2%	5.4%	7.2%
MAN	6.2%	7.5%	9.1%	6.6%	4.8%
GLA	2.3%	0.9%	1.2%	0.9%	0.8%
BHX	2.3%	1.0%	0.9%	0.9%	0.5%
EDI			1.5%	1.0%	0.8%
LTN/STN	0.4%		3.1%		
Others	0.4%		1.5%	0.7%	
Total	100%	100%	100%	100%	100%

LHR's dominance developed despite, or perhaps arguably because of the economic recession in 2008 as airlines focussed operations between larger airports to increase passenger numbers and yields, especially in the more lucrative business market. All airports lost market share to LHR not only after the Open Skies agreement but from 1997 as well; only EDI increased its market share compared to 1997, and that is as the airport had no North American flights during the winter prior to 2005.

Table 9.3 – Market Share of January Flights from UK to Canada by Airport, 1997 to 2017 (selected years)

	1997	2002	2007	2012	2017
LHR	89.5%	95.8%	82.9%	90.7%	82.1%
LGW		1.1%	6.0%	6.5%	16.2%
MAN	3.2%	3.2%	3.4%	1.9%	0.9%
GLA	7.4%		2.6%	0.9%	0.9%
BHX			4.3%		
BFS			0.9%		
Total	100%	100%	100%	100%	100%

An examination of the summer season demonstrates that LHR's primacy was less pronounced (Table 9.4). Although LGW also lost market share to LHR, the airport rebounded in 2017. Except for BHX, regional airports also gained market share; this trend reached its peak in 2007.

Table 9.4 – Market Share of July Flights from UK to North America by Airport, 1997 to 2017 (selected years)

	1997	2002	2007	2012	2017
LHR	64.7%	64.3%	57.4%	78.9%	68.5%
LGW	24.0%	23.5%	19.6%	7.6%	11.9%
MAN	6.3%	7.4%	9.6%	7.7%	9.2%
GLA	2.4%	2.3%	4.5%	2.5%	4.3%
BHX	2.1%	1.9%	1.3%	0.8%	0.7%
EDI		0.1%	1.9%	1.3%	4.4%
LTN/STN	0.4%		3.0%		
Others	0.2%	0.4%	2.7%	1.2%	1.0%
Total	100%	100%	100%	100%	100%

However, the implementation of the EU-US Open Skies agreement lifted all access restrictions and LHR's market share jumped by of over 20% from 2007 to 2012 although it subsequently declined to less than 70% by 2017. LGW was impacted and reached its nadir in 2013 with a 6.5% market share, although the airport subsequently recovered when Norwegian began services.

Despite this, LGW has slipped in importance within the US market and was surpassed by MAN in 2017 (Table 9.5). Edinburgh Airport has also risen to surpass GLA in 4th position with a 4.8% market share.

Table 9.5 – Market Share of July Flights from UK to US by Airport, 1997 to 2017 (selected years)

	1997	2002	2007	2012	2017
LHR	60.1%	62.0%	57.3%	80.2%	71.3%
LGW	28.5%	26.9%	20.4%	5.8%	8.7%
MAN	6.4%	7.5%	9.3%	8.1%	9.7%
GLA	1.9%	1.8%	3.6%	2.1%	3.6%
BHX	2.4%	1.8%	0.8%	0.9%	0.8%
EDI			2.3%	1.6%	4.8%
LTN/STN	0.4%		3.9%		
Others	0.3%		2.5%	1.3%	1.2%
Total	100%	100%	100%	100%	100%

Unlike the US, Canadian dependence upon LHR has noticeably decreased, losing almost 35% of the UK market (Table 9.6). Despite having no services in 1997, LGW rose to nearly 30% of the market by 2017. Primarily driven by the development of services by leisure airline Air Transat, this was most recently supplemented by WS. Services to regional airports also increased peaking in 2007 when some smaller regional airports (e.g., LPL and NCL) had flights. These smaller airports subsequently lost connectivity, although about 17% of air travel is still to regional airports.

Table 9.6 – Market Share of July Flights from UK to Canada by Airport, 1997 to 2017 (selected years)

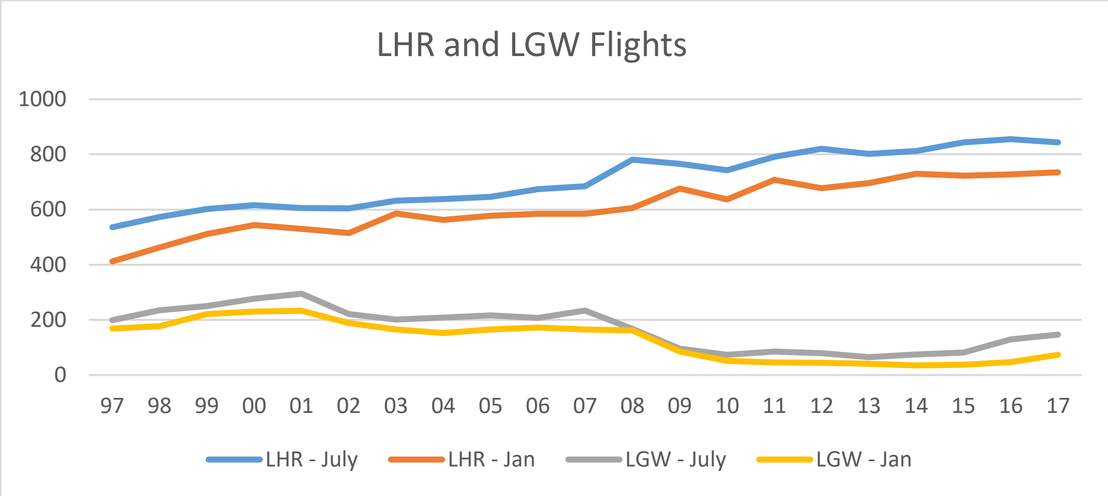
	1997	2002	2007	2012	2017
LHR	89.2%	75.3%	57.7%	72.7%	53.6%
LGW		7.0%	16.9%	16.5%	29.1%
MAN	5.4%	7.0%	10.4%	5.7%	6.6%
GLA	5.4%	5.1%	7.7%	4.5%	8.2%
BHX		2.5%	3.1%		0.5%
EDI		0.6%	0.8%		2.0%
Others		2.5%	3.5%	0.6%	
Total	100%	100%	100%	100%	100%

Contrary to winter operations, the regional airports, except for BHX, increased their market share of North American flights. The summer market is primarily driven by leisure travellers and although London is a tourist destination, the high airport charges at LHR are reflected in higher fares, a deterrent in attracting price-sensitive leisure travellers. This has enabled LGW and other airports to entice airlines, especially LHLC and leisure airlines that can offer lower fares and provide point-to-point flights, rather than indirect connections. This enabled many smaller regional airports to have services, a trend that reached its peak in 2007.

Leisure travel is feasible when passengers have the necessary disposable income for such trips; business travel tends to reflect economic and business links and has fewer fluctuations. Both, however, can be influenced by negative financial impacts with the former more likely to be evident in summer operations and the latter in the winter.

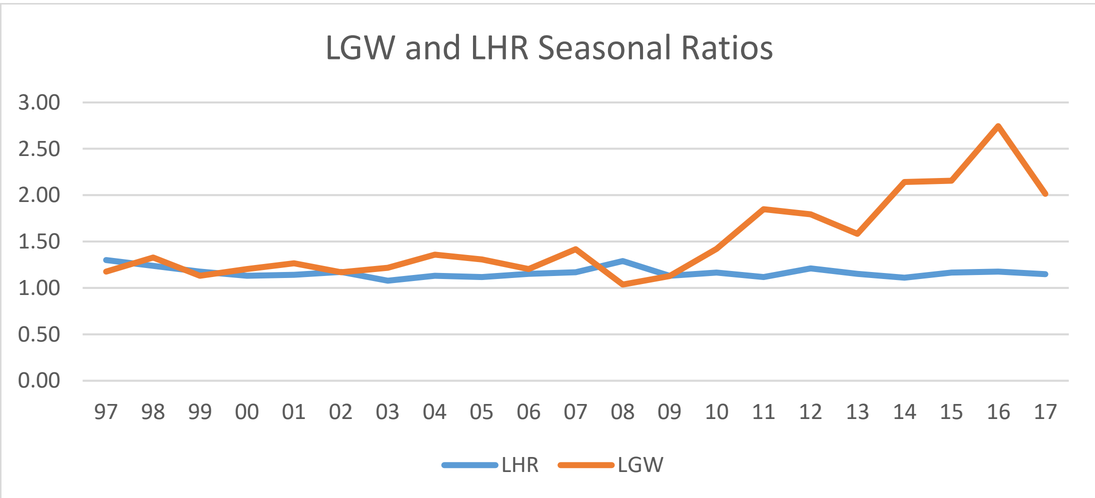
Despite the seasonal differences, there are some common trends. The most important airports in the UK for North Atlantic travel have consistently been Heathrow and Gatwick. Although LHR has unfailingly maintained its primacy, the number of flights and therefore the relationship between the two has shifted over time (Figure 9.4).

Figure 9.4 – Flights from LHR and LGW to North America, 1997 to 2017



The revocation of Bermuda II resulted in FSC airlines transferring operations to LHR and left LGW dependent upon leisure travel. Leisure airline Air Transat has been a major operator and was recently joined by DY and WS. This has created a high seasonal ratio at LGW as leisure travel is at its peak during the summer; in contrast, LHR's seasonal ratio has remained virtually constant over time (Figure 9.5).

Figure 9.5 –LHR and LGW Seasonal Ratios, 1997 to 2017



9.2 UK Regional Regression Analysis

From the regression analysis conducted in the previous chapter, the models at the regional level provided the most utility. To build upon these findings, regression analysis was conducted at the UK level. Given the strong evidence of seasonality noted in the previous section (9.1), the analyses were conducted for both summer and winter operations; Congestion was not included as it was determined to be a confounding factor.

Both Hub Factor and GJFK factors were consistently significant drivers in the UK summer model (Table 9.7). Interestingly, both factors declined noticeably from 2012 to 2017. This perhaps reflects the development of UA's EWR hub and possibly AA's hub in PHL which would detract from operations to JFK. The GLHR factor was also significant except for 2012 and reflects the importance of LHR in flights to the UK. Of interest is the importance of partner concentration in 2007 which coincided with BD's membership in the Star Alliance.

Table 9.7 – UK Summer Model Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	-0.535	-1.767	2.411	-1.012	0.812
Hub Factor	1.300	1.401	1.070	1.147	0.590
GLHR	4.334	4.419	5.895	3.164	5.115
GJFK	9.888	10.163	7.213	8.757	5.193
Partner Concentration	-2.808	0.884	1.013	0.603	0.134
Distance	-0.242	-0.501	-0.747	-0.644	-0.552
Language	-0.255	-0.341	0.036	0.132	0.184
Ethnicity	0.817	1.759	-0.230	0.338	-0.279
Urban Importance	0.279	0.370	0.227	0.411	0.311
R Square	0.336	0.468	0.584	0.510	0.433

indicates statistical significance at .05

The UK winter modelling produced similar results as Hub Factor, GLHR, and GJFK were consistently significant. Partner Concentration was significant in 2007 and Urban Importance was also significant in 2002, and again in 2012 and 2017 (Table 9.8). Both models provided greater utility than the general European-North America model produced previously.

Table 9.8 – UK Winter Model Regression Analysis Results

Coefficients	1997	2002	2007	2012	2017
(Constant)	3.020	-3.231	0.917	-4.023	-7.911
Hub Factor	0.797	0.988	0.948	0.713	0.830
GLHR	3.265	3.043	5.380	4.035	4.128
GJFK	7.336	5.451	7.529	6.606	6.575
Partner Concentration	-3.295	0.577	0.931	0.179	0.075
Distance	-0.639	-0.248	-0.680	-0.879	-0.170
Language			0.065		0.101
Ethnicity	-0.365	0.268	-0.098	0.060	0.470
Urban Importance	0.195	0.425	0.245	0.620	0.604
R Square	0.326	0.431	0.464	0.455	0.471

indicates statistical significance at .05

These models highlight the importance of hubs and gateway airports to airline operations, and reflects the strategies employed by airlines. As such, regression analysis was then conducted for airlines based on their place of registry.

The results reflect clear divergent strategies amongst the airlines based on their country of origin (Table 9.9). The most important drivers for UK airlines are the gateway variables; for US airlines, the results indicate that Hub Factor and Urban Importance are the key drivers. An analysis of Canadian airlines indicated that only GLHR was significant; this produced the weakest model amongst the three.

Table 9.9 – Airline Country of Registry, 2017 Summer Model Regression Analysis Results

Coefficients	UK	US	CAN
(Constant)	1.803	-13.211	1.589
Hub Factor	0.250	0.864	-0.074
GLHR	6.250	3.327	6.202
GJFK	12.833	-1.994	
Partner Concentration	-0.015	0.421	
Distance	-0.036	-3.481	-1.149
Language	0.060		
Ethnicity	-0.665	0.755	1.265
Urban Importance	0.137	1.810	0.325
R Square	0.456	0.672	0.452

indicates statistical significance at .05

Whilst the key drivers for both UK and US remained the same for winter operations, Hub Factor and Ethnicity replaced GLHR as significant for Canadian airlines (Table 9.10). Unlike the summer analysis, the Canadian model produced the best results; The UK model was also stronger although the US model had a lower R square value.

Table 9.10 – Airline Country of Registry, 2017 Winter Model Regression Analysis Results

Coefficients	UK	US	CAN
(Constant)	5.029	-23.969	-4.294
Hub Factor		0.807	3.822
GLHR	8.275	4.903	4.514
GJFK	16.200		
Partner Concentration	-0.047	0.099	
Distance	-0.497	-1.806	
Language			
Ethnicity	0.287		2.974
Urban Importance	-0.036	1.818	
R Square	0.518	0.638	0.774

indicates statistical significance at .05

There are various explanations for these differences. In terms of US airlines, the same three FSC airlines operate during both seasons, and are thus more likely to have similar operating strategies throughout the year. In contrast, both UK and Canadian leisure airlines operate during the summer, thus influencing the results to a greater extent in contrast to winter operations. Although not a significant driver, more than half of all winter flights by Canadian operators was to Heathrow, similar to that of British airlines.

In order to determine if the results were more geographically driven, the regression analysis was then conducted at the national level by season for 2017 (Table 9.11).

The results were similar to those produced from the airline registry results, and reflect the hybrid nature of incorporating UK operations into the country-level operations examined (Tables 9.9 and 9.10).

Table 9.11 – UK 2017 Regression Analysis Results, by Country and by Season

Coefficients	US Summer	CAN Summer	US Winter	CAN Winter
(Constant)	-19.033	3.930	-5.250	-13.345
Hub Factor	9.756		0.838	
GLHR	8.056	6.236	4.363	5.722
GJFK	18.281		8.535	
Partner Concentration	-5.606		0.088	
Distance	-0.150	-0.631	-0.521	-1.782
Language	0.341			
Ethnicity	0.640	1.900	-2.707	
Urban Importance			0.640	1.297
R Square	0.477	0.454	0.449	0.621

indicates statistical significance at .05
indicates statistical significance at .052

Unsurprisingly, GLHR was a significant variable for all four models (.052 during US Winter operations). Urban Importance was significant for winter operations and was complemented by Hub Factor and GJFK for US Winter operations. However, Urban had no corresponding importance during the summer, replaced by Partner Concentration and Ethnicity for US and Canadian operations respectively.

The Canadian results must be interpreted in light of the market's unique aspects. First, GJFK cannot be utilised, and the lack of a partner for Air Canada in the UK negates the utilisation of Partner Concentration. Although AC is the dominant airline in the Canadian industry, the airline`s strategy of focusing its UK operations on Heathrow from various airports rather than from its hub at YYZ reduces the importance of Hub Factor. This is complemented by the strength of leisure airline Air Transat and LCC Westjet which fly from various Canadian cities to non-LHR destinations: BA operations are concentrated at Heathrow, thus reinforcing GLHR's importance.

9.3 Regional UK Airports and Connectivity

Significant models were produced utilising both airline and regional drivers; all noted the varying significance of Heathrow Airport to UK connectivity. To examine the viability of regional airports, the regression analysis was then conducted without LHR operations. As these models were evaluated for utilisation in predicting the viability of North Atlantic services, only significant variables were included in the tables.

Summer modelling provided some mixed and inconclusive results, as no Canadian model could be produced (Table 9.12). The overall results were also somewhat weak despite the inclusion of multiple explanatory variables. Both Urban Importance and Hub Factor were significant for both Overall and US non-LHR summer traffic.

Table 9.12 – UK Summer non-LHR 2017 Regression Analysis Results

Coefficients	Overall	US	CAN
(Constant)	2.253	1.868	
Hub Factor	0.505	0.662	
GLHR			
GJFK			
Partner Concentration			
Distance			
Language			
Ethnicity			
Urban Importance	0.158	0.204	
R Square	0.157	0.250	no model

indicates statistical significance at .05

In contrast, winter operational modelling was somewhat stronger, and a Canadian model was produced (Table 9.13). Interesting, the overall model was noticeably weaker than either the US or the Canadian results; Urban Importance was significant for all models and was complemented by Hub Factor and GJFK in the US model.

Table 9.13 – UK Winter non-LHR 2017 Regression Analysis Results

Coefficients	Overall	US	CAN
(Constant)	0.610	-10.741	-12.670
Hub Factor		1.077	
GJFK		5.789	
Partner Concentration			
Distance			
Language			
Ethnicity			
Urban Importance	0.223	0.894	1.081
R Square	0.155	0.411	0.335

indicates statistical significance at .05

However, these results are based upon the inclusion of LGW; although not the UK's hub airport, its inclusion distorts the results as the airport continues to benefit from its proximity to London. As such, Gatwick flights were omitted, and the regression analysis was re-run. The analysis was conducted at the overall level as there were too few winter flights to permit a viable analysis at the country level. The regression analysis somewhat unexpectedly provided stronger results for both summer and winter than the analysis which incorporated Gatwick (Table 9.14).

Table 9.14 – UK non-London 2017 Regression Analysis Results

Coefficients	Summer	Winter
(Constant)	3.840	6.019
Hub Factor	0.819	
GJFK		
Partner Concentration		
Distance		
Language		
Ethnicity		-2.095
Urban Importance		
R Square	0.232	0.766

indicates statistical significance at .05

Although Hub Factor was understandably a factor (summer), unexpectedly, Ethnicity was not only significant during the winter, but also had a negative co-efficient. Unfortunately, the lack of a second driver for both models limits their utility. The Hub Factor would in essence be a constant for all destinations and the Ethnicity variable is based upon North American destinations: the same value is therefore the same for all English destinations, and there are only minor variations for BFS (Irish and Scotch-Irish), CWL (Welsh) and EDI and GLA (Scottish).

To provide more robust results, the overall non-LHR summer model was used for all destinations (y=2.253+0.505HubFactor+0.158Urban Importance); non-LHR results were applied to US (y=-10.741+1.077HubFactor+5.789GJFK+0.894Urban Importance) and to Canada (y=-12.670+1.081Urban Importance) for winter analysis.

These were utilised and applied to model possible services to 41 North American airports, all of which currently have UK flights, from 12 non-London UK airports[141].

The application of the model provided some interesting results.[142] Operational viability was determined using y-values of 7 (or seven services per week) and 5 (five services per week) highlighted in green and yellow respectively. Although some airlines will not fly to destinations if daily service cannot be sustained, some will consider routes if the destinations can be integrated into and complement network operations or are sustainable financially.

It was found that year-round operations would be viable to the selected UK destinations from Atlanta (DL), and from Dallas (AA); surprisingly, daily services to JFK were not sustainable (Tables 9.15 and 9.16).

Table 9.15 – UK Summer Modelling Analysis Results (viable destinations)

	BFS	BHX	BRS	CWL	EMA	EDI	GLA	LBA	LPL	MAN	NCL	NWI
ATL-DL	9.8	10.2	9.8	9.5	9.5	10.2	10.2	10.0	9.7	10.3	9.7	9.4
CLT-AA	7.7	8.0	7.7	7.4	7.4	8.0	8.0	7.8	7.5	8.1	7.5	7.2
DFW-AA	9.0	9.3	9.0	8.7	8.7	9.3	9.3	9.2	8.8	9.5	8.8	8.5
IAH-UA	7.3	7.6	7.3	7.0	7.0	7.6	7.6	7.5	7.2	7.8	7.2	6.9
DTW-DL	7.1	7.5	7.1	6.8	6.8	7.5	7.5	7.3	7.0	7.6	7.0	6.7
EWR-UA	6.8	7.2	6.8	6.5	6.5	7.2	7.2	7.0	6.7	7.3	6.7	6.4
PHL-AA	6.5	6.8	6.5	6.2	6.2	6.8	6.8	6.7	6.4	7.0	6.4	6.1
IAD-UA	5.6	6.0	5.6	5.3	5.3	6.0	6.0	5.8	5.5	6.1	5.5	5.2
JFK-DL	6.1	6.4	6.1	5.8	5.8	6.4	6.4	6.3	5.9	6.6	5.9	5.6
MIA-AA	6.0	6.3	6.0	5.7	5.7	6.3	6.3	6.2	5.9	6.5	5.9	5.6
ORD-AA	5.7	6.0	5.7	5.4	5.4	6.0	6.0	5.9	5.5	6.2	5.5	5.2
ORD-UA	6.0	6.4	6.0	5.7	5.7	6.4	6.4	6.2	5.9	6.5	5.9	5.6
SFO-UA	5.6	5.9	5.6	5.2	5.2	5.9	5.9	5.7	5.4	6.0	5.4	5.1
YYZ-AC	6.0	6.3	6.0	5.6	5.6	6.4	6.4	6.1	5.8	6.4	5.8	5.5
JFK-AA	5.3	5.6	5.3	5.0	5.0	5.6	5.6	5.4	5.1	5.8	5.1	4.8
LAX-AA	5.3	5.6	5.3	5.0	5.0	5.6	5.6	5.4	5.1	5.7	5.1	4.8
MSP-DL	5.2	5.5	5.2	4.9	4.9	5.5	5.5	5.3	5.0	5.7	5.0	4.7
YUL-AC	5.0	5.3	5.0	4.7	4.7	5.5	5.5	5.2	4.9	5.5	4.9	4.6
YVR-AC	5.0	5.3	5.0	4.7	4.7	5.5	5.5	5.2	4.9	5.5	4.9	4.5
YYZ-WS	4.9	5.2	4.9	4.6	4.6	5.4	5.4	5.1	4.8	5.4	4.8	4.4
YYC-AC	4.5	4.8	4.5	4.2	4.2	5.0	5.0	4.7	4.4	5.0	4.4	4.1

[141] The UK airports selected were BFS, BHX, BRS, CWL, EMA, EDI, GLA, LBA, LPL, MAN, NCL, and NWI. The North American airports were ATL, AUS, BOS, BWI, CLT, DEN, DFW, DTW, EWR, FLL, IAD, IAH, JFK, LAS, LAX, MCO, MIA, MSP, MSY, OAK, ORD, PDX, PHL, PHX, RDU, SAN, SEA, SFB, SFO, SJC, SLC, TPA, YEG, YHZ, YOW, YUL, YVR, YWG, YYC, YYT, and YYZ.
[142] The results of the modelling can be found in Appendix J (summer) and Appendix K (winter).

The regional destination with the most scope for services during the summer was found to be Manchester. The next most viable destinations were Edinburgh and Glasgow, followed by Birmingham and Leeds Bradford. There were numerous routes that could be operated with 5-6 flights per week.

In contrast, but not surprisingly, the modelling indicated less scope for winter services. However, in addition to ATL and DFW, services to JFK by both AA and DL were found to be viable for daily service to all 12 UK destinations.

From a regional perspective, Edinburgh and Manchester had scope for daily services on 7 routes (both AA and DL from JFK), and reduced services from another 9 routes (AA and UA from both LAX and ORD), the highest amongst the regional airports. They were followed by a second tier of Birmingham and Glasgow. Surprisingly, there was no scope for winter services from Canada to UK regional airports.

Table 9.16 – UK Winter Modelling Analysis Results (viable destinations)

	BFS	BHX	BRS	CWL	EMA	EDI	GLA	LBA	LPL	MAN	NCL	NWI
ATL-DL	11.6	13.4	11.6	9.8	9.8	14.2	13.4	12.5	10.7	14.2	10.7	8.9
DFW-AA	9.8	11.6	9.8	8.0	8.0	12.5	11.6	10.7	8.9	12.5	8.9	7.1
JFK-AA	9.9	11.7	9.9	8.1	8.1	12.6	11.7	10.8	9.0	12.6	9.0	7.2
JFK-DL	11.6	13.4	11.6	9.8	9.8	14.3	13.4	12.5	10.7	14.3	10.7	8.9
EWR-UA	7.4	9.2	7.4	5.6	5.6	10.1	9.2	8.3	6.5	10.1	6.5	4.7
IAH-UA	6.2	8.0	6.2	4.4	4.4	8.9	8.0	7.1	5.3	8.9	5.3	3.5
ORD-UA	4.6	6.4	4.6	2.8	2.8	7.3	6.4	5.5	3.7	7.3	3.7	1.9
CLT-AA	4.2	6.0	4.2	2.4	2.4	6.8	6.0	5.1	3.3	6.8	3.3	1.5
DTW-DL	4.1	5.9	4.1	2.4	2.4	6.8	5.9	5.0	3.2	6.8	3.2	1.5
IAD-UA	3.2	5.0	3.2	1.4	1.4	5.8	5.0	4.1	2.3	5.8	2.3	0.5
MIA-AA	4.0	5.8	4.0	2.2	2.2	6.7	5.8	4.9	3.1	6.7	3.1	1.3
ORD-AA	3.9	5.6	3.9	2.1	2.1	6.5	5.6	4.8	3.0	6.5	3.0	1.2
PHL-AA	4.0	5.7	4.0	2.2	2.2	6.6	5.7	4.9	3.1	6.6	3.1	1.3
LAX-AA	2.9	4.7	2.9	1.2	1.2	5.6	4.7	3.8	2.0	5.6	2.0	0.3
LAX-UA	2.7	4.5	2.7	0.9	0.9	5.4	4.5	3.6	1.8	5.4	1.8	0.1
SFO-UA	3.0	4.8	3.0	1.2	1.2	5.7	4.8	3.9	2.1	5.7	2.1	0.3

Although some of the results are expected, others were more interesting. The viability of NWI for air services reflects the strength of the airline at its North American hub, for example, DL at Atlanta.

Another aspect that was not reflected is that of airline or joint-venture strategy. The summer model indicated that AC could operate a YUL-MAN service (5.5 flights/week); the airline, however, operates a 5 flights/week YYZ-MAN service in accordance with its operational strategy. Likewise, the modelling notes that DL could viably operate a MAN-ATL service; instead, its joint-venture partner VS flies the route.

Airline strategy is a key factor as BA does not operate any North Atlantic services outside of the London airports. Nonetheless, the airline provides customers travel opportunities through the provision of indirect routings, a strategy that is mirrored by numerous other airlines and has been for many years.

An analysis of the specific seasonal travel patterns of passengers between the UK and North America reveals some mixed results in comparison with the overall travel market. An examination of PaxIS data from 2005[143] to 2017 indicated that the number of passengers travelling in July increased by 15.6%; in contrast, January trips declined by 5.2% (Table 9.17).

Table 9.17 – Total UK Passengers by Season with Annual Change (2005-2017)

	January	Annual Change	July	Annual Change
2005	576,598		877,100	
2006	562,302	-2.5%	903,962	3.1%
2007	581,922	3.5%	902,741	-0.1%
2008	544,097	-6.5%	939,156	4.0%
2009	570,905	4.9%	954,514	1.6%
2010	463,082	-18.9%	832,094	-12.8%
2011	456,056	-1.5%	840,562	1.0%
2012	474,415	4.0%	781,681	-7.0%
2013	461,439	-2.7%	828,746	6.0%
2014	460,835	-0.1%	856,908	3.4%
2015	477,678	3.7%	920,387	7.4%
2016	518,038	8.4%	980,650	6.5%
2017	546,498	5.5%	1,013,650	3.4%
% Change from 2005-2017		-5.2%		15.6%

[143] To analyse indirect travel, passenger or PaxIS data were utilised to assess changes in passengers and to also determine where transfers occurred. Although the overall research examines changes from 1997, PaxIS data are only available from 2005 onwards.

This contrasts with the overall increase during both seasons noted in section 9.1. It also infers a decrease in business trips and possibly reflects changed practices following the recession that began in autumn 2008.

Overall, some major European hubs[144] provided more connections than either LHR or LGW (Table 9.18). When BA operated its dual hub strategy, both LHR and LGW had good regional connections. However, the acquisition of KLMuk[145] gave KLM more regional routes making AMS the most connected hub to UK regional airports.

Table 9.18 – Number of UK Regional Routes from LHR, LGW and Major European Hubs for July (Selected years, 1997-2017)

	LHR	LGW	AMS	CDG	DUB	FRA	KEF
1997	10	10	5	3	8	4	1
2002	9	11	12	4	4	3	1
2005	9	8	12	6	7	3	1
2007	10	6	12	7	6	3	2
2012	6	4	12	6	11	4	2
2017	8	3	15	6	11	4	7

Regional connectivity declined further for both LHR and LGW, and by 2017, LGW had the fewest UK connections. Conversely, AMS continued as the pre-eminent hub for UK regional centres with DUB growing into second place. However, BA's services in the UK were to the largest cities and coupled with high frequencies provided connection options for passengers to North Atlantic destinations. Many of KLM's and Aer Lingus's services were to smaller centres with fewer frequencies and smaller aircraft. As such, despite the quantity of regional connections, UK passengers have continued to rely upon BA and London for European transfers for North Atlantic flights[146].

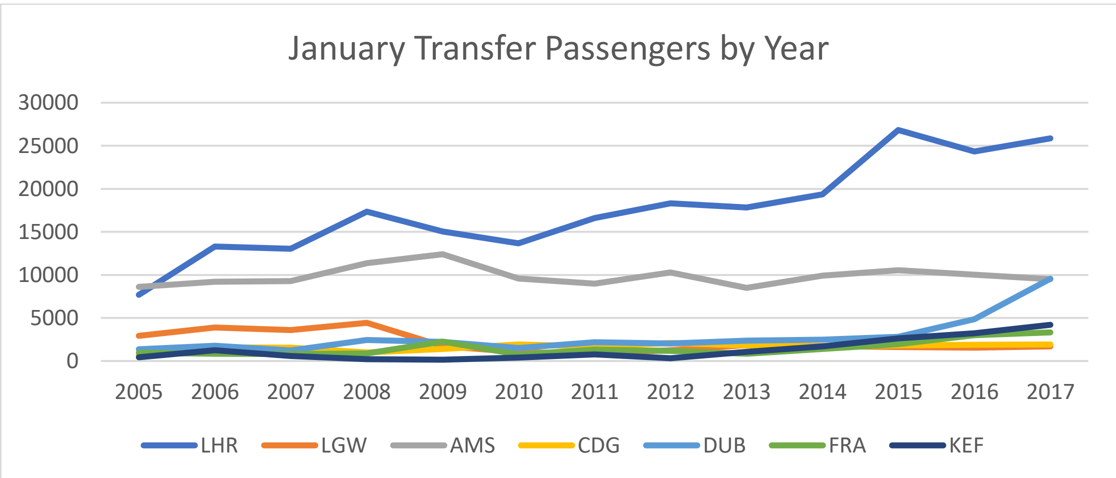
[144] As connectivity to North America is being evaluated, only connections by airlines operating networks are included. Therefore, the following airlines are considered for each airport: LHR – BA and BD; LGW – BA; AMS – KLM and its subsidiary KLMuk; CDG – AF; DUB – EI; FRA – LH and KEF – FI, NY, and WW.
[145] KLM acquired a majority share of regional airline Air UK, and the airline was rebranded as KLMuk in January 1998 and subsequently incorporated into KLM City Hopper in 2003.
[146] The majority of passengers from the UK who transfer do so in North America.

During the winter season, approximately 25% of all UK originating trips included at least one transfer, a figure which is closer to 30% during the summer (Tables 9.19 and 9.20). While about 10% of transfer passengers in 2005 did so utilising one of the major European hubs, this rose to more than 20% in January 2017 (Figure 9.6). For Heathrow, this figure nearly tripled from 2005 to 2017 – 6.1% to 18.2%. Nonetheless, the majority of transfers occurred in North America; at its highest point (January 2017), only 40% of all transfers transpired in LHR and the major European hubs.

Table 9.19 – First Transfer Point for UK Passengers in Jan. by Percentage (2005-2017)

	Total Passengers	Transfers	LHR	Major European Airports[147]	Other European and North American Airports
2005	576598	22.0%	6.1%	9.6%	84.3%
2006	562302	26.4%	8.9%	9.9%	81.1%
2007	581922	24.8%	9.0%	9.6%	81.4%
2008	544097	26.3%	12.1%	11.3%	76.5%
2009	570905	27.5%	9.6%	12.3%	78.1%
2010	463082	25.6%	11.6%	12.8%	75.7%
2011	456056	25.3%	14.4%	13.7%	71.8%
2012	474415	25.0%	15.5%	14.2%	70.4%
2013	461439	25.5%	15.1%	13.2%	71.7%
2014	460835	27.1%	15.5%	14.4%	70.0%
2015	477678	27.8%	20.2%	15.9%	63.9%
2016	518038	25.4%	18.5%	18.2%	63.2%
2017	546498	26.0%	18.2%	21.2%	60.6%

Figure 9.6 – Number of UK Transfer Passengers utilising LHR, LGW and Major European Hubs in January (2005-2017)



[147] Major European Airports include AMS, CDG, DUB, FRA, and KEF.

Nonetheless, LHR remained the dominant transfer hub for UK originating traffic. Although Amsterdam has consistently been the second most important transfer hub for UK passengers in January (from 2006 onwards), it relinquished that position in 2017 to Dublin (Figure 9.7). Despite being situated in London, LGW has played a minor role in facilitating transfers for North Atlantic travel: LGW is used as a spoke as opposed to a hub by FSCs, and although LCCs will use the airport as a base, their operations tend to have point-to-point rather than transfer traffic.

While LHR's importance as a transfer point increased nearly threefold during winter travel, it did not even double during the summer travel period with the shortfall being covered predominantly by North American airports (Table 9.20).

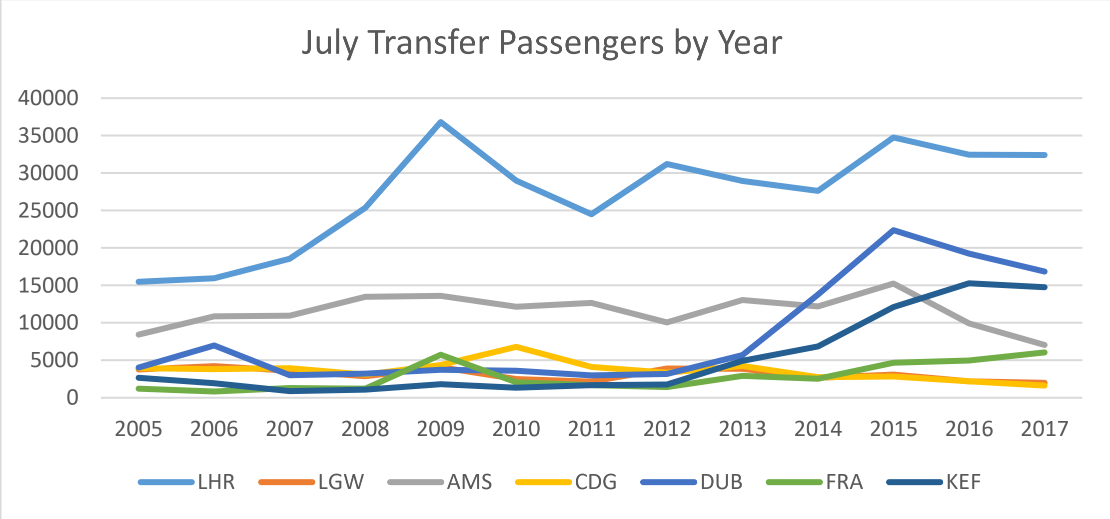
Table 9.20 – First Transfer Point for UK Passengers in July by Percentage (2005-2017)

	Total Passengers	Transfers	LHR	Major European Airports[148]	Other European and North American Airports
2005	877100	26.5%	6.7%	9.3%	84.0%
2006	903962	27.4%	6.4%	10.2%	83.3%
2007	902741	26.0%	7.9%	8.8%	83.3%
2008	939156	27.4%	9.9%	8.9%	81.2%
2009	954514	31.2%	12.3%	11.2%	76.4%
2010	832094	26.6%	13.1%	12.4%	74.5%
2011	840562	26.7%	10.9%	11.0%	78.1%
2012	781681	27.4%	14.6%	9.7%	75.7%
2013	828746	29.6%	11.8%	13.1%	75.0%
2014	856908	28.8%	11.2%	15.9%	72.9%
2015	920387	30.7%	12.3%	20.6%	67.1%
2016	980650	26.7%	12.4%	20.2%	67.4%
2017	1013650	25.8%	12.4%	18.8%	68.8%

Despite maintaining numerous regional routes, AMS relinquished its secondary position in 2014 to Dublin, and was also surpassed by KEF in 2016. In fact, the number of UK originating passengers transferring in AMS on North Atlantic flights in July fell by half from 2015 to 2017 - 15249 to 7050 (Figure 9.7).

[148] Major European Airports include AMS, CDG, DUB, FRA, and KEF.

Figure 9.7 – Number of UK Transfer Passengers utilising LHR, LGW and Major European Hubs in July (2005-2017)



In addition to providing onward transfers, LHR has dominated UK travel as the nation's pre-eminent hub, a position solidified by the revocation of the Bermuda II agreement (Tables 9.21 and 9.22). Even prior to this, minimal domestic connectivity limited LGW's potential to function as a national hub, leaving the airport dependent upon international connections operated by point-to-point operators.

Table 9.21 – Departures from LHR and LGW for January, by Year and Proportion of Total UK Market Share of North Atlantic traffic (2005-2017)

	LHR	Market Share	LGW	Market Share
2005	379088	65.7%	112308	19.5%
2006	355446	63.2%	106803	19.0%
2007	345797	59.4%	114662	19.7%
2008	319617	58.7%	102965	18.9%
2009	338777	59.3%	54947	9.6%
2010	342707	74.0%	43093	9.3%
2011	340933	74.8%	37460	8.2%
2012	351031	74.0%	41624	8.8%
2013	342855	74.3%	39114	8.5%
2014	346940	75.3%	33550	7.3%
2015	351914	73.7%	43097	9.0%
2016	378557	73.1%	48458	9.4%
2017	376021	68.8%	74631	13.7%

Heathrow reached its nadir in July 2007 and January 2008 (55.0% and 58.7% respectively). Its high point was in July 2010 (70.1%) and January 2014 when the figure was over 75% (Tables 9.21 and 9.22). North Atlantic travel from LHR did not experience any decline in January 2009 following the onset of the 2008 recession. There was a decrease in July 2009 compared to 2008; however, travel rebounded somewhat the following year. It should be noted, however, that July 2008 recorded the highest passenger figures for summer North Atlantic travel from LHR (Table 9.22).

In contrast, Gatwick Airport was particularly affected by the revocation of Bermuda II, and the airport's share of the UK North Atlantic market almost halved from January 2008 to 2009 – 18.9% to 9.6%. Although the UK market grew by 4.9% in January 2009 compared to the previous year, travel from LGW decreased by over 46%. When examining the summer market, LGW was similarly negatively impacted.

Unlike LHR, passenger departures from LGW did not recover in the summer of 2010 but remained depressed. From 2015 onwards, however, LCCs like Norwegian and Westjet began services which in turn invoked a competitive response from FSCs like British Airways and Air Canada resulted in a resurgence at the airport. The provision of more services, often at competitive prices, stimulated traffic, and increased passenger numbers from Gatwick (Table 9.22).

Table 9.22 – Departures from LHR and LGW for July, by Year and Proportion of Total UK Market Share of North Atlantic traffic (2005-2017)

	LHR	Market Share	LGW	Market Share
2005	506657	57.8%	180530	20.6%
2006	520782	57.6%	179968	19.9%
2007	496870	55.0%	192418	21.3%
2008	591710	63.0%	144624	15.4%
2009	547333	57.3%	84093	8.8%
2010	583184	70.1%	83441	10.0%
2011	570077	67.8%	106003	12.6%
2012	527983	67.5%	92794	11.9%
2013	569663	68.7%	84062	10.1%
2014	568744	66.4%	92329	10.8%
2015	572336	62.2%	104231	11.3%
2016	560065	57.1%	163624	16.7%
2017	564280	55.7%	176344	17.4%

Both LHR and LGW are in the southeast of the country. They have developed, especially LHR, into the largest airports for North Atlantic departures from the UK. Their importance is disproportionate to the region's population; an importance that is augmented when transfer passengers are included into the total passenger numbers.

9.4 Airport Influence Zones

As noted in the previous sections, the dominance of Heathrow and to a lesser extent, Gatwick highlights the importance of major airports in North Atlantic operations. As airlines focus their operations in the London area, this limits the opportunities for the development of regional airports. Some regional airports have managed to attract and maintain North Atlantic services, but the most successful have been in northern England (MAN) or Scotland (EDI and GLA).

Lieshout et al. (2015) found that although 100 km is often used to delineate catchment areas, 150 km may be a more accurate measure in measuring an airport's influence. A study conducted by York Aviation (2018) delineated examined catchment areas based 60, 90 and 120 minute travel times. Although both metrics calculate possible numbers, the dominance of that influence decreases as distance or travel time increases.

There are two main factors that must be considered when calculating possible catchment numbers. The first of these is the size or attraction of the airport being considered and second is that of the proximity of other airports and their relative size or attraction.

It was posited that the larger the airport, the larger the catchment area: It was also posited that its influence within the area would be stronger. As such, a large airport would overwhelm a smaller airport located within close proximity and cause the smaller airport to lose passengers within its estimated catchment area to the larger airport. This reflects the pattern observed and the disproportionate influence that an airport like Heathrow exerts.

As noted previously, EDI, GLA and MAN were more successful than BHX, BRS or CWL despite having similar GaWC[149] scores. The second group are all situated within 200 km of LHR, which raises the question as to whether an airport's influence extends beyond the hypothesised 150 km limit.

Some of the regional airports are situated near other airports that have already established services. Although an airline may operate flights to two airports located near one another, this will likely only occur if there is a specific market being targeted, or as a defensive measure against a competitor.

As seen in the Table 9.23, the level of influence of the major airports (listed on the left side) is examined vis-à-vis other airports[150]. Red indicates a strong influence (within 100 km), orange is moderate (101-150 km), and yellow is minimal influence (151-200 km).

Table 9.23 – Distances between Selected UK Airports in kilometres

	BHX	BRS	CWL	EMA	EDI	GLA	LBA	LGW	LHR	LPL	MAN	NCL
BHX	-	137	161	51	403	419	158	181	141	123	107	288
EDI	403	510	507	372	-	67	257	574	534	293	298	147
GLA	419	512	503	394	67	-	285	596	555	301	313	197
LGW	181	178	222	203	574	596	319	-	41	304	284	444
LHR	141	157	200	163	534	555	279	41	-	263	243	405
MAN	107	222	230	86	298	313	70	284	243	39	-	192

As can be seen, some regional airports are clearly within the influence zone of more than one airport. Despite having the capacity to have North Atlantic services (Tables 9.15 and 9.16), BHX is under the moderate influence of not only LHR but also MAN. London Gatwick is within the strong influence of LHR, a fact that is likely reflected in the airport's inability to attract operations in comparison to its larger neighbour. In contrast, MAN is not within the influence zone of any of the other major airports.

149 GaWC scores were used for the Urban Importance variable in modelling.

150 EMA at 203 km from LGW is also noted. EDI and GLA have similar scores and as neither are in a dominant position, their proximity is noted in blue. As LHR is the largest airport in the UK, LGW is deemed to be within LHR's influence zone.

Smaller airports such as LBA and LPL are also within the strong influence zone of MAN; EMA is located under the strong influence of both BHX, and MAN. Newcastle is located 147 km from EDI and is therefore under that airport's influence.

Of the five largest airports, LHR, LGW, MAN, EDI and GLA, only LGW is situated within the influence zone of a major airport: LHR. This is reflected in the relatively small number of flights that operate from the airport despite its proximity to London.

Manchester is outside of the influence zone of any other major airport while EDI-GLA are located so close together that they share the same general market which is situated well outside other airports' influence. This distance has contributed to these airports' ability to develop services; not only are they beyond the influence of larger airports but passengers living near the airports may not find travel to larger airports a viable alternative. The services that develop may provide either direct North Atlantic flights, or viable options to larger hub airports, thus improving the overall connectivity of the region surrounding the airport.

9.5 Summary

This chapter examined connectivity between the UK and North America. The number of flights on the market has increased over the course of the study, although the seasonal differences highlight the growing importance of leisure travel during the summer with winter growth being more moderate. LHR has dominated both summer and winter operations, an impact that was amplified to the detriment of LGW with the implementation of the Open Skies Agreement.

When the regression analysis was conducted, the strength of LHR was evident as it was consistently a statistically significant factor throughout the seasons and the individual Canada and US markets. The models were subsequently re-run without LHR routes, and although of less utility, significant models were produced. The resultant models were then utilised to assess the viability of possible routes from various UK regional (non-London) airports.

The results indicated that Cardiff has the most scope for developing services during the summer, with Edinburgh and Manchester having the most scope for winter seasonal services. However, airline strategies could not be incorporated into the model, and these are the most important factors in developing and maintaining any air service. Most FSC airlines rely upon transfer traffic to support their long-haul services, and BA is no exception with their reliance upon its hub, LHR.

Heathrow's importance is amplified by UK passengers that utilise the airport as a transfer point for their North Atlantic travel. Although airports like AMS and DUB have more connections to regional airports, more UK passengers travel through LHR than any European airport. However, most UK passengers who transfer do so at a North American airport.

Although LGW remains the UK's second largest airport, its location leaves it within the shadow of LHR, and with noticeably fewer services than its larger neighbour. In contrast, the largest regional airports, MAN, EDI and GLA, are situated outside the influence zones of larger airports. It is this distance that has allowed them to develop greater connectivity to North America through direct and indirect services.

CHAPTER 10 – DISCUSSION OF THE FINDINGS

The research has examined how airline operations on the North Atlantic have changed from 1997 to 2017. One objective was to assess the key aspects driving changes in the airport network, especially regarding joint-ventures, policy factors and the development of Middle Eastern and LHLCC on the North Atlantic. Another key objective was the analysis of concentration of services; an aspect of this was the temporal analysis of airport importance and changing airline strategies impacting airport choices. The final objective was to identify which secondary airports were attracting services. The associated research questions identified the key factors that attracted North Atlantic services and for maintaining those services.

The broad geographic definition and temporal duration utilised has enabled this study to identify some key findings which are discussed in greater detail below.

10.1 The Importance of Seasonality

Many previous studies examining the North Atlantic or even airline networks in general have relied upon either annual or summer schedules as they provide more flights and often a greater number of destinations. Recent work by Zou, Reynolds-Feighan and Yu (2022) examined the role of seasonality upon LCCs, and incorporated a climate variable to explain travel patterns, focussed upon the US market. Annual or summer only schedules obscure the seasonal variations within the travel data: airlines are allocated slots on a seasonal basis and therefore operate their flights along the same basis (Doganis, 2010) which thus compels us to examine the North Atlantic along a similar basis.

The key difference between the two seasons, especially within the northern hemisphere, is that business travel is relatively consistent throughout the year while there is a strong increase in leisure travel during the summer, coinciding with school vacation and traditional holiday periods (Lundtorp, Rassing and Wanhill, 1999;

Eurostat, 2021). As such, it can be concluded that winter travel is more dependent upon business travel while summer travel relies predominantly on leisure travel.

The use of the seasonal ratio provided a metric to assess the level of seasonality upon airline operations. While the metric is more commonly used in tourism studies it has clear applicability to airline schedules which likewise operate on a seasonal basis. The application of the ratio to the different sub-regions highlighted the heterogeneous nature of the North Atlantic.

This is important when considering travel patterns which obviously influence the provision of flights. As such, there is also applicability to the industry in that it highlights opportunities for modifying operations to take advantage of these seasonal trends. This could include the addition (or deletion) of routes on a seasonal basis, the modification of frequencies on routes, as well adjustments to aircraft allocations to best match demand. There are also revenue aspects that need to be considered as leisure travellers tend to be more price conscious than business travellers; there may be seasonal expansion opportunities, but they are more likely to be less lucrative on a per passenger basis as there would be downward pressure on fares. In comparison, business travel, especially in the business cabin, can sustain routes during the winter.

One of the key findings has been the growing importance of seasonality on the North Atlantic. The seasonal ratio has consistently increased over the temporal duration of the research reflecting greater leisure travel. Travel on the North Atlantic has increased with the number of trips from 2005 to 2017 rising nearly 40% and over 60% during the winter and summer seasons, respectively, supporting the growing importance of seasonality on the North Atlantic. This contrasts with earlier research that found greater dispersion during the winter, although that study focussed primarily on the Portuguese market (Jimenez, Claro and de Sousa, 2012).

This effect is not homogenous, even within North America with the effect being more evident in Canada compared to the US. The higher seasonality factor for Canadian airports could reflect the higher per capita GDP in Canada compared to the US but also undoubtedly reflects the relatively harsh winter conditions which diminish the country's attraction as a destination and diverts outbound traffic towards warmer southern locations. It also reflects the Canadian market's dependence upon leisure carriers which have highly seasonal operations: while their winter services are directed southwards, these aircraft are then diverted to mostly European operations for the summer season thus greatly increasing the number of flights traversing the North Atlantic. In contrast, US based airlines that operate on the North Atlantic have almost totally been FSCs whose services also have seasonal aspects but in general to a much lower extent than that of leisure airlines. Although North American airlines are more likely to take advantage of these trends, it highlights the possible avenues of expansion for European airlines.

In contrast, there is relatively little seasonality outside of the European-North American market. This could reflect the predominance of FSCs operating to Africa, Asia, and the Middle East. In addition, their respective geographic locations do not have the same climatic differences as seen in North America and even Europe and may therefore limit the seasonal travel tendencies exhibited in the northern hemisphere. This is an important finding to consider as any research that focuses solely on summer operations would mitigate the importance of operations outside of Europe.

By addressing the seasonal aspects of North Atlantic travel, this research gap has been addressed and the findings highlight opportunities for development amongst airlines operating within the Europe-North American market.

10.2 The Heterogeneous Nature of the North Atlantic Market

Several studies on the North Atlantic have focused solely on the US-European market. Although this is the largest and most important portion of North Atlantic travel, it nonetheless provides a limited view. Although substantially smaller (population-wise) compared to its southern neighbour, travel to Canada remains an important component of the North Atlantic, a contrast to Oum and Zhang's belief (2001) that travel to Canada would rely upon US transfers. Travel differences, both in terms of destinations and industry composition have not been investigated either independently or within the context of the overall market (Zhang et al., 2019). By including Canada in this study, this research gap has been addressed.

In addition to Europe, travellers from Africa, Asia and the Middle East also fly to North America over the North Atlantic. Although somewhat smaller than their European counterpart in terms of the overall market, these areas are important components with diverse travel patterns; nonetheless, they are often omitted from North Atlantic aviation studies. Their inclusion into this research attends to this omission and helps address this gap in the research.

Another aspect addressed was the growing importance of Middle East airports. This has been identified through the growing number of routes and frequencies operated by Middle East carriers to North America and is also supported by the assessment of travel patterns utilising PaxIS data. This has been identified in previous research by both ACI (2014a) and O'Connell and Bueno (2016).

While there is some local demand to support the new routes being implemented and operated, the travel data indicate that passenger traffic from Africa and especially Asia[151] have been the impetus for this development. Travel from Asia has continued to increase[152], and despite more direct flights, the area remains reliant upon indirect connections to facilitate travel to North America. Middle Eastern hubs accounted for half of all Asian transfer traffic in 2017, with Dubai accounting for half of this amount, and supports O'Connell and Bruno's (2016) previous work. This reflects the rapid growth of Emirates Airlines and their hub Dubai; the airline did not have any North Atlantic flights in 2003.

[151] Asia within this context refers primarily to India and Pakistan, as travel from other Asian countries tends to traverse the Pacific rather than the Atlantic.
[152] At the temporal onset of this research, most Asian airlines relied upon transfers and 5th Freedom stops to transport passengers, something that has become a rarity within the industry.

In contrast, while the main European hubs have maintained their passenger numbers but given the increase in the overall market have seen a reduction in their market share of transfer trips from Asia. In 2005, about half of all travel from Asia transferred in one of the four major European hubs; by 2017, this had decreased to about a quarter.

Although the majority of indirect traffic from Africa continues to transfer in Europe, the Middle Eastern hubs have also increased in importance as transfer points for North Atlantic traffic from the continent. Some African hubs like Addis Ababa (Ethiopian Airlines) and Casablanca (Royal Air Maroc) have become more important but continue to account for a small percentage of transfers.

The continued importance of non-African hubs for transfer traffic highlights the lack of connectivity within the continent. Although the Yamoussoukro Decision permitted 5th Freedom Rights, there remains a general lack of internal flights that is not conducive to connecting traffic. It also means that African travel remains reliant upon extra-continental airports for North Atlantic travel.

Regarding travel between Africa and North America, the Canadian market was somewhat higher than expected, and accounted for about a fifth of trips. One possible explanation for this is the relatively recent immigration from the continent, especially from French-speaking countries like Algeria and Morocco to the province of Quebec. The increased travel could reflect VFR trips from Canada to relations, or likewise trips from relations in Africa to Canada. It should also be noted that Montreal is the home of numerous UN agencies like IATA and ICAO (and situated within driving distance of the capital, Ottawa); the other top destinations are also government-dominated (IAD) and key business destinations (JFK and YYZ).

While the global alliances dominate traffic between Europe and North America, the ME3 provide an option for travellers based in Asia and even in Africa due to its geographic advantages, and natural transit points (Abu Dhabi-EY, Doha-QR, and Dubai-EK). In addition, airlines in the region have easy access to fuel supplies, and lower labour costs, major costs in aviation, and was as beneficial tax regimes, enable them to offer cheaper fare options than their competitors (O'Connell, 2011; CAPA, 2016).

European travel also relies upon indirect routing as only about half of all trips from Europe were undertaken on non-stop flights. About 20%-25% of all trips rely only on European transfers with about 20% of all trips relying only on North American transfers; about another 3%-4% of trips have transfers on both sides of the Atlantic. The trip data also show that whilst some airports are important destinations, they are not necessarily important transfer airports. These variations highlight the diverse roles that hub airports have within different airline networks as well as the changes that have occurred following airline mergers.

An interesting aspect is that the key North American destinations have remained relatively consistent over the years for European travel with only slight seasonal differences; although YYZ is a top destination during the summer, it is supplanted by the much warmer MIA during the winter season.

The top four destinations for African travel are all situated in eastern North America, IAD, JFK, YUL and YYZ, with JFK and YUL being the top destinations in January and July 2017 respectively. This is a key finding as it reflects the disproportionate draw of Canada as a destination and reflects recent migration patterns.

In contrast, JFK is the top destination for Middle East travel, with IAD, LAX and YYZ being the next popular with the order being dependent upon the season. The inclusion of Toronto within the top airports is of some surprise as both EK and EY are limited to only three flights/week due to the current bilateral agreement between Canada and the United Arab Emirates.

Nonetheless, these findings provide context to recent market developments, adding to the existing literature furthering the understanding in this area.

10.3 The Evolution of the Airport System

Although this research has focused upon airlines, a comprehensive examination of the North Atlantic must also consider airports. There is a symbiotic relationship between airports and airlines; a relationship that is often stronger if the airline has a hub or base at the airport. Any examination of airline operations must therefore also address airports as their decisions have a direct impact upon airport connectivity (Burghouwt, Hakfoort and van Eck, 2003). Many previous studies have examined destinations at the city level rather than at the airport level (Fan, 2006; Taylor, Derudder and Witlox, 2007; Cosmas, Belobaba and Swelbar, 2010; Van Nuffel et al., 2010). The utilisation of airport level data allows this research to conduct a more realistic assessment of operations as airlines fly to airports, not cities.

Airport importance can be assessed utilising different measures. This can include by classification (Cong et al., 2016), function (Freming and Hayuth, 1994; Adikariwattage et al., 2012), or flow levels (Derudder, Devriendt and Witlox, 2007; Rodríguez-Déniz, Suau-Sanchez and Voltes-Dorta, 2013) For the purposes of this research, social network analysis was utilised. This technique is commonly used to assess online relationships between nodes and their edges; in this research, it was applied to airline networks to examine the routes or connections (edges) between airports (nodes). Three main metrics were utilised to assess each airport: degree centrality (DC) which indicated how many routes were operated from each airport; weighted degree centrality (WDC) which indicated how many flights were from each airport, and eigenvector centrality or Eigencentrality (EC) which measured the relative importance of each airport. Gephi software was used to calculate EC, and although the metric considers both DC and WDC, there is not a direct relationship between all three.

Although the EC value is an effective metric, it is only applicable to the year (and season) that it was calculated. EC values were then normalised utilising conditional value centralities (CVC). This enabled a temporal comparison of airport importance over the research timeframe for both summer and winter operations. These metrics were applied to the North Atlantic overall as well as to geographic regions highlighting changes within areas that might otherwise be obscured within the general analysis. The use of these two metrics provides an objective quantifiable assessment of airport importance over time that has previously not been addressed in the literature.

This is to the best of the researcher's knowledge the first application of Eigencentrality and conditional value centralities to measure airport importance and addresses a gap within the literature. It also provides a greater understanding of changes that addresses airline operations which operate at the airport rather than at a city level.

As expected, the social network analysis identified New York JFK as the most important North American airport, whilst London Heathrow was the most Afro-Eurasian airport throughout the temporal scope of this study. These two airports have long been identified as gateways to their respective continents benefitting from their strategic locations and are therefore, unsurprisingly of particular importance (Weber and Williams, 2001).

However, JFK's dominance in North America drastically declined over time with subsequent airports increasing in relative importance. Toronto Pearson was amongst the top five airports and rose to be the second most important airport during the summer season of 2017, a finding that was made possible through the inclusion of Canada. The shifting amongst the subsequent airports also reflects airline mergers and changing airline strategies.

London Heathrow maintained both its primacy and dominance amongst Afro-Eurasian airports, followed by AMS, CDG and FRA (though not necessarily in that order). This finding supports Burghouwt and Hakfoort (2001) in their assessment of the European network. The dominance of these four airports has been consistent although in recent years, both DUB and KEF have risen in importance during the summer – but not the winter. This reflects the previous finding in this research that flight operations need to be examined from a seasonal perspective.

One of the aspects that was highlighted was the relative decrease in importance of some North Atlantic airports. Two key airports that witnessed dramatic declines were Montreal’s Mirabel Airport and London’s Gatwick Airport (Humphreys and Morrell, 2009). Both airports were the beneficiaries of government policies that forced airlines to utilise their facilities. The Canadian Government directed intercontinental flights to use Mirabel, while Gatwick benefitted from the terms of Bermuda II which limited the airlines and routes that could be operated from Heathrow; Gatwick was the only other viable option for airlines wishing to access the London market. When both policies were revoked, Gatwick and Mirabel both became predominantly leisure airports. While Gatwick continued to be a viable alternative in the larger London market, Mirabel was severely impacted and eventually closed. These developments indicate that although policies can artificially maintain operations, they do not provide the basis for longer term sustainable development. This contrasts with Newark, which could be considered the ‘second’ airport in the New York system and is both a major transit point and destination due to its operation as a hub for Continental and then subsequently, United Airlines.

The concentration of services is dependent upon seasonal operations, and supports earlier research which noted that the topology of the airport network differs between seasons (Belkoura et al., 2016). The research has shown that services have gradually become less concentrated amongst Afro-Eurasian airports although the trend has been more pronounced during the summer. Whilst the top 5 airports accounted for just under half of all flights during winter 2017, this figure was just over 43% during the summer of the same year. In contrast, the top five airports accounted for around 60% of all services in 1997 (both seasons).

In a further examination of concentration, 80% of services were from 18 airports during the winter and 22 airports during the summer of 2017; this is compared to 13 and 14 airports respectively in 1997. Although this has not been a consistent dispersal and there have been periods of concentration, especially after September 11 (Alderighi and Cento, 2004), it nonetheless shows that the dominance of the largest airports has decreased to the benefit of smaller hubs especially during the summer with greater leisure travel. Many of these airports have an alliance affiliation and supports Burghouwt and Veldhuis's earlier work identifying the importance of alliances to hubs (2006). The growing number of services to smaller European airports is primarily the result of North American airlines expanding their route offerings as most European FSCs continue to operate their services from their own hub airports. This supports Matsumoto and Domae (2019) who found that secondary cities were gaining at the expense of primary cities at competitive hubs and Zhang et al. who thought that the North Atlantic was "trending toward network equality" (2019, p7).

In contrast, North American airports have remained relatively concentrated during the duration of this study in both the winter and summer schedules, with about 12-14 airports consistently accounting for 80% of North Atlantic traffic.

The difference between the regions could reflect the greater population density, especially within Europe in contrast with the relatively low population density of North America, especially in Canada, which has resulted in the development of multi-hub networks (Burghouwt and Hakfoort, 2001). While the former provides opportunities for substitute airports, there are not the same opportunities within North America because of the urban distribution pattern as airports that are too far away are not viable alternatives (Berster, Gelhausen and Wilken, 2015). In addition, while few airports in North America have capacity constraints, many European airports, especially the larger hubs, have congestion issues which limit the ability to acquire slots and provide additional services which could result in spillage to other airports (Gudmundsson, Paleari and Redondi, 2014).

Despite these changes, European and North American airports have consistently dominated North Atlantic traffic, and reflect their high level of connectivity (Zook and Brunn, 2006).

The North Atlantic has fluctuated between periods of concentration and dispersion over the temporal duration of this study (O'Connor, 2003; Bel and Fageda, 2010; Suau-Sanchez and Burghouwt, 2011; ACI Europe, 2014b, 2015a). Following adverse events (e.g., Sept. 11, 2001, and the economic recession), North Atlantic services tend to concentrate. Once the market has adapted to the impacts, leisure services expand both in terms of numbers and in destinations leading to a dispersal of services. This is more evident during the summer season which is more reliant upon leisure travel than the winter season which is more dependent upon business travel. Given the high level of seasonality in North American domestic traffic, particularly Canada, it is not surprising that North American based airlines have more seasonally dependent operations, especially leisure airlines. Although it provides a more in-depth understanding, the seasonality aspect also mitigates the importance of airports outside of Europe as they tend not to have a corresponding increase in their summer operations.

Travel on the North Atlantic has increased but passengers continue to rely upon transfers as well as direct flights to facilitate their trips, especially in areas where there is insufficient demand to support a direct service (ACI Europe, 2014a). There are variations within the market reflecting both destination choice and airline selection with the latter influencing the transfer hub utilised, if necessary, although transfer options have been reduced through various mergers, especially in the US. These differences are the result of many factors, each of which impact trip decisions.

In 2017, about half of all trips between Europe and North America were by direct flight. About 26% of all January trips transferred in Europe and another 18% transferred in North America; the remaining trips (4.5%) required transfers in both Europe and North America or transferred elsewhere. For January trips, the proportions were similar although about 23% transferred in Europe and nearly 20% in North America.

Of the four major European hubs (AMS, CDG, FRA and LHR), all have either maintained or increased their share of European transfer traffic during the winter season. In contrast, only LHR has increased its share of transfer traffic during the summer. This could perhaps reflect seasonal leisure traffic to the UK and other destinations in contrast to London’s importance as a business destination during the winter.

The most important US transfer hubs for European travel were ATL, EWR, JFK and ORD; this composition did not change over time or between seasons. It is interesting to note that ORD was the most important transfer hub in July 2017 despite not being a top destination.

The findings in this study both validate previous studies and contribute to the literature by providing greater context for the trends occurring on the North Atlantic. The use of social network analysis provides a quantifiable metric for measuring airport importance, and this study shows its viability as a tool that can be used in further research in different geographic regions.

10.4 Evolving Network Strategies

There were numerous mergers during the research time period, and these in turn impacted airline and subsequently alliance operations and is reflected in its airport utilisation. It is important to note that while mergers occurred in both Europe and North America, the mergers in North America resulted in a singe entity while the airlines involved in European mergers retained their individual identities and operations. As such, two airlines within the same group could continue operations to the same destination whereas in North America only one airline would operate, thus, in theory, reducing passenger choice and competition.

What is interesting is the different strategies both between and within alliances. This could be the result of operational limitations (e.g., lack of slots; policy constraints), of domestic market demands (e.g., summer holidays), or to address competitors' actions (e.g., instituting services to stave off a competitive threat). Non-aligned airlines outside of an alliance structure follow their own strategies but are nonetheless constrained because of the various aspects noted above.

The research had previously identified the current tendency for dispersion, especially in Europe, is often linked to North American airlines. Although the North American market remains consolidated amongst the top airports, services are no longer dominated by only a few airports and have dispersed amongst more hub airports. This is the direct result of mergers – in 1997 there were 8 FSCs based in North America with North Atlantic operations; in 2017, there were only 4 FSCs remaining. The amalgamation of two airlines results in a new cohesive operational strategy that within North America relies upon multi-hub networks, a result of extensive geographies (Düdden, 2006). The utilisation of hubs was linked to their geographic location and ability to complement each other to maximise local markets and reduce cannibalisation within the new merged operation (Burghouwt, 2014). As such, Newark has risen to prominence as a focal point for both the New York and UA transfers. Following the amalgamation of AA and US, Philadelphia was incorporated into the AA network and is now the primary hub for transfers on the east coast on travel from Europe. The Delta and Northwest networks were complimentary in nature, although Cincinnati and Memphis were de-hubbed and Atlanta retained clear dominance within the new airline, supporting Goedeking's earlier study (2010) . These mergers have also led to greater dispersion within Europe to regional airports, the result of changing network strategies by these same airlines.

Of interest is the development of Air Canada's low-cost arm, Rouge. Operating to Europe only during the summer, Rouge was developed and has expanded to counter existing leisure airline competitor Air Transat as well as a defensive measure against domestic rival Westjet which recently began North Atlantic operations. This move was identified in previous research examining FSCs links with LCC operations (Fageda and Flores-Fillol, 2012). Unlike the airline's flights to Heathrow (many of which are from regional airports), Air Canada operates its Rouge flights from its hub airports, thus enabling the leisure operation to take advantage of feeder traffic, something that has been omitted in many previous attempts by FSCs to develop a leisure arm (Gillen and Gados, 2009) although other research has noted that this is not a viable strategy (Graf, 2005). The overwhelming seasonal nature of the Canadian market allows the airline to take advantage of summer leisure travel to Europe.

Given the growth in alliance membership and activity, it is not surprising that alliance partners have influenced specific airline operations, especially between hubs (Iatrou and Alamdari, 2005; Burghouwt, 2014), although the presence of 'carve-outs' detracted from any collaboration (Brueckner and Picard, 2013). The ability to provide greater connectivity on partners' flights led Button to note that codeshares would not only facilitate to more hub-to-hub operations but also increase both behind and beyond traffic in a 'dogbone' type configuration (2009). ACI also noted the growth in onward connections between 2004-2014 when flights were to hub airports (ACI Europe, 2014a).

A few operational strategies were identified, the first key strategy is shared by all airlines within an alliance, and that is to have flights to their partners' hub(s); the difference between airlines is in the proportion of North Atlantic services directed to those hubs. This supports previous research that identified the passing of the EU-US Open Skies Agreement as a key facilitator of this activity (Button, 2009).

Another key operational strategy is that of defensive measures. Many airlines do not want a FSC competitor operating a service to their country without a competitive response. This could result in the airline operating a flight that is not financially viable to prevent a competitor from having a monopoly type service on a route. This has also been implemented to counter LHLC operations that are based in Europe, a finding that supports previous research (De Poret, O'Connell and Warnock-Smith, 2015; Kuljanin et al., 2021).

A third operational strategy is that of competitive inroads. Given that most airlines base their operations at their 'home' hub, it is difficult for them to counter an incursion from a competitor to a secondary airport in their country that does not have hub functionality (Pitfield, 2007). This is a strategy that has been used by leisure operators for many years. Air Transat operates numerous flights to both France and Italy without reaction from either Air France or Alitalia respectively. Likewise, Condor Flugdienst operated flights from Frankfurt to both Halifax and Whitehorse without competition. This strategy has been adopted by other FSCs and in recent years, to a much greater extent than utilised previously.

Most European airlines focus their operations to their partner's hubs. The exceptions to this normally involve flights to Canadian destinations, specifically Toronto and Montreal (for non-Star alliance members), and defensive measures (e.g., Iberia from Barcelona to Oakland). An exception to this is British Airways which has introduced flights to smaller US cities like Austin and New Orleans.

One of the reasons that makes focusing flights to partner hubs a feasible operational strategy for European airlines is the prevalence of multi-hub networks in North America. Partner hubs are usually sufficiently geographically dispersed to provide several viable options in Canada and/or the US.

In contrast, both Canadian and US airlines tend to operate a twin-pronged strategy: in addition to having flights to their partner's hubs, the airlines tend to also operate flights to smaller airports and to non-partner hubs. The former reflects a competitive inroad while the latter is often a defensive measure. This supports earlier research that identified posited that smaller European cities would rely upon North American carriers for connectivity (Dennis, 2005) and Burghouwt's and Suau-Sanchez's earlier research which identified Delta Airlines' strategy (2011)

In terms of flights specifically to the UK, there are three different strategies being employed, each of which is dependent upon alliance membership. American Airlines is in the Oneworld alliance with British Airways, and although there are some flights to UK regional airports, the vast majority of AA flights are to Heathrow where there is the possibility of transfer flights with BA.

United Airlines and Air Canada, both Star Alliance members, operate numerous routes to both Heathrow and UK regional airports. This strategy avoids transfers at continental hubs which would entail backtracking for passengers to reach their destination; given that the major Star Alliance European partner is Lufthansa, the extra distance that transferring at either Frankfurt or Munich would be substantial, a transfer at that location does not facilitate transfers and is not a sustainable product (Zhang et al., 2019). The development of multiple services to UK destinations contradicts Graham and Guyer's research (2000) which posited there little scope for regional hubs beyond the southeast.

In contrast, Delta Airlines operates flights to Heathrow to meet demand in the London market but has few routes to other UK destinations; instead, they operate a high number of flights to their partner hubs in Paris (Air France) and Amsterdam (KLM). These airports have numerous routes to the UK, especially KLM which has more routes to UK regional airports than any other airline. Because of their geographic location, a transfer at these airports results in a similar overall travel time to UK regional airports as transferring in Heathrow.

The examination of North Atlantic airlines has identified different strategies. Although the strategies employed are influenced by alliance membership, no alliance has a cohesive homogenous strategy applicable to each member.

10.5 The Impact of Joint-Ventures on Airline Networks

Although mergers and the development of alliances facilitated greater connectivity, the creation of joint-ventures enhanced the co-operative arrangement between airlines. The granting of an immunised metal-neutral joint-venture further facilitated the integration of airline operations both in terms of scheduling and financial linkages (Iatrou and Alamdari, 2005).

Alliances have grown in importance, and in July 2017, nearly 75% of all North Atlantic flights were operated by members of the three global alliances (Oneworld, SkyTeam and Star).

The dominant airlines within these alliances are members of immunised joint-ventures, and the majority of North Atlantic services within each respective alliance are channelled into the hubs of these joint-venture members.

The SkyTeam J-V (Air France, Delta, and KLM) was formed in 2008 with Virgin entering a separate J-V with Delta in January 2014. The Star++ alliance (Air Canada, Lufthansa, and United Airlines) also began in 2008 and the Oneworld J-V (American Airlines, British Airways and Iberia) in October 2010; Finnair joined in March 2013.

Oneworld operations were dominated by LHR and JFK, with MIA providing a key role in January operations. During the summer season, MAD, ORD and PHL also played key roles, and provided a greater balance within the network; nonetheless, the airports are all hubs of J-V partners AA, BA, and IB.

Similarly, SkyTeam relied upon the key hubs of AMS (KL), CDG (AF) and JFK (DL); all three airlines were members of the Sky J-V.

EWR (UA), FRA (LH) and YYZ (AC) were key to Star Alliance's network with MUC, IAD and ORD playing lesser roles. Newark rose to prominence following the UA-CO merger and provided a focal point in the New York area for North Atlantic operations while Lufthansa developed Munich when congestion issues reduced expansion opportunities at Frankfurt (Doganis, 2010). Although the alliance has the largest membership, LH, UA and AC, all members of the Star J-V, dominate operations.

The implementation of these joint-ventures have facilitated some of the airline strategies being utilised. Metal-neutral J-Vs enable airlines to pool their assets and to allocate the necessary resources to meet passenger demand; if a partner has sufficient resources to meet demand, a fellow partner can then re-allocate their resources to other routes on the North Atlantic or even in other markets like the trans-Pacific (O'Connor, 2003). The former enables the competitive inroad strategy which not only attracts market share from competitors, but also contributes to the overall revenues and profitability of the joint-venture.

The joint-ventures have resulted in airlines maintaining strong links to partner hubs and is usually stronger during the winter season. The larger proportion of services during the winter reflects the contracted schedule operated by airlines compared to the summer and the fewer trips undertaken on the North Atlantic. The higher traveller numbers during the summer makes smaller markets viable, whilst the reduced winter numbers means that they can only be viably served as an indirect connection via a hub airport. As noted previously, most hubs are located in large urban areas, and are thus more likely to have sufficient point-to-point demand in addition to facilitating transfers. This supports previous work that found frequencies will be concentrated on 'high-quality routings' (Fageda, Flores-Fillol and Lin, 2020).

Nonetheless, the overall trend has been a re-alignment of services between joint-venture partner hubs. This reflects the importance of transfers for indirect travel, especially during the winter season. The diminished importance of partner hubs during the summer reflects the implementation of seasonal services to meet the increasingly larger leisure market rather than a decrease in the number of flights being operated between hubs. During the winter, some airlines, like Iberia, almost exclusively operate flights to its partner (American Airlines) hubs.

While flights between hub airports can facilitate more connections, these transfers are often only possible if the ticket is with one of the partner airlines. Although this can provide seamless travel, it may also leave the consumer with fewer airlines to choose from. While in the US the three major airlines (joint-ventures) can provide relatively sufficient national coverage, European airlines tend to have more constrained operations due to the historical reasons linked to their national origins. The growing trend for North American airlines to operate flights from their hubs to European secondary airports in addition to their partners' hubs may be an attempt to meet growing passenger demand whilst infiltrating their competitors' traditional catchment areas.

Joint-venture participation has resulted in member airlines aligning their networks in accordance with their partner operations. This is especially the case for European airlines; in contrast, North American airlines tend to operate more flights to competitor hubs and secondary airports in Europe, especially during the summer. This is especially the case for Star++ members Air Canada and United Airlines who continue to devote a noticeable number of flights to London Heathrow, a tactic which meets both point-to-point demand and makes flights more attractive to passengers by avoiding backtracking from a transfer through a European hub. Utilising a more focused strategy, American Airlines (Oneworld) and Delta (SkyTeam) have a higher proportion of their North Atlantic services to partner hubs.

CHAPTER 11 – CONCLUSION

This research has examined airline networks on the North Atlantic spanning an extended time frame and incorporating an inclusive geographic definition to provide a comprehensive overview.

The overall aim was to achieve an understanding of the changes that have occurred and the underlying factors influencing these changes. To achieve this, the research identified three objectives which have been addressed through the posing of a number of research questions.

This chapter reviews these objectives and research questions, and then discusses the repercussions of the findings from both a theoretical and practical viewpoint. The chapter concludes with reflections on the research journey.

11.1 Review of the Research Questions

In the analysis of factors impacting route selection on the North Atlantic, RQ1.1 was:

Are joint-ventures and/or alliances influencing airport selection?

Although alliances existed before 1997, that year marked the first of the global alliances. Developed to counter the restrictions on mergers and of bilateral agreements, alliances were foreseen as a possible avenue to increase connectivity (Dennis and Doganis, 1989; Button, 2009; Pearce and Doernhoefer, 2012). This enabled the provision of seamless travel with the development of codeshare routes and common airport facilities (e.g., lounges) and benefits (e.g., frequent flyer points), alliance members have been able to expand their possible connections without the financial outlay required for either aircraft or facility expansion (Bilotkach, 2007). These benefits are best realised through connections to airports where their partners have an existing presence, especially hub airports which can facilitate onward connections; spill effects resulting from congestion are also influenced by alliance membership (Redondi and Gudmundsson, 2016).

As seen in the examination of flight schedules, alliance members have aligned their schedules with that of their alliance partners (Iatrou and Alamdari, 2005; Bilotkach and Hüschelrath, 2012). The extent to which this has occurred is not homogeneous as any network decisions are made predominantly at the airline level rather than at an alliance level. Nonetheless, even the largest and most dispersed airlines have at least 30% of their routes to alliance partners; there is also variation within the year as most airlines have a more-alliance oriented approach during their winter operations. As such, alliance membership has influenced airport selection.

The level of integration is intensified if the airline is a member of an immunised metal neutral joint-venture. An examination of the data has shown that joint-venture membership has resulted in more operations being directed to their partners. This finding differs from Zhang et al. (2019) who found there was no significant difference in integration between alliance and joint-venture members. In general, this study found there was a higher proportion of flights to partner hubs by J-V members although subsequent mergers, notably those in the US, have mitigated this aspect. In these situations, whole networks were integrated, and the additional number of routes and flights reduced the proportion but not the absolute number of flights to partner hubs, especially during the summer season; the concentration of flights to partner hubs is noticeably higher in comparison during the winter season.

These developments, linked to alliance/joint-venture membership, address the question, and provide evidence that alliances, and in particular joint-ventures, influence airport selection.

RQ1.2 was:

Have LHLCCs based in Europe and North America and/or airlines based outside of Europe and North America changed or influenced flight services?

Although business travel was critical in initial route development and operations, leisure travel has developed to become a more important element. This has created opportunities for LHLCC on the North Atlantic. Along with leisure carriers, LHLCCs target price-conscious leisure travellers rather than business passengers. Although they have not developed a strong presence on the North Atlantic, they have nonetheless diverted market share away from FSCs through the introduction of point-to-point services. In this aspect, FSCs have adopted one of three defensive measures, or some combination of all three: 1) the creation of a leisure-oriented arm, 2) the initiation of seasonal flights from secondary (hub) airports within their networks, or 3) seasonal flights to leisure destinations. Although price-conscious leisure travellers do not benefit FSCs with the same high yields as business travellers, they are nevertheless an important market segment in maintaining summer operations.

As airlines based in North America have fewer airport constraints domestically, they have had more scope to implement defensive measures. Air Canada have created a successful low-cost arm (Air Canada Rouge) while US-based airlines have implemented more leisure flights to counter incursions. Although European-based airlines face more constraints, they have also taken action to counter the competitive threat of LHLCCs, sometimes through the introduction of flights to destinations from their secondary hub airports (e.g., Iberia’s flight from Barcelona to Oakland to counter Norwegian) but also through the creation of their own LCC (e.g., IAG subsidiary Level).

Despite their relatively small presence on the North Atlantic, LHLCC have had an impact, and answers the question if they have influenced airline operations.

Another aspect is the growing importance of airlines based in the Middle East. The combination of Emirates, Etihad, and Qatar Airways accounted for nearly 4% of all North Atlantic operations in July 2017, although in July 2003 they had no flights.

While the global alliances dominate traffic between Europe and North America, these airlines are an option for travellers based in Asia and even in Africa due to their geographic advantages, and natural transit points (Abu Dhabi-EY, Doha-QR, and Dubai-

EK). In addition, its easy access to fuel supplies, a key cost in aviation, and lower tax regimes enable them to offer cheaper fare options than their competitors. The strong growth in travel from Southeast Asia has been absorbed by these airlines who now have a dominant position in this market.

As such, European-based operators are now facing a significant competitive challenge from non-aligned carriers based in the Middle East who have gained market share to their detriment. While some research has suggested that the greatest competition that European hubs face in this market is other European hubs (Grosche, Klophaus and Seredyński, 2017), other studies have noted the growing competitive threat of Middle East hubs (Grosche and Klophaus, 2015; O'Connell and Bueno, 2016). This research has used PaxIS data and quantified the impact of these competitors on the North Atlantic market.

The results indicate that airlines outside of Europe and North America have influenced flight services and have also quantified their impact.

RQ1.3 asked:

Are exogenous factors influencing airport selection?

The research examined numerous factors influencing airport selection. Most factors were unique to the airline, especially in terms of their hub operations, but also regarding network alignment factors with alliance and joint-venture partners.

Airline network development occurs within the context of airport capacity and government policy restrictions; the former is often reflected in slot availability and the latter in air service agreements restricting access through either flights or destinations.

Although the build-up of congestion could lead to the development of secondary hubs (Doganis, 2010; Bilotkach, Fageda and Flores-Fillol, 2013), and congestion has been highlighted as a future constraint in Europe (ACI Europe, 2015b), the regression analysis did not identify congestion as being a statistically significant driver; this is supported by Fageda and Flores-Fillol's research that found it was not a factor for US airlines (2016) . Previous research found that congestion resulted in the usage of larger aircraft (Berster, Gelhausen and Wilken, 2015), but that was an aspect that was not investigated in this study.

This study has found that government policies, and in particular air service agreements have impacted airport selection. Mirabel was used instead of Dorval for intercontinental flights to Montreal was a direct result of Canadian Government policy restrictions; once changed, airlines deserted the airport and resulted in the Mirabel's eventual demolition.

Of even greater impact on the North Atlantic was the Bermuda II agreement which limited not only which routes, but which airlines could have services to Heathrow. As a result, Gatwick acted as an alternative and benefitted from services to numerous US destinations from all US and UK airlines with North Atlantic operations. However, once Bermuda II was superseded by the EU-US Open Skies Agreement, airlines left Gatwick en masse to the now available Heathrow; this resulted in a drastic reduction in flights from the airport. This has been identified previously in the research, and the results of this study supports those findings.

Of lesser note are the restrictions of the Canada-UAE bilateral agreement which limits services by UAE carriers; Etihad and Emirates are limited to 3 flights/week to Toronto's Pearson Airport. Although there is reason to believe that the route could support more flights, and the UAE has petitioned for an expansion of the air service agreement, these airlines are nonetheless restricted by the conditions specified. A reduction in regulation enables more effective competition and leads to more efficient operations (Lieshout et al., 2016).

As such, it can be conclusively stated that exogenous factors influence airport selection.

RQ2.1 asked:

What are the most important airports, in terms of connectivity, on the North Atlantic?

There are many measures that can be utilised to determine the most important airports with the most common being the most destinations and the most flights. This research utilised social network analysis which provides a third measure, Eigencentrality, which incorporates both destinations and flights as well as the quality of the destination. These values were then normalised as conditional value centralities to allow for a temporal comparison. The analysis was conducted for both summer and winter operations to identify any differences between the seasons.

The most dominant airport on the North Atlantic has alternated between London Heathrow and New York JFK throughout the course of this research, dependent upon the year and the season; each has continuously dominated their respective regions of Afro-Eurasia and North America respectively. However, the results indicate a dynamic rather than static airport network with some airports having gained in importance, whilst others have suffered drastic declines.

The North Atlantic has alternated between concentration and dispersion over the temporal duration of this study. Concentration has occurred after adverse events which has resulted in network contraction following bouts of expansion after the market has normalised resulting in greater dispersion, something that has been noted in earlier research (Dobruszkes and Van Hamme, 2011). During the periods of concentration, the largest airports have benefitted whilst during periods of dispersion have tended to see smaller hubs and larger regional airports to benefit from more connections and flights to the relative detriment of the larger airports.

In the North American market, JFK has relinquished its dominance to other airports such as Toronto Pearson, Chicago O'Hare, and Newark Airport. The Afro-Eurasian market has and remains dominated by European airports for North Atlantic services. Heathrow has remained pre-eminent alongside Amsterdam, Frankfurt, and Paris CDG;

London Gatwick was amongst them as a dominant airport until Bermuda II was revoked. In the latter years of the research, Dublin and Reykjavik's Keflavik Airport have risen drastically in importance; both Dubai and Istanbul are also amongst the top airports during the winter season, but less so during the summer reflecting the rise of Middle Eastern airlines and the lack of seasonal services outside of Europe.

This research has answered what the most connected airports are and identified which airports they are.

RQ2.2 asked:

Are different airlines or alliances pursuing different strategies and what are the different strategies?

Airlines have adjusted their strategies during the temporal course of the research and has been predominantly, though not exclusively, affected by merger activity. Mergers in the US have resulted in airlines amalgamating two different networks into a single entity resulting in hub re-alignment and the incorporation of new destinations; in contrast, mergers within Europe, like KLM-Air France, IAG, and the Lufthansa Group have resulted in the constituent airlines continuing to operate as independent entities. European airlines such as Alitalia and Lufthansa have however, amended their hub strategy with the former re-aligning their network from Milan Malpensa to Rome Fiumicino and the latter adopting Munich as a secondary hub to support Frankfurt when airport constraints reduced expansion opportunities.

North American airlines have adopted strategies that take advantage of the growing leisure travel market, and as such tend to have a seasonal aspect to their operations resulting in more summer flights to meet demand. In contrast, European airlines increase summer operations to a much lesser degree and there is a negligible difference between seasonal operations for Middle Eastern airlines.

The major North American airlines, as well as major European FSCs British Airways and Lufthansa, all joint-venture members, pursue a dual-strategy of directing flights to their partner's hubs, as well as routes to smaller airports outside of their partner's network. In contrast, major FSCs Air France and KLM, along with other European FSCs focus their flights to their partner's hubs.

Unlike airlines, alliances do not have a cohesive strategy. Individual members are constrained by the laws and regulations of both their home nations and to those that they have operations. Alliance membership enables seamless travel through the utilisation of codeshares and enables an extension of their networks without a concomitant financial investment. However, this has not been as important as joint-venture membership which when entered, has resulted in a greater integration of services between member airlines. This is not a surprising finding given that the North Atlantic joint-ventures have been granted immunity from collusion and other anti-trust activities by the relevant governing bodies, something which has not been granted to alliance members in general.

The research has noted the different strategies pursued by the airlines and alliances operating on the North Atlantic, and as such has answered the fifth research question.

RQ3.1 asked:

What are the factors (and their relative importance) necessary for airports to develop air connectivity on the North Atlantic?

The research examined the different factors influencing airport selection by airlines on the North Atlantic. The most aspect identified was that of an airline's hub airport(s); there may be variation in a multi-hub network, but hubs were nonetheless the predominant factor in any airline's operations.

In conjunction with hub operations, the presence of a partner airline at the terminus was also identified. This was an identifiable factor within airline strategies but not a significant one. This reflects the relative dispersion that can occur within networks, especially those based in North America, to other airports.

Of more significance was Urban Importance, a driver that was identified in the regression analysis. Each airport is associated with a city, the attraction of which can be determined utilising GaWC rankings which assess urban importance. When utilised in the regression analysis, Urban Importance was consistently a significant driver. Within the context of this research, there is only one airline utilising an airport as a hub although some airports may fulfil that function for two airlines. As such, hub airports for competitor airlines may still be of sufficient importance to attract services despite the lack of possible connections. This is an important factor when examining network connectivity.

Also of importance were the gateway factors, GJFK and GLHR, drivers that were associated with New York JFK and London Heathrow respectively. Both these airports are renowned as being the key entry points to their respective continents, a situation which has supported by the network analysis that was conducted in this research. Although both London and New York are the most important urban centres, these two airports have demonstrated an attraction for North Atlantic services that clearly surpasses other airports associated with their respective cities (e.g., Gatwick and Newark respectively). This is also supported by the number of airlines who operate services to these airports despite having no alliance or joint-venture partner that could facilitate transfers to onward destinations. A key example of this was Air Canada's consistent operations from various Canadian airport to London Heathrow despite the lack of a partner.

The research as such has addressed the question surrounding what the key factors are and their relative importance in North Atlantic services.

The final research question, RQ3.2 asked:

What factors are necessary for secondary airports to attract and maintain sustainable direct North Atlantic air connectivity?

The regression analysis highlighted the significance of Urban Importance which in conjunction with hub status were the most important drivers for attracting flights from an airline's hub(s) airports. This was supported by the UK specific models conducted in the case study. Although not quantifiable, airline strategies are the overriding factors in establishing direct links as most FSC airlines rely upon indirect routings for transfer traffic to support their hub operations.

In the examination of the UK airport system, the topological relationship between airports was assessed. It was determined that the most successful regional airports were more than 200 km away from London Heathrow, beyond normally calculated catchment areas (Lieshout et al., 2016). The implication of this is that Heathrow's influence extends beyond catchment areas and developing services from secondary or regional airports would only be viable if the airport is situated beyond LHR's influence. This can be extended to include other major airports such as Manchester which similarly overwhelm its smaller neighbours. Although this finding was determined within the context of the UK, it can be deduced that in similar circumstances in other locations, the same result would occur and smaller airports could be overwhelmed by neighbouring airports (Jorge-Calderón, 1997; Reynolds-Feighan, 2000; Brueckner, 2003), unless there was the presence of a particular niche attraction unique to the area that could provide opportunities (Sismanidou et al., 2013). The advantage of distance runs counter to Pagliari's (2005) work that suggested that Scottish airports could be geographically disadvantaged.

This analysis examined the characteristics of the UK airport network and identified the necessity for regional airports to have sufficient urban attraction and to be situated outside of the influence zone of major hub airports, thus identifying the factors needed to successfully attract and maintain North Atlantic services and answering the seventh research question.

11.2 Contributions to Academic Research and Industry Practice

Overall, this study has made some unique contributions to the understanding of the aviation market in general and the North Atlantic in particular.

This research has furthered knowledge of the North Atlantic market as previous research had focused on the US-Europe market and on 'snapshots', while this has been a comprehensive overview from both a geographic and temporal perspective. The inclusion of 'smaller' markets such as Canada, Africa, and Asia, has identified the heterogeneous nature of the market and expanded the understanding of North Atlantic. The greater interconnectedness of the aviation industry and increased travel necessitates a broader understanding as even 'smaller' markets can influence and affect the overall market.

This research both affirms the results of these previous studies and has furthered academic research by placing the fluctuations and changes of the market within the context of a longer temporal framework. The travel patterns identified may also be of benefit to aviation professionals as they form the basis of air travel and understanding passenger flows provide an opportunity for airlines to engage in current markets and to expand in others. The Europe-North American market is a mature market whereas other regions such as Africa and Asia continue to develop and expand providing possible areas for expansion. The former is also highly seasonal, and developing a more targeted approach would be an appropriate marketing strategy for both airline services and for airports wanting to expand their flight offerings.

The analysis of airline networks and travel patterns from a seasonal perspective is a key contribution of this research. This aspect has often been omitted from previous research which tends to focus on either summer or annual data. The focus on seasonal patterns identifies key variations within the industry and more closely reflects airline operations which also operate on a seasonal basis.

Seasonal analysis has highlighted the growing importance of the leisure market vis-à-vis business travel. This change is noteworthy for the industry as business travel forms the cornerstone of premium passengers whereas leisure travellers tend to be more price conscious. This variation could have a profound affect both in terms of fares and aircraft configuration. This could impact airlines as leisure passengers tend to create downward pressure on fares which could not be offset by the fewer business travellers that have traditionally relied upon in revenue management to maintain the viability of flights. This could induce airlines to focus more upon air cargo to offset any losses incurred through lower passenger fares. Cargo has already been used to supplement route revenues and its presence may be the only factor that retains a route's viability, a situation which may be acerbated if the trend toward a higher proportion of leisure travellers continues.

In they wish to capture the increase in leisure travel, airlines would benefit from adjusting their aircraft configurations to have fewer business and first-class seats in favour of economy class seating. Another aspect to consider would be for airlines to eschew upper-end premium seating in favour of premium economy cabins whose extra space and benefits may be more appealing for leisure passengers who would prefer greater comfort but find business class to be beyond their means or too excessive a cost to justify for a vacation. It is possible that premium economy may be attractive for business travel; economic downturns result in cost-cutting pressures, and essential trips could be undertaken at a lower cost while fulfilling 'no business-class' travel policies mandated by companies.

By utilising Eigencentrality and conditional value centralities, this study was able to quantify the importance of airports on the North Atlantic; the application of conditional value centralities enabled for an evaluation of airport importance over time. This is an innovative utilisation as to the best of the researcher's knowledge, neither technique has been previously utilised in analysing aviation operations. This is a key contribution of this research and could be used in further research examining changes in airport networks in other regions. Focussing strictly upon the number of flights or destinations to assess an airport's importance may not be appropriate as the research findings have identified the necessity of considering the importance or 'quality' of the destination airport.

In addition, an examination of the factors influencing the development of services to regional or secondary airports. Urban importance was identified as a key driver in attracting North Atlantic services. This highlights the need for a natural 'pull' to provide a service and sufficient local demand to support a sustainable service, be it seasonal or year-round. Another factor that was identified is the necessity of the regional airport to be beyond the influence zone of any large or major airports. If not, it is likely that even if there is a natural attraction, services may be cannibalised by the larger airport. This key finding has identified the importance of the spatial relationship between airports and highlighted the influence that can be exerted by major airports beyond traditionally defined catchment areas.

The key factors of attraction and location are of importance to policymakers who may consider the building of an airport as an economic stimulus to a region that would benefit from greater economic investment: airports can fulfil such a role but can only be effective if the conditions of natural attractions and suitable location are satisfied. In addition, policymakers are often keen to attract airlines by providing direct or indirect assistance, usually financially, to develop new routes. The addition of even one flight provides relative greater economic benefits to regional airports than to hubs, making them an attractive option to stimulate regions (Lieshout et al., 2015). However, just as the two conditions of attraction and geographic location are the basis for building new airports, they are also fundamental to development and sustainability of new routes; if not, once the subsidy is withdrawn, so will the route.

An examination of the UK aviation market utilising both travel and flight data supported these findings and highlighted the importance of indirect travel in providing connectivity. While non-UK hubs like Amsterdam and Dublin have more connections to UK regional airports, more UK originating passengers transfer through LHR for their North Atlantic trips. Although there are relatively few domestic connections to LHR, they are all to large urban areas which have higher catchment areas than relatively smaller cities. This supports previous research regarding the connectivity of UK regional airports but also contributes to an understanding of the UK market and its continued dependency upon LHR for North Atlantic travel. It also provides insight into the UK market and the propensity for indirect travel. Given the recent events of the pandemic, which itself is beyond the temporal scope of this research, and subsequent constraints upon Heathrow Airport and proposed restrictions on domestic short-haul flights, this could provide opportunities for other FSC airlines to operate routes to the UK to divert traffic to other hubs and provide more options.

This research has contributed to the knowledge of North Atlantic airports and airline networks as well as the broader literature on airline industry competition. The more inclusive definition of the North Atlantic and the long-term approach presented a comprehensive overview of the market and identified the unique attributes of each region, thus contributing to the academic literature on airline strategy. The utilisation of seasonal analysis assessed intra-year differences and has implications for route planning in identifying locations for seasonal operations and contributes to the literature on airline strategy which has focussed on summer operations. The application of analysis techniques from other fields was innovative and provided quantifiable results in assessing seasonality and airport importance. These techniques not only contribute to the academic research with definitive metrics, but also have industry applicability. The rise in seasonality has implications for both airline and airport operators alike as they adjust for the growing imbalance in intra-year operations. In addition, factors influencing airline operations were identified and quantified, and contribute to the literature on airline industry competition and strategy. The forecasting approach developed in the case study enables airlines to identify possible destinations and contributes to both the academic literature and is of utility to airlines in route planning. Both airlines and airports were addressed in the research, which is fitting given the symbiotic relationship between the two aspects and should be considered in any future analysis of aviation operations.

11.3 Limitations of the Research

The research was comprehensive in its approach and utilised several data sources. Although measures were taken to ensure comparability, there were some assumptions that were undertaken and there were limitations to the research.

For the schedule data, one week was selected in January and one week in July to represent winter and summer operations respectively. One week was selected as airline flights operate upon a weekly schedule and normally remain consistent for the duration of the respective season. Although the dates were constant (11-17), irregular occurrences could impact schedules; this occurred in July 2017 when the US banned laptops from cabins on any flights to the US from the Middle East on Middle East airlines and caused many Middle East carriers to reduce operations to the US.

The research also focussed on frequency (per week) as a measure of connectivity. This differs from seat capacity, and there is the possibility that if aircraft type was considered that the results may have differed.

Although the inclusion of PaxIS data addressed the issue of only examining direct flights, there were limitations with the data. While the data provided additional information about trips (including flight transfers), the data were collected on a monthly basis, and it was assumed that the data observed consistently reflected travel throughout the month. In addition, with the development of the internet and airline websites, more trip transactions are being undertaken directly with the airline and are thus outside of the direct compilation of PaxIS data. Although this is more commonplace with LCCs and the North Atlantic remains dominated by FSCs, imputation has become more commonplace in the dataset. Although imputation is a statistically acceptable and relatively accurate technique, it is nonetheless not the same as a comprehensive dataset.

The PAxIS data also had some fare information, but when trying to align the fares recorded with the airline fare buckets, there were numerous differences between the airlines. Given the variations amongst airlines between business and economy fares associated with each fare bucket, the data were not utilised. This was unfortunate as (low) fares are often cited as a key driver in leisure travel and their inclusion would have provided greater depth to the analysis.

The regression analysis undertaken provided some statistically significant results, however, the smaller the sample being examined, especially when assessing airlines, the more unlikely it was to produce a significant model, even when certain trends could be clearly observed. As noted above, fares are often cited as a key factor in flight selection, and the inclusion of fares as an explanatory variable in the regression analysis would have likely produced a statistically stronger model.

The regression itself could have been undertaken utilising different models and approaches. Linear regression modelling was chosen due to familiarity with the technique and ability to measure changes in driver importance. The utilisation of other methods such as logarithmic regression could have yielded other results; this remained under consideration even at the latter stages of the analysis process.

The use of 5-year intervals was chosen given the amount of data from various sources necessary for each year to conduct the analysis. While this allowed for an overview of the changes that occurred, the utilisation of panel data could have enabled a more precise identification of when changes occurred on the North Atlantic.

The UK case study regression analysis produced models to assess the viability of direct North Atlantic services from regional airports. Possible routes were identified, but there were cases where airline strategy resulted in different operations be it from another airport or by a partner airline. Nonetheless, the utility of the models was not as strong as was hoped.

11.4 Recommendations for Further Research

Although this research has addressed some gaps in the research, nonetheless, many still remain, and there are numerous opportunities to build upon this study and provide further contributions to the research.

Many of the models produced clear trends, and it would be interesting to see if an examination of other regions or markets would produce similar results or if there would be other factors that would be of greater importance. Applying the methods and techniques utilised in this research could be applied to the Americas (North and South America), the Asian market, or even the trans-Pacific market. The last would be of greatest interest given the increasing aviation market in China and growing travel from that country to other destinations.

This study examined the North Atlantic prior to the coronavirus pandemic. Using this work as a foundation, further research in future years could evaluate how the North Atlantic has evolved and whether the trends observed have been maintained or if they have changed. Whilst most routes have been resumed, some smaller routes have yet to be re-instated, indicating that some airlines are reinforcing their hub operations and may be utilising larger aircraft. The results of this study suggest that this contraction is a temporary measure following a system shock, although this does not preclude a shift in airline strategies. Recent developments also suggest that leisure travel has returned to near pre-pandemic levels and in some cases surpassed previous levels whereas business travel remains depressed and below 2019 levels. If business travel does not recover, then this would impact airlines who rely upon premium passengers and perhaps provide an opportunity for LCCs that wish to expand their services on the North Atlantic. This is of particular interest to the industry as they align their services to reflect both business and leisure markets which have differing demands and seasonal patterns.

Another aspect that could be investigated is the inclusion of fare data. This could provide opportunities for leisure airlines and long-haul low-cost carriers and indicate possible challenges to full-service carriers. Within a greater context, both the African and Asian markets are continuing to develop. Although these regions have lower Gross Domestic Products, they are also seeing increases in their middle class who have higher disposable incomes. A continuation of this trend would provide opportunities for route development, and an understanding of the role of fares would enable airlines to focus their product to effectively target these markets.

Costs are another factor that could be examined, especially within the context of aircraft technological developments. Although aviation has been a target for those promoting environmentally conscious travel for many years and has even resulted in 'flight-shaming' the momentum to decarbonise the industry increased during the pandemic. The focus within the industry has been to develop airplanes that do not rely upon jet fuel but could instead utilise sustainable aviation fuels (SAF) or hydrogen aircraft. Whilst progress has been made, the associated costs with these alternatives are such that they would not only result in increased costs but would also impact fares which could in turn reduce passenger numbers.

The research focussed upon passenger travel, however, the importance of cargo for FSCs, be it in the bellyhold or as separate all-cargo freighters continues to grow. This should be further examined, especially the former, in conjunction with the provision of passenger routes. The changing economic situation could reduce the financial viability of services if they rely solely upon passenger fares, and an investigation of the sustainability of routes if supported by cargo is an area of interest to both academics and airline management.

Further research into the impact of larger airports on neighbouring smaller airports would further research into the viability of regional airports for North Atlantic and possibly other long-haul services. While this research has noted that a very large airport such as Heathrow exerts its influence on neighbouring airports beyond the usually utilised catchment areas of 100 or 150 kilometres, this was not quantified. Further analysis into this could possibly identify more accurate catchment areas that commensurate with the size of the airport. This could benefit through the inclusion of interviews with various airport and airline stakeholders providing qualitative data to complement the collected quantitative data. This would be of great benefit to both airlines and airports alike; it would also enable economists and policymakers to accurately assess the economic benefits of airports to its surrounding environs.

11.5 Reflections on the Research Journey

At the onset of this research, the North Atlantic was a relatively stable market despite the growing influence of both Middle Eastern airlines and long-haul low-cost carriers. The goal was to examine the changes that have occurred over the previous 20 years, identify the causes, and extrapolate the findings to determine future developments.

Needless to say, the onset of the pandemic halfway through the research journey not only affected the research process but impacted aviation in an unprecedented fashion and at times threatened the very existence of the industry. As the pandemic subsides, the onset of the war in the Ukraine and challenging economic times become evident, and a return to 'normality' seems as far as ever. That being said, air travel has resumed, and the North Atlantic is as vibrant as ever, even if the market dynamics have changed. Some routes have not been reinstated and others have come into existence; some of the challenges and opportunities that were discussed in this research remain relevant and will continue to do so in the future.

The challenges in relying upon flight data as a reflection of travel were evident, and the ability to obtain travel data enabled a greater understanding of changing travel patterns, something that helped explain the growing importance of the Middle East airports. The accompanying fare data was of less utility, and that was and remains an area of disappointment.

The scope of the research grew as the study continued and speaks to the complexity of the industry and the North Atlantic in particular. There were areas of interest that were to be examined but could not be explored given the thesis constraints and could even be the focus of another thesis altogether. Some of these areas, especially in the examination of airport influence, would be of great benefit to the field of regional economic development. Although not fully explored, there are nonetheless other findings in this research that have contributed to the research and highlight opportunities for the industry to develop and expand; these findings have justified the time and effort undertaken in producing this study.

There are many ways that air travel can be examined and there is an ongoing need to examine the industry. This study is just one more step on that continuous research journey.

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Appendix A
Eigencentrality Values for January, 1997-2006

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
ACC	0.0475	0.0476	0.0460	0.0458	0.0485	0.0499	0.0468	0.0522		0.1004
AGP				0.0467	0.0008	0.0464	0.0468	0.0482	0.0486	
ALG										
AMM				0.0746			0.0468	0.0371	0.0848	0.0843
AMS	0.5305	0.5295	0.4993	0.4527	0.4527	0.5245	0.5951	0.5802	0.5145	0.4944
ARN	0.0370	0.0393	0.1157	0.1480	0.1298	0.0644	0.0686	0.0924	0.0956	0.1314
ATH	0.1174	0.2098	0.1135	0.1178	0.1195	0.1064	0.1077	0.1111	0.1139	0.1172
ATL	0.2167	0.2023	0.2507	0.3076	0.2980	0.2805	0.3045	0.3211	0.3508	0.4022
AUH										0.0502
AUS										
BCN	0.0475	0.0476	0.0460	0.0917	0.0464					0.0826
BDL										
BEG								0.0482		
BFS										0.0595
BGR										
BHX	0.0705	0.0870	0.0451	0.0559	0.0556	0.0322	0.0553	0.0924	0.0297	0.0573
BJL						0.0036	0.0502	0.0040		0.0027
BOM							0.0468			0.0502
BOS	0.2519	0.1975	0.2275	0.3167	0.3233	0.3894	0.3031	0.3122	0.2986	0.2846
BRU	0.2741	0.2960	0.3065	0.3616	0.3323	0.2088	0.1996	0.2063	0.2549	0.0324
BRS										0.2331
BSL			0.0204	0.0272						
BUD	0.0475	0.0476	0.0460	0.0617	0.0638	0.0666	0.0672	0.0699	0.0710	0.1252
BUH		0.0476		0.0575	0.0464	0.0464	0.0468			
BWI	0.0137	0.0140	0.0140	0.0165	0.0312	0.0575	0.0560	0.0648	0.0533	0.0459
CAI	0.0950	0.0953	0.0919	0.0917	0.0928	0.0464	0.0468	0.0482	0.0486	0.0502
CAS	0.0475	0.0476	0.0460	0.0458	0.0464	0.0601	0.0609	0.0629	0.0653	0.0670
CDG	0.3753	0.4341	0.5207	0.6517	0.6417	0.6542	0.7024	0.7405	0.7138	0.7437
CGN	0.0006	0.0006								0.0324
CLE				0.0128	0.0149		0.0116			
CLT	0.0097	0.0103	0.0104	0.0255	0.0878	0.0125	0.0450	0.0494	0.0653	0.0663
CPH	0.0872	0.0896	0.0487	0.0754	0.0768	0.0909	0.0949	0.0979	0.1221	0.1446
CPT	0.0132	0.0142	0.0144	0.0150	0.0018					
CVG	0.0714	0.0805	0.0847	0.1009	0.0729	0.0793	0.1171	0.1268	0.1151	0.0882
DEL								0.0217	0.0224	0.0666
DEN	0.0250	0.0315	0.0104	0.0128	0.0149	0.0452	0.0842	0.0899	0.0899	0.0816
DFW	0.0954	0.0795	0.0756	0.1122	0.1462	0.1416	0.1421	0.1535	0.1562	0.1570
DHA	0.0475									
DKR	0.0475	0.0476	0.0460	0.0458	0.0464	0.0464	0.0468	0.0482	0.0486	0.0915
DME										0.0248
DOH										
DTW	0.1100	0.1411	0.1421	0.1812	0.1763	0.1567	0.2264	0.2085	0.2050	0.2308
DUB	0.0812	0.0802	0.0826	0.1620	0.1675	0.1158	0.1180	0.1421	0.1576	0.2093
DUS	0.1109	0.1247	0.1099	0.1053	0.1021	0.0502	0.0395	0.0802	0.0815	0.1568
DXB			0.0204	0.0272	0.0278		0.0349	0.0336	0.0486	0.0502
EDI									0.0297	0.0528
EWR	0.2868	0.3458	0.4405	0.5908	0.5968	0.6172	0.6782	0.6298	0.5576	0.6394
FCO	0.2229	0.2189	0.2499	0.2109	0.2527	0.2400	0.2497	0.2306	0.2155	0.2466

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
FLL	0.0461	0.0395	0.0246	0.0286	0.0289	0.0327				
FMY	0.0381	0.0064	0.0054							
FRA	0.6896	0.5382	0.5368	0.6270	0.6111	0.6191	0.6445	0.7238	0.7472	0.7357
GLA	0.0860	0.0119	0.0337	0.0589	0.0626	0.0322	0.0349	0.0336	0.0619	0.0671
GVA	0.0628	0.0476	0.0919	0.0458	0.0464	0.0464	0.0468	0.0818	0.1145	0.0826
GYD										
HAM			0.0120	0.0145						0.0826
HEL	0.0607	0.0619	0.0460	0.0458	0.0464	0.0464	0.0468	0.0692	0.0674	0.0502
IAD	0.3304	0.3387	0.3474	0.3672	0.3718	0.4130	0.4146	0.4206	0.4762	0.4289
IAH	0.0733	0.0872	0.1161	0.1340	0.1385	0.1533	0.1898	0.1990	0.2104	0.1891
ISB										0.0248
IST	0.0475	0.0953	0.1166	0.1354	0.1351	0.1249	0.1273	0.1334	0.1334	0.1345
JED	0.0475		0.0460	0.0458	0.0464	0.0464	0.0468	0.0482	0.0486	0.0502
JFK	1.0000	1.0000	1.0000	1.0000	1.0000	0.8747	0.8935	0.9110	0.9308	1.0000
JNB										
KBP	0.0475	0.0476		0.0458	0.0638	0.0464	0.0468	0.0482	0.0710	0.1252
KEF	0.0711	0.0656	0.0645	0.0700	0.0700	0.0302	0.0256	0.0301	0.0283	0.0665
KHI										0.0248
KRK				0.1018	0.1020	0.0322	0.0337	0.0371	0.0362	0.0341
KWI						0.0464	0.0468	0.0482	0.0486	0.0712
LAS	0.0006	0.0006		0.0286	0.0149	0.0125	0.0116	0.0112	0.0315	0.1148
LAX	0.3653	0.3304	0.3439	0.3940	0.3945	0.4297	0.4217	0.4498	0.4819	0.4583
LED		0.0476	0.0460	0.0458						
LFW										
LGW	0.1785	0.1909	0.2014	0.2521	0.2920	0.2081	0.1978	0.1881	0.2157	0.2926
LHE										0.0248
LHR	0.7217	0.7346	0.8297	0.8978	0.9317	1.0000	1.0000	1.0000	1.0000	0.9262
LIS	0.1230	0.1290	0.1327	0.1764	0.1658	0.1108	0.0699	0.0889	0.0818	0.0649
LOS						0.0464	0.0468			0.0502
LTN										
LYS					0.0464					
MAD	0.2226	0.2932	0.3199	0.2652	0.2703	0.2248	0.2480	0.2424	0.2351	0.2869
MAN	0.1243	0.1447	0.1623	0.1822	0.2076	0.2814	0.2472	0.2897	0.3615	0.4017
MCO	0.1323	0.0699	0.0669	0.0805	0.0599	0.0549	0.0584	0.1136	0.1169	0.1117
MEM	0.0250	0.0251	0.0229	0.0208	0.0211	0.0275	0.0306	0.0305	0.0270	0.0246
MIA	0.2721	0.2934	0.3118	0.3244	0.3111	0.3289	0.3367	0.4056	0.3672	0.3514
MLA	0.0475									
MSP	0.0347	0.0353	0.0369	0.0581	0.0398	0.0423	0.0442	0.0440	0.0417	0.0400
MUC	0.1093	0.1169	0.1403	0.1675	0.1890	0.0838	0.1851	0.2578	0.2638	0.2929
MXP	0.1774	0.1801	0.2638	0.3133	0.3457	0.2579	0.2877	0.2772	0.2927	0.3411
NCE	0.0475	0.0476	0.0460	0.0458	0.0464	0.0464	0.0468	0.0482	0.0486	0.0502
OAK		0.0141								
OPO				0.0158	0.0174				0.0224	0.0573
ORD	0.4889	0.4771	0.5438	0.6390	0.6101	0.6211	0.6634	0.7142	0.7056	0.7014
ORY	0.2306	0.1614	0.1152	0.0175	0.0178		0.0212			0.0324
OSL	0.0140	0.0168	0.0204	0.0272	0.0278			0.0336	0.0297	0.0324
PDL	0.0121	0.0097	0.0108	0.0145				0.0217	0.0224	0.0389
PDX								0.0382	0.0388	0.0364
PHL	0.1108	0.1111	0.1520	0.1696	0.2162	0.2804	0.2806	0.3015	0.2985	0.3090
PHX	0.0154	0.0167	0.0104	0.0128	0.0149	0.0452	0.0842	0.0899	0.0511	0.0452
PIK	0.0068									

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
PIT	0.0422	0.0255	0.0589	0.0581	0.0729	0.0452	0.0450	0.0382		
PRG	0.0244	0.0264	0.0312	0.0388	0.0396	0.0601	0.0609	0.0965	0.0951	0.0919
PSA										
PVD										
RAI										0.0141
RDU	0.0097	0.0103	0.0104	0.0128	0.0149	0.0125	0.0116	0.0112	0.0125	0.0154
RIX									0.0486	0.0502
RSW				0.0053	0.0052	0.0031	0.0026	0.0429	0.0576	0.0445
RUH			0.0460	0.0458	0.0464					
SAN						0.0125	0.0508			
SAT										
SEA	0.0482	0.0463	0.0718	0.0729	0.0741	0.0916	0.0942	0.0957	0.1329	0.0773
SFB								0.0267	0.0315	0.0312
SFO	0.1996	0.2026	0.2190	0.2646	0.3031	0.3150	0.3317	0.3529	0.3453	0.2839
SID	0.0475	0.0476	0.0460	0.0458	0.0606	0.0617	0.1099	0.0339	0.0342	
SJC										
SLC										
SNN	0.2168	0.2277	0.1495	0.2374	0.2074	0.1926	0.1473	0.1197	0.1126	0.2013
SOF	0.0475	0.0476	0.0460							
STL	0.0097	0.0310	0.0343	0.0128	0.0446	0.0125	0.0116			
STN	0.0140									0.1275
STR		0.0101	0.0579	0.0603	0.0142	0.0154	0.0163	0.0175	0.0187	0.0203
SUJ			0.0460	0.0116						
SVG										
SVO	0.2123	0.1480	0.1908	0.1739	0.1435	0.1400	0.1405	0.1464	0.1756	0.1676
TER				0.0145						
TLV	0.1578	0.1703	0.2064	0.2656	0.1658	0.1513	0.1575	0.1588	0.1528	0.2242
TPA	0.0672	0.0609	0.0579	0.0413	0.0432	0.0125	0.0450	0.0112	0.0125	0.0154
TSR	0.0579	0.0476	0.0460	0.0458	0.0582	0.0464	0.0468			
TUN										
TXL	0.0475	0.0476								0.0826
VCE					0.0464	0.0464	0.0468	0.0482	0.0486	0.0705
VIE	0.0582	0.0720	0.0579	0.0603	0.0911	0.0677	0.1024	0.0916	0.0954	0.0960
VKO										
WAW	0.0845	0.1346	0.1370	0.1018	0.1020	0.1310	0.1358	0.1406	0.1369	0.1416
YDF										
YEG	0.0337									0.0452
YHZ	0.0039	0.0037	0.0036	0.0063	0.0044					0.0452
YMX	0.2141	0.0348	0.0385	0.0545	0.1017	0.0461	0.0360	0.0387		
YOW			0.0748	0.0804	0.0422	0.0514	0.0508	0.0517	0.0511	0.0452
YQB		0.0208		0.0295			0.0360	0.0387	0.0368	0.0364
YQX				0.0107						
YUL		0.1970	0.2326	0.2526	0.2530	0.2612	0.2725	0.2807	0.3228	0.3443
YVR	0.1248	0.1194	0.1222	0.1298	0.1337	0.1629	0.1656	0.1720	0.1842	0.1868
YYC	0.0997	0.0944	0.0993	0.1217	0.0854	0.0840	0.0842	0.0899	0.0947	0.1507
YYT	0.0337	0.0344	0.0374	0.0402	0.0422	0.0514	0.0508	0.0517	0.0511	
YYZ	0.3329	0.2505	0.2926	0.3464	0.3694	0.3844	0.3908	0.4040	0.4207	0.4892
ZRH	0.2396	0.2020	0.2537	0.2944	0.3189	0.3272	0.3105	0.3018	0.3200	0.3437
MLC	**11.8695**	**11.7070**	**12.6102**	**14.4544**	**14.3615**	**13.6655**	**14.5742**	**15.0954**	**15.3587**	**17.2482**

Appendix A
Eigencentrality Values for January, 2007-2017

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
ACC	0.0989	0.0959	0.0461	0.0437	0.0919	0.0841	0.0439	0.0447	0.0425	0.0622	0.0614
AGP			0.0199								
ALG		0.0160	0.0123	0.0135	0.0149	0.0144	0.0153	0.0154	0.0144	0.0140	0.0144
AMM	0.0856	0.0962	0.1338	0.1294	0.1339	0.0739	0.0833	0.0869	0.0800	0.0768	0.0754
AMS	0.4993	0.4685	0.5934	0.4360	0.4854	0.4679	0.4538	0.4926	0.4494	0.4532	0.5032
ARN	0.1407	0.1247	0.1396	0.0913	0.1357	0.0839	0.0803	0.1315	0.1231	0.0970	0.1483
ATH	0.1159	0.1428	0.1046	0.0437	0.0778	0.0420					
ATL	0.4069	0.3876	0.4147	0.4244	0.4328	0.3932	0.3883	0.3921	0.3785	0.3752	0.3677
AUH	0.0494	0.0687	0.0666	0.0944	0.0937	0.0877	0.0893	0.1207	0.1568	0.1550	0.1566
AUS									0.0466	0.0456	0.0442
BCN	0.0843	0.0976	0.1000	0.1397	0.1715	0.1766	0.1334	0.1354	0.1313	0.1254	0.1275
BDL		0.0224									0.0167
BEG											0.0402
BFS	0.0610	0.0602	0.0302	0.0313	0.0315	0.0300	0.0281	0.0292		0.0268	
BGR		0.0034	0.0029								
BHX	0.0588	0.0516	0.0302	0.0313	0.0315	0.0300	0.0281	0.0292	0.0275	0.0674	0.0287
BJL	0.0026										
BOM	0.0494	0.1267	0.0962	0.0750	0.0629	0.0599	0.0561	0.0585	0.0549	0.0536	0.0574
BOS	0.2849	0.2835	0.2798	0.3183	0.3157	0.3496	0.3578	0.2972	0.3012	0.3511	0.3834
BRU	0.0348	0.0308	0.0302	0.0313							
BRS	0.2349	0.3143	0.3058	0.2877	0.3533	0.3031	0.2638	0.2994	0.2699	0.2661	0.1816
BSL											
BUD	0.1228	0.0480	0.0461	0.0437							
BUH		0.0480									
BWI	0.0454	0.0421	0.0462	0.0487	0.0478	0.0477	0.0494	0.0482	0.0466	0.0540	0.0585
CAI	0.0494	0.0480	0.0923	0.0873	0.0926	0.0420	0.0439	0.0677	0.0642	0.0632	0.0647
CAS	0.0665	0.0640	0.0584	0.0572	0.0612	0.0564	0.0592	0.0602	0.0570	0.0546	0.0758
CDG	0.8233	0.6999	0.5787	0.6007	0.6229	0.6260	0.5936	0.6774	0.6425	0.6594	0.7218
CGN	0.0348	0.0308									0.0185
CLE											
CLT	0.0652	0.0617	0.0517	0.0548	0.0827	0.0824	0.0494	0.0943	0.0889	0.0889	0.0852
CPH	0.1510	0.1394	0.1385	0.1346	0.1349	0.1288	0.0976	0.1231	0.1759	0.1836	0.2207
CPT											
CVG	0.0902	0.0811	0.0714	0.0294	0.0300	0.0301	0.0294	0.0326	0.0299	0.0300	0.0318
DEL	0.0710	0.0631	0.1055	0.1036	0.1516	0.1416	0.0961	0.1008	0.0930	0.1121	0.1306
DEN	0.0804	0.0884	0.0772	0.0839	0.0786	0.0773	0.0841	0.0849	0.0798	0.1274	0.0994
DFW	0.1579	0.1293	0.2089	0.2329	0.2292	0.1994	0.2153	0.2130	0.2187	0.2165	0.2101
DHA											
DKR	0.0905	0.0883	0.1346	0.1096	0.1172	0.0650	0.0680	0.1158	0.1059	0.0622	0.0614
DME	0.0240	0.0207	0.0405	0.0584	0.1235	0.1202	0.1174	0.0132	0.0127	0.0124	
DOH		0.0215	0.0686	0.0799	0.0845	0.0931	0.1205	0.1527	0.1562	0.1747	0.2058
DTW	0.2345	0.1630	0.2256	0.1701	0.1630	0.1637	0.1916	0.1979	0.1821	0.2276	0.2266
DUB	0.2120	0.3021	0.2685	0.2333	0.2086	0.1936	0.2205	0.2682	0.2260	0.2932	0.3753
DUS	0.1604	0.1498	0.1095	0.1122	0.1159	0.1351	0.1732	0.1642	0.1303	0.1026	0.1284
DXB	0.0494	0.0963	0.1515	0.1569	0.1399	0.1538	0.2005	0.2090	0.2313	0.2585	0.2041
EDI	0.0551	0.0308	0.0763	0.0313	0.0315	0.0300	0.0281	0.0292	0.0275	0.0268	0.0287
EWR	0.7035	0.6339	0.6365	0.6264	0.6402	0.6058	0.5461	0.5895	0.5768	0.5747	0.6432

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
FCO	0.2487	0.3851	0.4022	0.3566	0.3438	0.2403	0.2050	0.2080	0.1492	0.1303	0.1275
FLL		0.0182				0.0296		0.0186	0.0261	0.0246	0.0745
FMY											
FRA	0.7342	0.6976	0.6626	0.7190	0.6392	0.6113	0.6095	0.6243	0.5809	0.6070	0.5845
GLA	0.0684	0.0802	0.0512	0.0535	0.0524	0.0518	0.0493	0.0522	0.0491	0.0493	0.0533
GVA	0.0843	0.1096	0.0763	0.1108	0.1172	0.1094	0.1114	0.1157	0.0779	0.1030	0.1045
GYD									0.0425	0.0406	0.0402
HAM	0.0843	0.0788	0.0302	0.0313	0.0315	0.0300	0.0281	0.0292	0.0275		
HEL	0.0494	0.0480	0.0488	0.0466	0.0463	0.0420	0.0439	0.0447	0.0613	0.0579	0.0586
IAD	0.4310	0.4591	0.4848	0.4524	0.5091	0.4767	0.4825	0.5404	0.4437	0.4689	0.4773
IAH	0.1936	0.1790	0.2420	0.2854	0.2820	0.2829	0.2612	0.2696	0.2689	0.2695	0.2554
ISB	0.0240	0.0207	0.0204	0.0221	0.0209	0.0218	0.0212	0.0229	0.0216	0.0225	0.0245
IST	0.1351	0.1282	0.1215	0.1381	0.1646	0.1730	0.1631	0.1791	0.1937	0.2274	0.2494
JED	0.0494	0.0480	0.0686	0.0659	0.0709	0.0650	0.0680	0.0940	0.1076	0.1067	0.1100
JFK	1.0000	1.0000	0.9745	0.8735	0.9506	0.8600	0.8722	0.9141	0.8958	0.8717	0.8904
JNB				0.0210	0.0210	0.0611	0.0632	0.0190	0.0177	0.0578	0.0565
KBP	0.1228	0.1167	0.1127	0.0437	0.0672	0.0638	0.0439		0.0425	0.0406	
KEF	0.0655	0.0636	0.0599	0.0679	0.1014	0.0977	0.0760	0.1224	0.1148	0.1733	0.3145
KHI	0.0240	0.0207	0.0204	0.0221	0.0209	0.0218	0.0212	0.0229	0.0216	0.0225	0.0245
KRK	0.0362	0.0322	0.0292	0.0286							
KWI	0.0702	0.0695	0.0885	0.0659	0.0709	0.0650	0.0680	0.0447	0.0634	0.0622	
LAS	0.0769	0.0787	0.0507	0.0903	0.0833	0.0953	0.0994	0.0856	0.0960	0.0991	0.1140
LAX	0.4620	0.4675	0.3966	0.4146	0.4311	0.4309	0.4434	0.4703	0.4896	0.4867	0.5470
LED											
LFW											0.0287
LGW	0.2897	0.3053	0.1659	0.1145	0.0796	0.1323	0.0597	0.0561	0.1162	0.1178	0.2204
LHE	0.0240	0.0207	0.0204	0.0221	0.0209	0.0218	0.0212	0.0229	0.0216	0.0225	0.0245
LHR	0.9299	0.9032	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
LIS	0.0697	0.0617	0.0807	0.0848	0.0838	0.1233	0.0950	0.0981	0.0954	0.1096	0.1576
LOS	0.0494	0.0668	0.0199	0.0210	0.0673	0.0747	0.0762	0.0769	0.0729	0.0702	0.0565
LTN		0.0308								0.0268	
LYS			0.0461								0.0144
MAD	0.2888	0.2591	0.2516	0.2852	0.3864	0.3037	0.3264	0.2677	0.3184	0.2645	0.2635
MAN	0.4037	0.3078	0.2362	0.1574	0.2255	0.2159	0.2319	0.2320	0.1688	0.2080	0.1792
MCO	0.1099	0.1478	0.0718	0.0895	0.0852	0.0944	0.0612	0.0620	0.0638	0.0973	0.1117
MEM	0.0244	0.0224	0.0276	0.0216	0.0235	0.0227					
MIA	0.3569	0.3184	0.3186	0.3128	0.3775	0.4125	0.3546	0.3448	0.4016	0.3759	0.4110
MLA											
MSP	0.0394	0.0377	0.0738	0.0703	0.1013	0.1006	0.1015	0.1047	0.0977	0.1049	0.1127
MUC	0.2967	0.2834	0.2599	0.2661	0.3575	0.3214	0.3011	0.3246	0.3203	0.3382	0.3341
MXP	0.3445	0.2731	0.2328	0.1834	0.2095	0.1947	0.1773	0.2249	0.2380	0.2066	0.2078
NCE	0.0494	0.0480	0.0461	0.0437	0.0463					0.0406	
OAK									0.0062	0.0049	0.0173
OPO	0.0588	0.0516	0.0302	0.0313	0.0524	0.0518	0.0705	0.0751	0.0707	0.0493	0.0778
ORD	0.7579	0.6950	0.6339	0.5870	0.5530	0.4988	0.4883	0.5545	0.4932	0.4863	0.4693
ORY	0.0348	0.0308	0.0763	0.0313	0.0741	0.0497	0.0281	0.0740	0.0700	0.0674	0.1090
OSL	0.0348	0.0308	0.0302	0.0313	0.0315	0.0599	0.0561	0.1047	0.1029	0.0962	0.1261
PDL	0.0379	0.0342	0.0336	0.0378	0.0361	0.0385	0.0389	0.0374	0.0359	0.0386	0.0416
PDX	0.0357	0.0329	0.0585	0.0216	0.0235	0.0227	0.0227	0.0240	0.0212	0.0209	0.0225
PHL	0.3121	0.3281	0.3250	0.3252	0.3607	0.3114	0.3180	0.3043	0.2860	0.3211	0.2800
PHX	0.0447	0.0421	0.0462	0.0487	0.0478	0.0477	0.0494	0.0482	0.0466	0.0456	0.0442

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PIK											
PIT				0.0294	0.0300						
PRG	0.0904	0.0828	0.0660	0.0437	0.0463	0.0420					
PSA		0.0480	0.0461								
PVD										0.0005	
RAI	0.0139	0.0135	0.0131	0.0156	0.0152	0.0167	0.0176	0.0144	0.0142	0.0005	
RDU	0.0150	0.0154	0.0462	0.0487	0.0478	0.0477	0.0494	0.0482	0.0466	0.0456	0.0760
RIX	0.0494	0.0480	0.0461	0.0437	0.0463	0.0420	0.0439	0.0447	0.0425	0.0406	0.0402
RSW	0.0438	0.0075	0.0055	0.0059	0.0060	0.0069	0.0089	0.0083	0.0064	0.0051	0.0060
RUH		0.0695		0.0659	0.0709	0.0650	0.0680	0.0710	0.0634	0.0622	0.0859
SAN						0.0477	0.0494	0.0482	0.0466	0.0456	0.0442
SAT		0.0124									
SEA	0.0768	0.1042	0.1385	0.1388	0.1375	0.1353	0.1464	0.1518	0.1885	0.1903	0.2184
SFB	0.0309	0.0336	0.0033	0.0184	0.0212	0.0386	0.0389	0.0304	0.0271	0.0333	0.0308
SFO	0.2839	0.2749	0.2873	0.2886	0.2995	0.2944	0.3032	0.3435	0.3444	0.3561	0.3722
SID											
SJC											0.0703
SLC			0.0269	0.0294	0.0300	0.0301	0.0294	0.0326	0.0299	0.0300	0.0985
SNN	0.2040	0.1402	0.1356	0.1343	0.1241	0.0719	0.0719	0.0740	0.0842	0.0835	0.1261
SOF											
STL											
STN	0.1239	0.1696									
STR	0.0202	0.0188	0.0199	0.0210	0.0210	0.0491	0.0474	0.0482	0.0177	0.0171	0.0163
SUJ											
SVG									0.0127		
SVO	0.1650	0.1785	0.1731	0.1295	0.1585	0.1273	0.1512	0.1777	0.1473	0.1015	0.1039
TER		0.2063									0.0171
TLV	0.2734	0.0154	0.2314	0.2511	0.2559	0.2227	0.2237	0.2308	0.2192	0.2180	0.2443
TPA	0.0150		0.0085	0.0064	0.0047	0.0071	0.0207	0.0203	0.0221	0.0490	0.0514
TSR											
TUN									0.0144		0.0144
TXL	0.0843	0.0788	0.0763	0.0750	0.0959	0.0916	0.0896	0.1175	0.1118	0.1069	0.1081
VCE	0.0696	0.0480	0.0461	0.0437	0.0463	0.0420	0.0439				
VIE	0.0942	0.1413	0.0890	0.0881	0.0918	0.0869	0.0893	0.1207	0.1356	0.1510	0.1539
VKO								0.1067	0.1055		
WAW	0.1445	0.1318	0.1260	0.1257	0.1252	0.1177	0.0893	0.0944	0.0872	0.0853	0.0855
YDF		0.0154									
YEG	0.0447	0.0421	0.0462	0.0487	0.0478	0.0477	0.0494		0.0059	0.0293	0.0367
YHZ	0.0447	0.0421	0.0489	0.0515	0.0478	0.0477	0.0494	0.0482	0.0466	0.0456	0.0442
YMX											
YOW	0.0447	0.0421	0.0772	0.0839	0.0786	0.0773	0.0798	0.0785	0.0466	0.0456	0.0442
YQB	0.0395	0.0329	0.0269	0.0294	0.0300	0.0301					
YQX											
YUL	0.3540	0.3381	0.2618	0.2744	0.3081	0.2991	0.3065	0.3181	0.3056	0.3046	0.3210
YVR	0.1843	0.1624	0.1595	0.1607	0.1546	0.1549	0.1557	0.1541	0.1477	0.1759	0.1792
YYC	0.1488	0.1170	0.1741	0.2104	0.1966	0.2024	0.1557	0.1541	0.1477	0.1398	0.1474
YYT									0.0466	0.0456	0.0442
YYZ	0.4807	0.4260	0.4318	0.4440	0.4217	0.4368	0.4133	0.4565	0.4466	0.4809	0.5424
ZRH	0.3476	0.3322	0.3028	0.3083	0.3483	0.3318	0.3371	0.3444	0.3404	0.3299	0.3376
MLC	**17.5354**	**17.2624**	**16.7333**	**16.1564**	**17.1634**	**16.3268**	**15.7424**	**16.6264**	**16.3617**	**16.7464**	**17.8748**

Appendix B
Eigencentrality Values for July, 1997-2006

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
ABV										
ACC	0.0459	0.0447	0.0448	0.0408	0.0450	0.0489	0.0505	0.0490	0.0669	0.0429
AGP						0.0457	0.0465	0.0454		
ALG										
AMM			0.0078				0.0799	0.0822	0.0913	0.0806
AMS	0.5796	0.5620	0.5209	0.5545	0.7462	0.7544	0.6961	0.7201	0.7118	0.6261
ANC	0.0262	0.0280	0.0256	0.0339	0.0288	0.0157	0.0364	0.0394	0.0412	0.0344
ARN	0.0413	0.0929	0.1174	0.1315	0.1317	0.0643	0.0679	0.0674	0.1242	0.1388
ATH	0.1583	0.1565	0.1742	0.1165	0.1112	0.1040	0.1074	0.1048	0.1108	0.1748
ATL	0.2224	0.2716	0.3028	0.3102	0.3484	0.3169	0.3282	0.3476	0.4066	0.4049
AUH										
AUS										
BCN	0.0459	0.0894	0.0896	0.0946	0.1003	0.0613	0.0631	0.0621	0.0798	0.1020
BDL										
BEG						0.0302		0.0454		
BFS				0.0478	0.0611	0.0302	0.0314	0.0347	0.0762	0.1151
BGO										
BHX	0.0872	0.0929	0.0491	0.1208	0.1626	0.1248	0.1772	0.0677	0.1092	0.0962
BJL					0.0024	0.0489	0.0970	0.0036		0.0022
BLQ									0.0452	0.0429
BOD					0.0096					0.0184
BOM										
BOS	0.2208	0.2406	0.2968	0.2989	0.3547	0.3899	0.3414	0.3971	0.3915	0.3676
BRS									0.0301	0.0267
BRU	0.3095	0.2678	0.3437	0.3284	0.3319	0.2814	0.2041	0.2463	0.2602	0.2718
BSL			0.0256		0.0096					
BUD	0.0459	0.0447	0.0594	0.0647	0.0732	0.0759	0.0779	0.0801	0.0848	0.1205
BUH	0.0459		0.0572	0.0505	0.0536	0.0457	0.0465			
BWI	0.0136	0.0147	0.0139	0.0202	0.0423	0.0561	0.0701	0.0652	0.0483	0.0420
CAI	0.0917	0.0894	0.0896	0.0816	0.1280	0.0457	0.0609	0.0594	0.0656	0.0613
CAS	0.0459	0.0447	0.0572	0.0408	0.0536	0.0582	0.0609	0.0594	0.0656	0.0613
CDG	0.4371	0.4767	0.4881	0.6150	0.7265	0.6838	0.7400	0.7927	0.8086	0.8013
CGN	0.0067	0.0039								0.0267
CLE			0.0107	0.0168	0.0205	0.0127	0.0132	0.0133	0.0204	0.0182
CLT	0.0101	0.0226	0.0214	0.0860	0.1006	0.0466	0.0495	0.0676	0.0798	0.0696
CPH	0.0908	0.0517	0.0673	0.0761	0.1107	0.0899	0.1252	0.0932	0.0901	0.1201
CPT	0.0126	0.0133	0.0136	0.0016	0.0017					
CVG	0.0797	0.0842	0.0843	0.1063	0.1108	0.1257	0.1213	0.1780	0.1840	0.1646
CWL				0.0239	0.0305	0.0302		0.0347	0.0396	0.0347
DEL								0.0347	0.0396	0.0549
DEN	0.0264	0.0250	0.0107	0.0168	0.0782	0.0466	0.0845	0.1193	0.0849	0.0720
DFW	0.0776	0.0924	0.0869	0.1253	0.1895	0.1413	0.1516	0.1585	0.1745	0.1900
DKR	0.0459	0.0447	0.0448	0.0408	0.0427		0.0465	0.0454	0.0452	0.0605
DME									0.0204	0.0531
DOH										
DSA										

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
DTW	0.1429	0.1527	0.1686	0.2155	0.2058	0.2578	0.2038	0.2267	0.2733	0.2227
DUB	0.0896	0.1163	0.2284	0.1727	0.1918	0.1452	0.1673	0.1864	0.1981	0.1752
DUS	0.1805	0.1525	0.1105	0.1488	0.1757	0.1236	0.1460	0.1672	0.2156	0.2051
DXB		0.0234	0.0256	0.0242	0.0287	0.0318	0.0346	0.0760	0.0452	0.0429
EDI				0.0239	0.0305	0.0302	0.0314	0.0653	0.0697	0.0790
EMA										
EWR	0.3987	0.5227	0.5658	0.5916	0.6801	0.6690	0.7053	0.6439	0.6639	0.6136
EXT										
FCO	0.2651	0.2391	0.2931	0.2716	0.2676	0.2971	0.3400	0.3750	0.4236	0.4138
FLL	0.0353	0.0273	0.0256	0.0279	0.0294					
FMY	0.0338	0.0071	0.0053							
FNA							0.0465			
FRA	0.5497	0.6149	0.5692	0.6658	0.6750	0.7042	0.7334	0.8357	0.9242	0.8068
GLA	0.0831	0.1059	0.0637	0.1791	0.1947	0.1051	0.1545	0.1791	0.2995	0.1710
GVA	0.0459	0.0796	0.0448	0.0408	0.0427	0.0457	0.0811	0.0760	0.1092	0.0696
GYD										
HAJ							0.0006	0.0007	0.0005	0.0005
HAM				0.0161	0.0067				0.0697	0.0614
HEL	0.0705	0.0681	0.0707	0.0647	0.0732	0.0759	0.0779	0.0801	0.0848	0.0776
IAD	0.2935	0.3578	0.3617	0.3412	0.4162	0.4396	0.4336	0.4565	0.4922	0.4180
IAH	0.0865	0.1174	0.1142	0.1337	0.1627	0.1955	0.2022	0.2296	0.2421	0.2500
ISB										0.0347
IST	0.1145	0.1141	0.1271	0.1186	0.1294	0.1240	0.1264	0.1275	0.1243	0.1139
JED		0.0447	0.0448	0.0408	0.0472	0.0664	0.0465	0.0454	0.0452	0.0429
JFK	1.0000	1.0000	1.0000	1.0000	1.0000	0.9513	0.9402	0.9582	1.0000	1.0000
JNB								0.0454		
KBP	0.0459		0.0594	0.0647	0.1158	0.0759	0.0779	0.0801	0.0848	0.1205
KEF	0.0662	0.0648	0.0617	0.0735	0.0707	0.0701	0.0700	0.0787	0.0903	0.0777
KHI										0.0347
KRK		0.0482	0.0939	0.0898	0.1015	0.1100	0.1144	0.1128	0.1092	0.0978
KWI					0.0427	0.0457	0.0465	0.0454	0.0452	0.0429
LAD										
LAS	0.0262	0.0401	0.0336	0.0441	0.0493	0.0466	0.0495	0.0527	0.1114	0.1013
LAX	0.3539	0.3691	0.3976	0.4203	0.4270	0.4202	0.4368	0.4869	0.4659	0.4057
LED		0.0447	0.0561							
LFW										
LGW	0.1956	0.2308	0.2115	0.3826	0.4605	0.2359	0.2430	0.2588	0.4385	0.4096
LHE										0.0347
LHR	0.7699	0.8104	0.8457	0.8937	0.9342	1.0000	1.0000	1.0000	0.9926	0.8948
LIS	0.1288	0.1363	0.1543	0.1422	0.1001	0.1092	0.0691	0.0960	0.1449	0.1186
LOS					0.0853	0.0457				0.0429
LPA										
LPL										
LTN										
LUX			0.0256							
LYS				0.0408	0.0523	0.0059	0.0058	0.0049	0.0204	0.0184
MAD	0.2200	0.2783	0.2631	0.2390	0.2988	0.2468	0.2581	0.2274	0.2632	0.2618
MAN	0.1694	0.1722	0.1757	0.3211	0.3423	0.3136	0.3277	0.4766	0.5607	0.4820
MCO	0.1089	0.0924	0.0774	0.0892	0.0970	0.0824	0.1201	0.1344	0.1530	0.1269

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
MEM	0.0264	0.0250	0.0234	0.0226	0.0314	0.0357	0.0339	0.0337	0.0317	0.0267
MIA	0.2708	0.2974	0.3029	0.2948	0.3298	0.3358	0.3463	0.3940	0.3284	0.3259
MLA	0.0459									
MRS					0.0096	0.0059	0.0058	0.0049	0.0204	0.0184
MSP	0.0629	0.0613	0.0574	0.0654	0.0868	0.0522	0.0510	0.0850	0.0567	0.0487
MSY										
MUC	0.1257	0.1596	0.1724	0.1886	0.2420	0.1912	0.2666	0.3135	0.4068	0.3972
MXP	0.2205	0.2273	0.2934	0.3437	0.3418	0.2882	0.2302	0.2980	0.2961	0.3244
NAP									0.0452	0.0429
NCE	0.0459	0.0894	0.0448	0.0408	0.0523	0.0516	0.0523	0.0503	0.0656	0.0788
NCL				0.0239	0.0305	0.0302	0.0314	0.0347	0.0396	0.0347
NOC										
NTE					0.0096	0.0059	0.0058	0.0049	0.0204	0.0184
NYO									0.0174	
OAK	0.0406	0.0371	0.0388	0.0226		0.0015				0.0026
OPO				0.0239	0.0305			0.0347	0.0396	0.0614
ORD	0.5016	0.5622	0.5276	0.6182	0.7244	0.6950	0.6917	0.7969	0.7723	0.6714
ORK										
ORN										
ORY	0.1470	0.1591	0.1347	0.0168	0.0177	0.0202		0.0056	0.0204	0.0184
OSL	0.0185	0.0234	0.0256	0.0242	0.0287		0.0346	0.0306	0.0301	0.0267
PDL	0.0103	0.0110		0.0058				0.0488	0.0600	0.0694
PDX							0.0364	0.0394	0.0412	0.0344
PHL	0.1083	0.1758	0.1774	0.1996	0.2728	0.2782	0.3165	0.3405	0.3621	0.3450
PHX	0.0186	0.0184	0.0107	0.0168	0.0493	0.0466	0.0845	0.0462	0.0437	0.0376
PIK	0.0056		0.0582						0.0032	
PIT	0.0353	0.0386		0.0525	0.0801	0.0790	0.0495	0.0527		
PMO									0.0452	0.0429
PRG	0.0433	0.0479	0.0526	0.0578	0.1129	0.0885	0.1269	0.1248	0.1353	0.1227
PSA										
PSR										
PVD										0.0034
RAI										0.0157
RDU	0.0101	0.0113	0.0107	0.0168	0.0205	0.0127	0.0132	0.0133	0.0204	0.0182
RIX	0.0459								0.0452	0.0429
RSW				0.0339	0.0077	0.0063	0.0438	0.0476	0.0692	0.0603
RUH		0.0447	0.0608	0.0546	0.0601					
RZE										
SAN					0.0205	0.0127	0.0481			
SEA	0.0728	0.0717	0.0726	0.0690	0.0836	0.0952	0.0970	0.0930	0.0887	0.0697
SFB								0.0392	0.0595	0.0632
SFO	0.2211	0.2327	0.2513	0.2854	0.3272	0.3177	0.3358	0.3397	0.3397	0.2629
SID	0.0459	0.0447	0.0448	0.0538	0.0576	0.1070	0.0631	0.0352	0.0358	
SJC					0.0307					
SLC										
SNN	0.2541	0.3205	0.3519	0.3202	0.3656	0.2624	0.1964	0.2371	0.1843	0.2457
SOF	0.0459	0.0447								
STL	0.0301	0.0325	0.0326	0.0419	0.0513	0.0127	0.0132			
STN	0.0185	0.0447	0.0587	0.0348	0.0287				0.1299	0.1034

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
STR	0.0106	0.0571	0.0572	0.0369	0.0150	0.0156	0.0166	0.0167	0.0184	0.0176
SUF										
SUJ				0.0408			0.1712			
SVG										
SVO	0.1545	0.1872	0.1884	0.1738	0.1959	0.1668		0.1737	0.1947	0.1726
SWF										
SXF					0.0611	0.0302				
TER			0.0270	0.0122				0.0347	0.0396	0.0510
TFN										
TLS					0.0096	0.0059	0.0058	0.0049	0.0204	0.0184
TLV	0.1635	0.2182	0.2375	0.2123	0.2038	0.1697	0.1784	0.1761	0.1845	0.1971
TPA	0.0627	0.0636	0.0363	0.0441	0.0493	0.0466	0.0132	0.0133	0.0204	0.0182
TSR	0.0707	0.0447	0.0448	0.0408	0.0536	0.0457	0.0465			
TUN										
TXL	0.0459		0.0448		0.0175				0.0753	0.0696
VCE				0.0408	0.0427	0.0457	0.0465	0.0454	0.0614	0.0753
VIE	0.0565	0.0571	0.0752	0.0795	0.1208	0.1092	0.1132	0.1153	0.1269	0.0952
VKO										
VLC										
WAW	0.0872	0.1610	0.0939	0.0898	0.1015	0.1461	0.1772	0.1475	0.1488	0.1325
YDF										
YEG	0.0347	0.0355		0.0776	0.1400	0.0696	0.0703	0.0394	0.0933	0.0610
YFC										
YHM										
YHZ	0.0635	0.0662	0.0405	0.1298	0.1502	0.0806	0.1208	0.0937	0.1383	0.1299
YMX	0.2230	0.0337	0.0338	0.1896	0.2132	0.1059	0.1020	0.0865		
YOW	0.0347	0.0710	0.0746	0.0525	0.0593	0.0467	0.0481	0.0462	0.0437	0.0897
YQB		0.0212	0.0219		0.0307	0.0324	0.0359	0.0369	0.0359	0.0339
YQM				0.0251	0.0307		0.0006	0.0015	0.0005	0.0005
YQX										
YUL		0.2548	0.2716	0.2343	0.2549	0.2622	0.2928	0.2966	0.4480	0.4229
YVR	0.2010	0.1861	0.1608	0.1948	0.2295	0.2113	0.2577	0.3173	0.3676	0.3678
YWG				0.0019					0.0204	0.0182
YXY				0.0547	0.0288	0.0339	0.0364	0.0394	0.0412	0.0344
YYC	0.1049	0.1106	0.1001	0.2449	0.3263	0.2188	0.2257	0.2366	0.4354	0.3482
YYT	0.0347	0.0355	0.0373	0.0357	0.0387	0.0467	0.0481	0.0462	0.0437	0.0376
YYZ	0.3175	0.2942	0.3239	0.5724	0.7153	0.6250	0.6344	0.7313	0.8793	0.8058
ZAG										
ZRH	0.2189	0.2739	0.2346	0.2911	0.3604	0.3287	0.3407	0.3424	0.3449	0.3102
MLC	12.5971	13.8381	14.2855	16.1262	18.6932	16.7209	17.4205	18.5297	20.7948	19.7065

Appendix B
Eigencentrality Values for July, 2007-2017

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
ABV				0.0390							
ACC	0.0840	0.0388	0.0422	0.0744	0.0751	0.0561	0.0414	0.0790	0.0380	0.0539	0.0515
AGP	0.0202	0.0848	0.0600	0.0563	0.0590	0.0588	0.0598	0.0586	0.0559	0.0543	0.0535
ALG	0.0202	0.0175	0.0178	0.0173	0.0194	0.0182	0.0184	0.0191	0.0179	0.0178	0.0367
AMM	0.1032	0.1289	0.1340	0.1274	0.0876	0.0892	0.0921	0.0877	0.0861	0.0827	0.0790
AMS	0.6328	0.5309	0.5508	0.5134	0.5248	0.5190	0.5261	0.4927	0.5138	0.5346	0.5046
ANC	0.0344	0.0290	0.0305	0.0292	0.0261	0.0288	0.0351	0.0345	0.0328	0.0351	0.0389
ARN	0.1505	0.1288	0.1386	0.1149	0.1089	0.1078	0.1535	0.1642	0.1645	0.1775	0.1772
ATH	0.2582	0.1963	0.1817	0.1808	0.2378	0.1554	0.1528	0.1509	0.1912	0.1657	0.1860
ATL	0.4388	0.4048	0.4413	0.4172	0.4194	0.3850	0.3886	0.3690	0.3982	0.3762	0.3740
AUH	0.0773	0.0673	0.0719	0.0965	0.0945	0.0948	0.1151	0.1259	0.1443	0.1412	0.1385
AUS								0.0360	0.0362	0.0564	0.0532
BCN	0.1254	0.1504	0.2054	0.2591	0.2749	0.2787	0.2294	0.2487	0.2414	0.2517	0.3314
BDL	0.0261	0.0210									0.0239
BEG										0.0365	0.0351
BFS	0.1115	0.1299	0.0300	0.0254	0.0279	0.0225	0.0234	0.0217	0.0277	0.0257	0.0152
BGO								0.0395	0.0380	0.0365	0.0034
BHX	0.1037	0.0812	0.0751	0.0600	0.0607	0.0263	0.0564	0.0241	0.0610	0.0898	0.0537
BJL											
BLQ	0.0420	0.0388									
BOD	0.0202	0.0175	0.0178	0.0173	0.0194	0.0182	0.0184	0.0191	0.0179	0.0178	0.0184
BOM	0.0420	0.1019	0.0871	0.0644	0.0472	0.0225	0.0468	0.0435	0.0460	0.0407	0.0733
BOS	0.4500	0.3224	0.3353	0.3250	0.3768	0.3665	0.3722	0.3690	0.3751	0.4375	0.4786
BRS	0.0349	0.0243	0.0287	0.0276							
BRU	0.2270	0.2863	0.3053	0.3346	0.3312	0.3468	0.2910	0.3004	0.2888	0.2433	0.2389
BSL		0.0175	0.0178	0.0173	0.0194	0.0182	0.0184	0.0191	0.0179	0.0178	0.0184
BUD	0.1193	0.1061	0.0422	0.0390	0.0793				0.0462	0.0600	0.0286
BUH	0.0420	0.0388	0.0422								
BWI	0.0446	0.0389	0.0406	0.0399	0.0374	0.0661	0.0669	0.0623	0.0690	0.0688	0.0690
CAI	0.0622	0.0951	0.1022	0.0780	0.0397	0.0405	0.0713	0.0689	0.0663	0.0665	0.0638
CAS	0.0622	0.0563	0.0600	0.0563	0.0590	0.0588	0.0598	0.0586	0.0559	0.0721	0.0882
CDG	0.7942	0.7045	0.6788	0.6655	0.7867	0.7528	0.7898	0.7743	0.7712	0.7739	0.8173
CGN	0.0282	0.0243								0.0158	0.0306
CLE	0.0224	0.0437	0.0406								
CLT	0.0735	0.0579	0.0802	0.0955	0.1269	0.1285	0.1626	0.1960	0.1606	0.1526	0.1516
CPH	0.1288	0.1124	0.1199	0.1828	0.1772	0.1588	0.1520	0.2034	0.2046	0.2351	0.2471
CPT											
CVG	0.1346	0.1127	0.0896	0.0268	0.0307	0.0301	0.0322	0.0300	0.0287	0.0277	0.0282
CWL		0.0285				0.0037					
DEL	0.0590	0.0881	0.0928	0.0895	0.1402	0.0225	0.0887	0.0829	0.0830	0.1200	0.1216
DEN	0.0915	0.1197	0.1116	0.1089	0.0635	0.0730	0.0742	0.0705	0.0690	0.0812	0.0817
DFW	0.1603	0.1845	0.2079	0.2027	0.1950	0.2065	0.2116	0.2037	0.2039	0.1722	0.1968
DKR	0.0790	0.1102	0.1218	0.0964	0.0585	0.0595	0.0615	0.0584	0.0564	0.0539	0.0515
DME	0.0555	0.0799	0.1003	0.0607	0.1160	0.1308	0.0569	0.0093	0.0088	0.0079	
DOH		0.0162	0.0706	0.0673	0.0875	0.0880	0.1136	0.1451	0.1418	0.1797	0.1589
DSA	0.0048										

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
DTW	0.2466	0.2233	0.1780	0.1709	0.1644	0.2013	0.2046	0.1898	0.2179	0.2191	0.1805
DUB	0.2799	0.3354	0.3331	0.2837	0.2874	0.3038	0.3494	0.3806	0.4795	0.5012	0.5327
DUS	0.2237	0.1877	0.1813	0.1896	0.1870	0.1929	0.1903	0.1505	0.1524	0.1506	0.1522
DXB	0.0604	0.0926	0.1449	0.1424	0.1428	0.1602	0.1834	0.1905	0.2074	0.1767	0.1784
EDI	0.0868	0.0939	0.0982	0.0254	0.0236	0.0263	0.0564	0.0894	0.1136	0.1468	0.1476
EMA	0.0066	0.0032	0.0024	0.0021		0.0037					
EWR	0.6696	0.6032	0.6243	0.6219	0.5926	0.5483	0.5619	0.5465	0.6064	0.5555	0.6383
EXT	0.0048										
FCO	0.4627	0.4851	0.4774	0.4950	0.5052	0.5327	0.4840	0.4664	0.4317	0.4390	0.4169
FLL				0.0292	0.0261	0.0288	0.0278	0.0526	0.0495	0.0308	0.0765
FMY											0.0055
FNA											
FRA	0.8398	0.7353	0.7336	0.7251	0.6630	0.7151	0.6745	0.6701	0.6476	0.6213	0.6551
GLA	0.2902	0.1825	0.1222	0.1640	0.1114	0.1044	0.0909	0.0881	0.0917	0.1454	0.1617
GVA	0.0984	0.0874	0.1053	0.1001	0.1015	0.1002	0.0799	0.0993	0.0973	0.0717	0.0922
GYD									0.0380	0.0365	0.0351
HAJ											
HAM	0.1055	0.0528	0.0560	0.0578	0.0564	0.0225	0.0234	0.0217	0.0230	0.0204	0.0223
HEL	0.0773	0.0801	0.0857	0.0714	0.0945	0.0948	0.0951	0.0905	0.0883	0.0699	0.0678
IAD	0.4531	0.4126	0.4567	0.4571	0.4803	0.4707	0.4865	0.4831	0.4912	0.4826	0.4679
IAH	0.1966	0.2277	0.2276	0.2449	0.2442	0.2536	0.2383	0.2340	0.2284	0.2141	0.2164
ISB	0.0353	0.0285	0.0297	0.0324	0.0328	0.0320	0.0298	0.0294	0.0283	0.0300	0.0286
IST	0.1147	0.1026	0.1087	0.1355	0.1876	0.2113	0.2552	0.2567	0.2435	0.2327	0.2005
JED	0.0606	0.0550	0.0611	0.0574	0.0585	0.0595	0.0615	0.1043	0.1021	0.1017	0.0988
JFK	1.0000	0.9682	1.0000	0.9536	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
JNB			0.0186	0.0170	0.0563	0.0561	0.0574	0.0539	0.0528	0.0501	0.0482
KBP	0.1193	0.1061	0.1140	0.1104	0.0724	0.0725		0.0395	0.0380	0.0365	0.0351
KEF	0.0856	0.0929	0.0940	0.1487	0.2605	0.1641	0.1692	0.1996	0.2100	0.3353	0.4514
KHI	0.0353	0.0285	0.0297	0.0324	0.0328	0.0320	0.0298	0.0294	0.0283	0.0300	
KRK	0.1010	0.0881	0.0507	0.0505							0.0192
KWI	0.0606	0.0550	0.0611	0.0574	0.0585	0.0595	0.0615	0.0584	0.0784		
LAD											0.0077
LAS	0.1188	0.0588	0.0386	0.1013	0.1258	0.1420	0.1407	0.1426	0.1133	0.1284	0.1242
LAX	0.4306	0.4767	0.3706	0.3803	0.3953	0.4090	0.4238	0.4260	0.4690	0.4964	0.5414
LED											
LFW										0.0204	0.0223
LGW	0.5253	0.3890	0.1797	0.1185	0.2124	0.1435	0.1039	0.1607	0.1495	0.2877	0.3068
LHE	0.0353	0.0285	0.0297	0.0324	0.0328	0.0320	0.0298	0.0294	0.0283	0.0300	0.0286
LHR	0.9966	1.0000	0.9863	1.0000	0.9609	0.9339	0.9593	0.9261	0.9729	0.9390	0.8647
LIS	0.1268	0.1045	0.1393	0.1105	0.2086	0.2011	0.1691	0.2016	0.1918	0.2602	0.3229
LOS	0.0420	0.0163	0.0186	0.0560	0.0563	0.0663	0.0673	0.0632	0.0616	0.0501	0.0131
LPA	0.0185										
LPL	0.0468										
LTN	0.0282								0.0230	0.0204	
LUX											
LYS	0.0202	0.0175	0.0600	0.0173	0.0194	0.0182	0.0184	0.0191	0.0179	0.0356	0.0367
MAD	0.3261	0.2564	0.3560	0.4277	0.4266	0.4083	0.3980	0.4168	0.4079	0.3631	0.3749
MAN	0.5807	0.3460	0.2305	0.2599	0.2794	0.2482	0.2351	0.2802	0.3549	0.3807	0.3999
MCO	0.1415	0.0957	0.0761	0.0829	0.1171	0.0991	0.0663	0.0898	0.1101	0.1338	0.1548

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MEM	0.0261	0.0210	0.0229	0.0207	0.0206	0.0210					
MIA	0.3349	0.3029	0.3036	0.3216	0.3889	0.3178	0.3484	0.3710	0.3890	0.3577	0.3813
MLA											
MRS	0.0202	0.0175	0.0178	0.0191	0.0538	0.0199	0.0617	0.0880	0.0179	0.0178	0.0367
MSP	0.0526	0.0917	0.0959	0.0937	0.0991	0.0954	0.1324	0.1498	0.1458	0.1716	0.1764
MSY											0.0532
MUC	0.4028	0.3250	0.3237	0.3575	0.3413	0.3283	0.3207	0.3445	0.3380	0.3440	0.3636
MXP	0.2736	0.2095	0.1882	0.1722	0.1743	0.1724	0.1637	0.2380	0.2325	0.2228	0.2178
NAP	0.0420	0.0388	0.0422	0.0390	0.0397	0.0405	0.0414	0.0395	0.0380	0.0365	0.0351
NCE	0.0622	0.0563	0.0600	0.0563	0.0590	0.0588	0.0598	0.0778	0.0738	0.0721	0.0718
NCL	0.0401	0.0285	0.0321	0.0345	0.0371	0.0395	0.0032	0.0024	0.0253	0.0233	0.0027
NOC	0.0605										
NTE	0.0202	0.0175	0.0197	0.0191	0.0194	0.0182	0.0184	0.0191	0.0179	0.0178	0.0184
NYO											
OAK						0.0210	0.0217	0.0134	0.0109	0.0242	0.0671
OPO	0.0635	0.0528	0.0560	0.0578	0.1413	0.1185	0.0831	0.0997	0.0975	0.0982	0.0980
ORD	0.7618	0.6443	0.5948	0.6353	0.5687	0.5618	0.5852	0.5565	0.5909	0.5736	0.5520
ORK											0.0018
ORN											0.0184
ORY	0.0484	0.0822	0.0882	0.0758	0.0769	0.0855	0.0833	0.0804	0.0789	0.1112	0.1109
OSL	0.0282	0.0243	0.0431	0.0396	0.0472	0.0450	0.0883	0.1071	0.1093	0.1190	0.1178
PDL	0.0747	0.0593	0.0614	0.0628	0.0668	0.0649	0.0634	0.0629	0.0602	0.0650	0.0654
PDX	0.0344	0.0500	0.0533	0.0207	0.0206	0.0210	0.0217	0.0193	0.0521	0.0543	0.0866
PHL	0.3995	0.3707	0.4003	0.3526	0.3573	0.3606	0.3633	0.3646	0.3902	0.3677	0.3540
PHX	0.0405	0.0389	0.0406	0.0399	0.0374	0.0373	0.0391	0.0360	0.0362	0.0337	0.0301
PIK											
PIT			0.0281	0.0268	0.0307	0.0301	0.0322	0.0300	0.0287	0.0277	0.0671
PMO	0.0420	0.0388	0.0422	0.0390	0.0397	0.0405	0.0414	0.0395	0.0380	0.0365	0.0351
PRG	0.1160	0.0836	0.1326	0.0560	0.0563	0.0405	0.0414	0.0586	0.0559	0.1143	0.0821
PSA	0.0420	0.0388	0.0422	0.0390	0.0397	0.0405	0.0414	0.0395	0.0380	0.0365	
PSR				0.0324	0.0328						
PVD	0.0035	0.0027							0.0250	0.0259	0.0366
RAI	0.0185	0.0128		0.0131		0.0147	0.0152	0.0143	0.0013	0.0013	0.0018
RDU	0.0224	0.0389	0.0406	0.0399	0.0374	0.0373	0.0391	0.0360	0.0362	0.0614	0.0582
RIX	0.0420	0.0388	0.0422	0.0390	0.0397	0.0405	0.0414	0.0395	0.0380	0.0365	0.0351
RSW	0.0261	0.0206	0.0078	0.0078	0.0076	0.0080	0.0080	0.0061	0.0059	0.0057	
RUH	0.0606	0.0550	0.0611	0.0574	0.0585	0.0595	0.0615	0.0584	0.0564	0.0539	0.0515
RZE	0.0702	0.0631	0.0685	0.0644							
SAN		0.0160			0.0374	0.0373	0.0391	0.0360	0.0362	0.0337	0.0649
SEA	0.1047	0.1603	0.1273	0.1229	0.1514	0.1597	0.1636	0.1897	0.1858	0.1788	0.1886
SFB	0.1462	0.0667	0.0384	0.0366	0.0932	0.0722	0.0611	0.0470	0.0488	0.0688	0.0653
SFO	0.2655	0.2496	0.2673	0.2680	0.2574	0.2936	0.3336	0.3582	0.3377	0.3517	0.3891
SID											
SJC										0.0564	0.0532
SLC		0.0277	0.0281	0.0268	0.0307	0.0301	0.0322	0.0300	0.0481	0.1000	0.0935
SNN	0.3027	0.1742	0.1953	0.1879	0.1900	0.1907	0.2314	0.2199	0.1875	0.2159	0.2142
SOF											
STL			0.0186								
STN	0.1078			0.0005					0.0047	0.0053	

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
STR	0.0185	0.0163		0.0170	0.0402	0.0381	0.0394	0.0362	0.0149	0.0136	0.0131
SUF				0.0324	0.0328	0.0320	0.0298	0.0294	0.0283	0.0300	0.0286
SUJ											
SVG									0.0088		0.1186
SVO	0.1737	0.1569	0.1369	0.1284	0.1300	0.1163	0.1640	0.1582	0.1262	0.1211	0.1186
SWF											0.0331
SXF											
TER	0.0587	0.0436	0.0448	0.0460	0.0808	0.0472	0.0450	0.0448	0.0423	0.0472	0.0480
TFN			0.0125	0.0128							
TLS	0.0202	0.0175	0.0178	0.0173	0.0194	0.0182	0.0184	0.0191	0.0179	0.0178	0.0184
TLV	0.2185	0.2295	0.2468	0.2398	0.2379	0.2208	0.2214	0.2121	0.2245	0.2200	0.2577
TPA	0.0224	0.0160	0.0082	0.0054	0.0090	0.0213	0.0201	0.0209	0.0194	0.0462	0.0460
TSR											
TUN								0.0191		0.0178	0.0184
TXL	0.0702	0.0631	0.0685	0.0644	0.1180	0.0921	0.1199	0.0972	0.0830	0.0774	0.1858
VCE	0.0770	0.0698	0.1250	0.1198	0.1224	0.1207	0.1503	0.1462	0.1828	0.1792	0.1768
VIE	0.1653	0.1423	0.1383	0.1395	0.1434	0.0915	0.1151	0.1311	0.1297	0.1377	0.1536
VKO							0.0556	0.0999	0.0981		
VLC			0.0422	0.0390	0.0397	0.0405					
WAW	0.1363	0.1166	0.1225	0.1219	0.1181	0.1173	0.0951	0.0905	0.0883	0.1170	0.1526
YDF	0.0224										
YEG	0.1458	0.0839	0.0487	0.0745		0.0438	0.0440	0.0510	0.0556	0.0425	0.0447
YFC		0.0160			0.0464						
YHM	0.0975	0.0464	0.0180	0.0022	0.0035	0.0023					
YHZ	0.2082	0.1405	0.0891	0.0809	0.0919	0.0795	0.0792	0.0774	0.0908	0.1048	0.1062
YMX											
YOW	0.1179	0.1116	0.0792	0.0745	0.0725	0.0726	0.0718	0.0692	0.0608	0.0564	0.0532
YQB	0.0326	0.0313	0.0335	0.0327	0.0332	0.0314	0.0351	0.0300	0.0287	0.0277	
YQM											
YQX				0.0005	0.0090				0.0062		
YUL	0.4801	0.4318	0.4168	0.4181	0.4836	0.4411	0.4363	0.4764	0.4635	0.4766	0.5107
YVR	0.5154	0.3728	0.2865	0.2835	0.2816	0.3148	0.3236	0.3132	0.2753	0.3191	0.3333
YWG	0.0224	0.0160		0.0064	0.0104					0.0108	0.0112
YXY	0.0344	0.0290	0.0305	0.0292	0.0409	0.0288	0.0278	0.0263	0.0245	0.0227	0.0231
YYC	0.4373	0.3249	0.3030	0.2872	0.3046	0.2695	0.2520	0.2377	0.2086	0.2272	0.1757
YYT	0.0629			0.0399	0.0374	0.0373	0.0391	0.0509	0.0541	0.0625	0.0597
YYZ	0.8516	0.7091	0.7103	0.8008	0.8268	0.7879	0.7167	0.7446	0.7463	0.8252	0.8172
ZAG									0.0283	0.0300	0.0286
ZRH	0.3366	0.2871	0.3467	0.3554	0.3748	0.3683	0.3685	0.3581	0.3505	0.3485	0.3347
MLC	22.5988	19.9436	19.5617	19.5138	20.4421	19.5362	19.7519	20.3590	20.7378	21.5237	22.4081

Appendix C
Conditional Centrality Values for January, 1997-2006

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
ACC	0.0040	0.0041	0.0036	0.0032	0.0034	0.0037	0.0032	0.0035		0.0058
AGP				0.0032	0.0001	0.0034	0.0032	0.0032	0.0032	
ALG										
AMM				0.0052			0.0032	0.0025	0.0055	0.0049
AMS	0.0447	0.0452	0.0396	0.0313	0.0315	0.0384	0.0408	0.0384	0.0335	0.0287
ARN	0.0031	0.0034	0.0092	0.0102	0.0090	0.0047	0.0047	0.0061	0.0062	0.0076
ATH	0.0099	0.0179	0.0090	0.0081	0.0083	0.0078	0.0074	0.0074	0.0074	0.0068
ATL	0.0183	0.0173	0.0199	0.0213	0.0207	0.0205	0.0209	0.0213	0.0228	0.0233
AUH										0.0029
AUS										
BCN	0.0040	0.0041	0.0036	0.0063	0.0032					0.0048
BDL										
BEG								0.0032		
BFS										0.0034
BGR										
BHX	0.0059	0.0074	0.0036	0.0039	0.0039	0.0024	0.0038	0.0061	0.0019	0.0033
BJL						0.0003	0.0034	0.0003		0.0002
BOM							0.0032			0.0029
BOS	0.0212	0.0169	0.0180	0.0219	0.0225	0.0285	0.0208	0.0207	0.0194	0.0165
BRS										0.0019
BRU	0.0231	0.0253	0.0243	0.0250	0.0231	0.0153	0.0137	0.0137	0.0166	0.0135
BSL			0.0016	0.0019						
BUD	0.0040	0.0041	0.0036	0.0043	0.0044	0.0049	0.0046	0.0046	0.0046	0.0073
BUH		0.0041		0.0040	0.0032	0.0034	0.0032			
BWI	0.0012	0.0012	0.0011	0.0011	0.0022	0.0042	0.0038	0.0043	0.0035	0.0027
CAI	0.0080	0.0081	0.0073	0.0063	0.0065	0.0034	0.0032	0.0032	0.0032	0.0029
CAS	0.0040	0.0041	0.0036	0.0032	0.0032	0.0044	0.0042	0.0042	0.0043	0.0039
CDG	0.0316	0.0371	0.0413	0.0451	0.0447	0.0479	0.0482	0.0491	0.0465	0.0431
CGN	0.0000	0.0000								0.0019
CLE				0.0009	0.0010		0.0008			
CLT	0.0008	0.0009	0.0008	0.0018	0.0061	0.0009	0.0031	0.0033	0.0043	0.0038
CPH	0.0073	0.0077	0.0039	0.0052	0.0053	0.0067	0.0065	0.0065	0.0079	0.0084
CPT	0.0011	0.0012	0.0011	0.0010	0.0001					
CVG	0.0060	0.0069	0.0067	0.0070	0.0051	0.0058	0.0080	0.0084	0.0075	0.0051
DEL								0.0014	0.0015	0.0039
DEN	0.0021	0.0027	0.0008	0.0009	0.0010	0.0033	0.0058	0.0060	0.0059	0.0047
DFW	0.0080	0.0068	0.0060	0.0078	0.0102	0.0104	0.0098	0.0102	0.0102	0.0091
DHA	0.0040									
DKR	0.0040	0.0041	0.0036	0.0032	0.0032	0.0034	0.0032	0.0032	0.0032	0.0053
DME										0.0014
DOH										
DTW	0.0093	0.0121	0.0113	0.0125	0.0123	0.0115	0.0155	0.0138	0.0133	0.0134
DUB	0.0068	0.0069	0.0065	0.0112	0.0117	0.0085	0.0081	0.0094	0.0103	0.0121
DUS	0.0093	0.0107	0.0087	0.0073	0.0071	0.0037	0.0027	0.0053	0.0053	0.0091
DXB			0.0016	0.0019	0.0019		0.0024	0.0022	0.0032	0.0029
EDI									0.0019	0.0031
EWR	0.0242	0.0295	0.0349	0.0409	0.0416	0.0452	0.0465	0.0417	0.0363	0.0371

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
FCO	0.0188	0.0187	0.0198	0.0146	0.0176	0.0176	0.0171	0.0153	0.0140	0.0143
FLL	0.0039	0.0034	0.0019	0.0020	0.0020	0.0024				
FMY	0.0032	0.0005	0.0004							
FRA	0.0581	0.0460	0.0426	0.0434	0.0426	0.0453	0.0442	0.0479	0.0486	0.0427
GLA	0.0072	0.0010	0.0027	0.0041	0.0044	0.0024	0.0024	0.0022	0.0040	0.0039
GVA	0.0053	0.0041	0.0073	0.0032	0.0032	0.0034	0.0032	0.0054	0.0075	0.0048
GYD										
HAM			0.0009	0.0010						0.0048
HEL	0.0051	0.0053	0.0036	0.0032	0.0032	0.0034	0.0032	0.0046	0.0044	0.0029
IAD	0.0278	0.0289	0.0276	0.0254	0.0259	0.0302	0.0284	0.0279	0.0310	0.0249
IAH	0.0062	0.0074	0.0092	0.0093	0.0096	0.0112	0.0130	0.0132	0.0137	0.0110
ISB										0.0014
IST	0.0040	0.0081	0.0092	0.0094	0.0094	0.0091	0.0087	0.0088	0.0087	0.0078
JED	0.0040		0.0036	0.0032	0.0032	0.0034	0.0032	0.0032	0.0032	0.0029
JFK	0.0842	0.0854	0.0793	0.0692	0.0696	0.0640	0.0613	0.0603	0.0606	0.0580
JNB										
KBP	0.0040	0.0041		0.0032	0.0044	0.0034	0.0032	0.0032	0.0046	0.0073
KEF	0.0060	0.0056	0.0051	0.0048	0.0049	0.0022	0.0018	0.0020	0.0018	0.0039
KHI										0.0014
KRK				0.0070	0.0071	0.0024	0.0023	0.0025	0.0024	0.0020
KWI						0.0034	0.0032	0.0032	0.0032	0.0041
LAS	0.0000	0.0000		0.0020	0.0010	0.0009	0.0008	0.0007	0.0021	0.0067
LAX	0.0308	0.0282	0.0273	0.0273	0.0275	0.0314	0.0289	0.0298	0.0314	0.0266
LED		0.0041	0.0036	0.0032						
LFW										
LGW	0.0150	0.0163	0.0160	0.0174	0.0203	0.0152	0.0136	0.0125	0.0140	0.0170
LHE										0.0014
LHR	0.0608	0.0627	0.0658	0.0621	0.0649	0.0732	0.0686	0.0662	0.0651	0.0537
LIS	0.0104	0.0110	0.0105	0.0122	0.0115	0.0081	0.0048	0.0059	0.0053	0.0038
LOS						0.0034	0.0032			0.0029
LTN										
LYS					0.0032					
MAD	0.0188	0.0250	0.0254	0.0183	0.0188	0.0164	0.0170	0.0161	0.0153	0.0166
MAN	0.0105	0.0124	0.0129	0.0126	0.0145	0.0206	0.0170	0.0192	0.0235	0.0233
MCO	0.0111	0.0060	0.0053	0.0056	0.0042	0.0040	0.0040	0.0075	0.0076	0.0065
MEM	0.0021	0.0021	0.0018	0.0014	0.0015	0.0020	0.0021	0.0020	0.0018	0.0014
MIA	0.0229	0.0251	0.0247	0.0224	0.0217	0.0241	0.0231	0.0269	0.0239	0.0204
MLA	0.0040									
MSP	0.0029	0.0030	0.0029	0.0040	0.0028	0.0031	0.0030	0.0029	0.0027	0.0023
MUC	0.0092	0.0100	0.0111	0.0116	0.0132	0.0061	0.0127	0.0171	0.0172	0.0170
MXP	0.0149	0.0154	0.0209	0.0217	0.0241	0.0189	0.0197	0.0184	0.0191	0.0198
NCE	0.0040	0.0041	0.0036	0.0032	0.0032	0.0034	0.0032	0.0032	0.0032	0.0029
OAK		0.0012								
OPO				0.0011	0.0012				0.0015	0.0033
ORD	0.0412	0.0408	0.0431	0.0442	0.0425	0.0455	0.0455	0.0473	0.0459	0.0407
ORY	0.0194	0.0138	0.0091	0.0012	0.0012		0.0015			0.0019
OSL	0.0012	0.0014	0.0016	0.0019	0.0019			0.0022	0.0019	0.0019
PDL	0.0010	0.0008	0.0009	0.0010				0.0014	0.0015	0.0023
PDX								0.0025	0.0025	0.0021
PHL	0.0093	0.0095	0.0121	0.0117	0.0151	0.0205	0.0192	0.0200	0.0194	0.0179

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
PHX	0.0013	0.0014	0.0008	0.0009	0.0010	0.0033	0.0058	0.0060	0.0033	0.0026
PIK	0.0006									
PIT	0.0036	0.0022	0.0047	0.0040	0.0051	0.0033	0.0031	0.0025		
PRG	0.0021	0.0023	0.0025	0.0027	0.0028	0.0044	0.0042	0.0064	0.0062	0.0053
PSA										
PVD										
RAI										0.0008
RDU	0.0008	0.0009	0.0008	0.0009	0.0010	0.0009	0.0008	0.0007	0.0008	0.0009
RIX									0.0032	0.0029
RSW				0.0004	0.0004	0.0002	0.0002	0.0028	0.0038	0.0026
RUH			0.0036	0.0032	0.0032					
SAN						0.0009	0.0035			
SAT										
SEA	0.0041	0.0040	0.0057	0.0050	0.0052	0.0067	0.0065	0.0063	0.0087	0.0045
SFB								0.0018	0.0021	0.0018
SFO	0.0168	0.0173	0.0174	0.0183	0.0211	0.0230	0.0228	0.0234	0.0225	0.0165
SID	0.0040	0.0041	0.0036	0.0032	0.0042	0.0045	0.0075	0.0022	0.0022	
SJC										
SLC										
SNN	0.0183	0.0194	0.0119	0.0164	0.0144	0.0141	0.0101	0.0079	0.0073	0.0117
SOF	0.0040	0.0041	0.0036							
STL	0.0008	0.0027	0.0027	0.0009	0.0031	0.0009	0.0008			
STN	0.0012									0.0074
STR		0.0009	0.0046	0.0042	0.0010	0.0011	0.0011	0.0012	0.0012	0.0012
SUJ			0.0036	0.0008						
SVG										
SVO	0.0179	0.0126	0.0151	0.0120	0.0100	0.0102	0.0096	0.0097	0.0114	0.0097
TER				0.0010						
TLV	0.0133	0.0145	0.0164	0.0184	0.0115	0.0111	0.0108	0.0105	0.0099	0.0130
TPA	0.0057	0.0052	0.0046	0.0029	0.0030	0.0009	0.0031	0.0007	0.0008	0.0009
TSR	0.0049	0.0041	0.0036	0.0032	0.0041	0.0034	0.0032			
TUN										
TXL	0.0040	0.0041								0.0048
VCE					0.0032	0.0034	0.0032	0.0032	0.0032	0.0041
VIE	0.0049	0.0061	0.0046	0.0042	0.0063	0.0050	0.0070	0.0061	0.0062	0.0056
VKO										
WAW	0.0071	0.0115	0.0109	0.0070	0.0071	0.0096	0.0093	0.0093	0.0089	0.0082
YDF										
YEG	0.0028									0.0026
YHZ	0.0003	0.0003	0.0003	0.0004	0.0003					0.0026
YMX	0.0180	0.0030	0.0031	0.0038	0.0071	0.0034	0.0025	0.0026		
YOW			0.0059	0.0056	0.0029	0.0038	0.0035	0.0034	0.0033	0.0026
YQB		0.0018		0.0020			0.0025	0.0026	0.0024	0.0021
YQX				0.0007						
YUL		0.0168	0.0184	0.0175	0.0176	0.0191	0.0187	0.0186	0.0210	0.0200
YVR	0.0105	0.0102	0.0097	0.0090	0.0093	0.0119	0.0114	0.0114	0.0120	0.0108
YYC	0.0084	0.0081	0.0079	0.0084	0.0059	0.0061	0.0058	0.0060	0.0062	0.0087
YYT	0.0028	0.0029	0.0030	0.0028	0.0029	0.0038	0.0035	0.0034	0.0033	
YYZ	0.0281	0.0214	0.0232	0.0240	0.0257	0.0281	0.0268	0.0268	0.0274	0.0284
ZRH	0.0202	0.0173	0.0201	0.0204	0.0222	0.0239	0.0213	0.0200	0.0208	0.0199

Appendix C
Conditional Centrality Values for January, 2007-2017

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
ACC	0.0056	0.0056	0.0028	0.0027	0.0054	0.0052	0.0028	0.0027	0.0026	0.0037	0.0034
AGP			0.0012								
ALG		0.0009	0.0007	0.0008	0.0009	0.0009	0.0010	0.0009	0.0009	0.0008	0.0008
AMM	0.0049	0.0056	0.0080	0.0080	0.0078	0.0045	0.0053	0.0052	0.0049	0.0046	0.0042
AMS	0.0285	0.0271	0.0355	0.0270	0.0283	0.0287	0.0288	0.0296	0.0275	0.0271	0.0282
ARN	0.0080	0.0072	0.0083	0.0056	0.0079	0.0051	0.0051	0.0079	0.0075	0.0058	0.0083
ATH	0.0066	0.0083	0.0062	0.0027	0.0045	0.0026					
ATL	0.0232	0.0225	0.0248	0.0263	0.0252	0.0241	0.0247	0.0236	0.0231	0.0224	0.0206
AUH	0.0028	0.0040	0.0040	0.0058	0.0055	0.0054	0.0057	0.0073	0.0096	0.0093	0.0088
AUS									0.0028	0.0027	0.0025
BCN	0.0048	0.0057	0.0060	0.0086	0.0100	0.0108	0.0085	0.0081	0.0080	0.0075	0.0071
BDL		0.0013									0.0009
BEG											0.0022
BFS	0.0035	0.0035	0.0018	0.0019	0.0018	0.0018	0.0018	0.0018		0.0016	
BGR		0.0002	0.0002								
BHX	0.0034	0.0030	0.0018	0.0019	0.0018	0.0018	0.0018	0.0018	0.0017	0.0040	0.0016
BJL	0.0002										
BOM	0.0028	0.0073	0.0057	0.0046	0.0037	0.0037	0.0036	0.0035	0.0034	0.0032	0.0032
BOS	0.0162	0.0164	0.0167	0.0197	0.0184	0.0214	0.0227	0.0179	0.0184	0.0210	0.0215
BRS	0.0020	0.0018	0.0018	0.0019							
BRU	0.0134	0.0182	0.0183	0.0178	0.0206	0.0186	0.0168	0.0180	0.0165	0.0159	0.0102
BSL											
BUD	0.0070	0.0028	0.0028	0.0027							
BUH		0.0028									
BWI	0.0026	0.0024	0.0028	0.0030	0.0028	0.0029	0.0031	0.0029	0.0028	0.0032	0.0033
CAI	0.0028	0.0028	0.0055	0.0054	0.0054	0.0026	0.0028	0.0041	0.0039	0.0038	0.0036
CAS	0.0038	0.0037	0.0035	0.0035	0.0036	0.0035	0.0038	0.0036	0.0035	0.0033	0.0042
CDG	0.0469	0.0405	0.0346	0.0372	0.0363	0.0383	0.0377	0.0407	0.0393	0.0394	0.0404
CGN	0.0020	0.0018									0.0010
CLE											
CLT	0.0037	0.0036	0.0031	0.0034	0.0048	0.0050	0.0031	0.0057	0.0054	0.0053	0.0048
CPH	0.0086	0.0081	0.0083	0.0083	0.0079	0.0079	0.0062	0.0074	0.0107	0.0110	0.0123
CPT											
CVG	0.0051	0.0047	0.0043	0.0018	0.0017	0.0018	0.0019	0.0020	0.0018	0.0018	0.0018
DEL	0.0041	0.0037	0.0063	0.0064	0.0088	0.0087	0.0061	0.0061	0.0057	0.0067	0.0073
DEN	0.0046	0.0051	0.0046	0.0052	0.0046	0.0047	0.0053	0.0051	0.0049	0.0076	0.0056
DFW	0.0090	0.0075	0.0125	0.0144	0.0134	0.0122	0.0137	0.0128	0.0134	0.0129	0.0118
DHA											
DKR	0.0052	0.0051	0.0080	0.0068	0.0068	0.0040	0.0043	0.0070	0.0065	0.0037	0.0034
DME	0.0014	0.0012	0.0024	0.0036	0.0072	0.0074	0.0075	0.0008	0.0008	0.0007	
DOH		0.0012	0.0041	0.0049	0.0049	0.0057	0.0077	0.0092	0.0095	0.0104	0.0115
DTW	0.0134	0.0094	0.0135	0.0105	0.0095	0.0100	0.0122	0.0119	0.0111	0.0136	0.0127
DUB	0.0121	0.0175	0.0160	0.0144	0.0122	0.0119	0.0140	0.0161	0.0138	0.0175	0.0210
DUS	0.0091	0.0087	0.0065	0.0069	0.0068	0.0083	0.0110	0.0099	0.0080	0.0061	0.0072
DXB	0.0028	0.0056	0.0091	0.0097	0.0082	0.0094	0.0127	0.0126	0.0141	0.0154	0.0114
EDI	0.0031	0.0018	0.0046	0.0019	0.0018	0.0018	0.0018	0.0018	0.0017	0.0016	0.0016
EWR	0.0401	0.0367	0.0380	0.0388	0.0373	0.0371	0.0347	0.0355	0.0353	0.0343	0.0360

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
FCO	0.0142	0.0223	0.0240	0.0221	0.0200	0.0147	0.0130	0.0125	0.0091	0.0078	0.0071
FLL		0.0011				0.0018		0.0011	0.0016	0.0015	0.0042
FMY											
FRA	0.0419	0.0404	0.0396	0.0445	0.0372	0.0374	0.0387	0.0375	0.0355	0.0362	0.0327
GLA	0.0039	0.0046	0.0031	0.0033	0.0031	0.0032	0.0031	0.0031	0.0030	0.0029	0.0030
GVA	0.0048	0.0063	0.0046	0.0069	0.0068	0.0067	0.0071	0.0070	0.0048	0.0062	0.0058
GYD									0.0026	0.0024	0.0022
HAM	0.0048	0.0046	0.0018	0.0019	0.0018	0.0018	0.0018	0.0018	0.0017		
HEL	0.0028	0.0028	0.0029	0.0029	0.0027	0.0026	0.0028	0.0027	0.0037	0.0035	0.0033
IAD	0.0246	0.0266	0.0290	0.0280	0.0297	0.0292	0.0306	0.0325	0.0271	0.0280	0.0267
IAH	0.0110	0.0104	0.0145	0.0177	0.0164	0.0173	0.0166	0.0162	0.0164	0.0161	0.0143
ISB	0.0014	0.0012	0.0012	0.0014	0.0012	0.0013	0.0013	0.0014	0.0013	0.0013	0.0014
IST	0.0077	0.0074	0.0073	0.0085	0.0096	0.0106	0.0104	0.0108	0.0118	0.0136	0.0140
JED	0.0028	0.0028	0.0041	0.0041	0.0041	0.0040	0.0043	0.0057	0.0066	0.0064	0.0062
JFK	0.0570	0.0579	0.0582	0.0541	0.0554	0.0527	0.0554	0.0550	0.0548	0.0521	0.0498
JNB				0.0013	0.0012	0.0037	0.0040	0.0011	0.0011	0.0034	0.0032
KBP	0.0070	0.0068	0.0067	0.0027	0.0039	0.0039	0.0028		0.0026	0.0024	
KEF	0.0037	0.0037	0.0036	0.0042	0.0059	0.0060	0.0048	0.0074	0.0070	0.0103	0.0176
KHI	0.0014	0.0012	0.0012	0.0014	0.0012	0.0013	0.0013	0.0014	0.0013	0.0013	0.0014
KRK	0.0021	0.0019	0.0017	0.0018							
KWI	0.0040	0.0040	0.0053	0.0041	0.0041	0.0040	0.0043	0.0027	0.0039	0.0037	
LAS	0.0044	0.0046	0.0030	0.0056	0.0049	0.0058	0.0063	0.0051	0.0059	0.0059	0.0064
LAX	0.0263	0.0271	0.0237	0.0257	0.0251	0.0264	0.0282	0.0283	0.0299	0.0291	0.0306
LED											
LFW											0.0016
LGW	0.0165	0.0177	0.0099	0.0071	0.0046	0.0081	0.0038	0.0034	0.0071	0.0070	0.0123
LHE	0.0014	0.0012	0.0012	0.0014	0.0012	0.0013	0.0013	0.0014	0.0013	0.0013	0.0014
LHR	0.0530	0.0523	0.0598	0.0619	0.0583	0.0612	0.0635	0.0601	0.0611	0.0597	0.0559
LIS	0.0040	0.0036	0.0048	0.0053	0.0049	0.0076	0.0060	0.0059	0.0058	0.0065	0.0088
LOS	0.0028	0.0039	0.0012	0.0013	0.0039	0.0046	0.0048	0.0046	0.0045	0.0042	0.0032
LTN		0.0018								0.0016	
LYS			0.0028								0.0008
MAD	0.0165	0.0150	0.0150	0.0176	0.0225	0.0186	0.0207	0.0161	0.0195	0.0158	0.0147
MAN	0.0230	0.0178	0.0141	0.0097	0.0131	0.0132	0.0147	0.0140	0.0103	0.0124	0.0100
MCO	0.0063	0.0086	0.0043	0.0055	0.0050	0.0058	0.0039	0.0037	0.0039	0.0058	0.0062
MEM	0.0014	0.0013	0.0016	0.0013	0.0014	0.0014					
MIA	0.0204	0.0184	0.0190	0.0194	0.0220	0.0253	0.0225	0.0207	0.0245	0.0224	0.0230
MLA											
MSP	0.0022	0.0022	0.0044	0.0044	0.0059	0.0062	0.0064	0.0063	0.0060	0.0063	0.0063
MUC	0.0169	0.0164	0.0155	0.0165	0.0208	0.0197	0.0191	0.0195	0.0196	0.0202	0.0187
MXP	0.0196	0.0158	0.0139	0.0114	0.0122	0.0119	0.0113	0.0135	0.0145	0.0123	0.0116
NCE	0.0028	0.0028	0.0028	0.0027	0.0027					0.0024	
OAK									0.0004	0.0003	0.0010
OPO	0.0034	0.0030	0.0018	0.0019	0.0031	0.0032	0.0045	0.0045	0.0043	0.0029	0.0044
ORD	0.0432	0.0403	0.0379	0.0363	0.0322	0.0306	0.0310	0.0334	0.0301	0.0290	0.0263
ORY	0.0020	0.0018	0.0046	0.0019	0.0043	0.0030	0.0018	0.0044	0.0043	0.0040	0.0061
OSL	0.0020	0.0018	0.0018	0.0019	0.0018	0.0037	0.0036	0.0063	0.0063	0.0057	0.0071
PDL	0.0022	0.0020	0.0020	0.0023	0.0021	0.0024	0.0025	0.0022	0.0022	0.0023	0.0023
PDX	0.0020	0.0019	0.0035	0.0013	0.0014	0.0014	0.0014	0.0014	0.0013	0.0012	0.0013
PHL	0.0178	0.0190	0.0194	0.0201	0.0210	0.0191	0.0202	0.0183	0.0175	0.0192	0.0157

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PHX	0.0025	0.0024	0.0028	0.0030	0.0028	0.0029	0.0031	0.0029	0.0028	0.0027	0.0025
PIK											
PIT				0.0018	0.0017						
PRG	0.0052	0.0048	0.0039	0.0027	0.0027	0.0026					
PSA	0.0000	0.0028	0.0028								
PVD										0.0000	
RAI	0.0008	0.0008	0.0008	0.0010	0.0009	0.0010	0.0011	0.0009	0.0009	0.0000	
RDU	0.0009	0.0009	0.0028	0.0030	0.0028	0.0029	0.0031	0.0029	0.0028	0.0027	0.0043
RIX	0.0028	0.0028	0.0028	0.0027	0.0027	0.0026	0.0028	0.0027	0.0026	0.0024	0.0022
RSW	0.0025	0.0004	0.0003	0.0004	0.0003	0.0004	0.0006	0.0005	0.0004	0.0003	0.0003
RUH		0.0040		0.0041	0.0041	0.0040	0.0043	0.0043	0.0039	0.0037	0.0048
SAN						0.0029	0.0031	0.0029	0.0028	0.0027	0.0025
SAT		0.0007									
SEA	0.0044	0.0060	0.0083	0.0086	0.0080	0.0083	0.0093	0.0091	0.0115	0.0114	0.0122
SFB	0.0018	0.0019	0.0002	0.0011	0.0012	0.0024	0.0025	0.0018	0.0017	0.0020	0.0017
SFO	0.0162	0.0159	0.0172	0.0179	0.0174	0.0180	0.0193	0.0207	0.0210	0.0213	0.0208
SID											
SJC											0.0039
SLC			0.0016	0.0018	0.0017	0.0018	0.0019	0.0020	0.0018	0.0018	0.0055
SNN	0.0116	0.0081	0.0081	0.0083	0.0072	0.0044	0.0046	0.0044	0.0051	0.0050	0.0071
SOF											
STL											
STN	0.0071	0.0098									
STR	0.0012	0.0011	0.0012	0.0013	0.0012	0.0030	0.0030	0.0029	0.0011	0.0010	0.0009
SUJ											
SVG									0.0008		
SVO	0.0094	0.0103	0.0103	0.0080	0.0092	0.0078	0.0096	0.0107	0.0090	0.0061	0.0058
TER											0.0010
TLV	0.0156	0.0119	0.0138	0.0155	0.0149	0.0136	0.0142	0.0139	0.0134	0.0130	0.0137
TPA	0.0009	0.0009	0.0005	0.0004	0.0003	0.0004	0.0013	0.0012	0.0014	0.0029	0.0029
TSR											
TUN									0.0009		0.0008
TXL	0.0048	0.0046	0.0046	0.0046	0.0056	0.0056	0.0057	0.0071	0.0068	0.0064	0.0061
VCE	0.0040	0.0028	0.0028	0.0027	0.0027	0.0026	0.0028				
VIE	0.0054	0.0082	0.0053	0.0055	0.0054	0.0053	0.0057	0.0073	0.0083	0.0090	0.0086
VKO								0.0064	0.0064		
WAW	0.0082	0.0076	0.0075	0.0078	0.0073	0.0072	0.0057	0.0057	0.0053	0.0051	0.0048
YDF		0.0009									
YEG	0.0025	0.0024	0.0028	0.0030	0.0028	0.0029	0.0031		0.0004	0.0018	0.0021
YHZ	0.0025	0.0024	0.0029	0.0032	0.0028	0.0029	0.0031	0.0029	0.0028	0.0027	0.0025
YMX											
YOW	0.0025	0.0024	0.0046	0.0052	0.0046	0.0047	0.0051	0.0047	0.0028	0.0027	0.0025
YQB	0.0023	0.0019	0.0016	0.0018	0.0017	0.0018					
YQX											
YUL	0.0202	0.0196	0.0156	0.0170	0.0180	0.0183	0.0195	0.0191	0.0187	0.0182	0.0180
YVR	0.0105	0.0094	0.0095	0.0099	0.0090	0.0095	0.0099	0.0093	0.0090	0.0105	0.0100
YYC	0.0085	0.0068	0.0104	0.0130	0.0115	0.0124	0.0099	0.0093	0.0090	0.0084	0.0082
YYT									0.0028	0.0027	0.0025
YYZ	0.0274	0.0247	0.0258	0.0275	0.0246	0.0268	0.0263	0.0275	0.0273	0.0287	0.0303
ZRH	0.0198	0.0192	0.0181	0.0191	0.0203	0.0203	0.0214	0.0207	0.0208	0.0197	0.0189

Appendix D
Conditional Centrality Values for July, 1997-2006

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
ABV										
ACC	0.0037	0.0032	0.0031	0.0025	0.0024	0.0029	0.0029	0.0026	0.0032	0.0022
AGP						0.0027	0.0027	0.0024		
ALG										
AMM			0.0005				0.0046	0.0044	0.0044	0.0041
AMS	0.0461	0.0407	0.0365	0.0344	0.0390	0.0451	0.0400	0.0389	0.0342	0.0318
ANC	0.0021	0.0020	0.0018	0.0021	0.0016	0.0009	0.0021	0.0021	0.0020	0.0017
ARN	0.0033	0.0067	0.0082	0.0082	0.0070	0.0038	0.0039	0.0036	0.0060	0.0070
ATH	0.0126	0.0114	0.0122	0.0072	0.0060	0.0062	0.0062	0.0057	0.0053	0.0089
ATL	0.0177	0.0196	0.0212	0.0192	0.0187	0.0190	0.0188	0.0188	0.0196	0.0205
AUH										
AUS										
BCN	0.0037	0.0065	0.0063	0.0059	0.0054	0.0037	0.0036	0.0034	0.0038	0.0052
BDL										
BEG						0.0018		0.0024		
BFS				0.0030	0.0033	0.0018	0.0018	0.0019	0.0037	0.0058
BGO										
BHX	0.0069	0.0067	0.0034	0.0075	0.0087	0.0075	0.0102	0.0037	0.0053	0.0049
BJL					0.0001	0.0029	0.0056	0.0002		0.0001
BLQ									0.0022	0.0022
BOD					0.0005					0.0009
BOM										
BOS	0.0176	0.0174	0.0208	0.0185	0.0190	0.0233	0.0196	0.0214	0.0188	0.0187
BRS									0.0014	0.0014
BRU	0.0247	0.0194	0.0241	0.0204	0.0178	0.0168	0.0117	0.0133	0.0125	0.0138
BSL			0.0018		0.0005					
BUD	0.0037	0.0032	0.0042	0.0040	0.0039	0.0045	0.0045	0.0043	0.0041	0.0061
BUH	0.0037		0.0040	0.0031	0.0029	0.0027	0.0027			
BWI	0.0011	0.0011	0.0010	0.0013	0.0023	0.0034	0.0040	0.0035	0.0023	0.0021
CAI	0.0073	0.0065	0.0063	0.0051	0.0069	0.0027	0.0035	0.0032	0.0032	0.0031
CAS	0.0037	0.0032	0.0040	0.0025	0.0029	0.0035	0.0035	0.0032	0.0032	0.0031
CDG	0.0339	0.0338	0.0342	0.0381	0.0390	0.0409	0.0425	0.0428	0.0389	0.0407
CGN	0.0005	0.0003								0.0014
CLE			0.0007	0.0010	0.0011	0.0008	0.0008	0.0007	0.0010	0.0009
CLT	0.0008	0.0016	0.0015	0.0053	0.0054	0.0028	0.0028	0.0036	0.0038	0.0035
CPH	0.0072	0.0038	0.0047	0.0047	0.0059	0.0054	0.0072	0.0050	0.0043	0.0061
CPT	0.0010	0.0010	0.0010	0.0001	0.0001					
CVG	0.0063	0.0061	0.0059	0.0066	0.0060	0.0075	0.0070	0.0096	0.0088	0.0084
CWL				0.0015	0.0016	0.0018		0.0019	0.0019	0.0018
DEL								0.0019	0.0019	0.0028
DEN							0.0048	0.0064	0.0041	0.0037
DFW	0.0062	0.0067	0.0061	0.0078	0.0102	0.0085	0.0087	0.0086	0.0084	0.0096
DKR	0.0037	0.0032	0.0031	0.0025	0.0023		0.0027	0.0024	0.0022	0.0031
DME									0.0010	0.0027
DOH										
DSA										

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
DTW	0.0113	0.0110	0.0118	0.0134	0.0127	0.0154	0.0117	0.0122	0.0131	0.0113
DUB	0.0071	0.0084	0.0160	0.0107	0.0102	0.0087	0.0096	0.0101	0.0095	0.0089
DUS	0.0143	0.0111	0.0077	0.0092	0.0093	0.0074	0.0084	0.0090	0.0104	0.0104
DXB		0.0017	0.0018	0.0015	0.0015	0.0019	0.0020	0.0041	0.0022	0.0022
EDI				0.0015	0.0016	0.0018	0.0018	0.0035	0.0033	0.0040
EMA										
EWR	0.0317	0.0379	0.0396	0.0367	0.0347	0.0400	0.0405	0.0348	0.0319	0.0311
EXT										
FCO	0.0211	0.0173	0.0205	0.0168	0.0142	0.0178	0.0195	0.0202	0.0204	0.0210
FLL	0.0028	0.0020	0.0018	0.0017	0.0016					
FMY	0.0027	0.0005	0.0004							
FNA							0.0027			
FRA	0.0437	0.0445	0.0398	0.0413	0.0363	0.0421	0.0421	0.0451	0.0444	0.0409
GLA	0.0066	0.0077	0.0045	0.0111	0.0104	0.0063	0.0089	0.0097	0.0144	0.0087
GVA	0.0037	0.0058	0.0031	0.0025	0.0023	0.0027	0.0047	0.0041	0.0053	0.0035
GYD										
HAJ							0.0000	0.0000	0.0000	0.0000
HAM				0.0010	0.0004				0.0033	0.0031
HEL	0.0055	0.0049	0.0049	0.0040	0.0039	0.0045	0.0045	0.0043	0.0041	0.0039
IAD	0.0233	0.0259	0.0253	0.0212	0.0223	0.0263	0.0249	0.0246	0.0237	0.0212
IAH	0.0068	0.0085	0.0080	0.0083	0.0087	0.0117	0.0116	0.0124	0.0116	0.0127
ISB										0.0018
IST	0.0091	0.0083	0.0089	0.0074	0.0070	0.0074	0.0073	0.0069	0.0060	0.0058
JED		0.0032	0.0031	0.0025	0.0025	0.0040	0.0027	0.0024	0.0022	0.0022
JFK	0.0796	0.0724	0.0700	0.0620	0.0536	0.0569	0.0540	0.0517	0.0481	0.0507
JNB								0.0024		
KBP	0.0037	0.0047	0.0042	0.0040	0.0062	0.0045	0.0045	0.0043	0.0041	0.0061
KEF	0.0053	0.0035	0.0043	0.0046	0.0038	0.0042	0.0040	0.0042	0.0043	0.0039
KHI										0.0018
KRK			0.0066	0.0056	0.0054	0.0066	0.0066	0.0061	0.0053	0.0050
KWI					0.0023	0.0027	0.0027	0.0024	0.0022	0.0022
LAD										
LAS	0.0021	0.0029	0.0023	0.0027	0.0027	0.0028	0.0028	0.0028	0.0054	0.0051
LAX	0.0282	0.0267	0.0278	0.0261	0.0229	0.0251	0.0251	0.0263	0.0224	0.0206
LED		0.0032	0.0039							
LFW										
LGW	0.0156	0.0167	0.0148	0.0237	0.0247	0.0141	0.0139	0.0140	0.0211	0.0208
LHE										0.0018
LHR	0.0611	0.0586	0.0592	0.0554	0.0500	0.0598	0.0574	0.0540	0.0477	0.0454
LIS	0.0103	0.0099	0.0108	0.0088	0.0052	0.0065	0.0040	0.0052	0.0070	0.0060
LOS					0.0046	0.0027				0.0022
LPA										
LPL										
LTN										
LUX			0.0018							
LYS										
MAD	0.0175	0.0202	0.0184	0.0148	0.0160	0.0148	0.0148	0.0123	0.0127	0.0133
MAN	0.0135	0.0125	0.0123	0.0199	0.0183	0.0188	0.0188	0.0257	0.0270	0.0245
MCO	0.0087	0.0067	0.0054	0.0055	0.0052	0.0049	0.0069	0.0073	0.0074	0.0064

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
MEM	0.0021	0.0018	0.0016	0.0014	0.0016	0.0021	0.0019	0.0018	0.0015	0.0014
MIA	0.0215	0.0215	0.0212	0.0183	0.0176	0.0201	0.0199	0.0213	0.0158	0.0165
MLA	0.0037									
MRS					0.0005	0.0003	0.0003	0.0003	0.0010	0.0009
MSP	0.0050	0.0045	0.0040	0.0041	0.0046	0.0031	0.0029	0.0046	0.0027	0.0025
MSY										
MUC	0.0100	0.0115	0.0121	0.0117	0.0129	0.0114	0.0153	0.0169	0.0196	0.0202
MXP	0.0176	0.0165	0.0205	0.0213	0.0182	0.0172	0.0132	0.0161	0.0142	0.0165
NAP									0.0022	0.0022
NCE	0.0037	0.0065	0.0031	0.0025	0.0028	0.0031	0.0030	0.0027	0.0032	0.0040
NCL				0.0015	0.0016	0.0018	0.0018	0.0019	0.0019	0.0018
NOC										
NTE					0.0005	0.0003	0.0003	0.0003	0.0010	0.0009
NYO									0.0008	
OAK	0.0032	0.0027	0.0027	0.0014		0.0001				0.0001
OPO				0.0015	0.0016			0.0019	0.0019	0.0031
ORD	0.0399	0.0407	0.0369	0.0383	0.0388	0.0416	0.0397	0.0430	0.0371	0.0341
ORK										
ORN										
ORY	0.0117	0.0115	0.0094	0.0010	0.0010	0.0012		0.0003	0.0010	0.0009
OSL	0.0015	0.0017	0.0018	0.0015	0.0015		0.0020	0.0017	0.0014	0.0014
PDL	0.0008	0.0008		0.0004				0.0026	0.0029	0.0035
PDX							0.0021	0.0021	0.0020	0.0017
PHL	0.0086	0.0127	0.0124	0.0124	0.0146	0.0166	0.0182	0.0184	0.0174	0.0175
PHX	0.0015	0.0013	0.0007	0.0010	0.0027	0.0028	0.0048	0.0025	0.0021	0.0019
PIK	0.0004		0.0041						0.0002	
PIT	0.0028	0.0028		0.0033	0.0043	0.0047	0.0028	0.0028		
PMO									0.0022	0.0022
PRG	0.0035	0.0035	0.0037	0.0036	0.0060	0.0053	0.0073	0.0067	0.0065	0.0062
PSA										
PSR										
PVD										0.0002
RAI										0.0008
RDU	0.0008	0.0008	0.0007	0.0010	0.0011	0.0008	0.0008	0.0007	0.0010	0.0009
RIX	0.0037	0.0032							0.0022	0.0022
RSW				0.0021	0.0004	0.0004	0.0025	0.0026	0.0033	0.0031
RUH			0.0043	0.0034	0.0032					
RZE										
SAN					0.0011	0.0008	0.0028			
SEA	0.0058	0.0052	0.0051	0.0043	0.0045	0.0057	0.0056	0.0050	0.0043	0.0035
SFB								0.0021	0.0029	0.0032
SFO	0.0160	0.0153	0.0176	0.0177	0.0176	0.0190	0.0193	0.0183	0.0163	0.0133
SID	0.0037	0.0032	0.0031	0.0033	0.0031	0.0064	0.0036	0.0019	0.0017	
SJC					0.0017					
SLC										
SNN	0.0203	0.0233	0.0246	0.0199	0.0196	0.0157	0.0113	0.0128	0.0089	0.0125
SOF	0.0037	0.0032								
STL	0.0024	0.0023	0.0023	0.0026	0.0028	0.0008	0.0008			
STN	0.0015	0.0032	0.0041	0.0022	0.0015				0.0062	0.0052

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
STR	0.0008	0.0041	0.0040	0.0023	0.0008	0.0009	0.0010	0.0009	0.0009	0.0009
SUF										
SUJ				0.0025			0.0098			
SVG										
SVO	0.0122	0.0135	0.0132	0.0108	0.0105	0.0100		0.0094	0.0094	0.0088
SWF										
SXF					0.0033	0.0018				
TER			0.0019	0.0008				0.0019	0.0019	0.0026
TFN										
TLS					0.0005	0.0003	0.0003	0.0003	0.0010	0.0009
TLV	0.0130	0.0158	0.0166	0.0132	0.0108	0.0101	0.0102	0.0095	0.0089	0.0100
TPA	0.0050	0.0046	0.0025	0.0027	0.0027	0.0028	0.0008	0.0007	0.0010	0.0009
TSR	0.0056	0.0032	0.0031	0.0025	0.0029	0.0027	0.0027			
TUN										
TXL	0.0037		0.0031		0.0009				0.0036	0.0035
VCE				0.0025	0.0023	0.0027	0.0027	0.0024	0.0030	0.0038
VIE	0.0045	0.0041	0.0053	0.0049	0.0065	0.0065	0.0065	0.0062	0.0061	0.0048
VKO										
VLC										
WAW	0.0069	0.0117	0.0066	0.0056	0.0054	0.0087	0.0102	0.0080	0.0072	0.0067
YDF										
YEG	0.0028	0.0026		0.0048	0.0075	0.0042	0.0040	0.0021	0.0045	0.0031
YFC										
YHM										
YHZ	0.0051	0.0048	0.0028	0.0080	0.0080	0.0048	0.0069	0.0051	0.0067	0.0066
YMX	0.0177	0.0024	0.0024	0.0118	0.0114	0.0063	0.0059	0.0047		
YOW	0.0028	0.0051	0.0052	0.0033	0.0032	0.0028	0.0028	0.0025	0.0021	0.0046
YQB		0.0015	0.0015		0.0017	0.0019	0.0021	0.0020	0.0017	0.0017
YQM				0.0016	0.0017		0.0000	0.0001	0.0000	0.0000
YQX										
YUL		0.0184	0.0190	0.0145	0.0137	0.0157	0.0168	0.0160	0.0215	0.0215
YVR	0.0160	0.0135	0.0113	0.0121	0.0122	0.0126	0.0148	0.0171	0.0177	0.0187
YWG				0.0001					0.0010	0.0009
YXY				0.0034	0.0016	0.0020	0.0021	0.0021	0.0020	0.0017
YYC	0.0084	0.0080	0.0070	0.0152	0.0174	0.0131	0.0130	0.0128	0.0209	0.0177
YYT	0.0028	0.0026	0.0026	0.0022	0.0021	0.0028	0.0028	0.0025	0.0021	0.0019
YYZ	0.0252	0.0213	0.0227	0.0355	0.0382	0.0374	0.0364	0.0395	0.0423	0.0409
ZAG										
ZRH	0.0174	0.0198	0.0164	0.0180	0.0192	0.0197	0.0196	0.0185	0.0166	0.0157

Appendix D
Conditional Centrality Values for July, 2007-2017

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
ABV				0.0020							
ACC	0.0037	0.0019	0.0022	0.0038	0.0037	0.0029	0.0021	0.0039	0.0018	0.0025	0.0023
AGP	0.0009	0.0042	0.0031	0.0029	0.0029	0.0030	0.0030	0.0029	0.0027	0.0025	0.0024
ALG	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0008	0.0016
AMM	0.0046	0.0065	0.0069	0.0065	0.0043	0.0046	0.0047	0.0043	0.0042	0.0038	0.0035
AMS	0.0281	0.0266	0.0282	0.0263	0.0257	0.0266	0.0266	0.0242	0.0248	0.0248	0.0225
ANC	0.0015	0.0015	0.0016	0.0015	0.0013	0.0015	0.0018	0.0017	0.0016	0.0016	0.0017
ARN	0.0067	0.0065	0.0071	0.0059	0.0053	0.0055	0.0078	0.0081	0.0079	0.0082	0.0079
ATH	0.0115	0.0098	0.0093	0.0093	0.0116	0.0080	0.0077	0.0074	0.0092	0.0077	0.0083
ATL	0.0194	0.0203	0.0226	0.0214	0.0205	0.0197	0.0197	0.0181	0.0192	0.0175	0.0167
AUH	0.0034	0.0034	0.0037	0.0049	0.0046	0.0049	0.0058	0.0062	0.0070	0.0066	0.0062
AUS								0.0018	0.0017	0.0026	0.0024
BCN	0.0056	0.0075	0.0105	0.0133	0.0134	0.0143	0.0116	0.0122	0.0116	0.0117	0.0148
BDL	0.0012	0.0011									0.0011
BEG										0.0017	0.0016
BFS	0.0050	0.0065	0.0015	0.0013	0.0014	0.0012	0.0012	0.0011	0.0013	0.0012	0.0007
BGO								0.0019	0.0018	0.0017	0.0002
BHX	0.0046	0.0041	0.0038	0.0031	0.0030	0.0013	0.0029	0.0012	0.0029	0.0042	0.0024
BJL											
BLQ	0.0019	0.0019									
BOD	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0008	0.0008
BOM	0.0019	0.0051	0.0045	0.0033	0.0023	0.0012	0.0024	0.0021	0.0022	0.0019	0.0033
BOS	0.0199	0.0162	0.0171	0.0167	0.0184	0.0188	0.0188	0.0181	0.0181	0.0203	0.0214
BRS	0.0015	0.0012	0.0015	0.0014							
BRU	0.0101	0.0144	0.0156	0.0171	0.0162	0.0178	0.0147	0.0148	0.0139	0.0113	0.0107
BSL		0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0008	0.0008
BUD	0.0053	0.0053	0.0022	0.0020	0.0039				0.0022	0.0028	0.0013
BUH	0.0019	0.0019	0.0022								
BWI	0.0020	0.0020	0.0021	0.0020	0.0018	0.0034	0.0034	0.0031	0.0033	0.0032	0.0031
CAI	0.0028	0.0048	0.0052	0.0040	0.0019	0.0021	0.0036	0.0034	0.0032	0.0031	0.0028
CAS	0.0028	0.0028	0.0031	0.0029	0.0029	0.0030	0.0030	0.0029	0.0027	0.0033	0.0039
CDG	0.0352	0.0353	0.0347	0.0341	0.0385	0.0385	0.0400	0.0380	0.0372	0.0360	0.0365
CGN	0.0013	0.0012								0.0007	0.0014
CLE	0.0010	0.0022	0.0021								
CLT	0.0033	0.0029	0.0041	0.0049	0.0062	0.0066	0.0082	0.0096	0.0077	0.0071	0.0068
CPH	0.0057	0.0056	0.0061	0.0094	0.0087	0.0081	0.0077	0.0100	0.0099	0.0109	0.0110
CPT											
CVG	0.0060	0.0057	0.0046	0.0014	0.0015	0.0015	0.0016	0.0015	0.0014	0.0013	0.0013
CWL		0.0014				0.0002					
DEL	0.0026	0.0044	0.0047	0.0046	0.0069	0.0012	0.0045	0.0041	0.0040	0.0056	0.0054
DEN	0.0041	0.0060	0.0057	0.0056	0.0031	0.0037	0.0038	0.0035	0.0033	0.0038	0.0036
DFW	0.0071	0.0093	0.0106	0.0104	0.0095	0.0106	0.0107	0.0100	0.0098	0.0080	0.0088
DKR	0.0035	0.0055	0.0062	0.0049	0.0029	0.0030	0.0031	0.0029	0.0027	0.0025	0.0023
DME	0.0025	0.0040	0.0051	0.0031	0.0057	0.0067	0.0029	0.0005	0.0004	0.0004	
DOH		0.0008	0.0036	0.0034	0.0043	0.0045	0.0057	0.0071	0.0068	0.0083	0.0071
DSA	0.0002										

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
DTW	0.0109	0.0112	0.0091	0.0088	0.0080	0.0103	0.0104	0.0093	0.0105	0.0102	0.0081
DUB	0.0124	0.0168	0.0170	0.0145	0.0141	0.0155	0.0177	0.0187	0.0231	0.0233	0.0238
DUS	0.0099	0.0094	0.0093	0.0097	0.0091	0.0099	0.0096	0.0074	0.0073	0.0070	0.0068
DXB	0.0027	0.0046	0.0074	0.0073	0.0070	0.0082	0.0093	0.0094	0.0100	0.0082	0.0080
EDI	0.0039	0.0047	0.0050	0.0013	0.0012	0.0013	0.0029	0.0044	0.0055	0.0068	0.0066
EMA	0.0003	0.0002	0.0001	0.0001		0.0002					
EWR	0.0296	0.0302	0.0319	0.0319	0.0290	0.0281	0.0285	0.0268	0.0292	0.0258	0.0285
EXT	0.0002										
FCO	0.0205	0.0243	0.0244	0.0254	0.0247	0.0273	0.0245	0.0229	0.0208	0.0204	0.0186
FLL				0.0015	0.0013	0.0015	0.0014	0.0026	0.0024	0.0014	0.0034
FMY											0.0002
FNA											
FRA	0.0372	0.0369	0.0375	0.0372	0.0324	0.0366	0.0341	0.0329	0.0312	0.0289	0.0292
GLA	0.0129	0.0091	0.0062	0.0084	0.0055	0.0053	0.0046	0.0043	0.0044	0.0068	0.0072
GVA	0.0044	0.0044	0.0054	0.0051	0.0050	0.0051	0.0040	0.0049	0.0047	0.0033	0.0041
GYD									0.0018	0.0017	0.0016
HAJ											
HAM	0.0047	0.0026	0.0029	0.0030	0.0028	0.0012	0.0012	0.0011	0.0011	0.0009	0.0010
HEL	0.0034	0.0040	0.0044	0.0037	0.0046	0.0049	0.0048	0.0044	0.0043	0.0032	0.0030
IAD	0.0201	0.0207	0.0233	0.0234	0.0235	0.0241	0.0246	0.0237	0.0237	0.0224	0.0209
IAH	0.0087	0.0114	0.0116	0.0125	0.0119	0.0130	0.0121	0.0115	0.0110	0.0099	0.0097
ISB	0.0016	0.0014	0.0015	0.0017	0.0016	0.0016	0.0015	0.0014	0.0014	0.0014	0.0013
IST	0.0051	0.0051	0.0056	0.0069	0.0092	0.0108	0.0129	0.0126	0.0117	0.0108	0.0089
JED	0.0027	0.0028	0.0031	0.0029	0.0029	0.0030	0.0031	0.0051	0.0049	0.0047	0.0044
JFK	0.0443	0.0485	0.0511	0.0489	0.0489	0.0512	0.0506	0.0491	0.0482	0.0465	0.0446
JNB			0.0009	0.0009	0.0028	0.0029	0.0029	0.0026	0.0025	0.0023	0.0022
KBP	0.0053	0.0053	0.0058	0.0057	0.0035	0.0037		0.0019	0.0018	0.0017	0.0016
KEF	0.0038	0.0047	0.0048	0.0076	0.0127	0.0084	0.0086	0.0098	0.0101	0.0156	0.0201
KHI	0.0016	0.0014	0.0015	0.0017	0.0016	0.0016	0.0015	0.0014	0.0014	0.0014	
KRK	0.0045	0.0044	0.0026	0.0026							0.0009
KWI	0.0027	0.0028	0.0031	0.0029	0.0029	0.0030	0.0031	0.0029	0.0038		
LAD											0.0003
LAS	0.0053	0.0029	0.0020	0.0052	0.0062	0.0073	0.0071	0.0070	0.0055	0.0060	0.0055
LAX	0.0191	0.0239	0.0189	0.0195	0.0193	0.0209	0.0215	0.0209	0.0226	0.0231	0.0242
LED											
LFW										0.0009	0.0010
LGW	0.0233	0.0195	0.0092	0.0061	0.0104	0.0073	0.0053	0.0079	0.0072	0.0134	0.0137
LHE	0.0016	0.0014	0.0015	0.0017	0.0016	0.0016	0.0015	0.0014	0.0014	0.0014	0.0013
LHR	0.0441	0.0501	0.0504	0.0512	0.0470	0.0478	0.0486	0.0455	0.0469	0.0436	0.0386
LIS	0.0056	0.0052	0.0071	0.0057	0.0102	0.0103	0.0086	0.0099	0.0093	0.0121	0.0144
LOS	0.0019	0.0008	0.0009	0.0029	0.0028	0.0034	0.0034	0.0031	0.0030	0.0023	0.0006
LPA	0.0008										
LPL	0.0021										
LTN	0.0013								0.0011	0.0009	
LUX											
LYS	0.0009	0.0009	0.0031	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0017	0.0016
MAD	0.0131	0.0129	0.0182	0.0219	0.0209	0.0209	0.0201	0.0205	0.0197	0.0169	0.0167
MAN	0.0257	0.0173	0.0118	0.0133	0.0137	0.0127	0.0119	0.0138	0.0171	0.0177	0.0178
MCO	0.0063	0.0048	0.0039	0.0042	0.0057	0.0051	0.0034	0.0044	0.0053	0.0062	0.0069

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MEM	0.0012	0.0011	0.0012	0.0011	0.0010	0.0011					
MIA	0.0148	0.0152	0.0155	0.0165	0.0190	0.0163	0.0176	0.0182	0.0188	0.0166	0.0170
MLA											
MRS	0.0009	0.0009	0.0009	0.0010	0.0026	0.0010	0.0031	0.0043	0.0009	0.0008	0.0016
MSP	0.0023	0.0046	0.0049	0.0048	0.0048	0.0049	0.0067	0.0074	0.0070	0.0080	0.0079
MSY											0.0024
MUC	0.0178	0.0163	0.0165	0.0183	0.0167	0.0168	0.0162	0.0169	0.0163	0.0160	0.0162
MXP	0.0121	0.0105	0.0096	0.0088	0.0085	0.0088	0.0083	0.0117	0.0112	0.0104	0.0097
NAP	0.0019	0.0019	0.0022	0.0020	0.0019	0.0021	0.0021	0.0019	0.0018	0.0017	0.0016
NCE	0.0028	0.0028	0.0031	0.0029	0.0029	0.0030	0.0030	0.0038	0.0036	0.0033	0.0032
NCL	0.0018	0.0014	0.0016	0.0018	0.0018	0.0020	0.0002	0.0001	0.0012	0.0011	0.0001
NOC	0.0027										
NTE	0.0009	0.0009	0.0010	0.0010	0.0009	0.0009	0.0009	0.0009	0.0009	0.0008	0.0008
NYO											
OAK						0.0011	0.0011	0.0007	0.0005	0.0011	0.0030
OPO	0.0028	0.0026	0.0029	0.0030	0.0069	0.0061	0.0042	0.0049	0.0047	0.0046	0.0044
ORD	0.0332	0.0323	0.0304	0.0326	0.0278	0.0288	0.0296	0.0273	0.0285	0.0266	0.0246
ORK											0.0001
ORN											0.0008
ORY	0.0021	0.0041	0.0045	0.0039	0.0038	0.0044	0.0042	0.0039	0.0038	0.0052	0.0049
OSL	0.0013	0.0012	0.0022	0.0020	0.0023	0.0023	0.0045	0.0053	0.0053	0.0055	0.0053
PDL	0.0033	0.0030	0.0031	0.0032	0.0033	0.0033	0.0032	0.0031	0.0029	0.0030	0.0029
PDX	0.0015	0.0025	0.0027	0.0011	0.0010	0.0011	0.0011	0.0009	0.0025	0.0025	0.0039
PHL	0.0177	0.0186	0.0205	0.0181	0.0175	0.0185	0.0184	0.0179	0.0188	0.0171	0.0158
PHX	0.0018	0.0020	0.0021	0.0020	0.0018	0.0019	0.0020	0.0018	0.0017	0.0016	0.0013
PIK											
PIT			0.0014	0.0014	0.0015	0.0015	0.0016	0.0015	0.0014	0.0013	0.0030
PMO	0.0019	0.0019	0.0022	0.0020	0.0019	0.0021	0.0021	0.0019	0.0018	0.0017	0.0016
PRG	0.0051	0.0042	0.0068	0.0029	0.0028	0.0021	0.0021	0.0029	0.0027	0.0053	0.0037
PSA	0.0019	0.0019	0.0022	0.0020	0.0019	0.0021	0.0021	0.0019	0.0018	0.0017	
PSR				0.0017	0.0016						
PVD	0.0002	0.0001							0.0012	0.0012	0.0016
RAI	0.0008	0.0006		0.0007		0.0008	0.0008	0.0007	0.0001	0.0001	0.0001
RDU	0.0010	0.0020	0.0021	0.0020	0.0018	0.0019	0.0020	0.0018	0.0017	0.0029	0.0026
RIX	0.0019	0.0019	0.0022	0.0020	0.0019	0.0021	0.0021	0.0019	0.0018	0.0017	0.0016
RSW	0.0012	0.0010	0.0004	0.0004	0.0004	0.0004	0.0004	0.0003	0.0003	0.0003	
RUH	0.0027	0.0028	0.0031	0.0029	0.0029	0.0030	0.0031	0.0029	0.0027	0.0025	0.0023
RZE	0.0031	0.0032	0.0035	0.0033							
SAN		0.0008			0.0018	0.0019	0.0020	0.0018	0.0017	0.0016	0.0029
SEA	0.0046	0.0080	0.0065	0.0063	0.0074	0.0082	0.0083	0.0093	0.0090	0.0083	0.0084
SFB	0.0065	0.0033	0.0020	0.0019	0.0046	0.0037	0.0031	0.0023	0.0024	0.0032	0.0029
SFO	0.0118	0.0125	0.0137	0.0137	0.0126	0.0150	0.0169	0.0176	0.0163	0.0163	0.0174
SID											
SJC										0.0026	0.0024
SLC		0.0014	0.0014	0.0014	0.0015	0.0015	0.0016	0.0015	0.0023	0.0046	0.0042
SNN	0.0134	0.0087	0.0100	0.0096	0.0093	0.0098	0.0117	0.0108	0.0090	0.0100	0.0096
SOF											
STL			0.0009								
STN	0.0048			0.0000					0.0002	0.0002	

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
STR	0.0008	0.0008		0.0009	0.0020	0.0019	0.0020	0.0018	0.0007	0.0006	0.0006
SUF				0.0017	0.0016	0.0016	0.0015	0.0014	0.0014	0.0014	0.0013
SUJ											
SVG									0.0004		0.0053
SVO	0.0077	0.0079	0.0070	0.0066	0.0064	0.0060	0.0083	0.0078	0.0061	0.0056	0.0053
SWF											0.0015
SXF											
TER	0.0026	0.0022	0.0023	0.0024	0.0040	0.0024	0.0023	0.0022	0.0020	0.0022	0.0021
TFN			0.0006	0.0007							
TLS	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0008	0.0008
TLV	0.0097	0.0115	0.0126	0.0123	0.0116	0.0113	0.0112	0.0104	0.0108	0.0102	0.0115
TPA	0.0010	0.0008	0.0004	0.0003	0.0004	0.0011	0.0010	0.0010	0.0009	0.0021	0.0021
TSR											
TUN								0.0009		0.0008	0.0008
TXL	0.0031	0.0032	0.0035	0.0033	0.0058	0.0047	0.0061	0.0048	0.0040	0.0036	0.0083
VCE	0.0034	0.0035	0.0064	0.0061	0.0060	0.0062	0.0076	0.0072	0.0088	0.0083	0.0079
VIE	0.0073	0.0071	0.0071	0.0071	0.0070	0.0047	0.0058	0.0064	0.0063	0.0064	0.0069
VKO							0.0028	0.0049	0.0047		
VLC			0.0022	0.0020	0.0019	0.0021					
WAW	0.0060	0.0058	0.0063	0.0062	0.0058	0.0060	0.0048	0.0044	0.0043	0.0054	0.0068
YDF	0.0010										
YEG	0.0065	0.0042	0.0025	0.0038		0.0022	0.0022	0.0025	0.0027	0.0020	0.0020
YFC		0.0008			0.0023						
YHM	0.0043	0.0023	0.0009	0.0001	0.0002	0.0001					
YHZ	0.0093	0.0070	0.0046	0.0041	0.0045	0.0041	0.0040	0.0038	0.0044	0.0049	0.0047
YMX											
YOW	0.0052	0.0056	0.0040	0.0038	0.0035	0.0037	0.0036	0.0034	0.0029	0.0026	0.0024
YQB	0.0014	0.0016	0.0017	0.0017	0.0016	0.0016	0.0018	0.0015	0.0014	0.0013	
YQM											
YQX				0.0000	0.0004				0.0003		
YUL	0.0213	0.0216	0.0213	0.0214	0.0237	0.0226	0.0221	0.0234	0.0223	0.0221	0.0228
YVR	0.0229	0.0187	0.0146	0.0145	0.0138	0.0161	0.0164	0.0154	0.0133	0.0148	0.0149
YWG	0.0010	0.0008		0.0003	0.0005					0.0005	0.0005
YXY	0.0015	0.0015	0.0016	0.0015	0.0020	0.0015	0.0014	0.0013	0.0012	0.0011	0.0010
YYC	0.0194	0.0163	0.0155	0.0147	0.0149	0.0138	0.0128	0.0117	0.0101	0.0106	0.0078
YYT	0.0028			0.0020	0.0018	0.0019	0.0020	0.0025	0.0026	0.0029	0.0027
YYZ	0.0378	0.0356	0.0363	0.0410	0.0404	0.0403	0.0363	0.0366	0.0360	0.0383	0.0365
ZAG									0.0014	0.0014	0.0013
ZRH	0.0149	0.0144	0.0177	0.0182	0.0183	0.0189	0.0187	0.0176	0.0169	0.0162	0.0149

Appendix E
Seasonality Ratios, 1997-2017

Oneworld

		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Overall	DC			1.04	1.10	1.08	1.05	1.09	1.15	1.15	1.17	1.22	1.13	1.09	1.12	1.22	1.28	1.19	1.62	1.33	1.31	1.42
	WDC			1.07	1.13	1.14	1.17	1.14	1.16	1.17	1.19	1.19	1.18	1.19	1.24	1.20	1.39	1.26	1.59	1.40	1.46	1.43
BA	DC	1.04	1.08	1.00	1.00	1.00	1.00	1.00	1.04	1.00	1.00	1.00	0.96	1.00	1.04	1.04	1.00	1.04	1.04	1.04	1.03	1.10
	WDC	1.26	1.19	1.06	1.08	1.05	1.06	1.07	1.05	1.07	1.06	1.08	1.08	1.09	1.13	1.05	1.19	1.09	1.12	1.13	1.14	1.09
AA	DC	0.88	1.29	1.04	1.08	1.08	1.14	1.15	1.33	1.37	1.33	1.24	1.13	1.13	1.17	1.32	1.23	1.29	2.48	1.67	1.51	1.86
	WDC	0.97	1.25	1.02	1.15	1.18	1.29	1.17	1.29	1.31	1.32	1.21	1.17	1.26	1.31	1.33	1.46	1.30	2.34	1.73	1.74	2.00
IB	DC	1.00	0.50	1.00	1.00	1.00	0.75	1.00	1.00	1.00	1.00	1.67	1.00	1.00	1.25	1.50	0.83	1.25	1.67	1.67	1.67	2.33
	WDC	1.30	1.47	2.29	1.00	1.00	1.07	1.11	1.11	1.04	1.19	1.52	1.63	1.35	1.59	1.63	1.43	2.04	2.00	2.20	2.17	2.00
AY	DC	1.50	1.50	3.00	2.00	2.00	2.00	2.00	1.00	1.50	3.00	3.00	3.00	1.50	1.00	2.00	2.00	2.00	2.00	1.50	1.50	1.50
	WDC	1.86	1.63	1.86	1.67	2.00	2.00	1.67	1.67	1.71	2.40	2.80	2.40	2.14	1.71	1.71	2.00	1.71	1.43	1.30	1.50	1.70
CP	DC	1.25	1.25	1.20																		
	WDC	1.23	1.57	1.42																		
Other	DC					1.25	1.00	1.20	1.14	1.00	1.00	1.60	2.00	1.33	1.33	1.33	4.67	1.33	1.36	1.06	1.28	1.00
	WDC					1.50	1.29	1.50	1.18	1.13	1.42	1.58	2.15	1.60	1.70	1.78	5.30	2.07	1.58	1.22	1.56	1.00

SkyTeam

		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Overall	DC					1.18	1.14	1.06	1.15	1.19	1.06	1.14	1.20	1.07	1.24	1.16	1.24	1.29	1.34	1.36	1.36	1.34
	WDC					1.24	1.31	1.13	1.32	1.36	1.39	1.42	1.38	1.25	1.44	1.36	1.49	1.61	1.63	1.68	1.65	1.74
AF	DC	1.00	1.30	1.00	1.17	1.15	1.08	1.00	1.00	1.25	1.07	1.07	1.07	1.07	1.00	1.07	0.93	1.18	1.18	1.27	1.25	1.15
	WDC	1.21	1.38	1.28	1.37	1.35	1.50	1.20	1.30	1.55	1.31	1.32	1.34	1.47	1.36	1.30	1.29	1.63	1.59	1.67	1.68	1.54
DL	DC	1.10	1.13	1.15	1.08	1.15	1.10	1.03	1.14	1.17	1.00	1.20	1.25	1.12	1.61	1.23	1.29	1.41	1.43	1.49	1.45	1.46
	WDC	1.28	1.24	1.26	1.30	1.15	1.23	1.06	1.29	1.28	1.34	1.53	1.53	1.30	2.04	1.40	1.54	1.70	1.70	1.77	1.75	1.98
NW	DC	1.29	1.38	1.22	1.30	1.20	1.44	1.00	1.11	1.11	0.90	1.20	1.78	0.93								
	WDC	1.65	1.75	1.40	1.55	1.21	1.42	1.14	1.17	1.23	1.10	1.52	1.34	1.20								
AZ	DC	1.20	1.40	1.29	1.38	1.22	1.29	1.00	1.38	1.22	1.38	1.25	1.00	0.86	1.29	1.00	1.29	1.17	1.40	1.75	2.33	2.33
	WDC	1.86	1.88	1.71	1.57	1.50	1.20	1.04	1.45	1.17	1.34	1.27	1.20	0.98	1.36	1.48	1.69	1.69	1.97	2.50	2.17	2.25
KL	DC	1.00	1.00	1.00	1.00	1.09	1.00	0.91	1.09	1.00	1.10	1.10	1.20	1.00	1.00	1.08	1.00	1.09	1.09	1.18	1.08	1.08
	WDC	1.30	1.14	1.09	0.97	1.05	1.01	0.92	1.27	1.07	1.19	1.30	1.24	1.03	1.10	1.16	1.26	1.36	1.42	1.42	1.30	1.25
CO	DC									1.27	1.03	1.06	1.12	1.06								
	WDC									1.57	1.71	1.42	1.35	1.20								
Other	DC					2.00	1.50	2.00	1.33	1.33	1.33	1.17	1.00	1.40	1.50	1.00	2.67	1.11	1.30	1.00	1.09	1.08
	WDC					2.60	1.57	2.83	1.45	1.64	1.29	1.11	1.13	1.52	1.50	1.63	3.25	1.24	1.30	1.15	1.20	1.30

Star

		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Overall	DC		1.21	1.11	1.20	1.13	1.18	1.10	1.32	1.18	1.23	1.22	1.24	1.25	1.13	1.14	1.12	1.19	1.09	1.24	1.32	1.34
	WDC		1.34	1.30	1.40	1.26	1.40	1.31	1.59	1.42	1.48	1.44	1.37	1.42	1.32	1.30	1.31	1.39	1.27	1.48	1.53	1.51
LH	DC	1.07	1.13	1.19	1.00	1.21	1.22	1.23	1.08	1.08	1.08	1.12	1.18	1.07	1.10	0.97	0.94	1.07	1.10	1.10	1.13	1.06
	WDC	1.33	1.27	1.32	1.34	1.29	1.60	1.45	1.40	1.37	1.31	1.35	1.32	1.32	1.31	1.16	1.24	1.41	1.44	1.45	1.45	1.39
SK	DC	1.00	1.00	1.00	1.00	1.17	1.00	1.17	0.86	1.00	1.00	1.00	1.00	1.00	1.00	1.20	1.00	1.17	1.00	1.00	1.29	1.00
	WDC	1.25	1.08	1.07	1.07	1.17	1.17	1.22	1.26	1.00	1.20	1.35	1.35	1.26	1.30	1.35	1.48	1.68	1.54	1.25	1.26	1.12
AC	DC	1.43	1.75	1.20	1.29	0.95	1.33	1.47	1.20	1.43	1.13	1.25	1.19	1.40	1.65	1.47	1.47	1.67	1.84	1.76	1.96	2.30
	WDC	1.57	1.80	1.64	1.78	1.29	1.64	1.70	1.72	1.88	1.69	1.75	1.40	1.65	1.75	1.67	1.54	1.61	1.80	2.00	2.15	2.25
UA	DC	0.94	0.94	1.00	1.06	1.11	1.06	0.65	1.07	0.94	1.00	1.06	1.06	1.17	1.25	1.04	2.57	1.02	1.09	1.29	1.29	1.40
	WDC	1.18	1.19	1.20	1.12	1.18	1.16	0.99	1.09	1.04	1.11	1.13	1.16	1.23	1.24	1.14	2.79	1.23	1.27	1.47	1.49	1.55

Non-Aligned

		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
FI	DC	0.83	0.83	0.67	0.83	0.83	1.00	1.00	1.25	1.50	2.00	2.00	2.00	1.67	1.50	1.75	2.00	1.80	1.71	1.50	1.50	1.45
	WDC	0.88	1.04	1.00	0.94	1.07	1.14	1.41	1.76	1.75	2.43	2.79	2.64	2.69	2.50	2.52	2.81	2.52	2.55	2.50	2.47	2.35
VS	DC	1.11	1.11	1.11	1.18	1.18	1.11	1.11	1.00	1.00	1.00	1.20	1.09	1.09	1.10	1.30	1.27	1.27	1.40	1.55	1.31	1.46
	WDC	1.28	1.17	1.14	1.07	1.12	1.10	1.13	1.25	1.07	0.99	1.17	1.10	1.12	1.15	1.23	1.30	1.41	1.33	1.66	1.39	1.58
EK	DC									1.00	1.00	1.00	0.75	1.00	1.00	1.00	1.40	1.00	1.11	1.00	1.00	1.08
	WDC									1.00	1.00	1.00	0.89	1.27	1.00	1.00	1.13	1.00	1.11	1.18	1.06	0.85
EY	DC										0.50	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.25	1.00	1.00	1.00
	WDC										0.30	1.00	1.00	1.00	1.00	1.00	1.00	1.35	1.58	1.00	1.00	0.98
QR	DC												1.00	1.00	1.00	1.00	0.75	1.00	1.00	0.88	0.78	0.64
	WDC												0.83	0.71	0.81	0.81	0.71	0.96	1.23	0.96	0.81	0.59
DY	DC																		3.20	1.50	1.50	1.67
	WDC																		3.08	1.61	1.62	1.97

Appendix F
Herfindhal-Hirschman Index (HHI) Scores for Major North Atlantic Airports for January, 1997-2006

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
AMS	4713	5282	5247	6371	6232	5956	5750	5917	7512	7426
BRU	4208	4263	5588	5473	3807	769	2637	2535	3564	3432
CDG	3339	2521	2423	2415	2987	3885	4181	3912	4747	5111
FCO	1962	1798	1639	2901	1690	4261	3664	5410	6134	5400
FRA	1962	3763	4021	4318	5188	5273	5251	5118	6077	6269
LGW	2251	1988	3604	2568	2539	2525	2419	2575	3178	3174
LHR	2128	2483	4349	4350	4103	4123	4416	4338	4318	4386
MAD	1920	1208	1758	3291	3061	4283	3489	4018	4658	4161
MAN	1676	3027	2154	2664	2017	1838	1853	1567	2085	2161
MUC	3223	3005	3847	3953	4575	5556	5373	5993	7683	8200
MXP	1848	1683	2651	3756	3206	5408	6685	8400	10000	7449
ZRH	3652	5534	6826	6626	5194	4356	4953	4549	3780	5423
ATL	6740	6744	6500	6563	6129	6458	7491	7506	7709	8402
BOS	1226	1422	2195	1963	2296	2387	2443	2596	2863	2828
DFW	3750	5000	5000	7501	5938	7813	5659	7851	7551	7551
DTW	10000	7222	7551	5938	6600	5686	6150	5938	5938	6200
EWR	2393	2688	2968	2816	2901	3083	2743	2702	4116	4832
IAD	3070	3570	3934	3550	3918	4761	4299	4624	4275	5030
JFK	876	1031	1260	1548	1488	1863	1882	1940	2100	2002
LAX	938	1068	1271	1672	1918	1834	1773	1896	1829	2188
MIA	1500	993	2326	2450	2687	3097	3245	3038	3624	3056
ORD	2267	2459	2608	2637	2942	3140	3171	3346	3462	3766
PHL	5661	7551	6543	5519	4545	4934	4861	5065	6231	6196
SFO	2188	2867	2578	2341	2626	3266	3353	3497	3584	3443
YMX/YUL	1310	1544	1650	2079	2196	2305	2261	2180	2388	2690
YVR	2686	3504	3951	3580	3750	3394	3994	3994	3214	3528
YYZ	2871	3795	3841	3740	5198	3395	3873	3705	3526	3093

Appendix F
Herfindhal-Hirschman Index (HHI) Scores for Major North Atlantic Airports for January, 2007-2017

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
AMS	7414	7828	7561	6950	7092	7039	7045	6774	7173	7036	6650
BRU	3432	2658	2712	2626	2752	3164	4405	4502	3066	3215	7029
CDG	5228	5359	5356	4671	4556	4531	4641	4659	4565	4780	4719
FCO	5400	3621	5353	4880	5230	5243	5313	5172	4752	7055	6867
FRA	6269	6733	6498	6980	8041	8020	7891	7759	6987	6614	7367
LGW	3128	2902	2352	2204	2136	2252	2885	3616	3068	2775	2415
LHR	4370	4325	3698	3945	3980	3775	3911	3750	3820	3717	3788
MAD	4161	4475	4373	4094	3871	5255	4949	5386	5652	6026	5890
MAN	2128	2517	3373	2520	2220	2159	2449	2757	2457	2358	2447
MUC	8200	8472	8347	8491	8674	8756	8489	8438	7545	7875	8183
MXP	7449	8472	5118	4480	4887	4770	3994	2781	2739	2816	2783
ZRH	5458	6319	6150	7338	7472	7715	7830	7897	7168	7617	8045
ATL	8402	8627	8775	8428	8558	8253	8408	8458	7624	7032	5814
BOS	2799	2209	1942	2174	2246	2173	2120	1976	1791	1438	1617
DFW	7551	7168	5880	6835	6401	7732	6191	6511	6331	6331	5963
DTW	6068	5834	7968	7509	7670	6970	7670	7476	7396	6935	6665
EWR	4908	4399	5052	5835	5851	6223	6336	6273	6503	6334	6248
IAD	5007	4818	4267	5138	5201	5721	5162	4747	4404	4486	3940
JFK	1923	1904	2222	2276	2409	2098	2283	2314	2155	2088	1930
LAX	2188	2101	2255	2156	1978	2014	2229	2176	2067	2074	1728
MIA	3056	3044	2960	3481	3040	3062	3820	4496	3915	3498	2955
ORD	3648	3596	3700	3739	3738	3922	3993	3970	4087	4050	3905
PHL	6196	6527	6368	6465	6834	7572	7551	7324	9013	8257	7784
SFO	3443	3385	2881	2619	2850	3321	3053	3413	2702	2793	3476
YUL	2690	2279	2580	2851	3099	2991	2868	3074	2969	3175	2384
YVR	3528	3278	3717	3717	3717	3717	3504	3609	3609	3291	3138
YYZ	3302	2959	3016	3032	3117	3391	3695	3531	3799	3915	3453

Appendix G
Herfindhal-Hirschman Index (HHI) Scores for Major North Atlantic Airports for July, 1997-2006

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
AMS	4865	5220	5870	5572	5452	5140	5179	5070	6675	6654
BRU	3659	5266	4607	3622	3043	1975	2535	2353	3280	3038
CDG	2665	2603	2533	3087	3094	3763	3816	3684	4813	4841
FCO	2270	2130	2456	2933	2369	3775	2658	3640	4843	4398
FRA	3619	4317	4826	4755	5759	5475	5532	6025	5658	5821
LGW	1920	1728	2736	2148	1984	2281	2147	2157	1786	2621
LHR	2546	2427	4255	4159	4102	4166	4279	4111	4228	4405
MAD	2188	2018	2318	2881	2808	3353	3422	3990	4069	4037
MAN	1642	1901	2549	1298	1446	1673	1703	2075	1843	1888
MUC	3432	3971	3950	4659	5016	5881	6640	7138	7980	7557
MXP	1956	1926	4722	4812	4378	6412	7813	8177	10000	7452
ZRH	6467	6980	7402	5041	4958	4401	4201	3280	3413	5302
ATL	7057	6457	6758	5619	6174	7618	7591	7792	7942	8819
BOS	1247	1310	1877	2256	2099	2320	2642	2570	2915	2898
DFW	5000	5510	7551	7551	4815	7751	7743	7939	7813	7813
DTW	8025	8027	6417	7122	7122	6417	6296	6600	6763	6246
EWR	2289	2149	2575	2977	2788	2771	2744	3433	5189	5414
IAD	4220	4171	3779	3625	4020	5161	4422	4515	4323	4470
JFK	957	1138	1238	1541	1521	1777	1753	1882	1843	1961
LAX	1088	1080	1678	1959	1848	1627	1847	1714	1885	2307
MIA	1169	1385	1755	2747	2408	2996	3045	3123	3278	3196
ORD	2259	2291	2439	2853	3032	3308	3216	3445	3554	3840
PHL	6250	5702	4861	4861	5408	5109	5955	6797	6348	7414
SFO	3309	2998	2316	2632	2689	3554	3554	3889	3385	3072
YMX/YUL	1392	1657	1687	1897	2071	2469	2399	2879	2113	2159
YVR	3802	3333	3778	4380	3789	4107	3889	3972	2964	2065
YYZ	3935	4075	4021	3332	2765	3740	3804	3288	3070	2809

Appendix G
Herfindhal-Hirschman Index (HHI) Scores for Major North Atlantic Airports for July, 2007-2017

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
AMS	7249	7491	7414	6541	6721	6814	6909	6984	6936	6525	6360
BRU	3404	2345	2356	2678	2649	3249	4290	3084	3390	5271	5503
CDG	5006	5064	5022	4263	3941	4003	4390	4450	3932	4097	3938
FCO	3918	4830	3907	3557	3589	3729	3719	3451	3893	3786	3536
FRA	5911	6606	6237	6666	7116	6629	6912	5659	5820	6082	5994
LGW	2425	2143	1964	2275	1590	2235	3146	2679	2466	1788	1782
LHR	4036	3722	3702	4010	3697	3852	3645	3720	3551	3618	3610
MAD	3560	3972	3984	3812	3725	3874	4377	4981	4787	4725	4443
MAN	1639	1947	2363	1847	1068	1756	1631	1952	1710	1733	2151
MUC	7567	7851	8421	8474	8435	8673	8828	7948	8061	7195	6988
MXP	7025	3571	5000	4215	4491	4400	4400	2846	2846	2813	2188
ZRH	5788	6399	5793	6578	6454	6349	6553	5519	5477	5426	5601
ATL	8862	8893	8783	8745	8761	8661	8686	8772	6718	6171	6886
BOS	2223	1974	2148	2123	2122	2087	1921	1694	1714	1519	1514
DFW	5510	5510	6606	6606	6794	5749	5458	5794	5025	6086	6215
DTW	6405	7494	7548	7548	7643	7838	7758	7913	6523	6731	7982
EWR	4977	5139	5316	6314	6127	6681	6688	6702	6682	7003	6302
IAD	4304	4078	4456	4630	5016	5774	4697	4846	4822	4613	4413
JFK	2036	2290	2415	2425	2388	2414	2452	2298	2244	2215	2095
LAX	1983	2112	2048	2069	2006	2060	2249	1876	1908	1738	1556
MIA	2961	2813	3032	3028	2863	3932	4235	4228	4072	3900	2822
ORD	3459	3641	3819	3565	3464	3602	3464	3822	3841	3636	3508
PHL	7138	7743	7989	7562	7548	7630	7548	8463	7790	7656	4926
SFO	3719	3253	2931	3014	3242	2923	3589	3399	3107	2811	2582
YUL	2246	1991	2252	2600	2712	2514	2406	2629	2759	2687	2786
YVR	1801	1750	2246	2232	1795	2040	2118	1964	2016	2209	2277
YYZ	2512	2378	2566	2701	2528	2862	3234	3219	3502	3877	3803

Appendix H
Beta Values for Major North Atlantic Airlines for January, 1997-2017

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
AC	1.08	1.09	1.15	1.21	1.17	1.15	1.15	1.15	1.17	1.14	1.14	1.14	1.15	1.21	1.19	1.19	1.13	1.19	1.11	1.10	1.10
AA	1.32	1.17	1.32	1.26	1.15	1.24	1.18	1.20	1.27	1.24	1.24	1.21	1.20	1.26	1.29	1.29	1.40	1.44	1.50	1.52	1.40
AF	0.91	0.91	0.92	0.92	0.93	0.93	0.93	0.93	0.92	0.93	0.93	0.94	0.93	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.87
AY	0.67	0.67	0.50	0.50	0.50	0.50	0.50	0.67	0.67	0.50	0.50	0.50	0.67	0.67	0.50	0.50	0.50	0.50	0.67	0.67	0.67
AZ	0.71	0.71	1.00	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.88	1.00	1.00	1.00	0.83	0.80	0.75	0.75
BA	0.87	0.90	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.92	0.92	0.93	0.90	0.90	0.90	0.91	0.91
CO	0.83	0.86	0.88	0.86	0.86	0.89	0.86	0.90	0.92	0.94	0.94	0.94	0.94	0.94	0.94	0.92					
DL	1.16	1.29	1.27	1.46	1.42	1.26	1.32	1.32	1.36	1.39	1.39	1.23	1.29	1.18	1.33	1.30	1.32	1.39	1.38	1.44	1.47
EI	0.67	0.67	0.67	0.71	0.80	0.71	0.71	0.78	0.71	0.71	0.71	0.82	0.80	0.75	0.67	0.67	0.67	0.67	0.78	0.78	0.85
FI	0.86	0.86	0.86	0.86	0.86	0.80	0.80	0.80	0.80	0.75	0.75	0.75	0.75	0.80	0.80	0.80	0.83	0.88	0.89	0.91	0.92
IB	0.75	0.80	0.80	0.71	0.71	0.80	0.75	0.75	0.75	0.75	0.75	0.83	0.83	0.80	0.80	0.75	0.80	0.75	0.75	0.75	0.75
KL	0.92	0.92	0.92	0.92	0.92	0.91	0.92	0.92	0.92	0.91	0.91	0.91	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	1.00
LH	1.00	1.00	1.00	1.06	1.06	0.90	1.10	1.24	1.24	1.24	1.24	1.27	1.25	1.26	1.33	1.29	1.26	1.26	1.27	1.26	1.28
LO	0.75	0.75	0.75	0.75	0.75	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.80	0.80	0.75	0.75	0.75	0.75	0.75
LX	0.80	0.90	0.79	0.80	0.85	0.82	0.82	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.82	0.82	0.82	0.82	0.82	0.82	0.82
NW	0.64	0.62	0.60	0.63	0.64	0.60	0.63	0.64	0.64	0.63	0.63	0.56	0.61	0.59							
SK	0.63	0.63	0.67	0.67	0.67	0.75	0.67	0.78	0.75	0.75	0.75	0.75	0.75	0.71	0.71	0.67	0.67	0.70	0.67	0.70	0.79
UA	1.14	1.14	1.14	1.13	1.27	1.20	1.31	1.36	1.29	1.33	1.33	1.38	1.29	1.25	1.28	1.21	1.41	1.46	1.44	1.50	1.54
US	0.70	0.75	0.82	0.75	0.81	0.80	0.80	0.79	0.83	0.85	0.85	0.88	0.87	0.86	0.88	0.88	0.88	0.82			
VS	0.75	0.75	0.75	0.79	0.79	0.75	0.75	0.77	0.77	0.77	0.77	0.79	0.79	0.77	0.77	0.79	0.79	0.77	0.79	0.81	0.81

Appendix I
Beta Values for Major North Atlantic Airlines for July, 1997-2017

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
AC	1.33	1.40	1.20	1.11	1.11	1.11	1.10	1.13	1.11	1.13	1.18	1.13	1.12	1.23	1.23	1.27	1.20	1.21	1.23	1.22	1.29
AA	1.16	1.29	1.30	1.24	1.23	1.20	1.28	1.41	1.37	1.40	1.37	1.30	1.35	1.47	1.38	1.42	1.42	1.84	1.77	1.77	1.93
AF	0.91	0.86	0.92	0.93	0.94	0.93	0.93	0.93	0.94	0.94	0.94	0.88	0.94	0.93	0.94	0.93	0.93	0.93	0.93	0.88	0.88
AY	0.75	0.75	0.75	0.67	0.67	0.67	0.67	0.67	1.00	0.60	0.60	0.50	0.75	0.67	0.67	0.67	0.67	0.67	0.75	0.75	0.75
AZ	0.86	1.00	1.00	1.10	1.10	1.13	1.00	1.22	1.22	1.22	1.25	0.89	0.86	1.00	1.00	1.00	0.88	0.88	0.88	0.88	0.88
BA	1.04	1.04	1.04	1.04	1.00	0.92	0.92	0.96	0.92	0.96	0.92	0.92	0.96	0.92	0.93	0.93	1.04	1.00	1.00	1.00	1.03
CO	1.00	1.00	1.00	1.00	1.00	0.95	1.05	1.04	1.04	1.03	1.03	1.09	1.03	1.03	1.03						
DL	1.33	1.31	1.52	1.56	1.39	1.39	1.30	1.43	1.46	1.53	1.45	1.40	1.35	1.42	1.43	1.40	1.44	1.47	1.54	1.58	1.59
EI	1.00	1.00	1.14	1.29	1.25	1.00	0.86	1.00	1.00	1.00	1.17	1.00	1.13	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FI	0.83	0.83	0.80	0.83	0.83	0.80	0.80	0.83	0.86	0.86	0.86	0.86	0.83	0.86	0.88	0.89	0.90	0.92	0.92	0.94	0.94
IB	0.75	0.80	0.86	0.83	0.83	0.75	0.75	0.75	0.75	0.75	0.83	0.83	0.83	0.83	0.86	0.83	0.83	0.83	0.83	0.83	0.88
KL	0.92	0.92	0.92	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.92	0.92	0.92	0.93	0.93	0.93
LH	1.07	1.06	1.06	1.06	1.10	1.10	1.23	1.27	1.23	1.27	1.32	1.32	1.28	1.33	1.29	1.30	1.35	1.39	1.39	1.36	1.36
LO	0.75	1.00	1.20	1.20	1.20	1.17	1.17	1.17	1.17	1.17	1.29	1.29	1.14	1.14	0.80	0.80	0.75	0.75	0.75	0.75	0.86
LX	0.89	0.91	0.92	0.92	0.92	0.90	0.90	0.89	0.89	0.89	0.89	0.89	0.89	0.90	0.91	0.90	0.90	0.90	0.90	0.90	0.90
NW	1.00	1.00	1.00	1.08	1.00	1.00	1.00	1.00	1.00	1.00	1.09	1.14	1.00								
SK	0.83	0.83	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.89	1.00	1.10
UA	1.15	1.14	1.13	1.29	1.25	1.27	1.33	1.33	1.42	1.33	1.31	1.36	1.24	1.26	1.26	1.48	1.47	1.59	1.63	1.69	1.85
US	0.88	0.90	1.00	1.20	1.25	1.18	1.08	1.07	1.00	1.00	1.00	1.00	1.00	1.11	1.21	1.21	1.21				
VS	0.91	0.91	0.91	1.00	1.00	0.83	0.83	0.83	0.83	0.83	0.86	0.86	0.86	0.85	0.93	0.93	0.93	0.93	1.00	1.00	1.19

Appendix J
Application of UK Regression Modelling, Summer Results

Airline	Destination	UK Regional Airports											
		BFS	BHX	BRS	CWL	EMA	EDI	GLA	LBA	LPL	MAN	NCL	NWI
DL	ATL	9.8	10.2	9.8	9.5	9.5	10.2	10.2	10.0	9.7	10.3	9.7	9.4
VS	ATL	4.0	4.3	4.0	3.7	3.7	4.3	4.3	4.1	3.8	4.5	3.8	3.5
BA	AUS	3.4	3.7	3.4	3.0	3.0	3.7	3.7	3.5	3.2	3.9	3.2	2.9
BA	BOS	4.0	4.3	4.0	3.7	3.7	4.3	4.3	4.1	3.8	4.6	3.8	3.5
VS	BOS	4.0	4.3	4.0	3.7	3.7	4.3	4.3	4.1	3.8	4.5	3.8	3.5
BA	BWI	3.2	3.5	3.2	2.9	2.9	3.5	3.5	3.4	3.0	3.8	3.0	2.7
AA	CLT	7.7	8.0	7.7	7.4	7.4	8.0	8.0	7.8	7.5	8.1	7.5	7.2
BA	DEN	3.7	4.0	3.7	3.4	3.4	4.0	4.0	3.8	3.5	4.3	3.5	3.2
AA	DFW	9.0	9.3	9.0	8.7	8.7	9.3	9.3	9.2	8.8	9.5	8.8	8.5
DL	DTW	7.1	7.5	7.1	6.8	6.8	7.5	7.5	7.3	7.0	7.6	7.0	6.7
UA	EWR	6.8	7.2	6.8	6.5	6.5	7.2	7.2	7.0	6.7	7.3	6.7	6.4
BA	FLL	2.7	3.0	2.7	2.4	2.4	3.0	3.0	2.9	2.6	3.3	2.6	2.3
VS	FLL	2.7	3.0	2.7	2.4	2.4	3.0	3.0	2.9	2.6	3.2	2.6	2.3
UA	IAD	5.6	6.0	5.6	5.3	5.3	6.0	6.0	5.8	5.5	6.1	5.5	5.2
UA	IAH	7.3	7.6	7.3	7.0	7.0	7.6	7.6	7.5	7.2	7.8	7.2	6.9
AA	JFK	5.3	5.6	5.3	5.0	5.0	5.6	5.6	5.4	5.1	5.8	5.1	4.8
DL	JFK	6.1	6.4	6.1	5.8	5.8	6.4	6.4	6.3	5.9	6.6	5.9	5.6
BA	LAS	2.9	3.2	2.9	2.6	2.6	3.2	3.2	3.0	2.7	3.5	2.7	2.4
VS	LAS	2.9	3.2	2.9	2.6	2.6	3.2	3.2	3.0	2.7	3.4	2.7	2.4
AA	LAX	5.3	5.6	5.3	5.0	5.0	5.6	5.6	5.4	5.1	5.7	5.1	4.8
UA	LAX	5.2	5.5	5.2	4.9	4.9	5.5	5.5	5.3	5.0	5.7	5.0	4.7
BA	MCO	3.2	3.5	3.2	2.9	2.9	3.5	3.5	3.4	3.0	3.8	3.0	2.7
VS	MCO	3.2	3.5	3.2	2.9	2.9	3.5	3.5	3.4	3.0	3.7	3.0	2.7
AA	MIA	6.0	6.3	6.0	5.7	5.7	6.3	6.3	6.2	5.9	6.5	5.9	5.6
DL	MSP	5.2	5.5	5.2	4.9	4.9	5.5	5.5	5.3	5.0	5.7	5.0	4.7
BA	MSY	2.9	3.2	2.9	2.6	2.6	3.2	3.2	3.0	2.7	3.5	2.7	2.4
BA	OAK	2.7	3.0	2.7	2.4	2.4	3.0	3.0	2.9	2.6	3.3	2.6	2.3
AA	ORD	5.7	6.0	5.7	5.4	5.4	6.0	6.0	5.9	5.5	6.2	5.5	5.2
UA	ORD	6.0	6.4	6.0	5.7	5.7	6.4	6.4	6.2	5.9	6.5	5.9	5.6
BA	PDX	3.0	3.4	3.0	2.7	2.7	3.4	3.4	3.2	2.9	3.6	2.9	2.6
AA	PHL	6.5	6.8	6.5	6.2	6.2	6.8	6.8	6.7	6.4	7.0	6.4	6.1
BA	PHX	3.4	3.7	3.4	3.0	3.0	3.7	3.7	3.5	3.2	3.9	3.2	2.9
AA	RDU	3.5	3.9	3.5	3.2	3.2	3.9	3.9	3.7	3.4	4.0	3.4	3.1
BA	SAN	3.7	4.0	3.7	3.4	3.4	4.0	4.0	3.8	3.5	4.3	3.5	3.2
BA	SEA	3.7	4.0	3.7	3.4	3.4	4.0	4.0	3.8	3.5	4.3	3.5	3.2
BA	SFB	3.2	3.5	3.2	2.9	2.9	3.5	3.5	3.4	3.0	3.8	3.0	2.7
VS	SFB	3.2	3.5	3.2	2.9	2.9	3.5	3.5	3.4	3.0	3.7	3.0	2.7
UA	SFO	5.6	5.9	5.6	5.2	5.2	5.9	5.9	5.7	5.4	6.0	5.4	5.1
BA	SJC	3.5	3.8	3.5	3.8	3.2	3.8	3.8	3.7	3.4	4.1	3.4	3.0
VS	SJC	3.5	3.8	3.5	3.2	3.2	3.8	3.8	3.7	3.4	4.0	3.4	3.0
DL	SLC	3.7	4.0	3.7	3.4	3.4	4.0	4.0	3.9	3.5	4.2	3.5	3.2
BA	TPA	3.8	4.2	3.8	3.5	3.5	3.7	3.7	3.5	3.2	4.3	3.2	2.9
VS	TPA	3.4	3.7	3.4	3.0	3.0	3.7	3.7	3.5	3.2	3.9	3.2	2.9
AC	YEG	3.7	4.0	3.7	3.3	3.3	4.1	4.1	3.8	3.5	4.1	3.5	3.2

Airline	Destination	UK Regional Airports											
		BFS	BHX	BRS	CWL	EMA	EDI	GLA	LBA	LPL	MAN	NCL	NWI
WS	YEG	3.6	3.9	3.6	3.3	3.3	4.1	4.1	3.8	3.5	4.1	3.5	3.2
AC	YHZ	3.3	3.6	3.3	3.0	3.0	3.7	3.7	3.4	3.1	3.7	3.1	2.8
WS	YHZ	3.1	3.4	3.1	2.8	2.8	3.5	3.5	3.2	2.9	3.5	2.9	2.6
AC	YOW	3.3	3.6	3.3	2.9	2.9	3.7	3.7	3.4	3.1	3.7	3.1	2.8
AC	YUL	5.0	5.3	5.0	4.7	4.7	5.5	5.5	5.2	4.9	5.5	4.9	4.6
TS	YUL	4.0	4.3	4.0	3.6	3.6	4.4	4.4	4.1	3.8	4.4	3.8	3.5
AC	YVR	5.0	5.3	5.0	4.7	4.7	5.5	5.5	5.2	4.9	5.5	4.9	4.5
TS	YVR	3.9	4.2	3.9	3.6	3.6	4.3	4.3	4.0	3.7	4.3	3.7	3.4
WS	YVR	4.4	4.7	4.4	4.0	4.0	4.8	4.8	4.5	4.2	4.8	4.2	3.9
AC	YWG	3.2	3.5	3.2	2.9	2.9	3.6	3.6	3.3	3.0	3.6	3.0	2.7
WS	YWG	3.1	3.4	3.1	2.8	2.8	3.6	3.6	3.3	3.0	3.6	3.0	2.6
AC	YYC	4.5	4.8	4.5	4.2	4.2	5.0	5.0	4.7	4.4	5.0	4.4	4.1
TS	YYC	3.7	4.0	3.7	3.4	3.4	4.2	4.2	3.8	3.5	4.2	3.5	3.2
WS	YYC	4.5	4.8	4.5	4.2	4.2	4.9	4.9	4.6	4.3	4.9	4.3	4.0
AC	YYT	2.9	3.2	2.9	2.6	2.6	3.4	3.4	3.0	2.7	3.4	2.7	2.4
WS	YYT	2.8	3.1	2.8	2.5	2.5	3.3	3.3	3.0	2.6	3.3	2.6	2.3
AC	YYZ	6.0	6.3	6.0	5.6	5.6	6.4	6.4	6.1	5.8	6.4	5.8	5.5
TS	YYZ	4.4	4.7	4.4	4.1	4.1	4.9	4.9	4.6	4.3	4.9	4.3	3.9
WS	YYZ	4.9	5.2	4.9	4.6	4.6	5.4	5.4	5.1	4.8	5.4	4.8	4.4

Appendix K
Application of UK Regression Modelling, Winter Results

Airline	Destination	UK Regional Airports											
		BFS	BHX	BRS	CWL	EMA	EDI	GLA	LBA	LPL	MAN	NCL	NWI
DL	ATL	11.6	13.4	11.6	9.8	9.8	14.2	13.4	12.5	10.7	14.2	10.7	8.9
VS	ATL	-0.9	0.9	-0.9	-2.7	-2.7	1.8	0.9	0.0	-1.8	1.8	-1.8	-3.6
BA	AUS	-4.5	-2.7	-4.5	-6.3	-6.3	-1.8	-2.7	-3.6	-5.4	-1.8	-5.4	-7.2
BA	BOS	-0.9	0.9	-0.9	-2.7	-2.7	1.8	0.9	0.0	-1.8	1.8	-1.8	-3.6
VS	BOS	-0.9	0.9	-0.9	-2.7	-2.7	1.8	0.9	0.0	-1.8	1.8	-1.8	-3.6
BA	BWI	-5.4	-3.6	-5.4	-7.2	-7.2	-2.7	-3.6	-4.5	-6.3	-2.7	-6.3	-8.1
AA	CLT	4.2	6.0	4.2	2.4	2.4	6.8	6.0	5.1	3.3	6.8	3.3	1.5
BA	DEN	-2.7	-0.9	-2.7	-4.5	-4.5	0.0	-0.9	-1.8	-3.6	0.0	-3.6	-5.4
AA	DFW	9.8	11.6	9.8	8.0	8.0	12.5	11.6	10.7	8.9	12.5	8.9	7.1
DL	DTW	4.1	5.9	4.1	2.4	2.4	6.8	5.9	5.0	3.2	6.8	3.2	1.5
UA	EWR	7.4	9.2	7.4	5.6	5.6	10.1	9.2	8.3	6.5	10.1	6.5	4.7
BA	FLL	-8.1	-6.3	-8.1	-9.8	-9.8	-5.4	-6.3	-7.2	-9.0	-5.4	-9.0	-10.7
VS	FLL	-8.1	-6.3	-8.1	-9.8	-9.8	-5.4	-6.3	-7.2	-9.0	-5.3	-9.0	-10.7
UA	IAD	3.2	5.0	3.2	1.4	1.4	5.8	5.0	4.1	2.3	5.8	2.3	0.5
UA	IAH	6.2	8.0	6.2	4.4	4.4	8.9	8.0	7.1	5.3	8.9	5.3	3.5
AA	JFK	9.9	11.7	9.9	8.1	8.1	12.6	11.7	10.8	9.0	12.6	9.0	7.2
DL	JFK	11.6	13.4	11.6	9.8	9.8	14.3	13.4	12.5	10.7	14.3	10.7	8.9
BA	LAS	-7.2	-5.4	-7.2	-9.0	-9.0	-4.5	-5.4	-6.3	-8.1	-4.5	-8.1	-9.8
VS	LAS	-7.2	-5.4	-7.2	-9.0	-9.0	-4.5	-5.4	-6.3	-8.1	-4.4	-8.1	-9.8
AA	LAX	2.9	4.7	2.9	1.2	1.2	5.6	4.7	3.8	2.0	5.6	2.0	0.3
UA	LAX	2.7	4.5	2.7	0.9	0.9	5.4	4.5	3.6	1.8	5.4	1.8	0.1
BA	MCO	-5.4	-3.6	-5.4	-7.2	-7.2	-2.7	-3.6	-4.5	-6.3	-2.7	-6.3	-8.1
VS	MCO	-5.4	-3.6	-5.4	-7.2	-7.2	-2.7	-3.6	-4.5	-6.3	-2.6	-6.3	-8.1
AA	MIA	4.0	5.8	4.0	2.2	2.2	6.7	5.8	4.9	3.1	6.7	3.1	1.3
DL	MSP	0.5	2.3	0.5	-1.3	-1.3	3.2	2.3	1.4	-0.4	3.2	-0.4	-2.2
BA	MSY	-7.2	-5.4	-7.2	-9.0	-9.0	-4.5	-5.4	-6.3	-8.1	-4.5	-8.1	-9.8
BA	OAK	-8.1	-6.3	-8.1	-9.8	-9.8	-5.4	-6.3	-7.2	-9.0	-5.4	-9.0	-10.7
AA	ORD	3.9	5.6	3.9	2.1	2.1	6.5	5.6	4.8	3.0	6.5	3.0	1.2
UA	ORD	4.6	6.4	4.6	2.8	2.8	7.3	6.4	5.5	3.7	7.3	3.7	1.9
BA	PDX	-6.3	-4.5	-6.3	-8.1	-8.1	-3.6	-4.5	-5.4	-7.2	-3.6	-7.2	-9.0
AA	PHL	4.0	5.7	4.0	2.2	2.2	6.6	5.7	4.9	3.1	6.6	3.1	1.3
BA	PHX	-4.5	-2.7	-4.5	-6.3	-6.3	-1.8	-2.7	-3.6	-5.4	-1.8	-5.4	-7.2
AA	RDU	-4.7	-2.9	-4.7	-6.4	-6.4	-2.0	-2.9	-3.8	-5.6	-2.0	-5.6	-7.3
BA	SAN	-2.7	-0.9	-2.7	-4.5	-4.5	0.0	-0.9	-1.8	-3.6	0.0	-3.6	-5.4
BA	SEA	-2.7	-0.9	-2.7	-4.5	-4.5	0.0	-0.9	-1.8	-3.6	0.0	-3.6	-5.4
BA	SFB	-5.4	-3.6	-5.4	-7.2	-7.2	-2.7	-3.6	-4.5	-6.3	-2.7	-6.3	-8.1
VS	SFB	-5.4	-3.6	-5.4	-7.2	-7.2	-2.7	-3.6	-4.5	-6.3	-2.6	-6.3	-8.1
UA	SFO	3.0	4.8	3.0	1.2	1.2	5.7	4.8	3.9	2.1	5.7	2.1	0.3
BA	SJC	-3.6	-1.8	-3.6	-1.8	-5.4	-0.9	-1.8	-2.7	-4.5	-0.9	-4.5	-6.3
VS	SJC	-3.6	-1.8	-3.6	-5.4	-5.4	-0.9	-1.8	-2.7	-4.5	-0.8	-4.5	-6.3
DL	SLC	-4.9	-3.1	-4.9	-6.6	-6.6	-2.2	-3.1	-4.0	-5.7	-2.2	-5.7	-7.5
BA	TPA	-4.5	-2.7	-4.5	-6.3	-6.3	-1.8	-2.7	-3.6	-5.4	-0.8	-5.4	-7.2
VS	TPA	-4.5	-2.7	-4.5	-6.3	-6.3	-1.8	-2.7	-3.6	-5.4	-1.7	-5.4	-7.2
AC	YEG	-6.2	-4.0	-6.2	-8.3	-8.3	-2.9	-4.0	-5.1	-7.3	-2.9	-7.3	-9.4

Airline	Destination	UK Regional Airports											
		BFS	BHX	BRS	CWL	EMA	EDI	GLA	LBA	LPL	MAN	NCL	NWI
AC	YHZ	-8.3	-6.2	-8.3	-10.5	-10.5	-5.1	-6.2	-7.3	-9.4	-5.1	-9.4	-11.6
AC	YOW	-8.3	-6.2	-8.3	-10.5	-10.5	-5.1	-6.2	-7.3	-9.4	-5.1	-9.4	-11.6
AC	YUL	-1.9	0.3	-1.9	-4.0	-4.0	1.4	0.3	-0.8	-2.9	1.4	-2.9	-5.1
AC	YVR	-1.9	0.3	-1.9	-4.0	-4.0	1.4	0.3	-0.8	-2.9	1.4	-2.9	-5.1
AC	YWG	-8.3	-6.2	-8.3	-10.5	-10.5	-5.1	-6.2	-7.3	-9.4	-5.1	-9.4	-11.6
AC	YYC	-2.9	-0.8	-2.9	-5.1	-5.1	0.3	-0.8	-1.9	-4.0	0.3	-4.0	-6.2
AC	YYT	-9.4	-7.3	-9.4	-11.6	-11.6	-6.2	-7.3	-8.3	-10.5	-6.2	-10.5	-12.7
AC	YYZ	1.4	3.5	1.4	-0.8	-0.8	4.6	3.5	2.5	0.3	4.6	0.3	-1.9

Regression

[DataSet1] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Universal\1997 - Universal.sav

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.12	8.728	249
Congestion	4.56	.962	249
GLHR	.08	.266	249
GJFK	.17	.375	249
Seasonality	.61177565971	.17311478525	249
Distance	4.28545	.810922	249
Language	1.61451149	3.187568102	249
Ethnicity	.50477461	.694924342	249
Urban	16.04	4.698	249

Correlations

		Flights	Congestion	GLHR	GJFK	Seasonality
Pearson Correlation	Flights	1.000	.285	.387	.141	-.166
	Congestion	.285	1.000	-.010	.386	-.031
	GLHR	.387	-.010	1.000	-.129	.015
	GJFK	.141	.386	-.129	1.000	-.114
	Seasonality	-.166	-.031	.015	-.114	1.000
	Distance	-.170	.056	-.145	-.145	.128
	Language	.214	.006	.290	.085	-.042
	Ethnicity	.299	.167	.165	.086	-.007
	Urban	.489	.512	.143	.184	-.135
Sig. (1-tailed)	Flights	.	<.001	<.001	.013	.004
	Congestion	.000	.	.440	.000	.315
	GLHR	.000	.440	.	.021	.406
	GJFK	.013	.000	.021	.	.036
	Seasonality	.004	.315	.406	.036	.
	Distance	.004	.190	.011	.011	.021
	Language	.000	.463	.000	.092	.255
	Ethnicity	.000	.004	.005	.087	.458
	Urban	.000	.000	.012	.002	.017
N	Flights	249	249	249	249	249
	Congestion	249	249	249	249	249

Correlations

		Distance	Language	Ethnicity	Urban
Pearson Correlation	Flights	-.170	.214	.299	.489
	Congestion	.056	.006	.167	.512
	GLHR	-.145	.290	.165	.143
	GJFK	-.145	.085	.086	.184
	Seasonality	.128	-.042	-.007	-.135
	Distance	1.000	-.335	-.243	.034
	Language	-.335	1.000	.405	.029
	Ethnicity	-.243	.405	1.000	.110
	Urban	.034	.029	.110	1.000
Sig. (1-tailed)	Flights	.004	<.001	<.001	<.001
	Congestion	.190	.463	.004	.000
	GLHR	.011	.000	.005	.012
	GJFK	.011	.092	.087	.002
	Seasonality	.021	.255	.458	.017
	Distance	.	.000	.000	.297
	Language	.000	.	.000	.324
	Ethnicity	.000	.000	.	.041
	Urban	.297	.324	.041	.
N	Flights	249	249	249	249
	Congestion	249	249	249	249

Correlations

		Flights	Congestion	GLHR	GJFK	Seasonality
	GLHR	249	249	249	249	249
	GJFK	249	249	249	249	249
	Seasonality	249	249	249	249	249
	Distance	249	249	249	249	249
	Language	249	249	249	249	249
	Ethnicity	249	249	249	249	249
	Urban	249	249	249	249	249

Correlations

		Distance	Language	Ethnicity	Urban
	GLHR	249	249	249	249
	GJFK	249	249	249	249
	Seasonality	249	249	249	249
	Distance	249	249	249	249
	Language	249	249	249	249
	Ethnicity	249	249	249	249
	Urban	249	249	249	249

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, Seasonality, GJFK, GLHR, Distance, Ethnicity, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.637[a]	.406	.386	6.838	.406	20.513

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	240	<.001

a. Predictors: (Constant), Urban, Language, Seasonality, GJFK, GLHR, Distance, Ethnicity, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7672.418	8	959.052	20.513	<.001[b]
	Residual	11220.723	240	46.753		
	Total	18893.141	248			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, Seasonality, GJFK, GLHR, Distance, Ethnicity, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.361	3.521		.103	.918
	Congestion	.390	.572	.043	.682	.496
	GLHR	9.778	1.766	.298	5.537	<.001
	GJFK	1.268	1.303	.055	.974	.331
	Seasonality	-5.022	2.572	-.100	-1.953	.052
	Distance	-.813	.589	-.076	-1.381	.168
	Language	.034	.159	.012	.211	.833
	Ethnicity	2.157	.703	.172	3.069	.002
	Urban	.713	.111	.384	6.454	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.624	1.604
	GLHR	.854	1.171
	GJFK	.789	1.268
	Seasonality	.951	1.051
	Distance	.827	1.210
	Language	.730	1.370
	Ethnicity	.790	1.266
	Urban	.699	1.430

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GLHR	GJFK
1	1	5.810	1.000	.00	.00	.00	.00
	2	1.153	2.245	.00	.00	.33	.04
	3	.861	2.597	.00	.00	.06	.43
	4	.609	3.089	.00	.00	.51	.32
	5	.409	3.768	.00	.00	.05	.01
	6	.085	8.260	.00	.02	.01	.07
	7	.038	12.357	.03	.00	.02	.01
	8	.022	16.150	.00	.82	.00	.11
	9	.011	22.685	.97	.16	.00	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.01	.01	.00
	2	.00	.00	.14	.04	.00
	3	.00	.00	.11	.05	.00
	4	.00	.00	.09	.17	.00
	5	.00	.00	.59	.68	.00
	6	.43	.00	.00	.01	.27
	7	.47	.31	.00	.01	.36
	8	.01	.19	.00	.03	.36
	9	.08	.49	.06	.00	.00

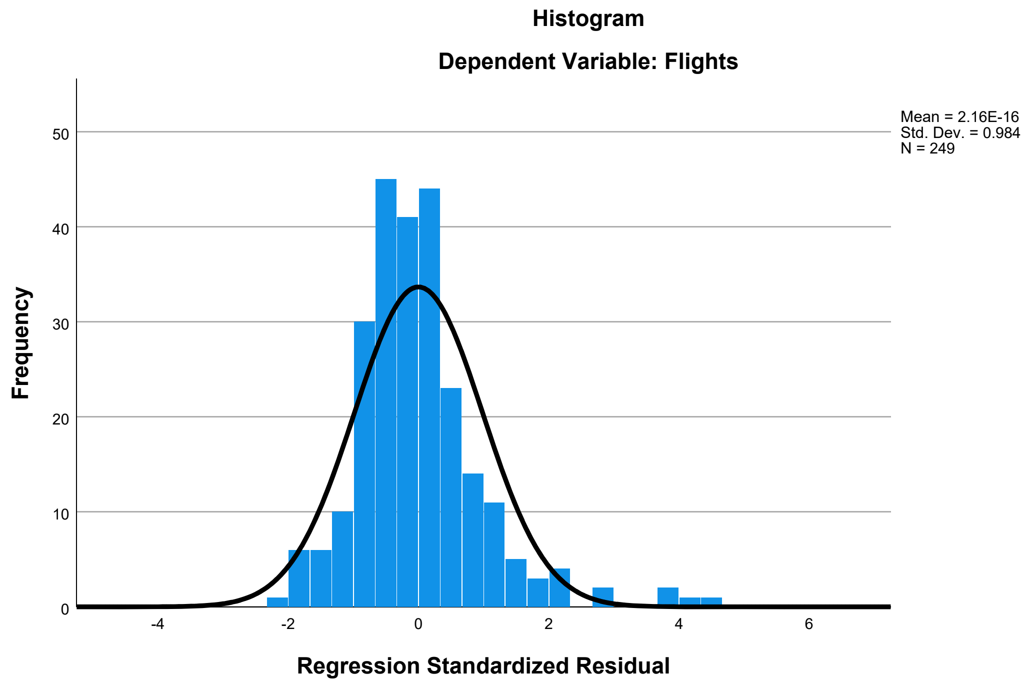
a. Dependent Variable: Flights

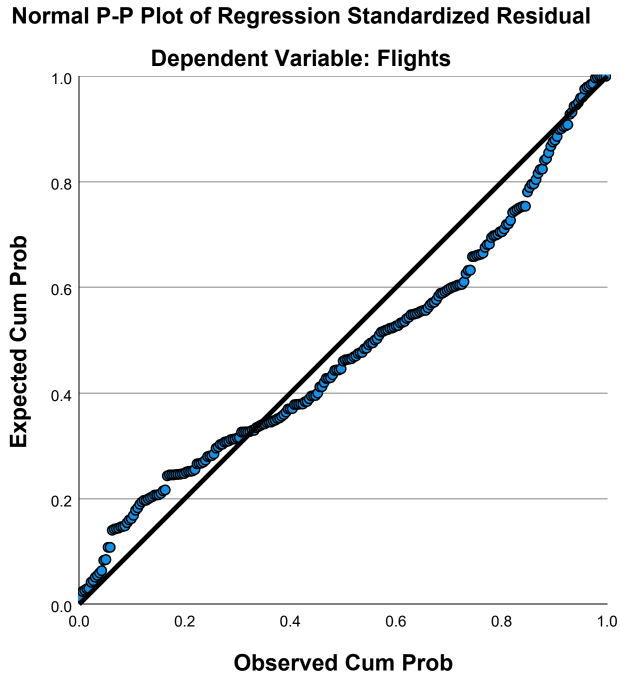
Residuals Statistics[a]

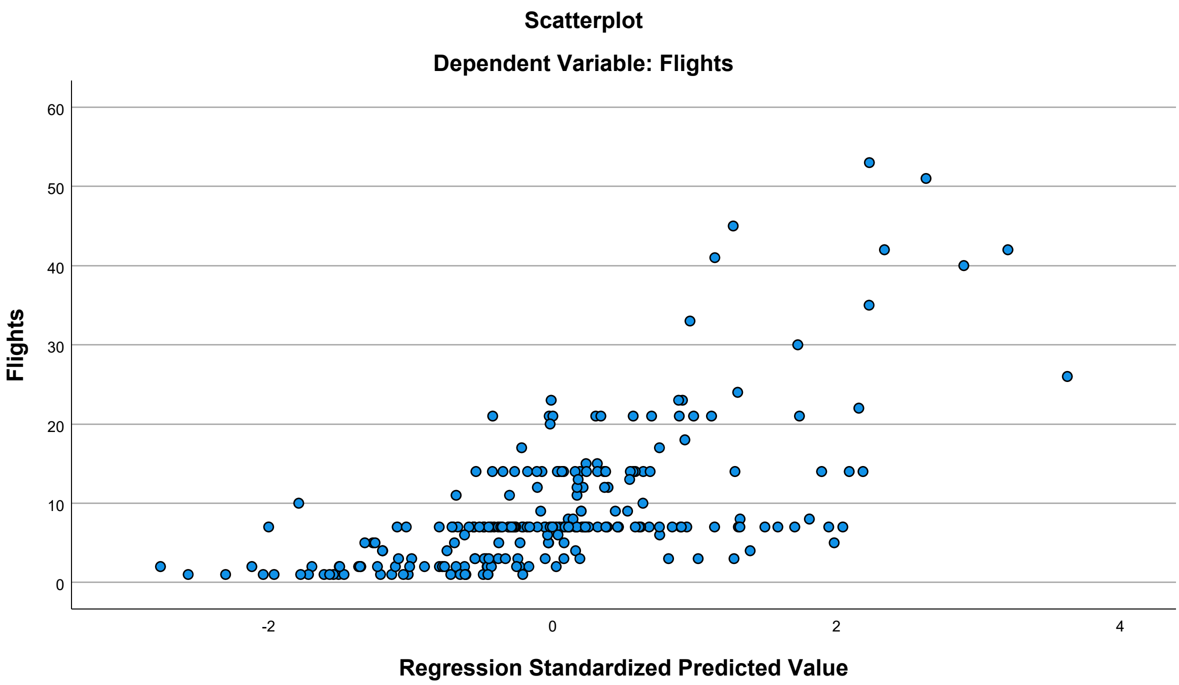
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-6.24	29.29	9.12	5.562	249
Residual	-15.156	31.464	.000	6.726	249
Std. Predicted Value	-2.763	3.626	.000	1.000	249
Std. Residual	-2.217	4.602	.000	.984	249

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
60
-2
0
2
4

Regression

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[DataSet7] C:\Users\user\Google Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Try
 4\Universal\2002 - Universal.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.85	12.303	278
Congestion	4.45	.929	278
GLHR	.07	.253	278
GJFK	.15	.355	278
Seasonality	.66675346983	.20955052397	278
Distance	4.23120	.768991	278
Language	1.83606315	3.153844452	278
Ethnicity	.57308818	.719373663	278
Urban	15.98	4.255	278

Correlations

		Flights	Congestion	GLHR	GJFK	Seasonality
Pearson Correlation	Flights	1.000	.229	.484	.106	-.270
	Congestion	.229	1.000	.021	.399	-.049
	GLHR	.484	.021	1.000	-.072	-.152
	GJFK	.106	.399	-.072	1.000	-.103
	Seasonality	-.270	-.049	-.152	-.103	1.000
	Distance	-.110	.117	-.135	.006	-.068
	Language	.211	-.121	.270	-.026	.044
	Ethnicity	.129	.016	.098	.016	.124
	Urban	.433	.534	.176	.174	-.297
Sig. (1-tailed)	Flights	.	<.001	<.001	.039	<.001
	Congestion	.000	.	.362	.000	.209
	GLHR	.000	.362	.	.114	.006
	GJFK	.039	.000	.114	.	.043
	Seasonality	.000	.209	.006	.043	.
	Distance	.033	.026	.012	.459	.128
	Language	.000	.022	.000	.332	.232
	Ethnicity	.016	.398	.052	.393	.020
	Urban	.000	.000	.002	.002	.000
N	Flights	278	278	278	278	278
	Congestion	278	278	278	278	278

Correlations

		Distance	Language	Ethnicity	Urban
Pearson Correlation	Flights	-.110	.211	.129	.433
	Congestion	.117	-.121	.016	.534
	GLHR	-.135	.270	.098	.176
	GJFK	.006	-.026	.016	.174
	Seasonality	-.068	.044	.124	-.297
	Distance	1.000	-.364	-.265	.116
	Language	-.364	1.000	.485	-.130
	Ethnicity	-.265	.485	1.000	-.068
	Urban	.116	-.130	-.068	1.000
Sig. (1-tailed)	Flights	.033	<.001	.016	<.001
	Congestion	.026	.022	.398	.000
	GLHR	.012	.000	.052	.002
	GJFK	.459	.332	.393	.002
	Seasonality	.128	.232	.020	.000
	Distance	.	.000	.000	.027
	Language	.000	.	.000	.015
	Ethnicity	.000	.000	.	.131
	Urban	.027	.015	.131	.
N	Flights	278	278	278	278
	Congestion	278	278	278	278

Correlations

		Flights	Congestion	GLHR	GJFK	Seasonality
	GLHR	278	278	278	278	278
	GJFK	278	278	278	278	278
	Seasonality	278	278	278	278	278
	Distance	278	278	278	278	278
	Language	278	278	278	278	278
	Ethnicity	278	278	278	278	278
	Urban	278	278	278	278	278

Correlations

		Distance	Language	Ethnicity	Urban
	GLHR	278	278	278	278
	GJFK	278	278	278	278
	Seasonality	278	278	278	278
	Distance	278	278	278	278
	Language	278	278	278	278
	Ethnicity	278	278	278	278
	Urban	278	278	278	278

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, GJFK, GLHR, Distance, Seasonality, Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.636[a]	.405	.387	9.629	.405	22.899	8	269	<.001

a. Predictors: (Constant), Urban, Ethnicity, GJFK, GLHR, Distance, Seasonality, Language, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16984.517	8	2123.065	22.899	<.001[b]
	Residual	24940.436	269	92.715		
	Total	41924.953	277			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, GJFK, GLHR, Distance, Seasonality, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-1.967	5.175		-.380	.704
	Congestion	.552	.810	.042	.681	.496
	GLHR	17.755	2.477	.365	7.169	<.001
	GJFK	1.674	1.802	.048	.929	.354
	Seasonality	-7.423	2.978	-.126	-2.493	.013
	Distance	-.863	.819	-.054	-1.053	.293
	Language	.464	.228	.119	2.036	.043
	Ethnicity	.991	.936	.058	1.059	.291
	Urban	.944	.174	.326	5.436	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	Congestion	.591	1.691
	GLHR	.854	1.171
	GJFK	.817	1.224
	Seasonality	.860	1.163
	Distance	.843	1.186
	Language	.649	1.540
	Ethnicity	.738	1.355
	Urban	.614	1.630

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GLHR	GJFK
1	1	5.843	1.000	.00	.00	.00	.00
	2	1.138	2.266	.00	.00	.30	.08
	3	.783	2.731	.00	.00	.02	.71
	4	.750	2.791	.00	.00	.53	.02
	5	.326	4.236	.00	.00	.06	.00
	6	.094	7.872	.00	.01	.08	.05
	7	.037	12.621	.02	.04	.01	.02
	8	.019	17.481	.00	.88	.00	.10
	9	.009	24.889	.98	.07	.00	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.01	.01	.00
	2	.00	.00	.12	.03	.00
	3	.00	.00	.03	.01	.00
	4	.00	.00	.12	.15	.00
	5	.00	.00	.62	.76	.00
	6	.54	.00	.02	.01	.12
	7	.20	.40	.00	.02	.26
	8	.09	.03	.00	.01	.57
	9	.16	.56	.09	.00	.04

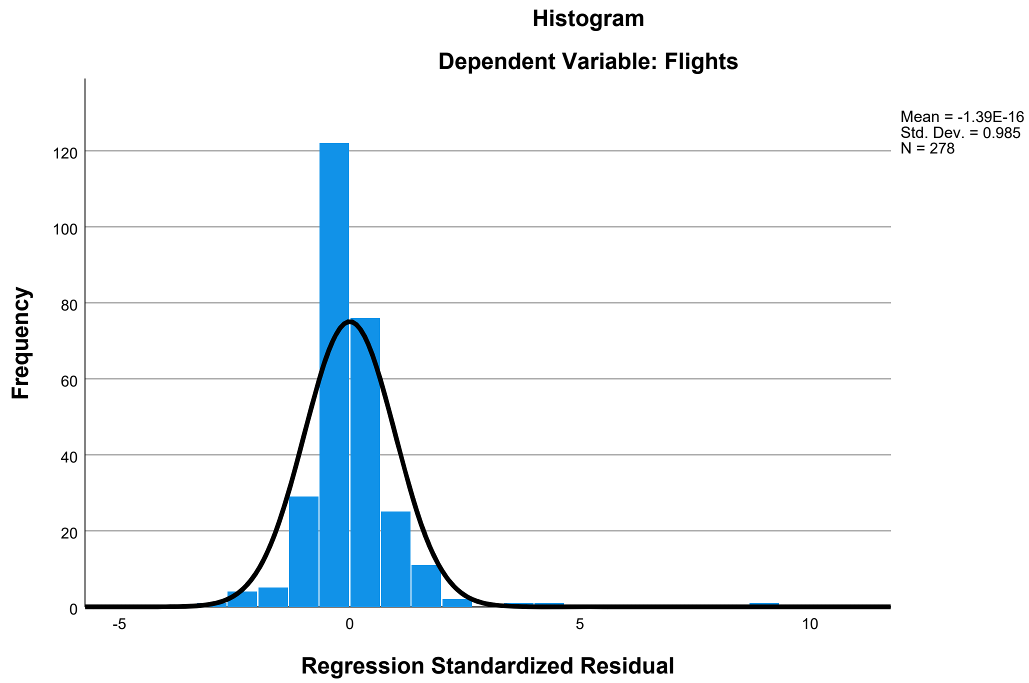
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-5.74	43.39	9.85	7.830	278
Residual	-28.720	87.609	.000	9.489	278
Std. Predicted Value	-1.991	4.283	.000	1.000	278
Std. Residual	-2.983	9.099	.000	.985	278

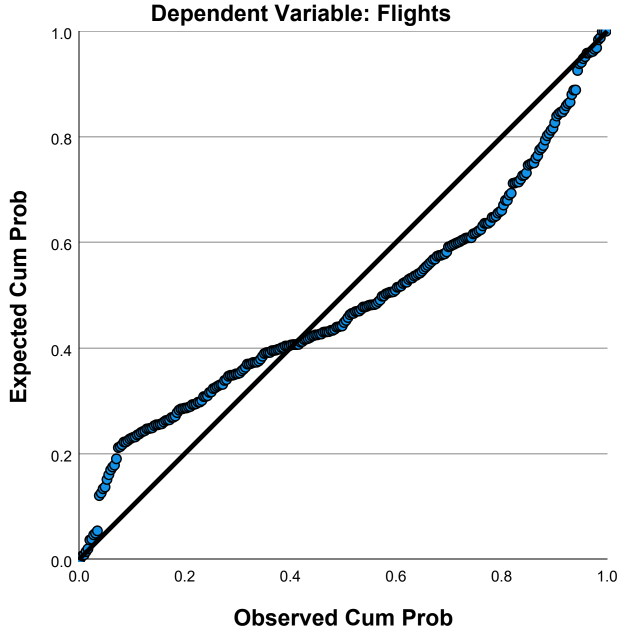
a. Dependent Variable: Flights

Charts



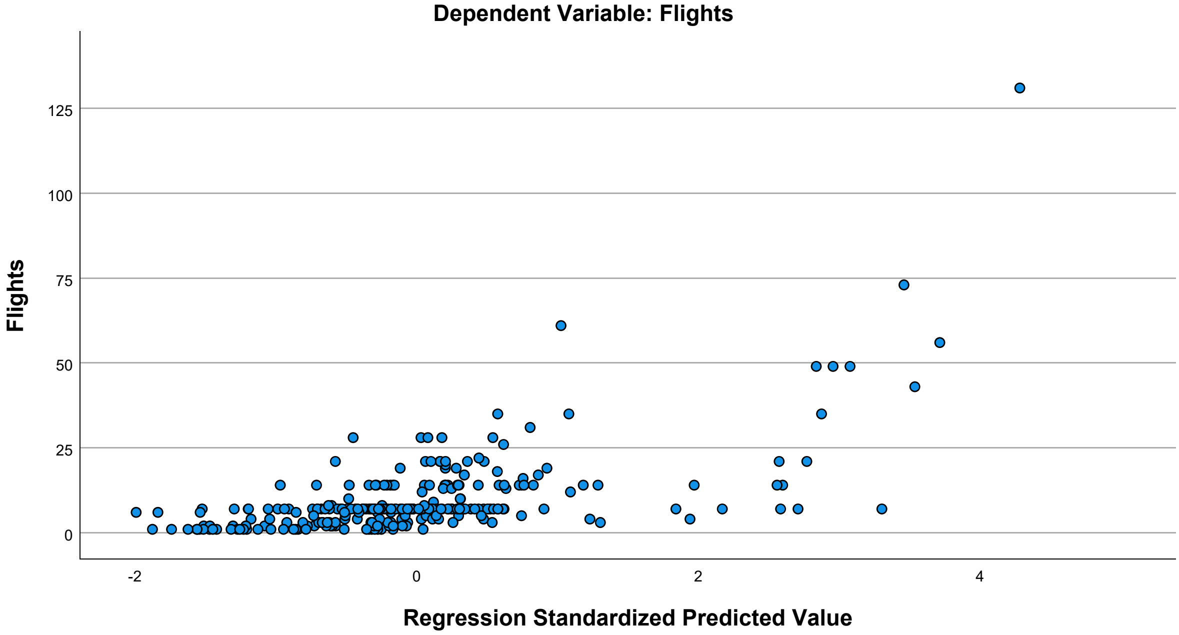
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

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[DataSet8] C:\Users\user\Google Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Try
 4\Universal\2007 - Universal.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.38	11.644	405
Congestion	4.43	1.033	405
GLHR	.05	.227	405
GJFK	.14	.343	405
Seasonality	.71681084141	.21376223589	405
Distance	4.21498	.964613	405
Language	1.80484469	3.168516556	405
Ethnicity	.66440337	.858546447	405
Urban	14.65	4.815	405

Correlations

		Flights	Congestion	GLHR	GJFK	Seasonality
Pearson Correlation	Flights	1.000	.264	.447	.133	-.342
	Congestion	.264	1.000	.037	.338	-.273
	GLHR	.447	.037	1.000	-.063	-.172
	GJFK	.133	.338	-.063	1.000	-.139
	Seasonality	-.342	-.273	-.172	-.139	1.000
	Distance	-.052	.105	-.062	.070	-.245
	Language	.195	-.097	.224	.048	.080
	Ethnicity	.091	.040	.058	.106	.156
	Urban	.436	.581	.151	.222	-.430
Sig. (1-tailed)	Flights	.	<.001	<.001	.004	<.001
	Congestion	.000	.	.226	.000	.000
	GLHR	.000	.226	.	.102	.000
	GJFK	.004	.000	.102	.	.002
	Seasonality	.000	.000	.000	.002	.
	Distance	.149	.018	.107	.079	.000
	Language	.000	.025	.000	.168	.054
	Ethnicity	.034	.214	.123	.017	.001
	Urban	.000	.000	.001	.000	.000
N	Flights	405	405	405	405	405
	Congestion	405	405	405	405	405

Correlations

		Distance	Language	Ethnicity	Urban
Pearson Correlation	Flights	-.052	.195	.091	.436
	Congestion	.105	-.097	.040	.581
	GLHR	-.062	.224	.058	.151
	GJFK	.070	.048	.106	.222
	Seasonality	-.245	.080	.156	-.430
	Distance	1.000	-.345	-.263	.157
	Language	-.345	1.000	.502	-.015
	Ethnicity	-.263	.502	1.000	.009
	Urban	.157	-.015	.009	1.000
Sig. (1-tailed)	Flights	.149	<.001	.034	<.001
	Congestion	.018	.025	.214	.000
	GLHR	.107	.000	.123	.001
	GJFK	.079	.168	.017	.000
	Seasonality	.000	.054	.001	.000
	Distance	.	.000	.000	.001
	Language	.000	.	.000	.385
	Ethnicity	.000	.000	.	.425
	Urban	.001	.385	.425	.
N	Flights	405	405	405	405
	Congestion	405	405	405	405

Correlations

		Flights	Congestion	GLHR	GJFK	Seasonality
	GLHR	405	405	405	405	405
	GJFK	405	405	405	405	405
	Seasonality	405	405	405	405	405
	Distance	405	405	405	405	405
	Language	405	405	405	405	405
	Ethnicity	405	405	405	405	405
	Urban	405	405	405	405	405

Correlations

		Distance	Language	Ethnicity	Urban
	GLHR	405	405	405	405
	GJFK	405	405	405	405
	Seasonality	405	405	405	405
	Distance	405	405	405	405
	Language	405	405	405	405
	Ethnicity	405	405	405	405
	Urban	405	405	405	405

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, GLHR, GJFK, Distance, Seasonality, Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.619[a]	.383	.371	9.235	.383	30.789

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	396	<.001

a. Predictors: (Constant), Urban, Ethnicity, GLHR, GJFK, Distance, Seasonality, Language, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21004.831	8	2625.604	30.789	<.001[b]
	Residual	33770.369	396	85.279		
	Total	54775.200	404			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, GLHR, GJFK, Distance, Seasonality, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	6.524	4.126		1.581	.115
	Congestion	.363	.574	.032	.633	.527
	GLHR	17.844	2.145	.348	8.319	<.001
	GJFK	1.876	1.447	.055	1.296	.196
	Seasonality	-9.346	2.486	-.172	-3.760	<.001
	Distance	-1.065	.527	-.088	-2.022	.044
	Language	.358	.180	.097	1.987	.048
	Ethnicity	.209	.636	.015	.329	.742
	Urban	.711	.126	.294	5.630	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.600	1.666
	GLHR	.891	1.123
	GJFK	.857	1.167
	Seasonality	.748	1.338
	Distance	.818	1.222
	Language	.648	1.544
	Ethnicity	.708	1.413
	Urban	.571	1.753

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GLHR	GJFK
1	1	5.766	1.000	.00	.00	.00	.00
	2	1.084	2.306	.00	.00	.40	.05
	3	.863	2.585	.00	.00	.11	.37
	4	.763	2.749	.00	.00	.36	.43
	5	.321	4.240	.00	.00	.06	.00
	6	.119	6.959	.00	.01	.07	.09
	7	.049	10.893	.00	.04	.00	.00
	8	.026	14.914	.00	.74	.00	.03
	9	.010	24.594	.99	.20	.00	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.01	.01	.00
	2	.00	.00	.12	.03	.00
	3	.00	.00	.10	.08	.00
	4	.00	.00	.05	.07	.00
	5	.00	.00	.62	.77	.00
	6	.28	.00	.01	.01	.17
	7	.17	.55	.02	.03	.14
	8	.11	.02	.01	.00	.66
	9	.43	.43	.06	.00	.02

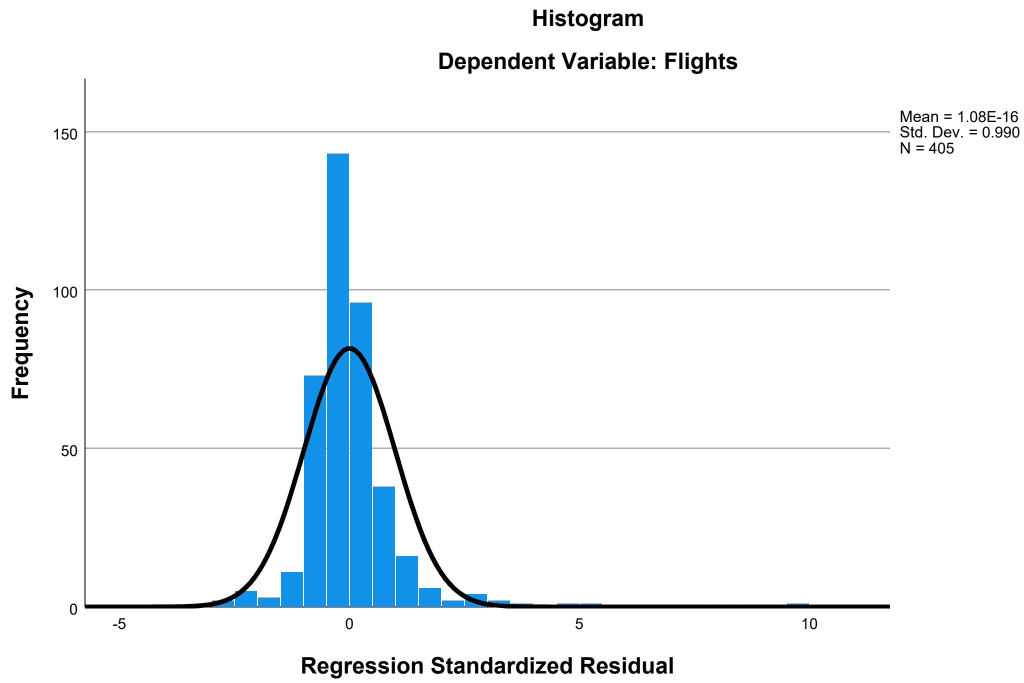
a. Dependent Variable: Flights

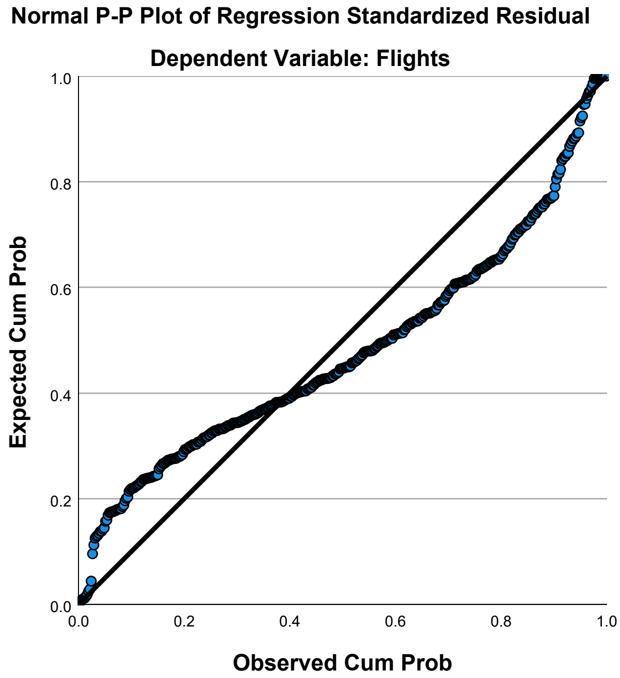
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-5.45	42.01	9.38	7.211	405
Residual	-24.781	87.995	.000	9.143	405
Std. Predicted Value	-2.057	4.525	.000	1.000	405
Std. Residual	-2.683	9.529	.000	.990	405

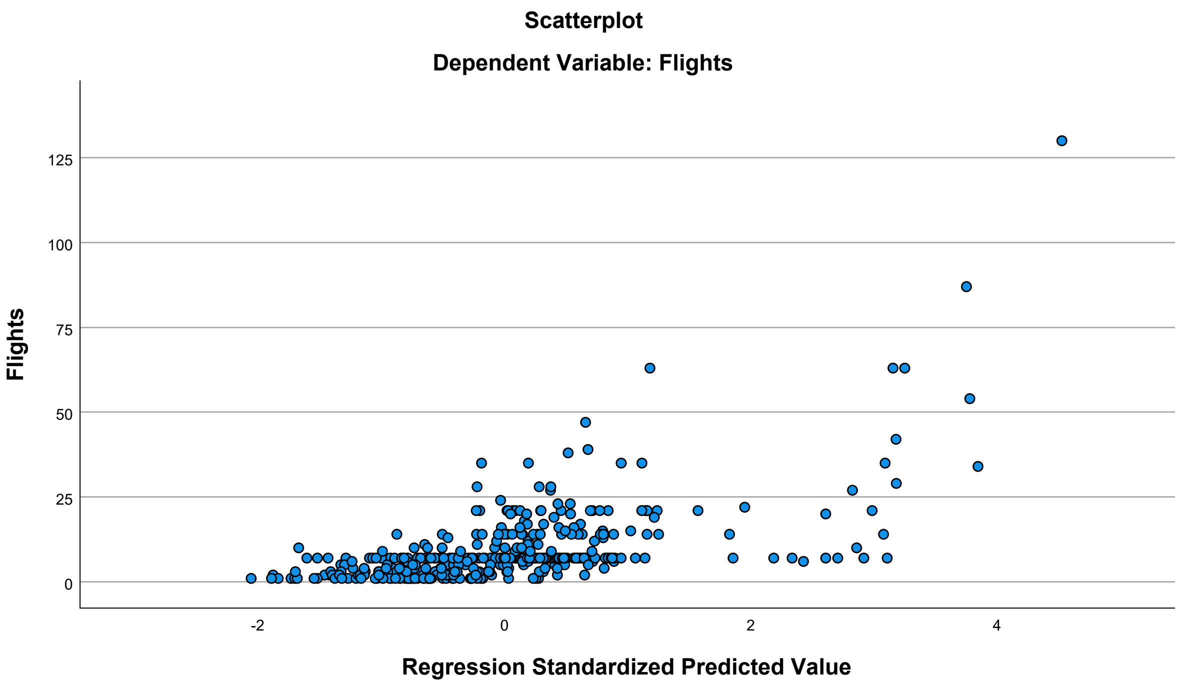
a. Dependent Variable: Flights

Charts





Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0



Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
125
100
75
50
25
0
-2
0
2
4

Regression

```
[DataSet9] C:\Users\user\Google Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Try
 4\Universal\2012 - Universal.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.79	11.800	394
Congestion	4.59	1.033	394
GLHR	.07	.261	394
GJFK	.13	.336	394
Seasonality	.68103553391	.22145519084	394
Distance	4.44754	1.118681	394
Language	1.27182702	2.638106706	394
Ethnicity	.49815353	.715443732	394
Urban	16.62	4.083	394

Correlations

		Flights	Congestion	GLHR	GJFK	Seasonality
Pearson Correlation	Flights	1.000	.214	.442	.165	-.112
	Congestion	.214	1.000	-.040	.342	-.049
	GLHR	.442	-.040	1.000	-.080	-.171
	GJFK	.165	.342	-.080	1.000	-.023
	Seasonality	-.112	-.049	-.171	-.023	1.000
	Distance	-.109	-.053	-.081	.015	-.221
	Language	.277	.006	.358	.009	.034
	Ethnicity	.142	.146	.091	.123	.139
	Urban	.429	.485	.143	.206	-.334
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001	.013
	Congestion	.000	.	.215	.000	.165
	GLHR	.000	.215	.	.057	.000
	GJFK	.000	.000	.057	.	.323
	Seasonality	.013	.165	.000	.323	.
	Distance	.016	.145	.054	.386	.000
	Language	.000	.451	.000	.427	.252
	Ethnicity	.002	.002	.035	.007	.003
	Urban	.000	.000	.002	.000	.000
N	Flights	394	394	394	394	394
	Congestion	394	394	394	394	394

Correlations

		Distance	Language	Ethnicity	Urban
Pearson Correlation	Flights	-.109	.277	.142	.429
	Congestion	-.053	.006	.146	.485
	GLHR	-.081	.358	.091	.143
	GJFK	.015	.009	.123	.206
	Seasonality	-.221	.034	.139	-.334
	Distance	1.000	-.302	-.273	.194
	Language	-.302	1.000	.513	-.047
	Ethnicity	-.273	.513	1.000	-.017
	Urban	.194	-.047	-.017	1.000
Sig. (1-tailed)	Flights	.016	<.001	.002	<.001
	Congestion	.145	.451	.002	.000
	GLHR	.054	.000	.035	.002
	GJFK	.386	.427	.007	.000
	Seasonality	.000	.252	.003	.000
	Distance	.	.000	.000	.000
	Language	.000	.	.000	.174
	Ethnicity	.000	.000	.	.365
	Urban	.000	.174	.365	.
N	Flights	394	394	394	394
	Congestion	394	394	394	394

Correlations

		Flights	Congestion	GLHR	GJFK	Seasonality
	GLHR	394	394	394	394	394
	GJFK	394	394	394	394	394
	Seasonality	394	394	394	394	394
	Distance	394	394	394	394	394
	Language	394	394	394	394	394
	Ethnicity	394	394	394	394	394
	Urban	394	394	394	394	394

Correlations

		Distance	Language	Ethnicity	Urban
	GLHR	394	394	394	394
	GJFK	394	394	394	394
	Seasonality	394	394	394	394
	Distance	394	394	394	394
	Language	394	394	394	394
	Ethnicity	394	394	394	394
	Urban	394	394	394	394

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, GLHR, GJFK, Distance, Seasonality, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.622[a]	.387	.374	9.335	.387	30.373	8	385	<.001

a. Predictors: (Constant), Urban, Ethnicity, GLHR, GJFK, Distance, Seasonality, Congestion, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21172.361	8	2646.545	30.373	<.001[b]
	Residual	33547.154	385	87.135		
	Total	54719.515	393			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, GLHR, GJFK, Distance, Seasonality, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-8.546	3.971		-2.152	.032
	Congestion	-.154	.562	-.013	-.275	.784
	GLHR	15.506	2.013	.344	7.701	<.001
	GJFK	4.038	1.506	.115	2.682	.008
	Seasonality	3.034	2.339	.057	1.297	.195
	Distance	-1.146	.465	-.109	-2.464	.014
	Language	.624	.228	.140	2.735	.007
	Ethnicity	-.055	.797	-.003	-.068	.945
	Urban	1.182	.146	.409	8.090	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.659	1.518
	GLHR	.800	1.250
	GJFK	.866	1.155
	Seasonality	.826	1.210
	Distance	.819	1.221
	Language	.612	1.635
	Ethnicity	.681	1.467
	Urban	.623	1.605

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GLHR	GJFK
1	1	5.694	1.000	.00	.00	.00	.00
	2	1.232	2.149	.00	.00	.24	.03
	3	.870	2.559	.00	.00	.07	.54
	4	.702	2.848	.00	.00	.45	.31
	5	.311	4.281	.00	.00	.15	.01
	6	.105	7.350	.00	.01	.06	.03
	7	.054	10.314	.00	.16	.00	.04
	8	.022	16.158	.00	.65	.02	.01
	9	.011	22.703	.99	.18	.00	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions: Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.01	.00
	2	.00	.00	.15	.03	.00
	3	.00	.00	.03	.07	.00
	4	.00	.00	.05	.13	.00
	5	.00	.00	.72	.70	.00
	6	.54	.03	.01	.02	.06
	7	.00	.55	.01	.03	.08
	8	.12	.04	.00	.00	.81
	9	.34	.38	.03	.00	.06

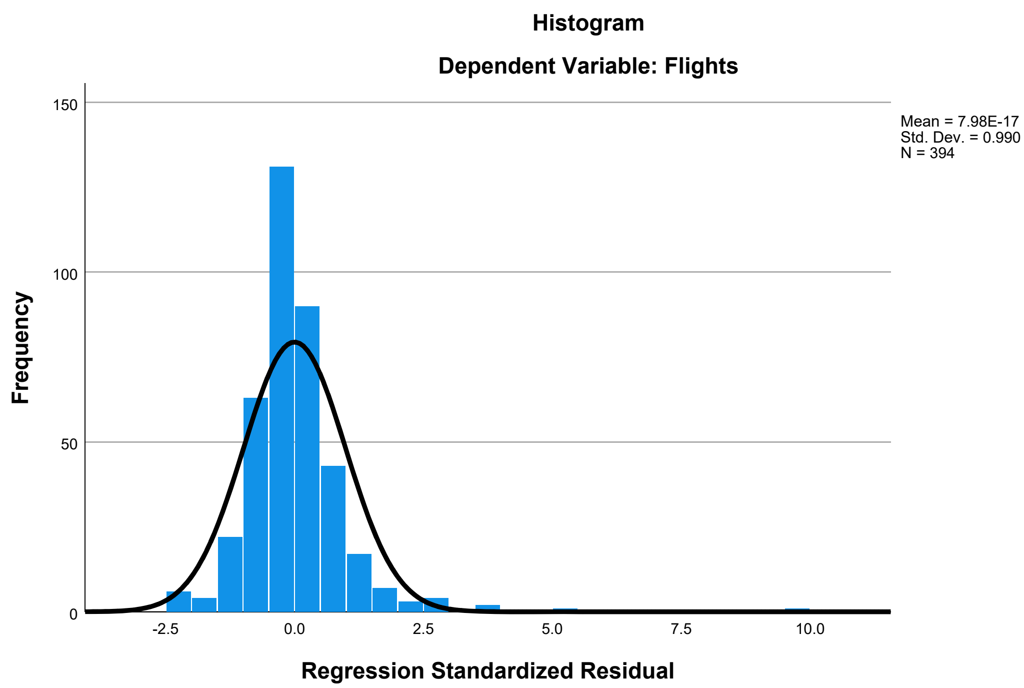
a. Dependent Variable: Flights

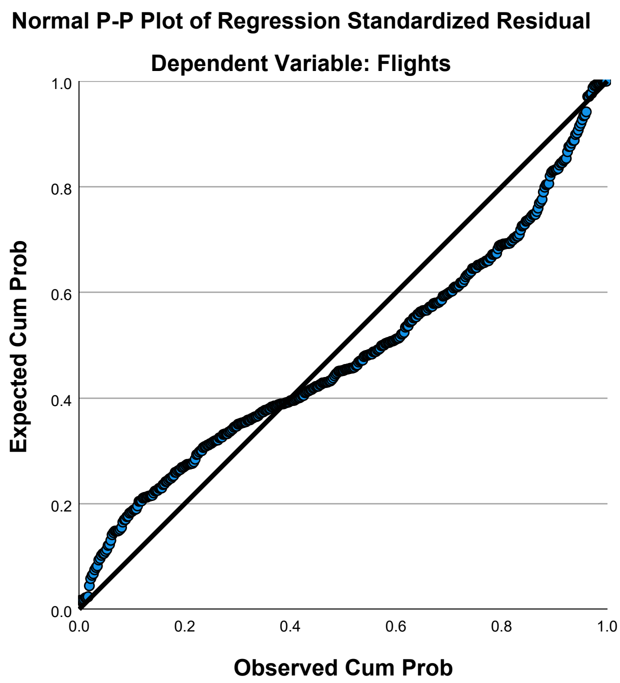
Residuals Statistics[a]

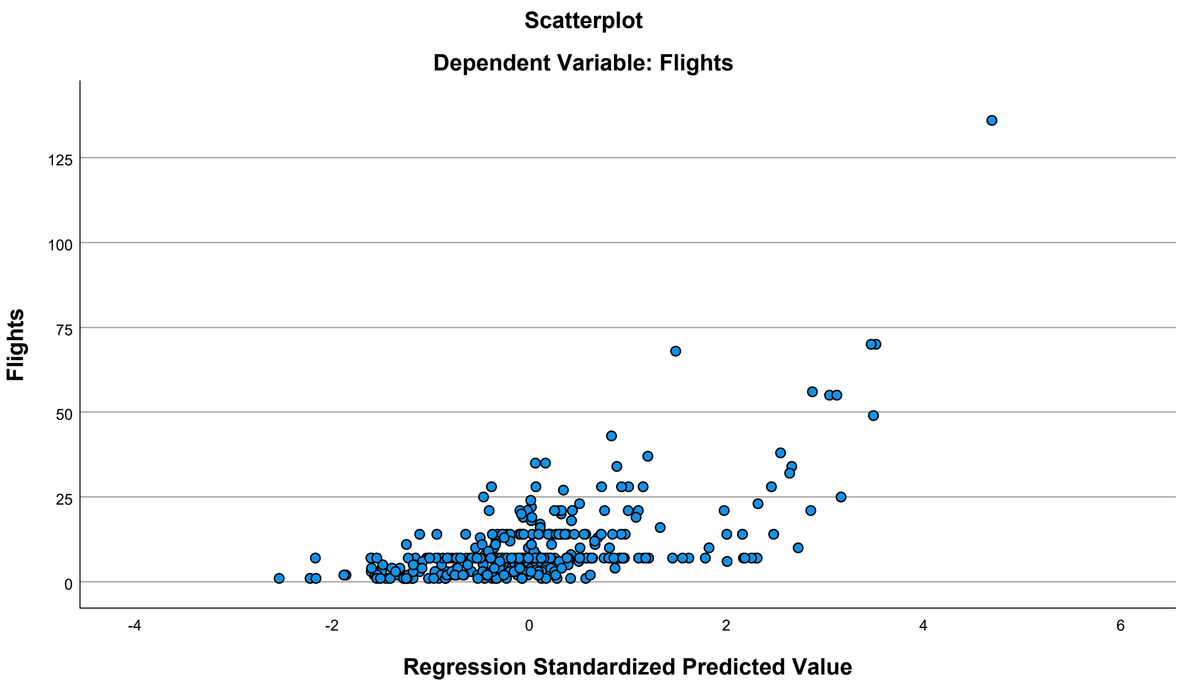
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-8.83	44.23	9.79	7.340	394
Residual	-19.812	91.770	.000	9.239	394
Std. Predicted Value	-2.537	4.692	.000	1.000	394
Std. Residual	-2.122	9.831	.000	.990	394

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
125
100
75
50
25
0
-4
-2
0
2
4
6
Regression Standardized Predicted Value

Regression

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[DataSet10] C:\Users\user\Google Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Tr
y 4\Universal\2017 - Universal.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.60	10.621	518
Congestion	4.49	.937	518
GLHR	.07	.248	518
GJFK	.11	.308	518
Seasonality	.72265715221	.21556259818	518
Distance	4.54346	1.240992	518
Language	1.20867726	2.717391468	518
Ethnicity	.39592411969	.59873420275	518
Urban	15.68	4.612	518

Correlations

		Flights	Congestion	GLHR	GJFK	Seasonality
Pearson Correlation	Flights	1.000	.257	.380	.222	-.244
	Congestion	.257	1.000	-.031	.415	-.118
	GLHR	.380	-.031	1.000	-.066	-.195
	GJFK	.222	.415	-.066	1.000	-.093
	Seasonality	-.244	-.118	-.195	-.093	1.000
	Distance	-.140	.003	-.066	-.030	-.309
	Language	.291	-.035	.292	.065	.077
	Ethnicity	.206	.188	.091	.118	.101
	Urban	.394	.512	.125	.265	-.441
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001	<.001
	Congestion	.000	.	.240	.000	.004
	GLHR	.000	.240	.	.067	.000
	GJFK	.000	.000	.067	.	.017
	Seasonality	.000	.004	.000	.017	.
	Distance	.001	.475	.068	.251	.000
	Language	.000	.214	.000	.071	.041
	Ethnicity	.000	.000	.019	.004	.011
	Urban	.000	.000	.002	.000	.000
N	Flights	518	518	518	518	518
	Congestion	518	518	518	518	518

Correlations

		Distance	Language	Ethnicity	Urban
Pearson Correlation	Flights	-.140	.291	.206	.394
	Congestion	.003	-.035	.188	.512
	GLHR	-.066	.292	.091	.125
	GJFK	-.030	.065	.118	.265
	Seasonality	-.309	.077	.101	-.441
	Distance	1.000	-.295	-.223	.252
	Language	-.295	1.000	.470	.048
	Ethnicity	-.223	.470	1.000	.075
	Urban	.252	.048	.075	1.000
Sig. (1-tailed)	Flights	<.001	<.001	<.001	<.001
	Congestion	.475	.214	.000	.000
	GLHR	.068	.000	.019	.002
	GJFK	.251	.071	.004	.000
	Seasonality	.000	.041	.011	.000
	Distance	.	.000	.000	.000
	Language	.000	.	.000	.138
	Ethnicity	.000	.000	.	.045
	Urban	.000	.138	.045	.
N	Flights	518	518	518	518
	Congestion	518	518	518	518

Correlations

		Flights	Congestion	GLHR	GJFK	Seasonality
	GLHR	518	518	518	518	518
	GJFK	518	518	518	518	518
	Seasonality	518	518	518	518	518
	Distance	518	518	518	518	518
	Language	518	518	518	518	518
	Ethnicity	518	518	518	518	518
	Urban	518	518	518	518	518

Correlations

		Distance	Language	Ethnicity	Urban
	GLHR	518	518	518	518
	GJFK	518	518	518	518
	Seasonality	518	518	518	518
	Distance	518	518	518	518
	Language	518	518	518	518
	Ethnicity	518	518	518	518
	Urban	518	518	518	518

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, GJFK, GLHR, Distance, Ethnicity, Seasonality, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.598[a]	.357	.347	8.584	.357	35.329	8	509	<.001

a. Predictors: (Constant), Urban, Language, GJFK, GLHR, Distance, Ethnicity, Seasonality, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20823.594	8	2602.949	35.329	<.001[b]
	Residual	37502.276	509	73.678		
	Total	58325.871	517			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, GJFK, GLHR, Distance, Ethnicity, Seasonality, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	5.497	3.327		1.652	.099
	Congestion	.628	.522	.055	1.205	.229
	GLHR	11.926	1.654	.278	7.213	<.001
	GJFK	3.847	1.363	.112	2.823	.005
	Seasonality	-5.778	2.066	-.117	-2.797	.005
	Distance	-1.530	.345	-.179	-4.435	<.001
	Language	.483	.172	.124	2.806	.005
	Ethnicity	.886	.741	.050	1.196	.232
	Urban	.656	.111	.285	5.934	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.597	1.675
	GLHR	.848	1.179
	GJFK	.807	1.239
	Seasonality	.719	1.392
	Distance	.777	1.286
	Language	.652	1.534
	Ethnicity	.725	1.380
	Urban	.548	1.825

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GLHR	GJFK
1	1	5.600	1.000	.00	.00	.00	.00
	2	1.190	2.170	.00	.00	.25	.01
	3	.914	2.476	.00	.00	.11	.52
	4	.727	2.775	.00	.00	.46	.28
	5	.372	3.878	.00	.00	.09	.00
	6	.114	7.003	.00	.00	.06	.05
	7	.053	10.323	.00	.08	.00	.08
	8	.021	16.375	.02	.61	.00	.03
	9	.010	23.818	.98	.31	.02	.04

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.01	.00
	2	.00	.00	.17	.05	.00
	3	.00	.00	.03	.05	.00
	4	.00	.00	.06	.13	.00
	5	.00	.00	.62	.70	.00
	6	.32	.04	.03	.00	.10
	7	.00	.64	.01	.03	.17
	8	.30	.00	.03	.01	.72
	9	.37	.31	.03	.01	.01

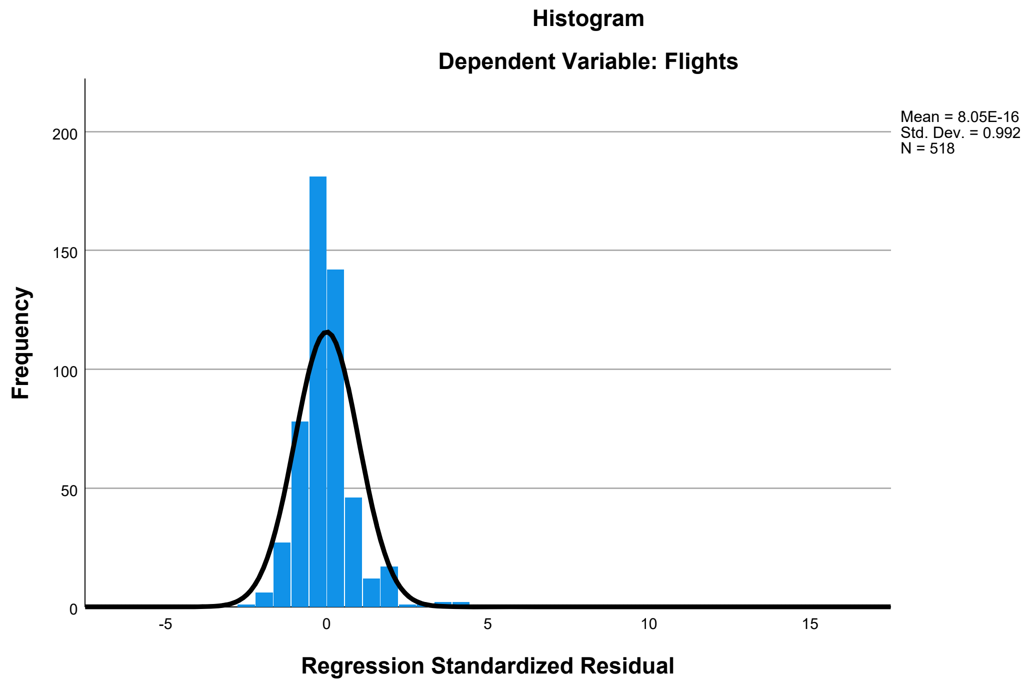
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-6.45	39.41	9.60	6.346	518
Residual	-20.269	100.595	.000	8.517	518
Std. Predicted Value	-2.530	4.696	.000	1.000	518
Std. Residual	-2.361	11.719	.000	.992	518

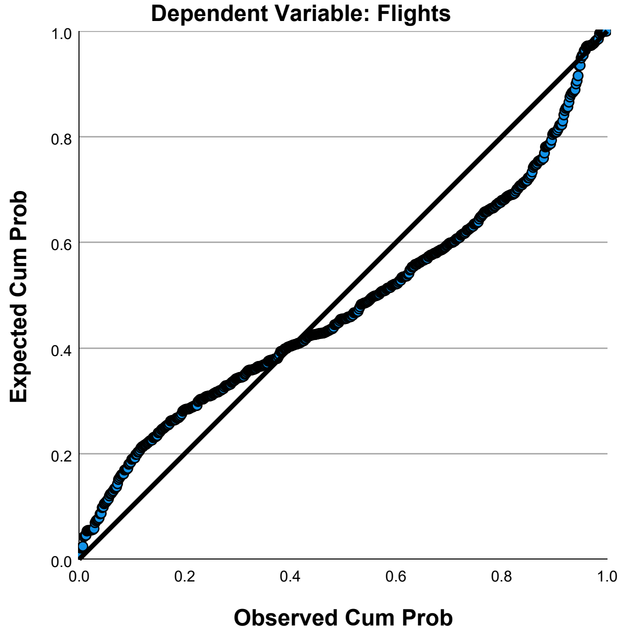
a. Dependent Variable: Flights

Charts



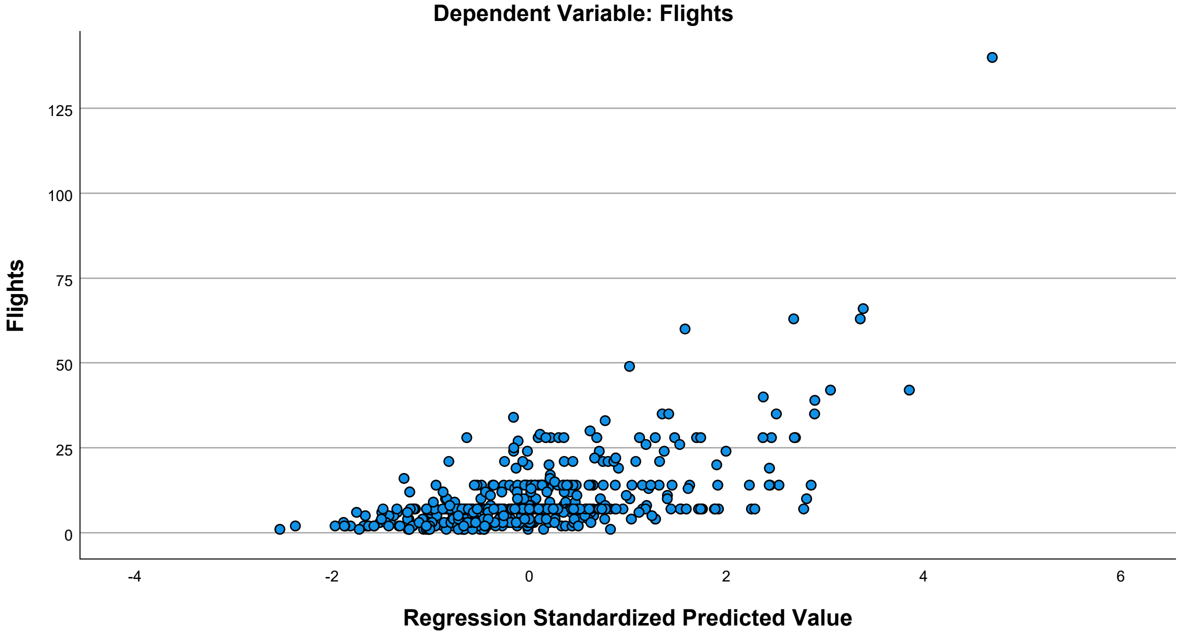
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

```
[DataSet3] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Airline Region\1997 - North Atlantic.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.84	5.233	352
Hub Factor	.57568434010	.32234238599	352
Congestion	4.74	.992	352
GLHR	.13	.341	352
GJFK	.23	.423	352
PartnerConcentration	.39473562500	1.3042017742	352
Seasonality	.62196719904	.18451349831	352
Distance	4241.49	783.054	352
Language	131851.49508	561344.16199	352
Ethnicity	588127.49	766661.618	352
Urban	17.17	4.654	352

Correlations

		Flights	Hub Factor	Congestion	GLHR
Pearson Correlation	Flights	1.000	-.048	.174	.343
	Hub Factor	-.048	1.000	.044	-.142
	Congestion	.174	.044	1.000	.043
	GLHR	.343	-.142	.043	1.000
	GJFK	.096	.033	.469	-.098
	PartnerConcentration	.048	-.029	.020	-.090
	Seasonality	-.145	.032	.002	-.056
	Distance	-.170	.099	-.040	-.107
	Language	.061	.047	.029	-.092
	Ethnicity	.259	-.148	.219	.185
	Urban	.374	.021	.530	.261
Sig. (1-tailed)	Flights	.	.184	<.001	<.001
	Hub Factor	.184	.	.203	.004
	Congestion	.001	.203	.	.208
	GLHR	.000	.004	.208	.
	GJFK	.036	.269	.000	.033
	PartnerConcentration	.187	.293	.354	.047
	Seasonality	.003	.277	.488	.146
	Distance	.001	.032	.226	.022
	Language	.128	.191	.291	.042
	Ethnicity	.000	.003	.000	.000
	Urban	.000	.347	.000	.000
N	Flights	352	352	352	352
	Hub Factor	352	352	352	352

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.096	.048	-.145	-.170
	Hub Factor	.033	-.029	.032	.099
	Congestion	.469	.020	.002	-.040
	GLHR	-.098	-.090	-.056	-.107
	GJFK	1.000	-.135	-.051	-.204
	PartnerConcentration	-.135	1.000	.050	.038
	Seasonality	-.051	.050	1.000	.124
	Distance	-.204	.038	.124	1.000
	Language	.068	-.047	-.017	-.091
	Ethnicity	.151	.030	-.038	-.258
	Urban	.257	.003	-.103	-.036
Sig. (1-tailed)	Flights	.036	.187	.003	<.001
	Hub Factor	.269	.293	.277	.032
	Congestion	.000	.354	.488	.226
	GLHR	.033	.047	.146	.022
	GJFK	.	.006	.172	.000
	PartnerConcentration	.006	.	.173	.239
	Seasonality	.172	.173	.	.010
	Distance	.000	.239	.010	.
	Language	.101	.191	.378	.044
	Ethnicity	.002	.288	.237	.000
	Urban	.000	.479	.026	.252
N	Flights	352	352	352	352
	Hub Factor	352	352	352	352

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.061	.259	.374
	Hub Factor	.047	-.148	.021
	Congestion	.029	.219	.530
	GLHR	-.092	.185	.261
	GJFK	.068	.151	.257
	PartnerConcentration	-.047	.030	.003
	Seasonality	-.017	-.038	-.103
	Distance	-.091	-.258	-.036
	Language	1.000	.124	.107
	Ethnicity	.124	1.000	.139
	Urban	.107	.139	1.000
Sig. (1-tailed)	Flights	.128	<.001	<.001
	Hub Factor	.191	.003	.347
	Congestion	.291	.000	.000
	GLHR	.042	.000	.000
	GJFK	.101	.002	.000
	PartnerConcentration	.191	.288	.479
	Seasonality	.378	.237	.026
	Distance	.044	.000	.252
	Language	.	.010	.022
	Ethnicity	.010	.	.005
	Urban	.022	.005	.
N	Flights	352	352	352
	Hub Factor	352	352	352

Correlations

		Flights	Hub Factor	Congestion	GLHR
	Congestion	352	352	352	352
	GLHR	352	352	352	352
	GJFK	352	352	352	352
	PartnerConcentration	352	352	352	352
	Seasonality	352	352	352	352
	Distance	352	352	352	352
	Language	352	352	352	352
	Ethnicity	352	352	352	352
	Urban	352	352	352	352

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	352	352	352	352
	GLHR	352	352	352	352
	GJFK	352	352	352	352
	PartnerConcentration	352	352	352	352
	Seasonality	352	352	352	352
	Distance	352	352	352	352
	Language	352	352	352	352
	Ethnicity	352	352	352	352
	Urban	352	352	352	352

Correlations

		Language	Ethnicity	Urban
	Congestion	352	352	352
	GLHR	352	352	352
	GJFK	352	352	352
	PartnerConcentration	352	352	352
	Seasonality	352	352	352
	Distance	352	352	352
	Language	352	352	352
	Ethnicity	352	352	352
	Urban	352	352	352

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Hub Factor, Distance, Language, Seasonality, Ethnicity, GJFK, GLHR, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.507[a]	.257	.235	4.576	.257	11.802

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	341	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, Hub Factor, Distance, Language, Seasonality, Ethnicity, GJFK, GLHR, (

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2470.942	10	247.094	11.802	<.001[b]
	Residual	7139.464	341	20.937		
	Total	9610.406	351			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Hub Factor, Distance, Language, Seasonality, Ethnicity, GJFK, GLHR, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.702	2.032		2.314	.021
	Hub Factor	.245	.777	.015	.315	.753
	Congestion	-.226	.326	-.043	-.694	.488
	GLHR	3.714	.794	.242	4.676	<.001
	GJFK	.367	.690	.030	.533	.595
	PartnerConcentration	.313	.192	.078	1.627	.105
	Seasonality	-2.505	1.346	-.088	-1.861	.064
	Distance	-.001	.000	-.081	-1.624	.105
	Language	2.477E-7	.000	.027	.552	.582
	Ethnicity	1.034E-6	.000	.152	2.968	.003
	Urban	.326	.066	.290	4.949	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Hub Factor	.950	1.053
	Congestion	.570	1.753
	GLHR	.815	1.227
	GJFK	.699	1.430
	PartnerConcentration	.949	1.053
	Seasonality	.967	1.034
	Distance	.869	1.150
	Language	.939	1.065
	Ethnicity	.836	1.196
	Urban	.636	1.572

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Hub Factor	Congestion	GLHR
1	1	6.624	1.000	.00	.00	.00	.00
	2	1.044	2.518	.00	.00	.00	.07
	3	.998	2.576	.00	.00	.00	.32
	4	.846	2.799	.00	.01	.00	.18
	5	.690	3.099	.00	.02	.00	.00
	6	.464	3.778	.00	.00	.00	.28
	7	.187	5.947	.00	.94	.00	.03
	8	.078	9.227	.00	.01	.02	.05
	9	.037	13.325	.03	.01	.01	.05
	10	.020	18.142	.01	.00	.78	.01
	11	.011	24.748	.96	.01	.19	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.01
	2	.08	.19	.00	.00	.43	.00
	3	.00	.40	.00	.00	.04	.01
	4	.12	.09	.00	.00	.40	.05
	5	.31	.18	.00	.00	.03	.21
	6	.22	.12	.00	.00	.07	.59
	7	.00	.01	.03	.01	.00	.05
	8	.06	.00	.61	.00	.00	.00
	9	.08	.00	.27	.37	.01	.01
	10	.11	.00	.02	.15	.01	.05
	11	.01	.00	.06	.48	.00	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.01
	8	.17
	9	.35
	10	.47
	11	.00

a. Dependent Variable: Flights

Residuals Statistics[a]

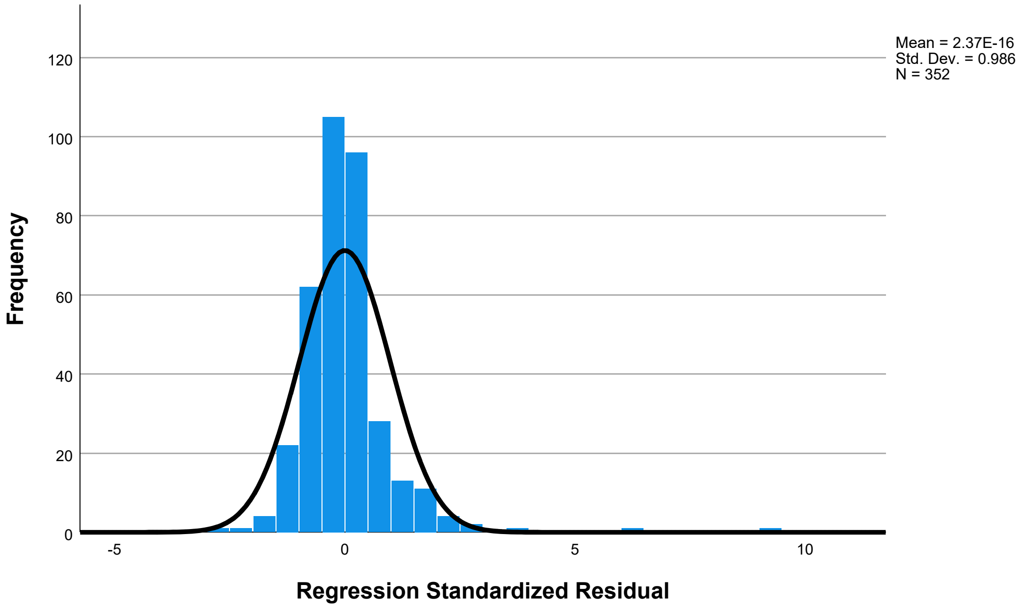
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.96	14.73	6.84	2.653	352
Residual	-12.729	42.756	.000	4.510	352
Std. Predicted Value	-2.943	2.972	.000	1.000	352
Std. Residual	-2.782	9.344	.000	.986	352

a. Dependent Variable: Flights

Charts

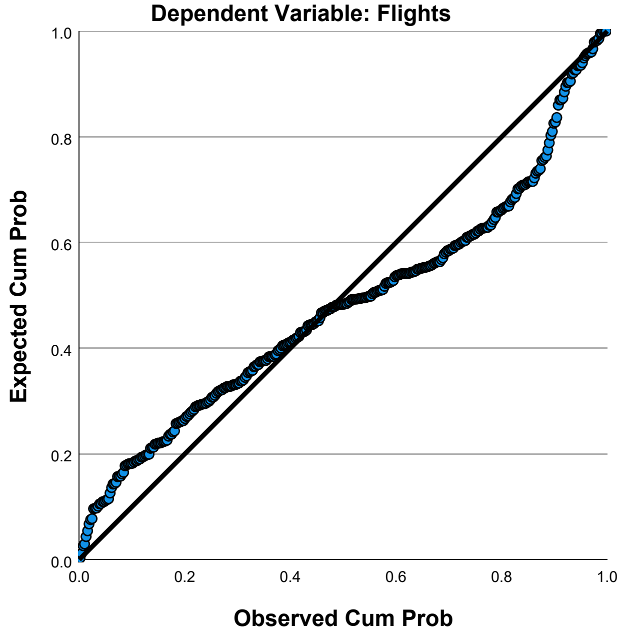
Histogram

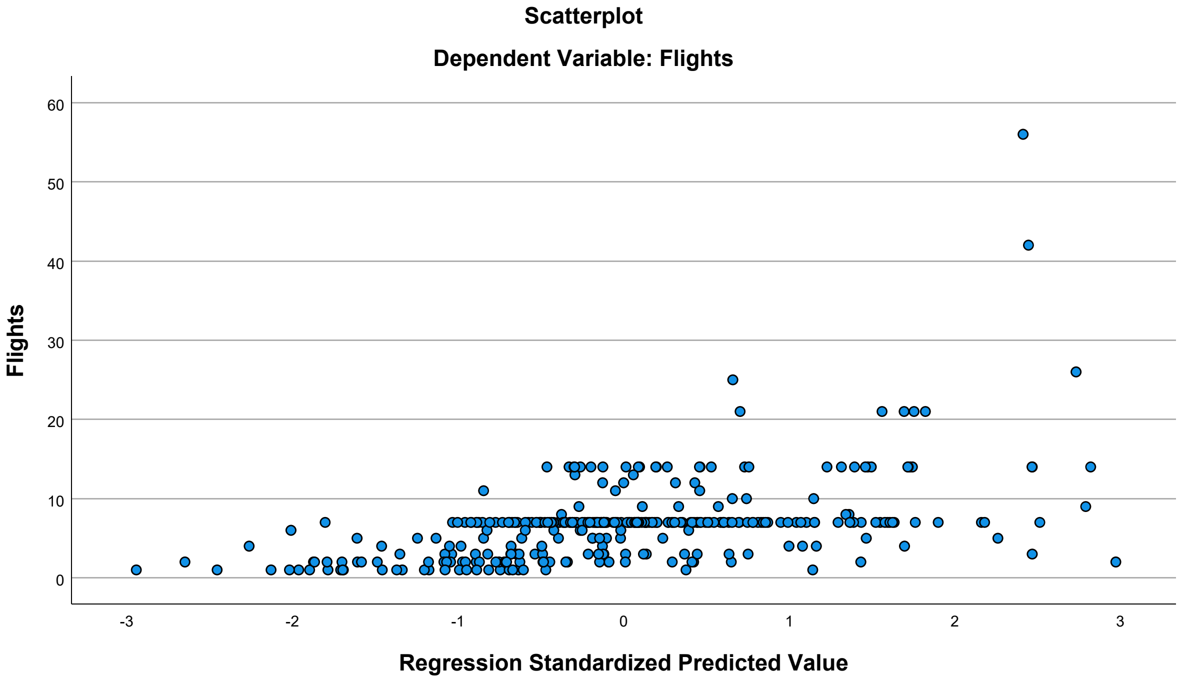
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights





Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-3
-2
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

```
[DataSet4] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Airline Region\2002 - North Atlantic.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.25	5.671	378
HomeConcentration	2.9055888783	3.0314536479	378
Congestion	4.60	.929	378
GLHR	.12	.324	378
GJFK	.17	.376	378
PartnerConcentration	.95604198942	1.8995369141	378
Seasonality	.65624984106	.21023385291	378
Distance	4.20089	.748761	378
Language	2.04005592	3.400651581	378
Ethnicity	.61751425	.734019680	378
Urban	16.84	4.318	378

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.316	.170	.401
	HomeConcentration	.316	1.000	-.141	-.080
	Congestion	.170	-.141	1.000	.081
	GLHR	.401	-.080	.081	1.000
	GJFK	.085	-.278	.448	-.035
	PartnerConcentration	.242	.068	.013	.096
	Seasonality	-.303	-.233	-.053	-.220
	Distance	-.129	.081	.056	-.119
	Language	.235	-.070	-.032	.429
	Ethnicity	.124	-.027	.076	.096
	Urban	.409	.123	.537	.313
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.003	.061
	Congestion	.000	.003	.	.058
	GLHR	.000	.061	.058	.
	GJFK	.049	.000	.000	.247
	PartnerConcentration	.000	.095	.403	.031
	Seasonality	.000	.000	.151	.000
	Distance	.006	.058	.138	.010
	Language	.000	.086	.268	.000
	Ethnicity	.008	.299	.071	.031
	Urban	.000	.008	.000	.000
N	Flights	378	378	378	378
	HomeConcentration	378	378	378	378

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.085	.242	-.303	-.129
	HomeConcentration	-.278	.068	-.233	.081
	Congestion	.448	.013	-.053	.056
	GLHR	-.035	.096	-.220	-.119
	GJFK	1.000	-.108	-.090	-.074
	PartnerConcentration	-.108	1.000	-.147	.019
	Seasonality	-.090	-.147	1.000	-.058
	Distance	-.074	.019	-.058	1.000
	Language	.058	.001	-.031	-.353
	Ethnicity	.060	.031	.075	-.272
	Urban	.214	.157	-.322	.059
Sig. (1-tailed)	Flights	.049	<.001	<.001	.006
	HomeConcentration	.000	.095	.000	.058
	Congestion	.000	.403	.151	.138
	GLHR	.247	.031	.000	.010
	GJFK	.	.018	.041	.075
	PartnerConcentration	.018	.	.002	.357
	Seasonality	.041	.002	.	.132
	Distance	.075	.357	.132	.
	Language	.129	.493	.275	.000
	Ethnicity	.121	.272	.074	.000
	Urban	.000	.001	.000	.127
N	Flights	378	378	378	378
	HomeConcentration	378	378	378	378

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.235	.124	.409
	HomeConcentration	-.070	-.027	.123
	Congestion	-.032	.076	.537
	GLHR	.429	.096	.313
	GJFK	.058	.060	.214
	PartnerConcentration	.001	.031	.157
	Seasonality	-.031	.075	-.322
	Distance	-.353	-.272	.059
	Language	1.000	.448	-.017
	Ethnicity	.448	1.000	-.030
	Urban	-.017	-.030	1.000
Sig. (1-tailed)	Flights	<.001	.008	<.001
	HomeConcentration	.086	.299	.008
	Congestion	.268	.071	.000
	GLHR	.000	.031	.000
	GJFK	.129	.121	.000
	PartnerConcentration	.493	.272	.001
	Seasonality	.275	.074	.000
	Distance	.000	.000	.127
	Language	.	.000	.372
	Ethnicity	.000	.	.278
	Urban	.372	.278	.
N	Flights	378	378	378
	HomeConcentration	378	378	378

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	378	378	378	378
	GLHR	378	378	378	378
	GJFK	378	378	378	378
	PartnerConcentration	378	378	378	378
	Seasonality	378	378	378	378
	Distance	378	378	378	378
	Language	378	378	378	378
	Ethnicity	378	378	378	378
	Urban	378	378	378	378

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	378	378	378	378
	GLHR	378	378	378	378
	GJFK	378	378	378	378
	PartnerConcentration	378	378	378	378
	Seasonality	378	378	378	378
	Distance	378	378	378	378
	Language	378	378	378	378
	Ethnicity	378	378	378	378
	Urban	378	378	378	378

Correlations

		Language	Ethnicity	Urban
	Congestion	378	378	378
	GLHR	378	378	378
	GJFK	378	378	378
	PartnerConcentration	378	378	378
	Seasonality	378	378	378
	Distance	378	378	378
	Language	378	378	378
	Ethnicity	378	378	378
	Urban	378	378	378

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, HomeConcentration, PartnerConcentration, Distance, Seasonality, GJFK, Ethnicity, GLHR, ...[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.645[a]	.416	.400	4.392	.416	26.166

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	367	<.001

a. Predictors: (Constant), Urban, Language, HomeConcentration, PartnerConcentration, Distance, Seasonality, GJFK, Ethnicity, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5046.334	10	504.633	26.166	<.001[b]
	Residual	7077.785	367	19.286		
	Total	12124.119	377			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, HomeConcentration, PartnerConcentration, Distance, Seasonality, GJFK, Ethnicity, GLHR, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.510	2.135		1.176	.241
	HomeConcentration	.647	.084	.346	7.714	<.001
	Congestion	.186	.327	.031	.571	.569
	GLHR	5.126	.866	.293	5.919	<.001
	GJFK	2.041	.724	.135	2.819	.005
	PartnerConcentration	.494	.123	.165	4.019	<.001
	Seasonality	-1.735	1.209	-.064	-1.434	.152
	Distance	-.708	.329	-.094	-2.155	.032
	Language	.127	.087	.076	1.464	.144
	Ethnicity	.318	.355	.041	.895	.371
	Urban	.251	.072	.191	3.502	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.792	1.263
	Congestion	.556	1.798
	GLHR	.649	1.542
	GJFK	.692	1.445
	PartnerConcentration	.939	1.065
	Seasonality	.791	1.264
	Distance	.844	1.184
	Language	.587	1.703
	Ethnicity	.753	1.327
	Urban	.533	1.875

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

				Variance Proportions		
Model	Dimension	Eigenvalue	Condition Index	(Constant)	HomeConcentration	Congestion
1	1	6.683	1.000	.00	.00	.00
	2	1.157	2.403	.00	.02	.00
	3	.990	2.598	.00	.04	.00
	4	.727	3.033	.00	.05	.00
	5	.622	3.278	.00	.01	.00
	6	.396	4.110	.00	.65	.00
	7	.293	4.775	.00	.01	.00
	8	.073	9.550	.00	.17	.02
	9	.035	13.888	.01	.00	.04
	10	.017	20.072	.00	.03	.86
	11	.009	27.848	.98	.02	.08

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.22	.00	.00	.00	.00	.13
	3	.02	.35	.18	.00	.00	.00
	4	.02	.15	.60	.00	.00	.02
	5	.30	.00	.16	.00	.00	.06
	6	.00	.22	.00	.02	.00	.03
	7	.21	.00	.01	.00	.00	.65
	8	.18	.16	.04	.58	.01	.03
	9	.03	.04	.00	.15	.42	.00
	10	.02	.06	.00	.05	.04	.00
	11	.00	.00	.00	.18	.53	.08

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.02	.00
	3	.00	.00
	4	.03	.00
	5	.27	.00
	6	.01	.00
	7	.62	.00
	8	.00	.11
	9	.02	.25
	10	.02	.60
	11	.00	.04

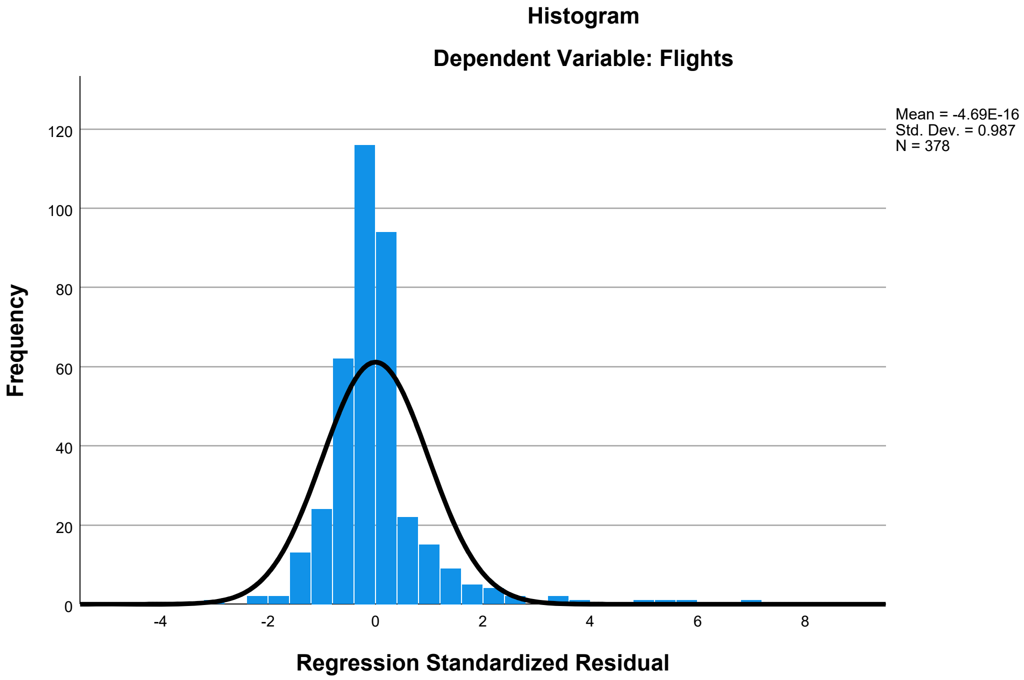
a. Dependent Variable: Flights

Residuals Statistics[a]

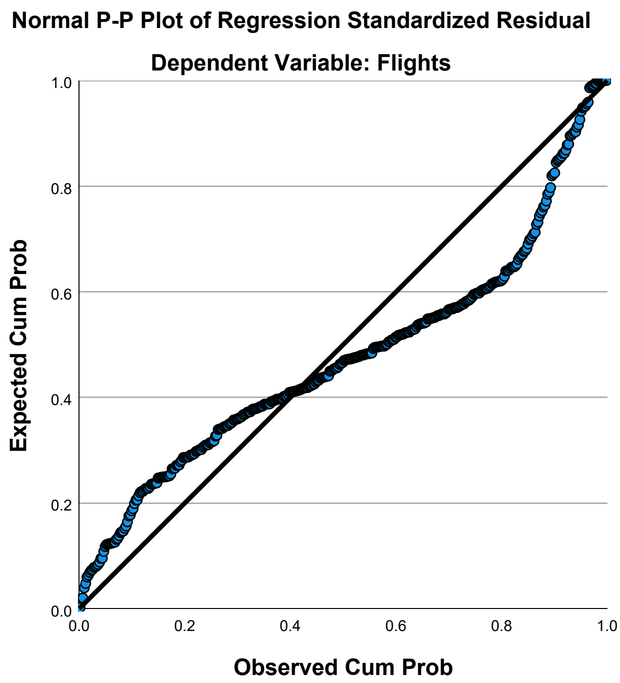
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.06	18.51	7.25	3.659	378
Residual	-12.500	30.491	.000	4.333	378
Std. Predicted Value	-1.996	3.078	.000	1.000	378
Std. Residual	-2.846	6.943	.000	.987	378

a. Dependent Variable: Flights

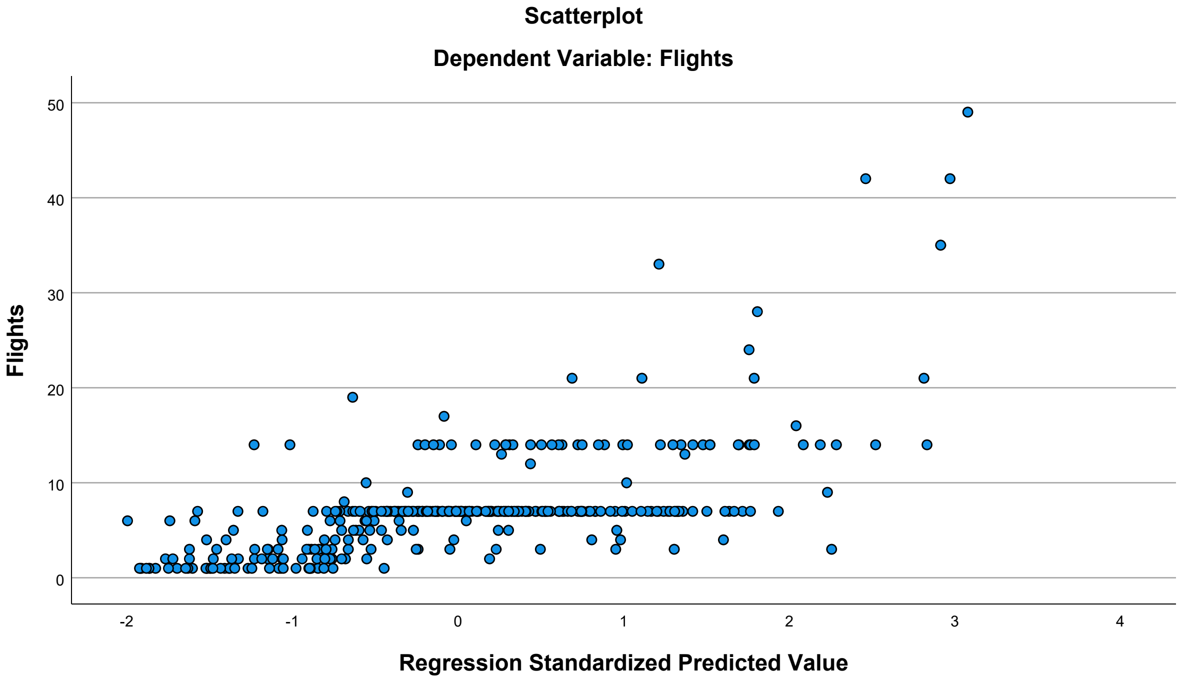
Charts



Histogram
Dependent Variable: Flights
Mean = -4.69E-16
Std. Dev. = 0.987
N = 378
Frequency
120
100
80
60
40
20
0
-4
-2
0
2
4
6
8
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
50
40
30
20
10
0
-2
-1
0
1
2
3
4
Regression Standardized Predicted Value

Regression

[DataSet5] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airline Region\2007 - North Atlantic.sav

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.83	5.794	557
HomeConcentration	2.5483647397	3.0284494544	557
Congestion	4.61	1.041	557
GLHR	.09	.284	557
GJFK	.15	.355	557
PartnerConcentration	.87469065350	1.8915346086	557
Seasonality	.71178212675	.22200373017	557
Distance	4.19619	.888383	557
Language	2.10416637	3.430559142	557
Ethnicity	.73272919	.875381137	557
Urban	15.40	4.962	557

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.370	.176	.390
	HomeConcentration	.370	1.000	-.084	-.014
	Congestion	.176	-.084	1.000	.086
	GLHR	.390	-.014	.086	1.000
	GJFK	.150	-.199	.351	-.040
	PartnerConcentration	.284	.186	.031	.039
	Seasonality	-.415	-.350	-.214	-.196
	Distance	-.060	.165	.068	-.053
	Language	.162	-.134	.027	.325
	Ethnicity	.038	-.130	.136	.051
	Urban	.441	.211	.589	.260
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.024	.367
	Congestion	.000	.024	.	.021
	GLHR	.000	.367	.021	.
	GJFK	.000	.000	.000	.175
	PartnerConcentration	.000	.000	.235	.182
	Seasonality	.000	.000	.000	.000
	Distance	.080	.000	.054	.106
	Language	.000	.001	.260	.000
	Ethnicity	.185	.001	.001	.117
	Urban	.000	.000	.000	.000
N	Flights	557	557	557	557
	HomeConcentration	557	557	557	557

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.150	.284	-.415	-.060
	HomeConcentration	-.199	.186	-.350	.165
	Congestion	.351	.031	-.214	.068
	GLHR	-.040	.039	-.196	-.053
	GJFK	1.000	-.106	-.165	.015
	PartnerConcentration	-.106	1.000	-.272	.088
	Seasonality	-.165	-.272	1.000	-.196
	Distance	.015	.088	-.196	1.000
	Language	.115	-.157	.030	-.341
	Ethnicity	.111	-.039	.136	-.274
	Urban	.244	.180	-.430	.098
Sig. (1-tailed)	Flights	<.001	<.001	<.001	.080
	HomeConcentration	.000	.000	.000	.000
	Congestion	.000	.235	.000	.054
	GLHR	.175	.182	.000	.106
	GJFK	.	.006	.000	.361
	PartnerConcentration	.006	.	.000	.019
	Seasonality	.000	.000	.	.000
	Distance	.361	.019	.000	.
	Language	.003	.000	.238	.000
	Ethnicity	.004	.180	.001	.000
	Urban	.000	.000	.000	.010
N	Flights	557	557	557	557
	HomeConcentration	557	557	557	557

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.162	.038	.441
	HomeConcentration	-.134	-.130	.211
	Congestion	.027	.136	.589
	GLHR	.325	.051	.260
	GJFK	.115	.111	.244
	PartnerConcentration	-.157	-.039	.180
	Seasonality	.030	.136	-.430
	Distance	-.341	-.274	.098
	Language	1.000	.471	.046
	Ethnicity	.471	1.000	.058
	Urban	.046	.058	1.000
Sig. (1-tailed)	Flights	<.001	.185	<.001
	HomeConcentration	.001	.001	.000
	Congestion	.260	.001	.000
	GLHR	.000	.117	.000
	GJFK	.003	.004	.000
	PartnerConcentration	.000	.180	.000
	Seasonality	.238	.001	.000
	Distance	.000	.000	.010
	Language	.	.000	.141
	Ethnicity	.000	.	.087
	Urban	.141	.087	.
N	Flights	557	557	557
	HomeConcentration	557	557	557

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	557	557	557	557
	GLHR	557	557	557	557
	GJFK	557	557	557	557
	PartnerConcentration	557	557	557	557
	Seasonality	557	557	557	557
	Distance	557	557	557	557
	Language	557	557	557	557
	Ethnicity	557	557	557	557
	Urban	557	557	557	557

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	557	557	557	557
	GLHR	557	557	557	557
	GJFK	557	557	557	557
	PartnerConcentration	557	557	557	557
	Seasonality	557	557	557	557
	Distance	557	557	557	557
	Language	557	557	557	557
	Ethnicity	557	557	557	557
	Urban	557	557	557	557

Correlations

		Language	Ethnicity	Urban
	Congestion	557	557	557
	GLHR	557	557	557
	GJFK	557	557	557
	PartnerConcentration	557	557	557
	Seasonality	557	557	557
	Distance	557	557	557
	Language	557	557	557
	Ethnicity	557	557	557
	Urban	557	557	557

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, PartnerConcentration, HomeConcentration, Distance, GJFK, GLHR, Ethnicity, Seasonality, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change
1	.680[a]	.463	.453	4.286	.463	47.005

Model Summary[b]

Model	Change Statistics: df1	Change Statistics: df2	Change Statistics: Sig. F Change
1	10	546	<.001

a. Predictors: (Constant), Urban, Language, PartnerConcentration, HomeConcentration, Distance, GJFK, GLHR, Ethnicity, Seas Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8635.462	10	863.546	47.005	<.001[b]
	Residual	10030.674	546	18.371		
	Total	18666.136	556			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, PartnerConcentration, HomeConcentration, Distance, GJFK, GLHR, Ethnicity, Seasonality, Congestion

Coefficients[a]

Model		Unstandardized Coefficients: B	Unstandardized Coefficients: Std. Error	Standardized Coefficients: Beta	t	Sig.
1	(Constant)	6.339	1.671		3.793	<.001
	HomeConcentration	.621	.070	.325	8.876	<.001
	Congestion	-.110	.232	-.020	-.476	.634
	GLHR	6.018	.728	.294	8.265	<.001
	GJFK	2.989	.584	.183	5.117	<.001
	PartnerConcentration	.583	.103	.190	5.643	<.001
	Seasonality	-2.872	1.014	-.110	-2.831	.005
	Distance	-.876	.225	-.134	-3.899	<.001
	Language	.125	.068	.074	1.844	.066
	Ethnicity	-.083	.246	-.012	-.336	.737
	Urban	.224	.052	.192	4.298	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.736	1.359
	Congestion	.566	1.766
	GLHR	.775	1.290
	GJFK	.770	1.299
	PartnerConcentration	.864	1.157
	Seasonality	.652	1.534
	Distance	.830	1.205
	Language	.614	1.629
	Ethnicity	.713	1.402
	Urban	.492	2.031

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.499	1.000	.00	.00	.00
	2	1.212	2.316	.00	.05	.00
	3	1.000	2.550	.00	.01	.00
	4	.731	2.981	.00	.01	.00
	5	.642	3.181	.00	.03	.00
	6	.460	3.757	.00	.60	.00
	7	.291	4.726	.00	.02	.00
	8	.091	8.474	.00	.14	.04
	9	.043	12.288	.00	.04	.01
	10	.022	17.275	.00	.05	.79
	11	.009	26.598	.99	.05	.17

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.07	.06	.13	.00	.00	.11
	3	.37	.20	.05	.00	.00	.02
	4	.12	.41	.24	.00	.00	.02
	5	.14	.01	.43	.00	.00	.06
	6	.02	.09	.01	.01	.00	.08
	7	.15	.00	.05	.00	.00	.63
	8	.12	.22	.06	.25	.00	.01
	9	.00	.00	.01	.27	.52	.02
	10	.01	.01	.00	.05	.07	.00
	11	.00	.00	.02	.40	.40	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.03	.00
	3	.00	.00
	4	.03	.00
	5	.18	.00
	6	.01	.00
	7	.69	.00
	8	.00	.20
	9	.04	.14
	10	.01	.65
	11	.00	.01

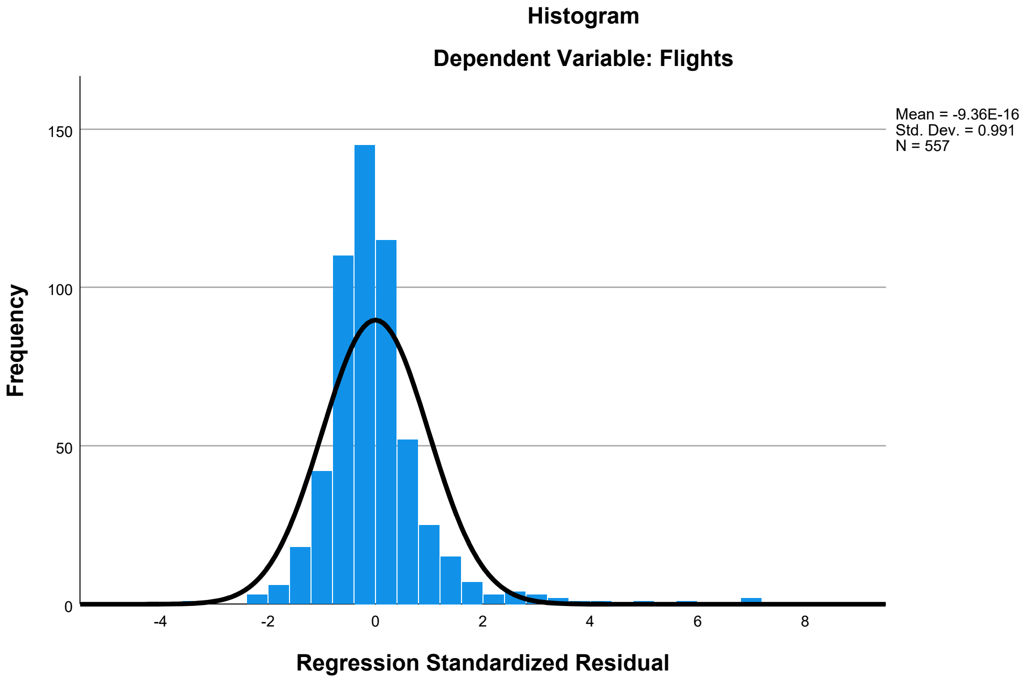
a. Dependent Variable: Flights

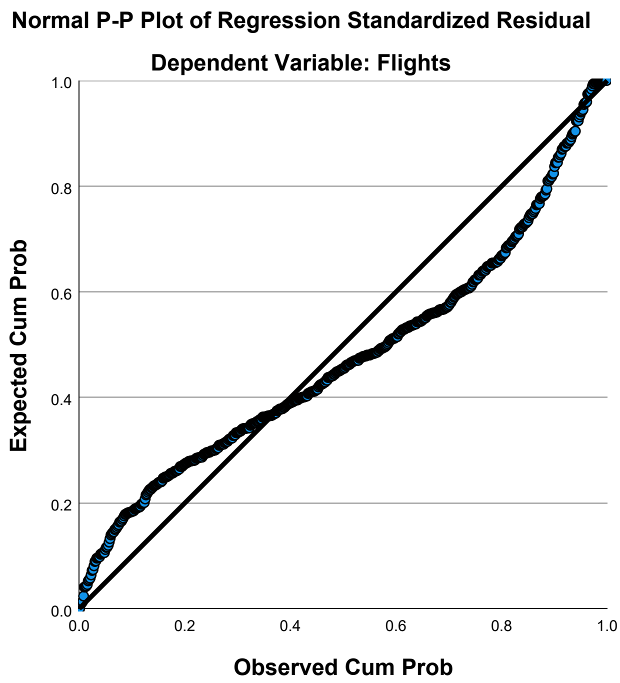
Residuals Statistics[a]

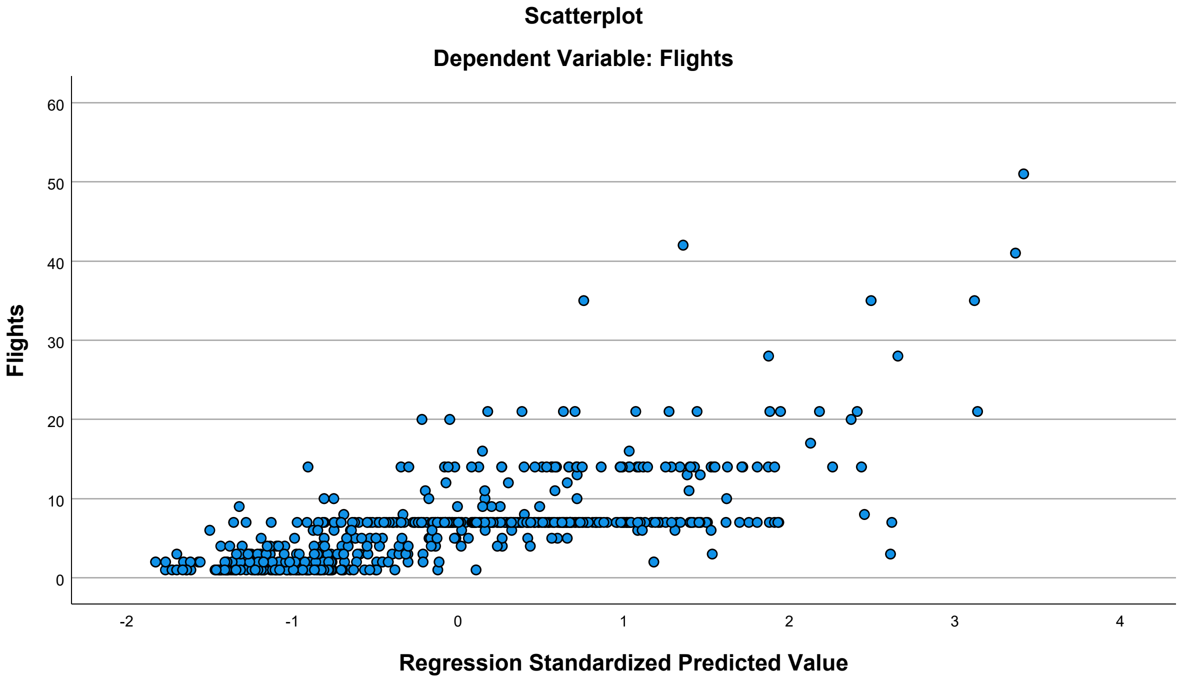
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.37	20.29	6.83	3.941	557
Residual	-14.123	30.707	.000	4.247	557
Std. Predicted Value	-1.826	3.416	.000	1.000	557
Std. Residual	-3.295	7.164	.000	.991	557

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -9.36E-16
Std. Dev. = 0.991
N = 557
Frequency
150
100
50
0
-4
-2
0
2
4
6
8
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
-1
0
1
2
3
4
Regression Standardized Predicted Value

Regression

```
[DataSet6] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Airline Region\2012 - North Atlantic.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.20	5.562	536
HomeConcentration	2.5972426306	2.5169341720	536
Congestion	4.76	1.032	536
GLHR	.11	.316	536
GJFK	.15	.362	536
PartnerConcentration	1.0580096791	1.8805664695	536
Seasonality	.68440805864	.23216693438	536
Distance	4.35984	1.029219	536
Language	1.49502017	2.964903853	536
Ethnicity	.55949417	.740641723	536
Urban	17.36	4.035	536

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.353	.126	.413
	HomeConcentration	.353	1.000	-.103	.065
	Congestion	.126	-.103	1.000	-.021
	GLHR	.413	.065	-.021	1.000
	GJFK	.148	-.215	.369	-.070
	PartnerConcentration	.223	.160	-.038	.024
	Seasonality	-.228	-.274	-.016	-.194
	Distance	-.073	.149	-.110	-.075
	Language	.287	-.071	.020	.467
	Ethnicity	.107	-.089	.166	.091
	Urban	.442	.274	.511	.244
Sig. (1-tailed)	Flights	.	<.001	.002	<.001
	HomeConcentration	.000	.	.009	.067
	Congestion	.002	.009	.	.313
	GLHR	.000	.067	.313	.
	GJFK	.000	.000	.000	.052
	PartnerConcentration	.000	.000	.191	.292
	Seasonality	.000	.000	.352	.000
	Distance	.046	.000	.005	.042
	Language	.000	.050	.319	.000
	Ethnicity	.007	.019	.000	.018
	Urban	.000	.000	.000	.000
N	Flights	536	536	536	536
	HomeConcentration	536	536	536	536

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.148	.223	-.228	-.073
	HomeConcentration	-.215	.160	-.274	.149
	Congestion	.369	-.038	-.016	-.110
	GLHR	-.070	.024	-.194	-.075
	GJFK	1.000	-.126	-.041	-.064
	PartnerConcentration	-.126	1.000	-.175	-.005
	Seasonality	-.041	-.175	1.000	-.172
	Distance	-.064	-.005	-.172	1.000
	Language	.086	-.145	-.004	-.294
	Ethnicity	.151	-.012	.076	-.262
	Urban	.245	.174	-.367	.109
Sig. (1-tailed)	Flights	<.001	<.001	<.001	.046
	HomeConcentration	.000	.000	.000	.000
	Congestion	.000	.191	.352	.005
	GLHR	.052	.292	.000	.042
	GJFK	.	.002	.171	.071
	PartnerConcentration	.002	.	.000	.455
	Seasonality	.171	.000	.	.000
	Distance	.071	.455	.000	.
	Language	.024	.000	.463	.000
	Ethnicity	.000	.393	.039	.000
	Urban	.000	.000	.000	.006
N	Flights	536	536	536	536
	HomeConcentration	536	536	536	536

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.287	.107	.442
	HomeConcentration	-.071	-.089	.274
	Congestion	.020	.166	.511
	GLHR	.467	.091	.244
	GJFK	.086	.151	.245
	PartnerConcentration	-.145	-.012	.174
	Seasonality	-.004	.076	-.367
	Distance	-.294	-.262	.109
	Language	1.000	.475	.051
	Ethnicity	.475	1.000	.049
	Urban	.051	.049	1.000
Sig. (1-tailed)	Flights	<.001	.007	<.001
	HomeConcentration	.050	.019	.000
	Congestion	.319	.000	.000
	GLHR	.000	.018	.000
	GJFK	.024	.000	.000
	PartnerConcentration	.000	.393	.000
	Seasonality	.463	.039	.000
	Distance	.000	.000	.006
	Language	.	.000	.120
	Ethnicity	.000	.	.130
	Urban	.120	.130	.
N	Flights	536	536	536
	HomeConcentration	536	536	536

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	536	536	536	536
	GLHR	536	536	536	536
	GJFK	536	536	536	536
	PartnerConcentration	536	536	536	536
	Seasonality	536	536	536	536
	Distance	536	536	536	536
	Language	536	536	536	536
	Ethnicity	536	536	536	536
	Urban	536	536	536	536

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	536	536	536	536
GLHR	536	536	536	536
GJFK	536	536	536	536
PartnerConcentration	536	536	536	536
Seasonality	536	536	536	536
Distance	536	536	536	536
Language	536	536	536	536
Ethnicity	536	536	536	536
Urban	536	536	536	536

Correlations

	Language	Ethnicity	Urban
Congestion	536	536	536
GLHR	536	536	536
GJFK	536	536	536
PartnerConcentration	536	536	536
Seasonality	536	536	536
Distance	536	536	536
Language	536	536	536
Ethnicity	536	536	536
Urban	536	536	536

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, PartnerConcentration, GLHR, Distance, HomeConcentration, GJFK, Seasonality, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.659[a]	.434	.424	4.223	.434	40.337

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	525	<.001

a. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, GLHR, Distance, HomeConcentration, GJFK, Seasonality, Co
Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7191.939	10	719.194	40.337	<.001[b]
	Residual	9360.492	525	17.830		
	Total	16552.431	535			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, GLHR, Distance, HomeConcentration, GJFK, Seasonality, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.296	1.612		-.184	.854
	HomeConcentration	.677	.083	.307	8.204	<.001
	Congestion	-.162	.232	-.030	-.697	.486
	GLHR	4.646	.709	.264	6.554	<.001
	GJFK	2.972	.574	.193	5.174	<.001
	PartnerConcentration	.528	.104	.178	5.090	<.001
	Seasonality	.592	.891	.025	.665	.506
	Distance	-.356	.195	-.066	-1.827	.068
	Language	.331	.084	.176	3.953	<.001
	Ethnicity	-.199	.293	-.026	-.678	.498
	Urban	.330	.065	.239	5.040	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.771	1.296
	Congestion	.579	1.726
	GLHR	.666	1.501
	GJFK	.771	1.298
	PartnerConcentration	.877	1.141
	Seasonality	.780	1.283
	Distance	.828	1.208
	Language	.540	1.851
	Ethnicity	.709	1.411
	Urban	.477	2.095

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.602	1.000	.00	.00	.00
	2	1.283	2.269	.00	.01	.00
	3	1.030	2.531	.00	.03	.00
	4	.647	3.194	.00	.02	.00
	5	.617	3.271	.00	.00	.00
	6	.386	4.138	.00	.69	.00
	7	.273	4.920	.00	.00	.00
	8	.087	8.722	.00	.16	.02
	9	.050	11.498	.00	.00	.15
	10	.016	20.468	.01	.08	.65
	11	.010	25.518	.99	.01	.18

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.13	.01	.05	.00	.00	.14
	3	.12	.33	.09	.00	.00	.00
	4	.00	.12	.71	.00	.00	.00
	5	.29	.25	.00	.00	.00	.04
	6	.03	.10	.01	.02	.00	.01
	7	.31	.00	.07	.00	.00	.75
	8	.07	.10	.02	.59	.05	.02
	9	.00	.07	.01	.00	.50	.01
	10	.04	.00	.02	.10	.03	.00
	11	.00	.02	.02	.28	.41	.04

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.03	.00
	3	.01	.00
	4	.04	.00
	5	.28	.00
	6	.02	.00
	7	.58	.00
	8	.00	.04
	9	.03	.06
	10	.00	.87
	11	.00	.03

a. Dependent Variable: Flights

Residuals Statistics[a]

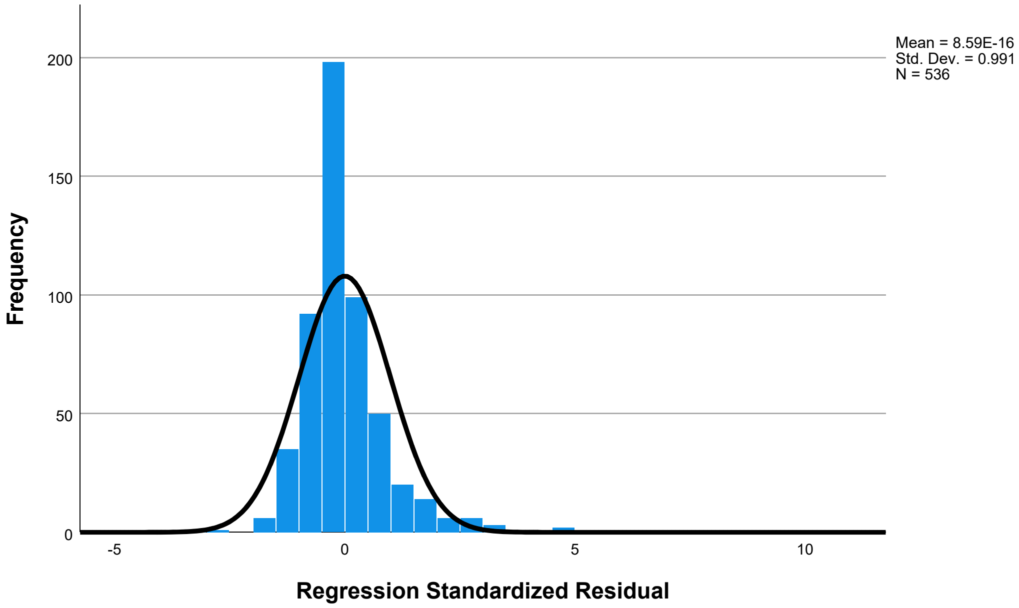
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.99	20.90	7.20	3.666	536
Residual	-14.155	35.097	.000	4.183	536
Std. Predicted Value	-2.233	3.739	.000	1.000	536
Std. Residual	-3.352	8.312	.000	.991	536

a. Dependent Variable: Flights

Charts

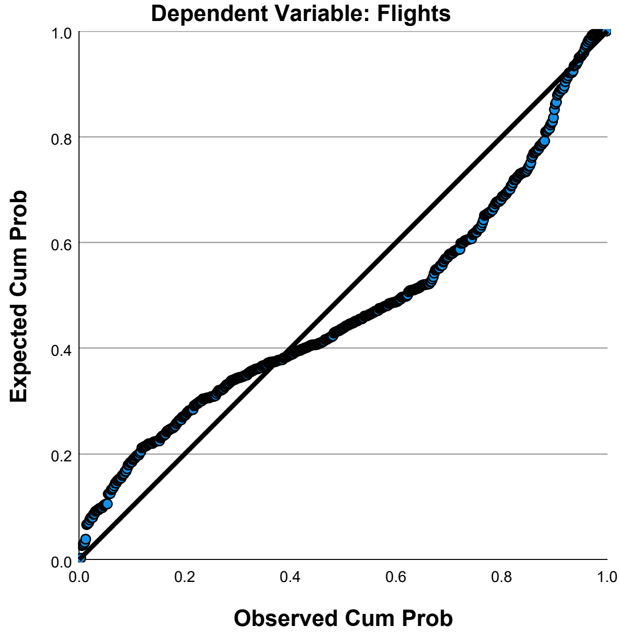
Histogram

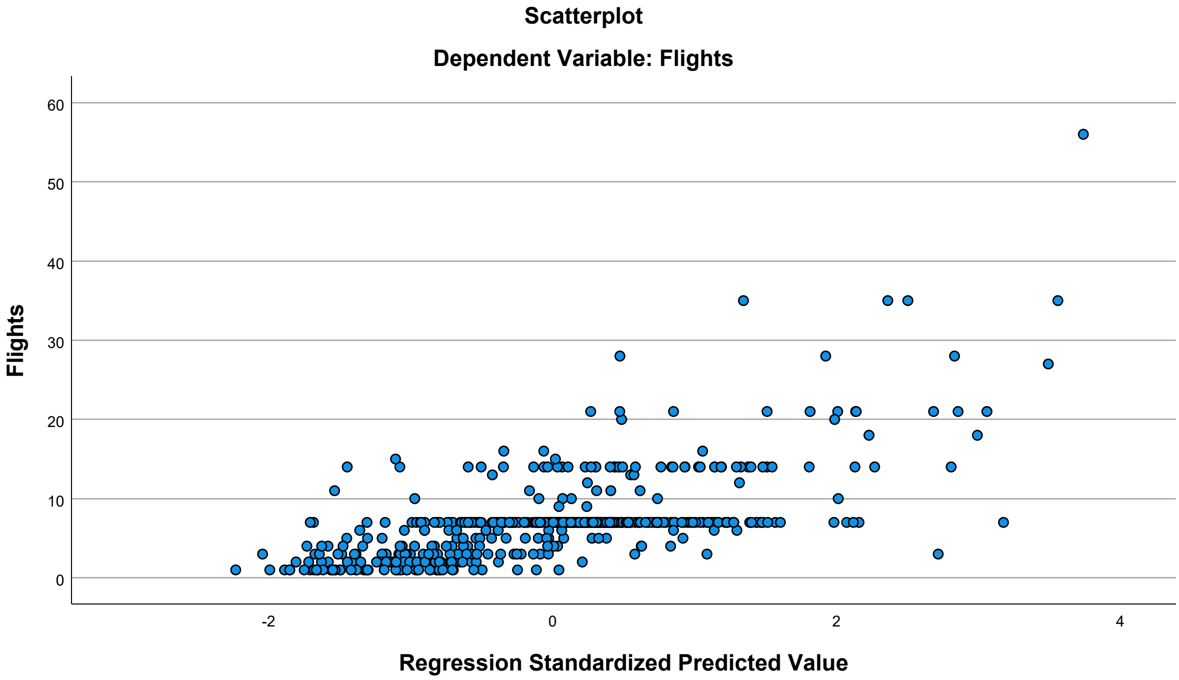
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights




Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet7] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Airline Region\2017 - North Atlantic.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.93	4.906	718
HomeConcentration	2.6460017187	2.5551862338	718
Congestion	4.64	.942	718
GLHR	.09	.287	718
GJFK	.13	.339	718
PartnerConcentration	1.0012335014	1.8504067824	718
Seasonality	.72832441231	.22370745358	718
Distance	4.41542	1.157940	718
Language	1.55929283	3.135339630	718
Ethnicity	.47375351532	.65734567151	718
Urban	16.40	4.590	718

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.325	.173	.390
	HomeConcentration	.325	1.000	-.088	.112
	Congestion	.173	-.088	1.000	-.025
	GLHR	.390	.112	-.025	1.000
	GJFK	.206	-.107	.440	-.066
	PartnerConcentration	.219	.141	-.009	.083
	Seasonality	-.233	-.158	-.064	-.246
	Distance	-.077	.169	-.063	-.056
	Language	.236	-.102	.036	.345
	Ethnicity	.126	-.034	.245	.076
	Urban	.396	.246	.513	.209
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.009	.001
	Congestion	.000	.009	.	.253
	GLHR	.000	.001	.253	.
	GJFK	.000	.002	.000	.039
	PartnerConcentration	.000	.000	.407	.013
	Seasonality	.000	.000	.043	.000
	Distance	.019	.000	.045	.067
	Language	.000	.003	.168	.000
	Ethnicity	.000	.182	.000	.020
	Urban	.000	.000	.000	.000
N	Flights	718	718	718	718
	HomeConcentration	718	718	718	718

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.206	.219	-.233	-.077
	HomeConcentration	-.107	.141	-.158	.169
	Congestion	.440	-.009	-.064	-.063
	GLHR	-.066	.083	-.246	-.056
	GJFK	1.000	-.072	-.063	-.102
	PartnerConcentration	-.072	1.000	-.160	.074
	Seasonality	-.063	-.160	1.000	-.220
	Distance	-.102	.074	-.220	1.000
	Language	.152	-.065	.005	-.303
	Ethnicity	.173	-.032	.069	-.238
	Urban	.287	.212	-.335	.173
Sig. (1-tailed)	Flights	<.001	<.001	<.001	.019
	HomeConcentration	.002	.000	.000	.000
	Congestion	.000	.407	.043	.045
	GLHR	.039	.013	.000	.067
	GJFK	.	.027	.046	.003
	PartnerConcentration	.027	.	.000	.024
	Seasonality	.046	.000	.	.000
	Distance	.003	.024	.000	.
	Language	.000	.041	.451	.000
	Ethnicity	.000	.198	.032	.000
	Urban	.000	.000	.000	.000
N	Flights	718	718	718	718
	HomeConcentration	718	718	718	718

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.236	.126	.396
	HomeConcentration	-.102	-.034	.246
	Congestion	.036	.245	.513
	GLHR	.345	.076	.209
	GJFK	.152	.173	.287
	PartnerConcentration	-.065	-.032	.212
	Seasonality	.005	.069	-.335
	Distance	-.303	-.238	.173
	Language	1.000	.497	.104
	Ethnicity	.497	1.000	.125
	Urban	.104	.125	1.000
Sig. (1-tailed)	Flights	<.001	<.001	<.001
	HomeConcentration	.003	.182	.000
	Congestion	.168	.000	.000
	GLHR	.000	.020	.000
	GJFK	.000	.000	.000
	PartnerConcentration	.041	.198	.000
	Seasonality	.451	.032	.000
	Distance	.000	.000	.000
	Language	.	.000	.003
	Ethnicity	.000	.	.000
	Urban	.003	.000	.
N	Flights	718	718	718
	HomeConcentration	718	718	718

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	718	718	718	718
	GLHR	718	718	718	718
	GJFK	718	718	718	718
	PartnerConcentration	718	718	718	718
	Seasonality	718	718	718	718
	Distance	718	718	718	718
	Language	718	718	718	718
	Ethnicity	718	718	718	718
	Urban	718	718	718	718

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	718	718	718	718
GLHR	718	718	718	718
GJFK	718	718	718	718
PartnerConcentration	718	718	718	718
Seasonality	718	718	718	718
Distance	718	718	718	718
Language	718	718	718	718
Ethnicity	718	718	718	718
Urban	718	718	718	718

Correlations

	Language	Ethnicity	Urban
Congestion	718	718	718
GLHR	718	718	718
GJFK	718	718	718
PartnerConcentration	718	718	718
Seasonality	718	718	718
Distance	718	718	718
Language	718	718	718
Ethnicity	718	718	718
Urban	718	718	718

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, PartnerConcentration, HomeConcentration, Seasonality, GJFK, Distance, GLHR, Ethnicity, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.615[a]	.378	.369	3.897	.378	42.926

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	707	<.001

a. Predictors: (Constant), Urban, Language, PartnerConcentration, HomeConcentration, Seasonality, GJFK, Distance, GLHR, E
Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6519.564	10	651.956	42.926	<.001[b]
	Residual	10737.814	707	15.188		
	Total	17257.377	717			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, PartnerConcentration, HomeConcentration, Seasonality, GJFK, Distance, GLHR, Ethnicity, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.446	1.264		2.727	.007
	HomeConcentration	.530	.062	.276	8.530	<.001
	Congestion	.169	.207	.032	.814	.416
	GLHR	4.564	.580	.267	7.874	<.001
	GJFK	2.489	.495	.172	5.030	<.001
	PartnerConcentration	.373	.082	.141	4.530	<.001
	Seasonality	-1.220	.725	-.056	-1.682	.093
	Distance	-.472	.140	-.111	-3.362	<.001
	Language	.174	.061	.111	2.858	.004
	Ethnicity	-.129	.268	-.017	-.480	.631
	Urban	.180	.044	.168	4.047	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.840	1.191
	Congestion	.555	1.802
	GLHR	.765	1.308
	GJFK	.752	1.329
	PartnerConcentration	.912	1.096
	Seasonality	.805	1.242
	Distance	.801	1.249
	Language	.584	1.712
	Ethnicity	.680	1.470
	Urban	.511	1.958

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.549	1.000	.00	.01	.00
	2	1.217	2.320	.00	.02	.00
	3	1.030	2.521	.00	.01	.00
	4	.692	3.075	.00	.00	.00
	5	.633	3.215	.00	.02	.00
	6	.399	4.052	.00	.71	.00
	7	.307	4.620	.00	.10	.00
	8	.092	8.433	.00	.05	.00
	9	.050	11.460	.00	.00	.07
	10	.021	17.861	.07	.05	.42
	11	.010	25.954	.93	.02	.50

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.10	.03	.04	.00	.00	.16
	3	.28	.25	.08	.00	.00	.00
	4	.03	.35	.49	.00	.00	.01
	5	.27	.13	.31	.00	.00	.05
	6	.01	.02	.01	.01	.00	.01
	7	.21	.00	.00	.00	.00	.68
	8	.08	.06	.03	.46	.08	.02
	9	.01	.12	.01	.00	.60	.01
	10	.00	.00	.01	.30	.02	.01
	11	.01	.04	.01	.22	.30	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.06	.00
	3	.01	.00
	4	.02	.00
	5	.17	.00
	6	.12	.00
	7	.55	.00
	8	.00	.08
	9	.04	.18
	10	.01	.73
	11	.02	.02

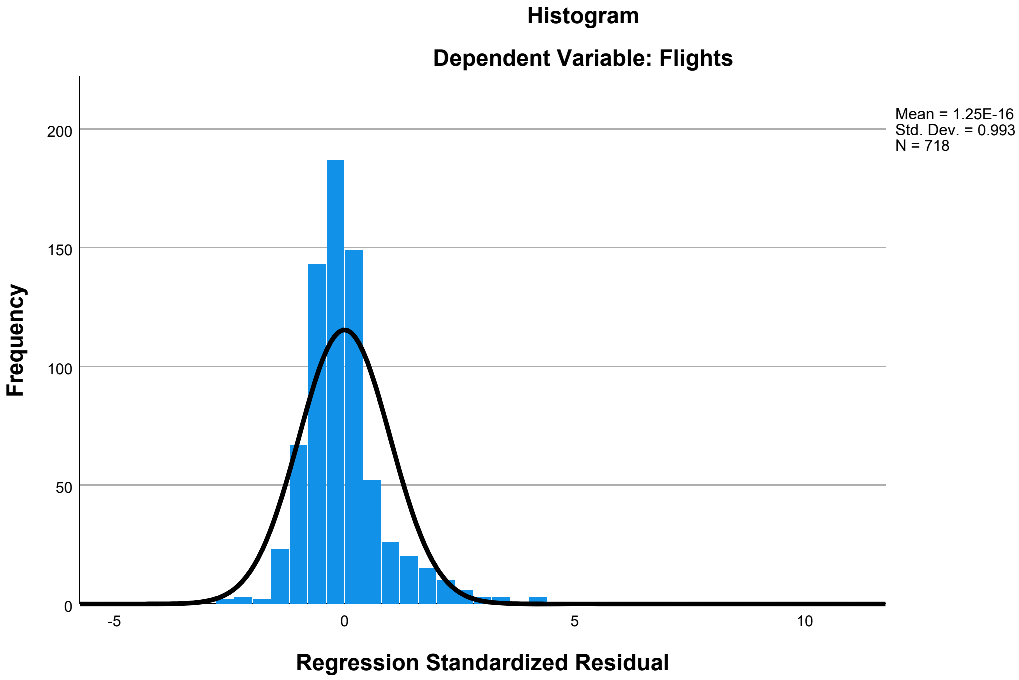
a. Dependent Variable: Flights

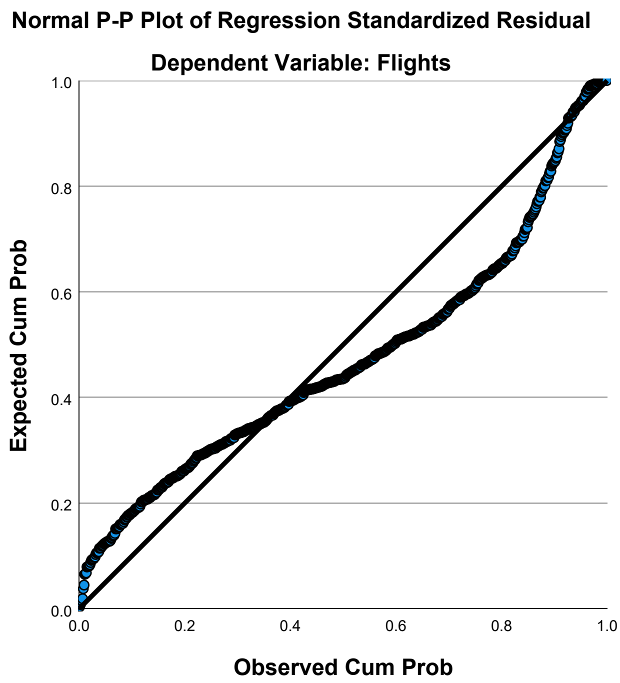
Residuals Statistics[a]

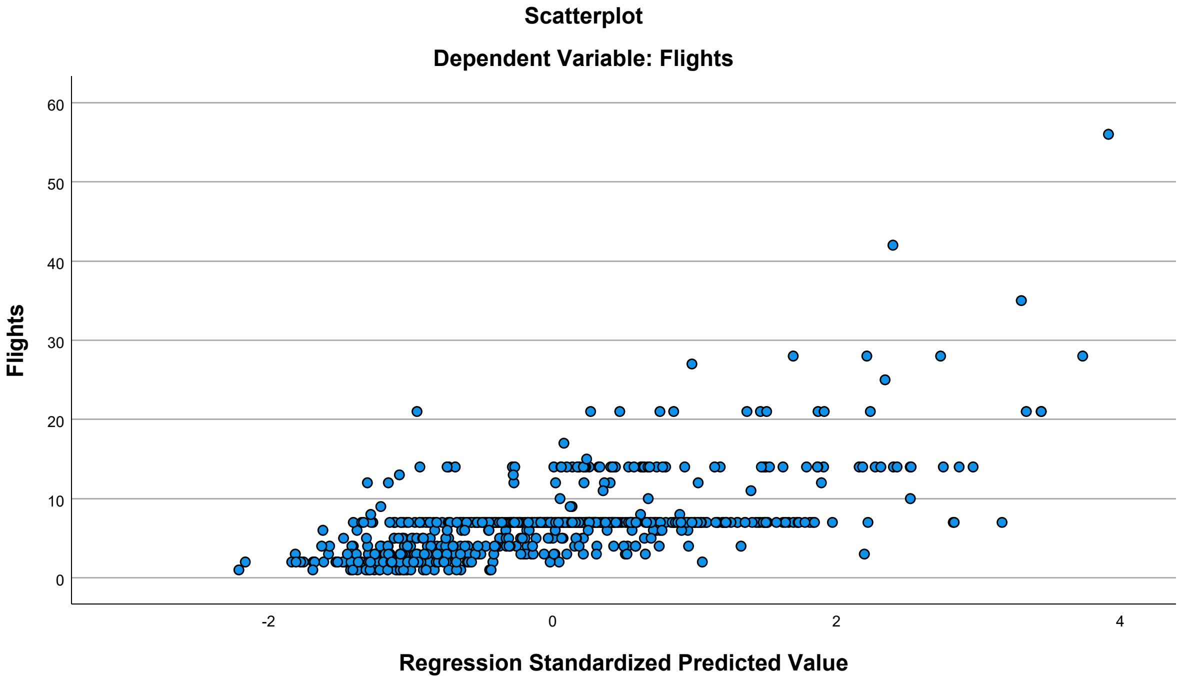
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.26	18.74	6.93	3.015	718
Residual	-10.551	37.264	.000	3.870	718
Std. Predicted Value	-2.211	3.915	.000	1.000	718
Std. Residual	-2.707	9.562	.000	.993	718

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 1.25E-16
Std. Dev. = 0.993
N = 718
Frequency
200
150
100
50
0
-5
0
5
10
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet1] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Regional\97 Eur-NA.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.96	5.296	337
HomeConcentration	2.4112886053	2.6876617311	337
Congestion	4.72	.989	337
GLHR	.14	.347	337
GJFK	.22	.413	337
PartnerConcentration	.41230100890	1.3302688347	337
Seasonality	.62001582448	.18304447554	337
Distance	4.18320	.723529	337
Language	1.94325644	3.466616137	337
Ethnicity	.61294489	.774220226	337
Urban	17.25	4.675	337

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.309	.186	.339
	HomeConcentration	.309	1.000	-.094	-.055
	Congestion	.186	-.094	1.000	.055
	GLHR	.339	-.055	.055	1.000
	GJFK	.105	-.314	.480	-.087
	PartnerConcentration	.042	.091	.029	-.095
	Seasonality	-.143	-.151	-.021	-.054
	Distance	-.147	.084	-.082	-.086
	Language	.312	.014	.030	.452
	Ethnicity	.249	.029	.246	.175
	Urban	.366	.107	.563	.259
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.042	.155
	Congestion	.000	.042	.	.155
	GLHR	.000	.155	.155	.
	GJFK	.027	.000	.000	.056
	PartnerConcentration	.223	.049	.299	.040
	Seasonality	.004	.003	.348	.161
	Distance	.003	.062	.068	.057
	Language	.000	.398	.289	.000
	Ethnicity	.000	.300	.000	.001
	Urban	.000	.025	.000	.000
N	Flights	337	337	337	337
	HomeConcentration	337	337	337	337

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.105	.042	-.143	-.147
	HomeConcentration	-.314	.091	-.151	.084
	Congestion	.480	.029	-.021	-.082
	GLHR	-.087	-.095	-.054	-.086
	GJFK	1.000	-.130	-.042	-.263
	PartnerConcentration	-.130	1.000	.055	.067
	Seasonality	-.042	.055	1.000	.116
	Distance	-.263	.067	.116	1.000
	Language	.117	-.156	-.053	-.338
	Ethnicity	.191	.020	-.031	-.229
	Urban	.270	-.002	-.094	.009
Sig. (1-tailed)	Flights	.027	.223	.004	.003
	HomeConcentration	.000	.049	.003	.062
	Congestion	.000	.299	.348	.068
	GLHR	.056	.040	.161	.057
	GJFK	.	.009	.223	.000
	PartnerConcentration	.009	.	.156	.110
	Seasonality	.223	.156	.	.016
	Distance	.000	.110	.016	.
	Language	.016	.002	.167	.000
	Ethnicity	.000	.355	.284	.000
	Urban	.000	.484	.043	.432
N	Flights	337	337	337	337
	HomeConcentration	337	337	337	337

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.312	.249	.366
	HomeConcentration	.014	.029	.107
	Congestion	.030	.246	.563
	GLHR	.452	.175	.259
	GJFK	.117	.191	.270
	PartnerConcentration	-.156	.020	-.002
	Seasonality	-.053	-.031	-.094
	Distance	-.338	-.229	.009
	Language	1.000	.400	.085
	Ethnicity	.400	1.000	.131
	Urban	.085	.131	1.000
Sig. (1-tailed)	Flights	<.001	<.001	<.001
	HomeConcentration	.398	.300	.025
	Congestion	.289	.000	.000
	GLHR	.000	.001	.000
	GJFK	.016	.000	.000
	PartnerConcentration	.002	.355	.484
	Seasonality	.167	.284	.043
	Distance	.000	.000	.432
	Language	.	.000	.060
	Ethnicity	.000	.	.008
	Urban	.060	.008	.
N	Flights	337	337	337
	HomeConcentration	337	337	337

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	337	337	337	337
	GLHR	337	337	337	337
	GJFK	337	337	337	337
	PartnerConcentration	337	337	337	337
	Seasonality	337	337	337	337
	Distance	337	337	337	337
	Language	337	337	337	337
	Ethnicity	337	337	337	337
	Urban	337	337	337	337

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	337	337	337	337
GLHR	337	337	337	337
GJFK	337	337	337	337
PartnerConcentration	337	337	337	337
Seasonality	337	337	337	337
Distance	337	337	337	337
Language	337	337	337	337
Ethnicity	337	337	337	337
Urban	337	337	337	337

Correlations

	Language	Ethnicity	Urban
Congestion	337	337	337
GLHR	337	337	337
GJFK	337	337	337
PartnerConcentration	337	337	337
Seasonality	337	337	337
Distance	337	337	337
Language	337	337	337
Ethnicity	337	337	337
Urban	337	337	337

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, Seasonality, HomeConcentration, Ethnicity, GLHR, GJFK, Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.593[a]	.351	.331	4.330	.351	17.650

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	326	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, Seasonality, HomeConcentration, Ethnicity, GLHR, GJFK, La
Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3309.488	10	330.949	17.650	<.001[b]
	Residual	6112.844	326	18.751		
	Total	9422.332	336			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, Seasonality, HomeConcentration, Ethnicity, GLHR, GJFK, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.540	2.107		1.205	.229
	HomeConcentration	.652	.099	.331	6.603	<.001
	Congestion	-.093	.326	-.017	-.284	.777
	GLHR	3.780	.832	.248	4.544	<.001
	GJFK	1.858	.744	.145	2.496	.013
	PartnerConcentration	.311	.183	.078	1.697	.091
	Seasonality	-1.249	1.327	-.043	-.941	.347
	Distance	-.442	.363	-.060	-1.217	.224
	Language	.181	.088	.118	2.061	.040
	Ethnicity	.555	.349	.081	1.593	.112
	Urban	.241	.066	.213	3.629	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.793	1.261
	Congestion	.535	1.868
	GLHR	.670	1.493
	GJFK	.592	1.690
	PartnerConcentration	.937	1.067
	Seasonality	.946	1.057
	Distance	.809	1.237
	Language	.605	1.653
	Ethnicity	.766	1.306
	Urban	.580	1.725

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.593	1.000	.00	.00	.00
	2	1.272	2.277	.00	.02	.00
	3	.986	2.586	.00	.04	.00
	4	.764	2.938	.00	.07	.00
	5	.571	3.397	.00	.16	.00
	6	.360	4.277	.00	.22	.00
	7	.321	4.535	.00	.33	.00
	8	.070	9.714	.00	.13	.03
	9	.035	13.708	.03	.00	.01
	10	.019	18.406	.01	.01	.72
	11	.009	27.172	.95	.01	.24

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.12	.01	.18	.00	.00	.10
	3	.13	.25	.09	.00	.00	.01
	4	.00	.06	.65	.00	.00	.02
	5	.29	.01	.01	.00	.00	.08
	6	.00	.18	.06	.00	.00	.25
	7	.30	.18	.00	.02	.00	.42
	8	.08	.14	.00	.63	.00	.02
	9	.04	.10	.00	.29	.28	.00
	10	.02	.07	.00	.01	.15	.00
	11	.00	.00	.00	.05	.56	.08

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.02	.00
	3	.00	.00
	4	.06	.00
	5	.25	.00
	6	.55	.00
	7	.07	.00
	8	.00	.15
	9	.00	.37
	10	.04	.47
	11	.00	.01

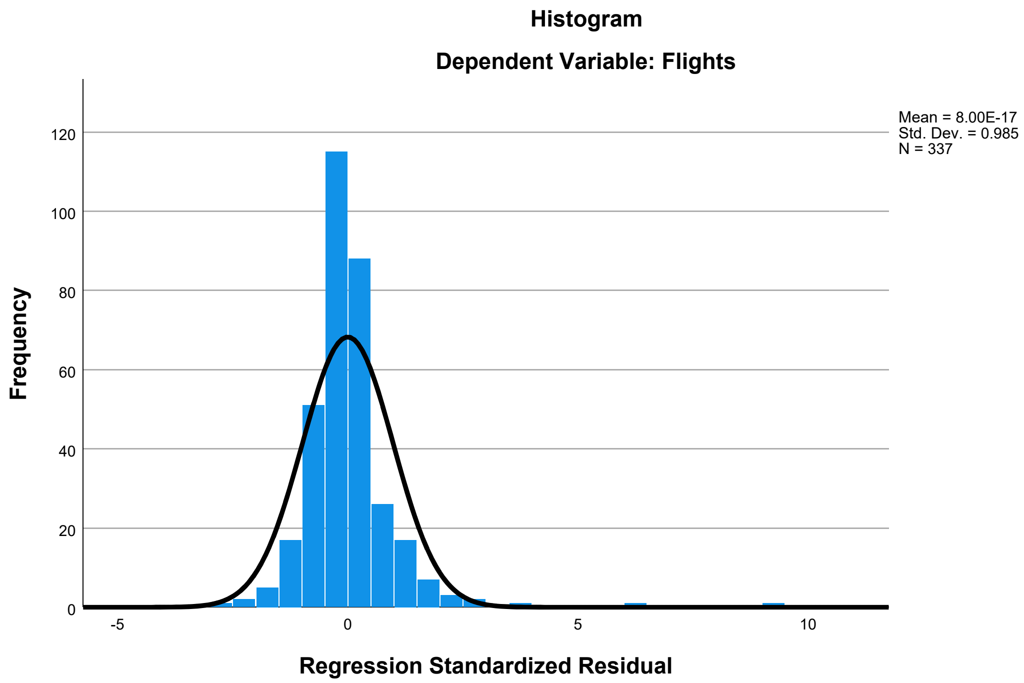
a. Dependent Variable: Flights

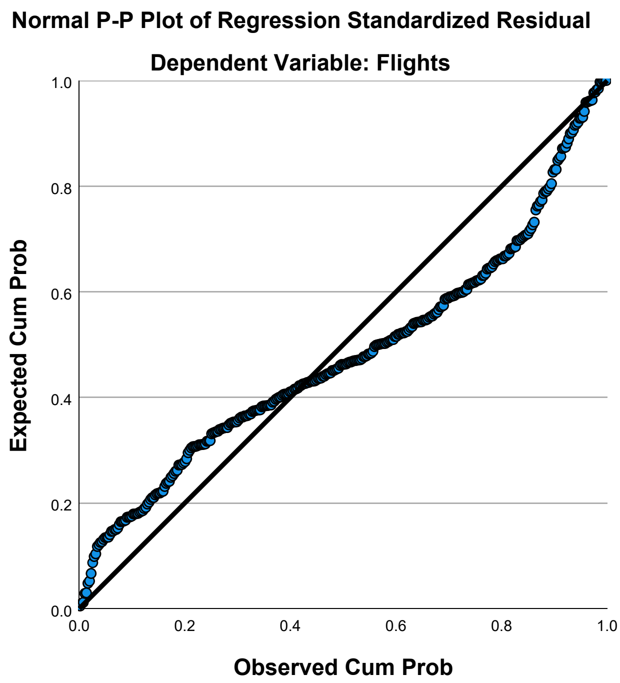
Residuals Statistics[a]

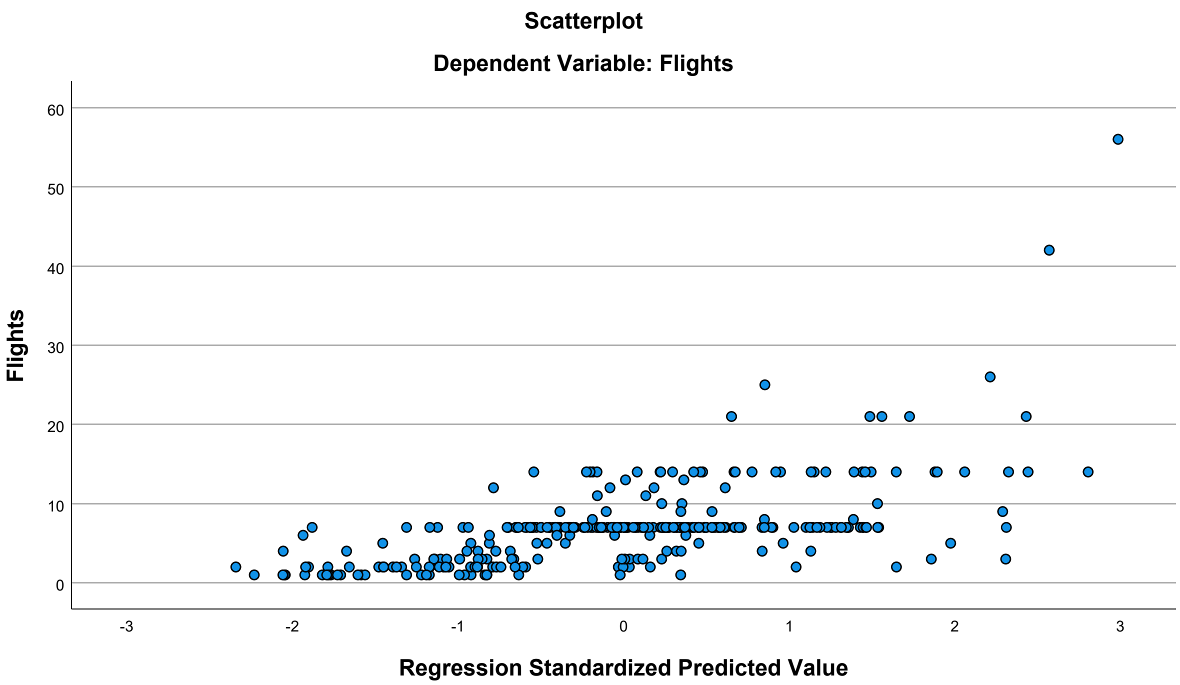
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.39	16.33	6.96	3.138	337
Residual	-11.198	39.673	.000	4.265	337
Std. Predicted Value	-2.342	2.986	.000	1.000	337
Std. Residual	-2.586	9.162	.000	.985	337

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 8.00E-17
Std. Dev. = 0.985
N = 337
Frequency
120
100
80
60
40
20
0
-5
0
5
10
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-3
-2
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

```
[DataSet2] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Regional\02 Eur-NA.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.42	5.729	355
HomeConcentration	3.0432758986	3.0625418406	355
Congestion	4.61	.896	355
GLHR	.13	.333	355
GJFK	.15	.354	355
PartnerConcentration	1.0179762592	1.9440819649	355
Seasonality	.65677352851	.21045626323	355
Distance	4.14278	.686762	355
Language	2.12150346	3.425125885	355
Ethnicity	.65442388	.742346856	355
Urban	16.98	4.303	355

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.305	.151	.400
	HomeConcentration	.305	1.000	-.182	-.099
	Congestion	.151	-.182	1.000	.080
	GLHR	.400	-.099	.080	1.000
	GJFK	.119	-.253	.500	-.014
	PartnerConcentration	.233	.046	.004	.085
	Seasonality	-.310	-.239	-.031	-.229
	Distance	-.106	.146	.044	-.103
	Language	.239	-.088	-.060	.432
	Ethnicity	.105	-.066	.065	.079
	Urban	.408	.102	.547	.313
Sig. (1-tailed)	Flights	.	<.001	.002	<.001
	HomeConcentration	.000	.	.000	.031
	Congestion	.002	.000	.	.065
	GLHR	.000	.031	.065	.
	GJFK	.013	.000	.000	.395
	PartnerConcentration	.000	.194	.468	.054
	Seasonality	.000	.000	.281	.000
	Distance	.023	.003	.206	.027
	Language	.000	.049	.130	.000
	Ethnicity	.024	.108	.111	.068
	Urban	.000	.027	.000	.000
N	Flights	355	355	355	355
	HomeConcentration	355	355	355	355

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.119	.233	-.310	-.106
	HomeConcentration	-.253	.046	-.239	.146
	Congestion	.500	.004	-.031	.044
	GLHR	-.014	.085	-.229	-.103
	GJFK	1.000	-.085	-.117	-.153
	PartnerConcentration	-.085	1.000	-.154	.066
	Seasonality	-.117	-.154	1.000	-.052
	Distance	-.153	.066	-.052	1.000
	Language	.081	-.012	-.024	-.375
	Ethnicity	.121	.006	.077	-.248
	Urban	.243	.148	-.355	.090
Sig. (1-tailed)	Flights	.013	<.001	<.001	.023
	HomeConcentration	.000	.194	.000	.003
	Congestion	.000	.468	.281	.206
	GLHR	.395	.054	.000	.027
	GJFK	.	.054	.014	.002
	PartnerConcentration	.054	.	.002	.108
	Seasonality	.014	.002	.	.164
	Distance	.002	.108	.164	.
	Language	.063	.414	.328	.000
	Ethnicity	.011	.455	.073	.000
	Urban	.000	.003	.000	.046
N	Flights	355	355	355	355
	HomeConcentration	355	355	355	355

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.239	.105	.408
	HomeConcentration	-.088	-.066	.102
	Congestion	-.060	.065	.547
	GLHR	.432	.079	.313
	GJFK	.081	.121	.243
	PartnerConcentration	-.012	.006	.148
	Seasonality	-.024	.077	-.355
	Distance	-.375	-.248	.090
	Language	1.000	.449	-.020
	Ethnicity	.449	1.000	-.059
	Urban	-.020	-.059	1.000
Sig. (1-tailed)	Flights	<.001	.024	<.001
	HomeConcentration	.049	.108	.027
	Congestion	.130	.111	.000
	GLHR	.000	.068	.000
	GJFK	.063	.011	.000
	PartnerConcentration	.414	.455	.003
	Seasonality	.328	.073	.000
	Distance	.000	.000	.046
	Language	.	.000	.356
	Ethnicity	.000	.	.136
	Urban	.356	.136	.
N	Flights	355	355	355
	HomeConcentration	355	355	355

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	355	355	355	355
	GLHR	355	355	355	355
	GJFK	355	355	355	355
	PartnerConcentration	355	355	355	355
	Seasonality	355	355	355	355
	Distance	355	355	355	355
	Language	355	355	355	355
	Ethnicity	355	355	355	355
	Urban	355	355	355	355

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	355	355	355	355
GLHR	355	355	355	355
GJFK	355	355	355	355
PartnerConcentration	355	355	355	355
Seasonality	355	355	355	355
Distance	355	355	355	355
Language	355	355	355	355
Ethnicity	355	355	355	355
Urban	355	355	355	355

Correlations

	Language	Ethnicity	Urban
Congestion	355	355	355
GLHR	355	355	355
GJFK	355	355	355
PartnerConcentration	355	355	355
Seasonality	355	355	355
Distance	355	355	355
Language	355	355	355
Ethnicity	355	355	355
Urban	355	355	355

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, HomeConcentration, PartnerConcentration, GJFK, Distance, Seasonality, Ethnicity, GLHR, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change
1	.647[a]	.419	.402	4.430	.419	24.813

Model Summary[b]

Model	Change Statistics: df1	Change Statistics: df2	Change Statistics: Sig. F Change
1	10	344	<.001

a. Predictors: (Constant), Urban, Language, HomeConcentration, PartnerConcentration, GJFK, Distance, Seasonality, Ethnicity, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4869.515	10	486.952	24.813	<.001[b]
	Residual	6750.947	344	19.625		
	Total	11620.462	354			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, HomeConcentration, PartnerConcentration, GJFK, Distance, Seasonality, Ethnicity, GLHR, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.602	2.317		1.123	.262
	HomeConcentration	.664	.086	.355	7.688	<.001
	Congestion	.079	.373	.012	.212	.832
	GLHR	5.104	.882	.297	5.790	<.001
	GJFK	2.234	.829	.138	2.696	.007
	PartnerConcentration	.508	.125	.172	4.079	<.001
	Seasonality	-1.279	1.294	-.047	-.989	.323
	Distance	-.830	.380	-.099	-2.184	.030
	Language	.134	.092	.080	1.463	.144
	Ethnicity	.322	.365	.042	.882	.378
	Urban	.278	.077	.209	3.615	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.792	1.262
	Congestion	.496	2.017
	GLHR	.643	1.556
	GJFK	.644	1.553
	PartnerConcentration	.945	1.059
	Seasonality	.748	1.337
	Distance	.815	1.228
	Language	.564	1.774
	Ethnicity	.755	1.324
	Urban	.506	1.978

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.737	1.000	.00	.00	.00
	2	1.153	2.417	.00	.03	.00
	3	.972	2.633	.00	.02	.00
	4	.732	3.034	.00	.04	.00
	5	.606	3.333	.00	.00	.00
	6	.398	4.113	.00	.65	.00
	7	.279	4.915	.00	.01	.00
	8	.071	9.739	.00	.17	.01
	9	.030	15.022	.02	.01	.03
	10	.014	21.932	.00	.03	.85
	11	.008	29.376	.98	.01	.11

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.19	.01	.01	.00	.00	.12
	3	.07	.34	.14	.00	.00	.00
	4	.01	.13	.64	.00	.00	.02
	5	.28	.01	.15	.00	.00	.07
	6	.00	.15	.00	.02	.00	.03
	7	.21	.00	.01	.01	.00	.62
	8	.20	.17	.04	.55	.01	.04
	9	.02	.06	.00	.18	.39	.00
	10	.01	.11	.00	.11	.06	.00
	11	.00	.00	.00	.13	.54	.10

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.02	.00
	3	.01	.00
	4	.02	.00
	5	.27	.00
	6	.00	.00
	7	.66	.00
	8	.00	.12
	9	.00	.28
	10	.02	.59
	11	.00	.02

a. Dependent Variable: Flights

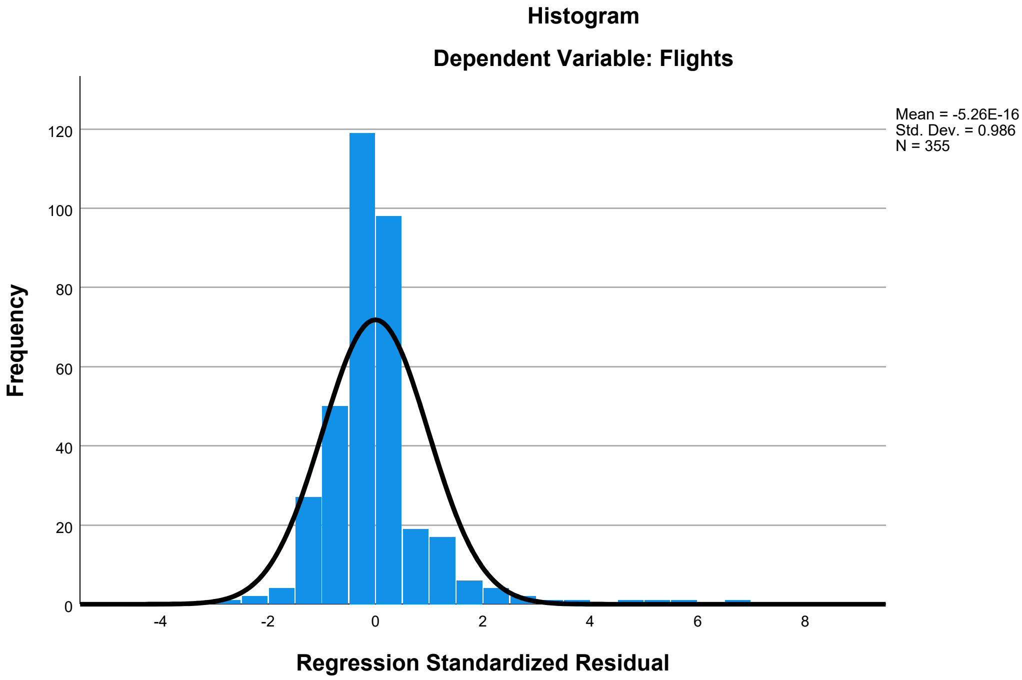
Residuals Statistics[a]

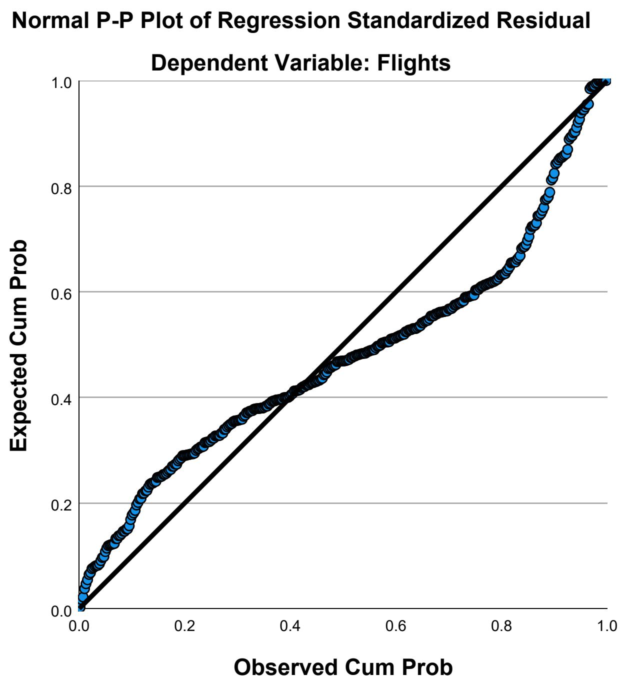
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.44	18.78	7.42	3.709	355
Residual	-12.668	30.218	.000	4.367	355
Std. Predicted Value	-2.119	3.063	.000	1.000	355
Std. Residual	-2.860	6.821	.000	.986	355

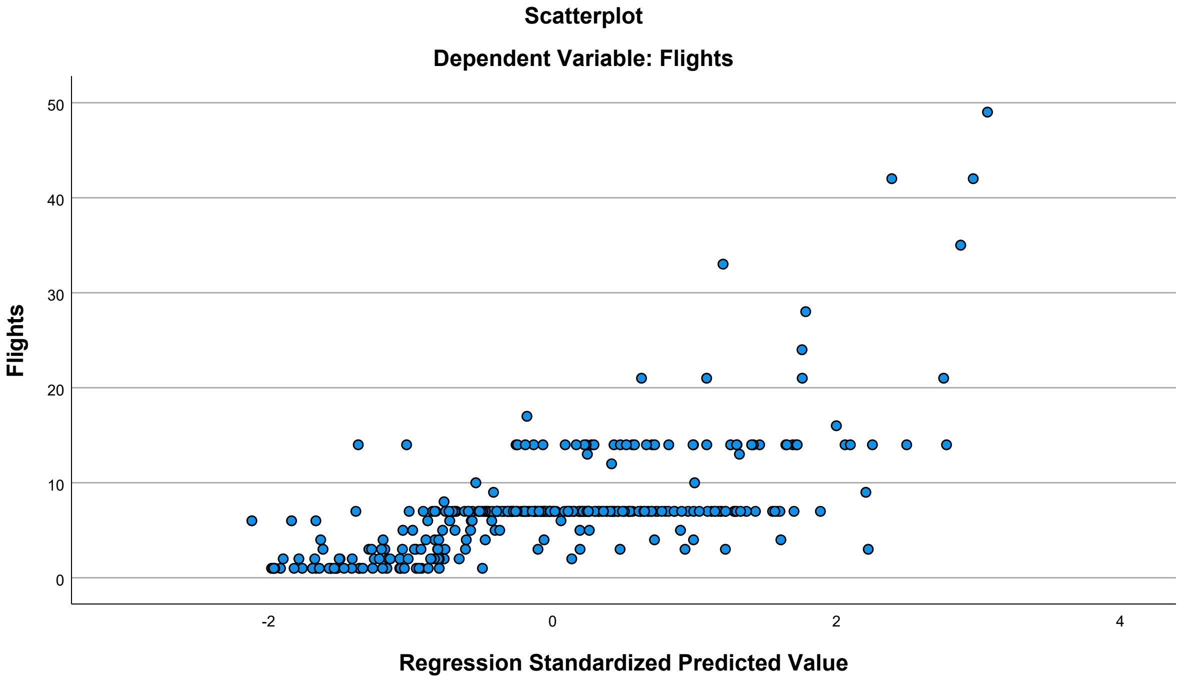
a. Dependent Variable: Flights

Charts

Histogram


Histogram
Dependent Variable: Flights
Mean = -5.26E-16
Std. Dev. = 0.986
N = 355
Frequency
120
100
80
60
40
20
0
-4
-2
0
2
4
6
8
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
50
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.94	5.911	513
HomeConcentration	2.6176590994	3.0151949540	513
Congestion	4.65	1.019	513
GLHR	.10	.294	513
GJFK	.13	.339	513
PartnerConcentration	.92002463548	1.9309837213	513
Seasonality	.71323502042	.22205466966	513
Distance	4.11019	.739089	513
Language	2.22981217	3.460613400	513
Ethnicity	.78748034	.888943753	513
Urban	15.70	4.875	513

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.378	.169	.394
	HomeConcentration	.378	1.000	-.092	-.023
	Congestion	.169	-.092	1.000	.080
	GLHR	.394	-.023	.080	1.000
	GJFK	.159	-.184	.373	-.029
	PartnerConcentration	.287	.199	.028	.032
	Seasonality	-.421	-.369	-.213	-.207
	Distance	-.045	.188	.105	-.029
	Language	.169	-.149	-.012	.325
	Ethnicity	.028	-.155	.116	.032
	Urban	.447	.205	.589	.257
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.019	.305
	Congestion	.000	.019	.	.035
	GLHR	.000	.305	.035	.
	GJFK	.000	.000	.000	.254
	PartnerConcentration	.000	.000	.265	.236
	Seasonality	.000	.000	.000	.000
	Distance	.152	.000	.009	.257
	Language	.000	.000	.392	.000
	Ethnicity	.266	.000	.004	.234
	Urban	.000	.000	.000	.000
N	Flights	513	513	513	513
	HomeConcentration	513	513	513	513
	Congestion	513	513	513	513
	GLHR	513	513	513	513

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.159	.287	-.421	-.045
	HomeConcentration	-.184	.199	-.369	.188
	Congestion	.373	.028	-.213	.105
	GLHR	-.029	.032	-.207	-.029
	GJFK	1.000	-.094	-.153	-.059
	PartnerConcentration	-.094	1.000	-.285	.147
	Seasonality	-.153	-.285	1.000	-.193
	Distance	-.059	.147	-.193	1.000
	Language	.120	-.174	.042	-.386
	Ethnicity	.156	-.063	.135	-.259
	Urban	.263	.181	-.449	.098
Sig. (1-tailed)	Flights	<.001	<.001	<.001	.152
	HomeConcentration	.000	.000	.000	.000
	Congestion	.000	.265	.000	.009
	GLHR	.254	.236	.000	.257
	GJFK	.	.017	.000	.093
	PartnerConcentration	.017	.	.000	.000
	Seasonality	.000	.000	.	.000
	Distance	.093	.000	.000	.
	Language	.003	.000	.171	.000
	Ethnicity	.000	.078	.001	.000
	Urban	.000	.000	.000	.013
N	Flights	513	513	513	513
	HomeConcentration	513	513	513	513
	Congestion	513	513	513	513
	GLHR	513	513	513	513

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.169	.028	.447
	HomeConcentration	-.149	-.155	.205
	Congestion	-.012	.116	.589
	GLHR	.325	.032	.257
	GJFK	.120	.156	.263
	PartnerConcentration	-.174	-.063	.181
	Seasonality	.042	.135	-.449
	Distance	-.386	-.259	.098
	Language	1.000	.472	.019
	Ethnicity	.472	1.000	.015
	Urban	.019	.015	1.000
Sig. (1-tailed)	Flights	<.001	.266	<.001
	HomeConcentration	.000	.000	.000
	Congestion	.392	.004	.000
	GLHR	.000	.234	.000
	GJFK	.003	.000	.000
	PartnerConcentration	.000	.078	.000
	Seasonality	.171	.001	.000
	Distance	.000	.000	.013
	Language	.	.000	.333
	Ethnicity	.000	.	.364
	Urban	.333	.364	.
N	Flights	513	513	513
	HomeConcentration	513	513	513
	Congestion	513	513	513
	GLHR	513	513	513

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	GJFK	513	513	513	513
	PartnerConcentration	513	513	513	513
	Seasonality	513	513	513	513
	Distance	513	513	513	513
	Language	513	513	513	513
	Ethnicity	513	513	513	513
	Urban	513	513	513	513

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
GJFK	513	513	513	513
PartnerConcentration	513	513	513	513
Seasonality	513	513	513	513
Distance	513	513	513	513
Language	513	513	513	513
Ethnicity	513	513	513	513
Urban	513	513	513	513

Correlations

	Language	Ethnicity	Urban
GJFK	513	513	513
PartnerConcentration	513	513	513
Seasonality	513	513	513
Distance	513	513	513
Language	513	513	513
Ethnicity	513	513	513
Urban	513	513	513

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, PartnerConcentration, GLHR, Distance, HomeConcentration, GJFK, Seasonality, Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.689[a]	.475	.464	4.327	.475	45.353

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	502	<.001

a. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, GLHR, Distance, HomeConcentration, GJFK, Seasonality, La
Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8491.856	10	849.186	45.353	<.001[b]
	Residual	9399.504	502	18.724		
	Total	17891.361	512			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, GLHR, Distance, HomeConcentration, GJFK, Seasonality, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	5.749	1.899		3.027	.003
	HomeConcentration	.659	.074	.336	8.872	<.001
	Congestion	-.087	.253	-.015	-.343	.732
	GLHR	5.972	.742	.297	8.046	<.001
	GJFK	2.959	.644	.170	4.595	<.001
	PartnerConcentration	.607	.107	.198	5.681	<.001
	Seasonality	-2.476	1.079	-.093	-2.295	.022
	Distance	-.966	.290	-.121	-3.330	<.001
	Language	.161	.072	.094	2.236	.026
	Ethnicity	-.058	.254	-.009	-.228	.820
	Urban	.240	.056	.198	4.276	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.729	1.371
	Congestion	.551	1.816
	GLHR	.767	1.304
	GJFK	.765	1.307
	PartnerConcentration	.859	1.165
	Seasonality	.637	1.570
	Distance	.796	1.257
	Language	.586	1.705
	Ethnicity	.716	1.396
	Urban	.487	2.054

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.574	1.000	.00	.00	.00
	2	1.217	2.324	.00	.05	.00
	3	.982	2.588	.00	.00	.00
	4	.740	2.981	.00	.01	.00
	5	.613	3.276	.00	.03	.00
	6	.451	3.820	.00	.61	.00
	7	.276	4.884	.00	.02	.00
	8	.087	8.692	.00	.13	.03
	9	.035	13.684	.01	.04	.00
	10	.019	18.543	.00	.07	.89
	11	.008	29.063	.99	.03	.08

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.05	.07	.14	.00	.00	.09
	3	.41	.19	.03	.00	.00	.02
	4	.10	.42	.26	.00	.00	.02
	5	.12	.03	.43	.00	.00	.07
	6	.02	.06	.01	.01	.00	.08
	7	.15	.00	.04	.00	.00	.59
	8	.12	.22	.05	.27	.00	.01
	9	.00	.00	.01	.35	.39	.02
	10	.02	.02	.01	.01	.10	.00
	11	.00	.00	.01	.35	.51	.09

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.03	.00
	3	.00	.00
	4	.02	.00
	5	.18	.00
	6	.01	.00
	7	.73	.00
	8	.00	.19
	9	.01	.24
	10	.01	.54
	11	.00	.03

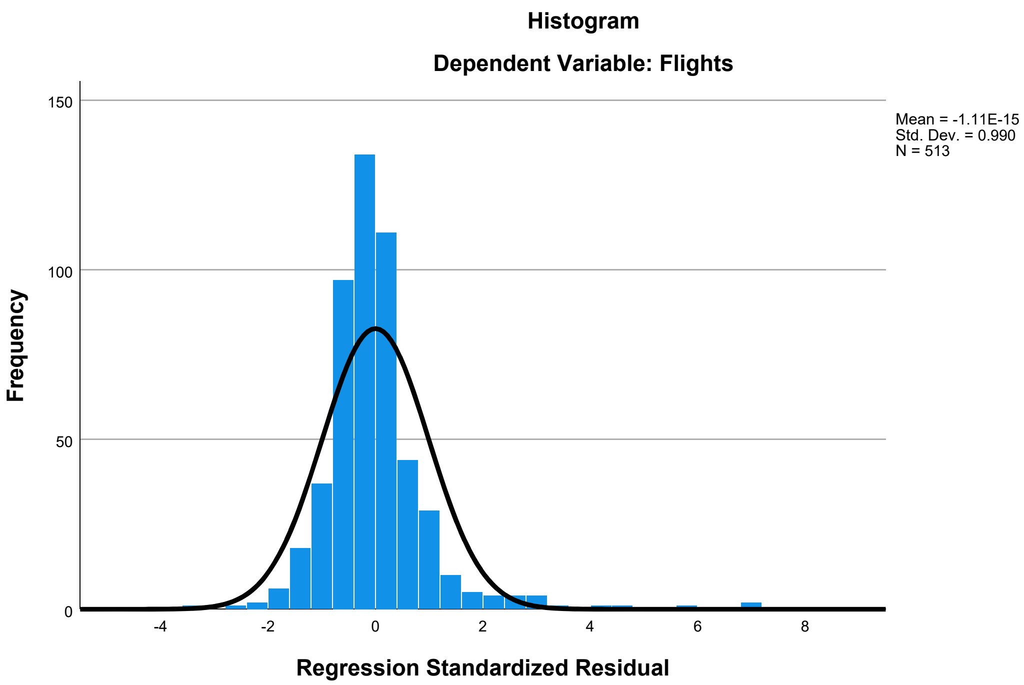
a. Dependent Variable: Flights

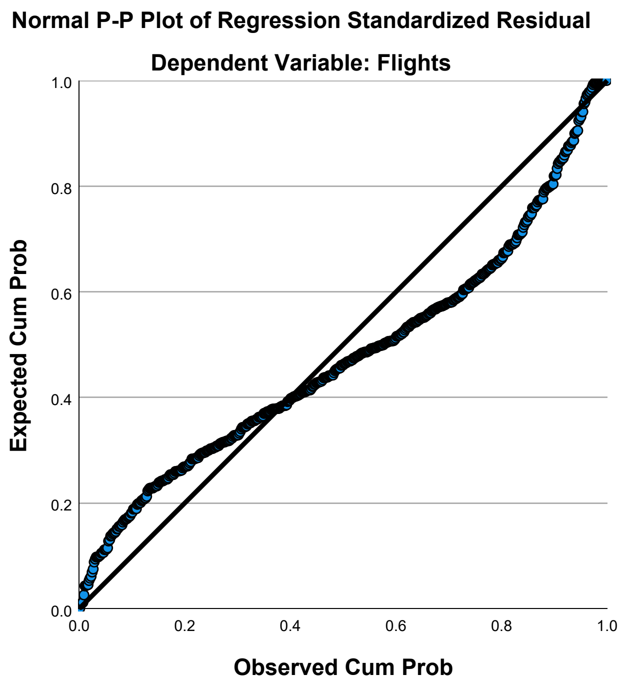
Residuals Statistics[a]

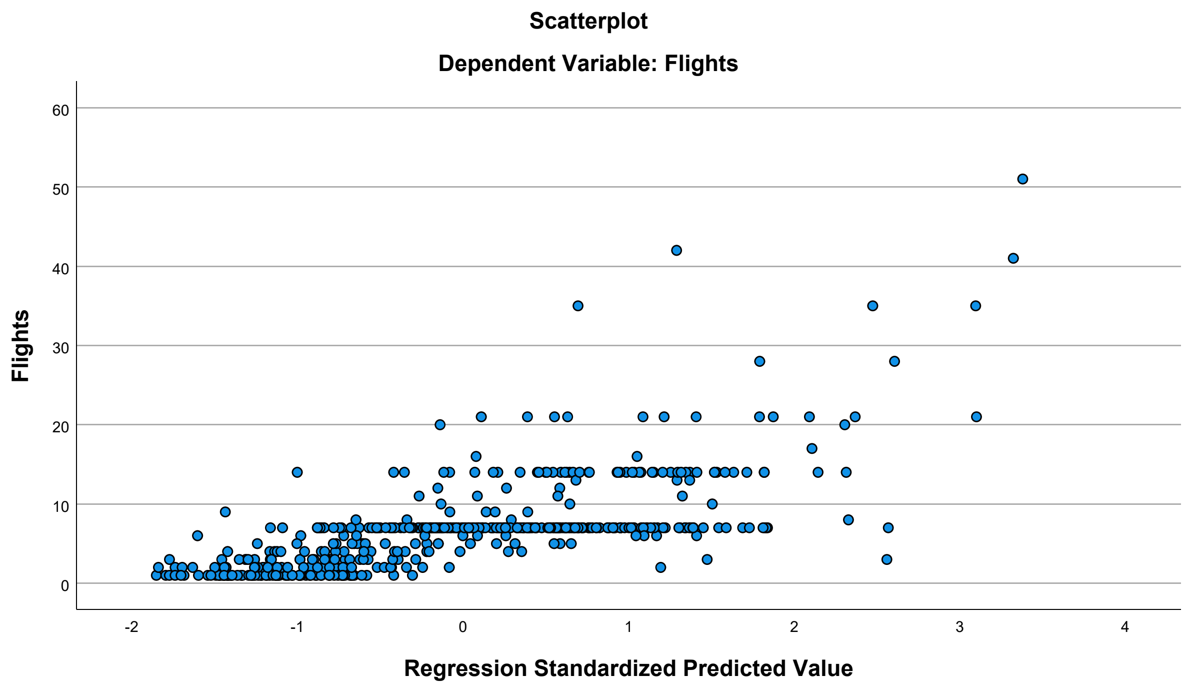
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.60	20.71	6.94	4.073	513
Residual	-14.367	30.291	.000	4.285	513
Std. Predicted Value	-1.852	3.380	.000	1.000	513
Std. Residual	-3.320	7.000	.000	.990	513

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -1.11E-15
Std. Dev. = 0.990
N = 513
150
100
50
0
Frequency
-4
-2
0
2
4
6
8
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
1.0
0.8
0.6
0.4
0.2
0.0
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
-1
0
1
2
3
4
Regression Standardized Predicted Value

Regression

```
[DataSet4] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Regional\2012 Eur-NA.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.32	5.732	475
HomeConcentration	2.5939015874	2.5279219648	475
Congestion	4.79	.989	475
GLHR	.13	.333	475
GJFK	.14	.346	475
PartnerConcentration	1.1367672421	1.9417164588	475
Seasonality	.69802052747	.23166152806	475
Distance	4.13383	.719819	475
Language	1.65176898	3.060522581	475
Ethnicity	.62459467	.762537347	475
Urban	17.35	4.152	475

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.366	.122	.422
	HomeConcentration	.366	1.000	-.110	.070
	Congestion	.122	-.110	1.000	-.036
	GLHR	.422	.070	-.036	1.000
	GJFK	.155	-.207	.404	-.061
	PartnerConcentration	.231	.170	-.049	.009
	Seasonality	-.250	-.285	-.037	-.230
	Distance	-.079	.179	-.130	.005
	Language	.298	-.071	-.005	.465
	Ethnicity	.098	-.094	.163	.062
	Urban	.442	.284	.501	.255
Sig. (1-tailed)	Flights	.	<.001	.004	<.001
	HomeConcentration	.000	.	.008	.065
	Congestion	.004	.008	.	.217
	GLHR	.000	.065	.217	.
	GJFK	.000	.000	.000	.092
	PartnerConcentration	.000	.000	.141	.421
	Seasonality	.000	.000	.209	.000
	Distance	.043	.000	.002	.457
	Language	.000	.062	.456	.000
	Ethnicity	.016	.021	.000	.089
	Urban	.000	.000	.000	.000
N	Flights	475	475	475	475
	HomeConcentration	475	475	475	475

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.155	.231	-.250	-.079
	HomeConcentration	-.207	.170	-.285	.179
	Congestion	.404	-.049	-.037	-.130
	GLHR	-.061	.009	-.230	.005
	GJFK	1.000	-.118	-.007	-.183
	PartnerConcentration	-.118	1.000	-.230	.125
	Seasonality	-.007	-.230	1.000	-.086
	Distance	-.183	.125	-.086	1.000
	Language	.100	-.169	-.031	-.305
	Ethnicity	.205	-.043	.039	-.176
	Urban	.243	.186	-.401	.105
Sig. (1-tailed)	Flights	<.001	<.001	<.001	.043
	HomeConcentration	.000	.000	.000	.000
	Congestion	.000	.141	.209	.002
	GLHR	.092	.421	.000	.457
	GJFK	.	.005	.438	.000
	PartnerConcentration	.005	.	.000	.003
	Seasonality	.438	.000	.	.031
	Distance	.000	.003	.031	.
	Language	.015	.000	.253	.000
	Ethnicity	.000	.177	.196	.000
	Urban	.000	.000	.000	.011
N	Flights	475	475	475	475
	HomeConcentration	475	475	475	475

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.298	.098	.442
	HomeConcentration	-.071	-.094	.284
	Congestion	-.005	.163	.501
	GLHR	.465	.062	.255
	GJFK	.100	.205	.243
	PartnerConcentration	-.169	-.043	.186
	Seasonality	-.031	.039	-.401
	Distance	-.305	-.176	.105
	Language	1.000	.466	.060
	Ethnicity	.466	1.000	.053
	Urban	.060	.053	1.000
Sig. (1-tailed)	Flights	<.001	.016	<.001
	HomeConcentration	.062	.021	.000
	Congestion	.456	.000	.000
	GLHR	.000	.089	.000
	GJFK	.015	.000	.000
	PartnerConcentration	.000	.177	.000
	Seasonality	.253	.196	.000
	Distance	.000	.000	.011
	Language	.	.000	.097
	Ethnicity	.000	.	.125
	Urban	.097	.125	.
N	Flights	475	475	475
	HomeConcentration	475	475	475

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	475	475	475	475
	GLHR	475	475	475	475
	GJFK	475	475	475	475
	PartnerConcentration	475	475	475	475
	Seasonality	475	475	475	475
	Distance	475	475	475	475
	Language	475	475	475	475
	Ethnicity	475	475	475	475
	Urban	475	475	475	475

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	475	475	475	475
	GLHR	475	475	475	475
	GJFK	475	475	475	475
	PartnerConcentration	475	475	475	475
	Seasonality	475	475	475	475
	Distance	475	475	475	475
	Language	475	475	475	475
	Ethnicity	475	475	475	475
	Urban	475	475	475	475

Correlations

		Language	Ethnicity	Urban
	Congestion	475	475	475
	GLHR	475	475	475
	GJFK	475	475	475
	PartnerConcentration	475	475	475
	Seasonality	475	475	475
	Distance	475	475	475
	Language	475	475	475
	Ethnicity	475	475	475
	Urban	475	475	475

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, PartnerConcentration, Distance, GLHR, HomeConcentration, GJFK, Seasonality, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.676[a]	.457	.446	4.268	.457	39.086

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	464	<.001

a. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, Distance, GLHR, HomeConcentration, GJFK, Seasonality, Co
Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7120.277	10	712.028	39.086	<.001[b]
	Residual	8452.721	464	18.217		
	Total	15572.998	474			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, Distance, GLHR, HomeConcentration, GJFK, Seasonality, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.008	1.936		.521	.603
	HomeConcentration	.739	.089	.326	8.347	<.001
	Congestion	-.078	.263	-.014	-.298	.766
	GLHR	4.849	.730	.281	6.646	<.001
	GJFK	3.077	.655	.186	4.701	<.001
	PartnerConcentration	.605	.108	.205	5.577	<.001
	Seasonality	1.052	.972	.043	1.082	.280
	Distance	-.817	.301	-.103	-2.713	.007
	Language	.333	.090	.178	3.711	<.001
	Ethnicity	-.224	.305	-.030	-.736	.462
	Urban	.304	.069	.220	4.412	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.768	1.302
	Congestion	.569	1.758
	GLHR	.653	1.532
	GJFK	.748	1.336
	PartnerConcentration	.866	1.154
	Seasonality	.758	1.320
	Distance	.818	1.223
	Language	.511	1.957
	Ethnicity	.712	1.404
	Urban	.470	2.130

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.706	1.000	.00	.00	.00
	2	1.253	2.313	.00	.02	.00
	3	1.036	2.544	.00	.02	.00
	4	.638	3.241	.00	.01	.00
	5	.579	3.403	.00	.01	.00
	6	.391	4.144	.00	.70	.00
	7	.259	5.088	.00	.00	.00
	8	.081	9.103	.00	.14	.03
	9	.033	14.170	.01	.02	.17
	10	.016	20.689	.02	.07	.56
	11	.008	29.514	.96	.01	.24

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.11	.02	.07	.00	.00	.12
	3	.16	.31	.05	.00	.00	.01
	4	.06	.24	.57	.01	.00	.00
	5	.20	.14	.14	.00	.00	.05
	6	.03	.07	.02	.02	.00	.01
	7	.30	.01	.06	.00	.00	.69
	8	.10	.10	.05	.54	.00	.01
	9	.01	.09	.00	.12	.43	.02
	10	.03	.00	.01	.17	.00	.00
	11	.00	.01	.01	.14	.56	.08

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.03	.00
	3	.01	.00
	4	.00	.00
	5	.30	.00
	6	.02	.00
	7	.61	.00
	8	.00	.07
	9	.00	.05
	10	.01	.88
	11	.00	.00

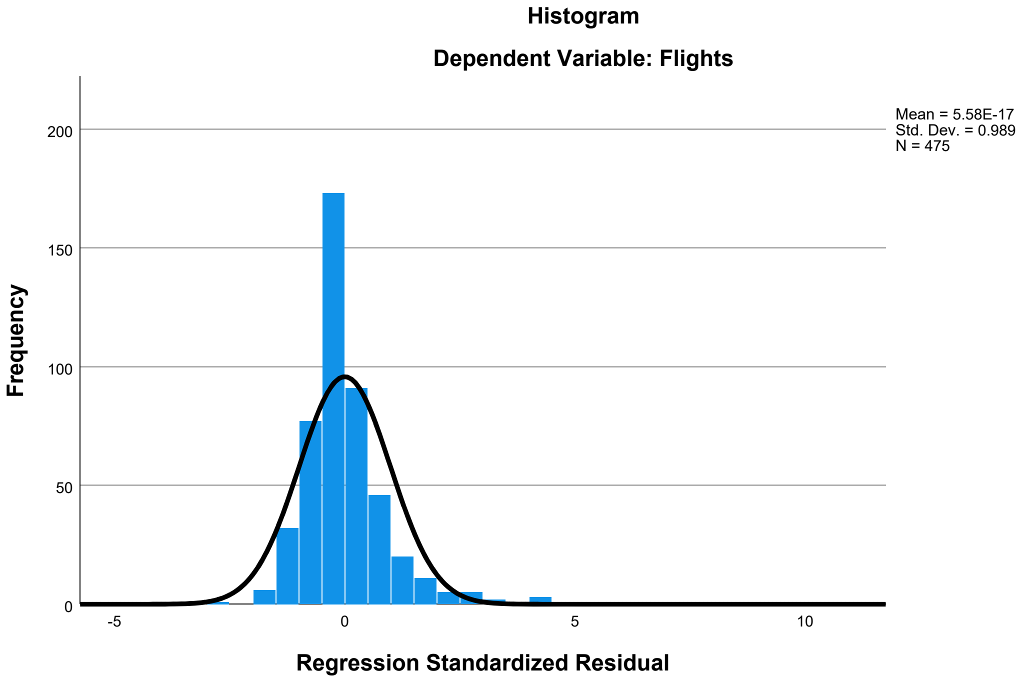
a. Dependent Variable: Flights

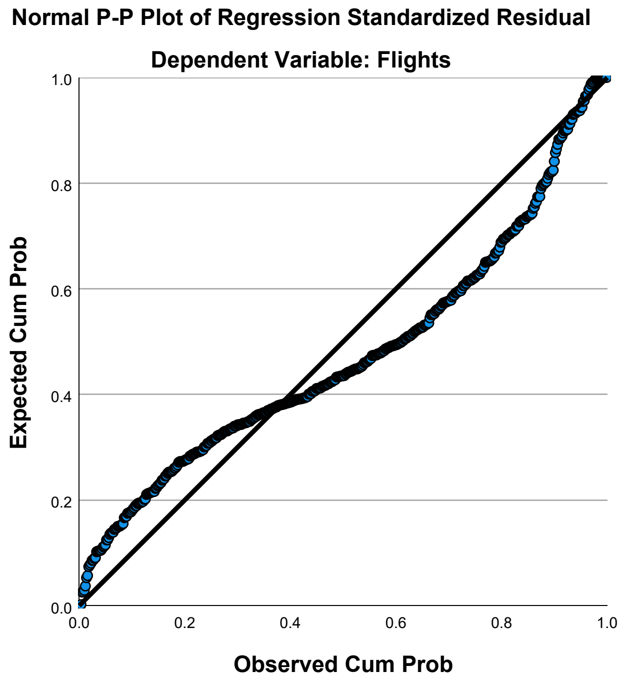
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.31	21.46	7.32	3.876	475
Residual	-14.102	34.539	.000	4.223	475
Std. Predicted Value	-1.967	3.649	.000	1.000	475
Std. Residual	-3.304	8.092	.000	.989	475

a. Dependent Variable: Flights

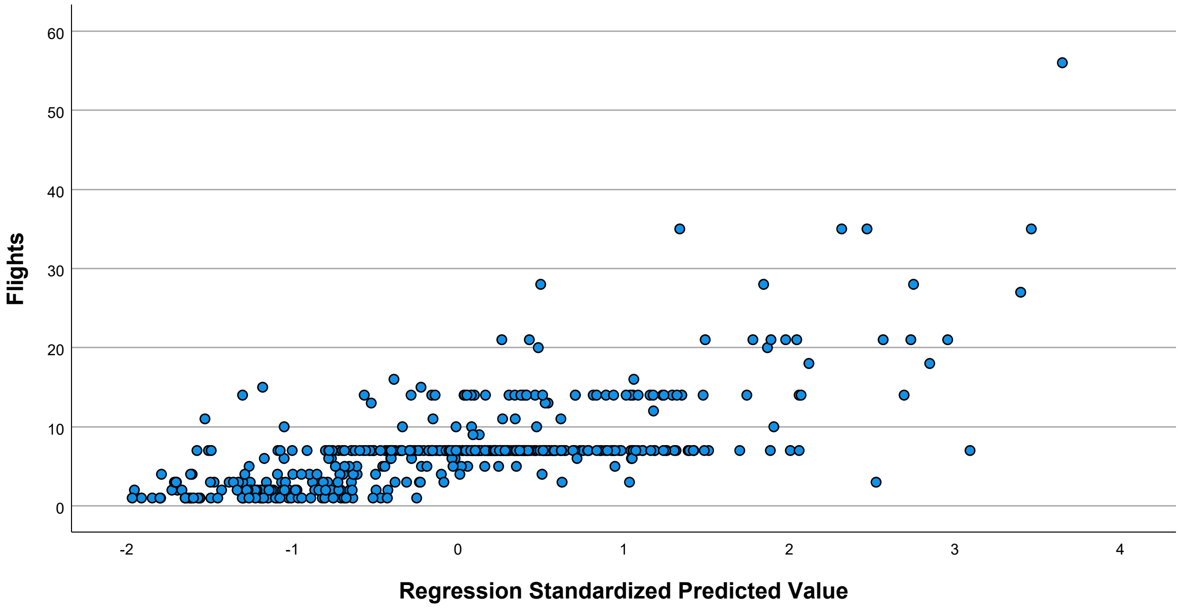
Charts


Histogram
Dependent Variable: Flights
Mean = 5.58E-17
Std. Dev. = 0.989
N = 475
Frequency
200
150
100
50
0
-5
0
5
10
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob

Scatterplot

Dependent Variable: Flights



Regression

```
[DataSet5] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Regional\2017 Eur-NA.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.04	5.062	626
HomeConcentration	2.6024118466	2.5855251383	626
Congestion	4.68	.908	626
GLHR	.10	.305	626
GJFK	.13	.332	626
PartnerConcentration	1.0109960895	1.8673152892	626
Seasonality	.74983674201	.22187483270	626
Distance	4.13772	.810283	626
Language	1.77735283	3.302080330	626
Ethnicity	.53339487859	.68254592684	626
Urban	16.32	4.693	626

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.333	.161	.400
	HomeConcentration	.333	1.000	-.101	.125
	Congestion	.161	-.101	1.000	-.041
	GLHR	.400	.125	-.041	1.000
	GJFK	.187	-.107	.464	-.066
	PartnerConcentration	.241	.144	.015	.087
	Seasonality	-.266	-.141	-.068	-.301
	Distance	-.078	.188	-.017	.030
	Language	.238	-.100	.020	.331
	Ethnicity	.119	-.023	.248	.050
	Urban	.398	.236	.513	.226
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.006	.001
	Congestion	.000	.006	.	.155
	GLHR	.000	.001	.155	.
	GJFK	.000	.004	.000	.049
	PartnerConcentration	.000	.000	.358	.015
	Seasonality	.000	.000	.044	.000
	Distance	.026	.000	.335	.225
	Language	.000	.006	.311	.000
	Ethnicity	.001	.280	.000	.107
	Urban	.000	.000	.000	.000
N	Flights	626	626	626	626
	HomeConcentration	626	626	626	626

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.187	.241	-.266	-.078
	HomeConcentration	-.107	.144	-.141	.188
	Congestion	.464	.015	-.068	-.017
	GLHR	-.066	.087	-.301	.030
	GJFK	1.000	-.060	-.060	-.182
	PartnerConcentration	-.060	1.000	-.176	.112
	Seasonality	-.060	-.176	1.000	-.058
	Distance	-.182	.112	-.058	1.000
	Language	.177	-.072	-.045	-.293
	Ethnicity	.205	-.037	.012	-.145
	Urban	.284	.232	-.331	.155
Sig. (1-tailed)	Flights	<.001	<.001	<.001	.026
	HomeConcentration	.004	.000	.000	.000
	Congestion	.000	.358	.044	.335
	GLHR	.049	.015	.000	.225
	GJFK	.	.067	.066	.000
	PartnerConcentration	.067	.	.000	.002
	Seasonality	.066	.000	.	.074
	Distance	.000	.002	.074	.
	Language	.000	.035	.130	.000
	Ethnicity	.000	.177	.385	.000
	Urban	.000	.000	.000	.000
N	Flights	626	626	626	626
	HomeConcentration	626	626	626	626

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.238	.119	.398
	HomeConcentration	-.100	-.023	.236
	Congestion	.020	.248	.513
	GLHR	.331	.050	.226
	GJFK	.177	.205	.284
	PartnerConcentration	-.072	-.037	.232
	Seasonality	-.045	.012	-.331
	Distance	-.293	-.145	.155
	Language	1.000	.476	.120
	Ethnicity	.476	1.000	.144
	Urban	.120	.144	1.000
Sig. (1-tailed)	Flights	<.001	.001	<.001
	HomeConcentration	.006	.280	.000
	Congestion	.311	.000	.000
	GLHR	.000	.107	.000
	GJFK	.000	.000	.000
	PartnerConcentration	.035	.177	.000
	Seasonality	.130	.385	.000
	Distance	.000	.000	.000
	Language	.	.000	.001
	Ethnicity	.000	.	.000
	Urban	.001	.000	.
N	Flights	626	626	626
	HomeConcentration	626	626	626

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	626	626	626	626
	GLHR	626	626	626	626
	GJFK	626	626	626	626
	PartnerConcentration	626	626	626	626
	Seasonality	626	626	626	626
	Distance	626	626	626	626
	Language	626	626	626	626
	Ethnicity	626	626	626	626
	Urban	626	626	626	626

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	626	626	626	626
GLHR	626	626	626	626
GJFK	626	626	626	626
PartnerConcentration	626	626	626	626
Seasonality	626	626	626	626
Distance	626	626	626	626
Language	626	626	626	626
Ethnicity	626	626	626	626
Urban	626	626	626	626

Correlations

	Language	Ethnicity	Urban
Congestion	626	626	626
GLHR	626	626	626
GJFK	626	626	626
PartnerConcentration	626	626	626
Seasonality	626	626	626
Distance	626	626	626
Language	626	626	626
Ethnicity	626	626	626
Urban	626	626	626

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, PartnerConcentration, HomeConcentration, Seasonality, Distance, GJFK, GLHR, Ethnicity, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.624[a]	.389	.379	3.988	.389	39.166

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	615	<.001

a. Predictors: (Constant), Urban, Language, PartnerConcentration, HomeConcentration, Seasonality, Distance, GJFK, GLHR, E Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6230.547	10	623.055	39.166	<.001[b]
	Residual	9783.454	615	15.908		
	Total	16014.002	625			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, PartnerConcentration, HomeConcentration, Seasonality, Distance, GJFK, GLHR, Ethnicity, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.342	1.445		3.005	.003
	HomeConcentration	.557	.067	.284	8.252	<.001
	Congestion	.281	.239	.050	1.178	.239
	GLHR	4.618	.605	.279	7.636	<.001
	GJFK	2.046	.567	.134	3.607	<.001
	PartnerConcentration	.432	.090	.159	4.809	<.001
	Seasonality	-1.197	.796	-.052	-1.505	.133
	Distance	-.815	.216	-.130	-3.768	<.001
	Language	.166	.064	.109	2.617	.009
	Ethnicity	-.115	.279	-.015	-.411	.681
	Urban	.171	.047	.159	3.617	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.836	1.197
	Congestion	.542	1.845
	GLHR	.747	1.339
	GJFK	.716	1.396
	PartnerConcentration	.904	1.106
	Seasonality	.816	1.225
	Distance	.829	1.206
	Language	.578	1.731
	Ethnicity	.700	1.430
	Urban	.515	1.940

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.649	1.000	.00	.01	.00
	2	1.164	2.390	.00	.02	.00
	3	1.028	2.543	.00	.01	.00
	4	.701	3.079	.00	.00	.00
	5	.602	3.323	.00	.02	.00
	6	.410	4.027	.00	.71	.00
	7	.302	4.690	.00	.10	.00
	8	.080	9.103	.00	.04	.01
	9	.033	14.126	.01	.00	.03
	10	.020	18.384	.06	.06	.49
	11	.009	27.510	.93	.02	.47

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.05	.08	.07	.00	.00	.15
	3	.36	.18	.04	.00	.00	.01
	4	.01	.28	.56	.00	.00	.00
	5	.23	.19	.25	.00	.00	.07
	6	.01	.02	.01	.01	.00	.00
	7	.20	.00	.00	.00	.00	.62
	8	.12	.10	.06	.45	.00	.01
	9	.01	.09	.00	.20	.56	.03
	10	.00	.03	.01	.21	.11	.00
	11	.00	.03	.00	.12	.32	.09

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.05	.00
	3	.00	.00
	4	.01	.00
	5	.17	.00
	6	.12	.00
	7	.58	.00
	8	.01	.17
	9	.01	.24
	10	.02	.56
	11	.03	.03

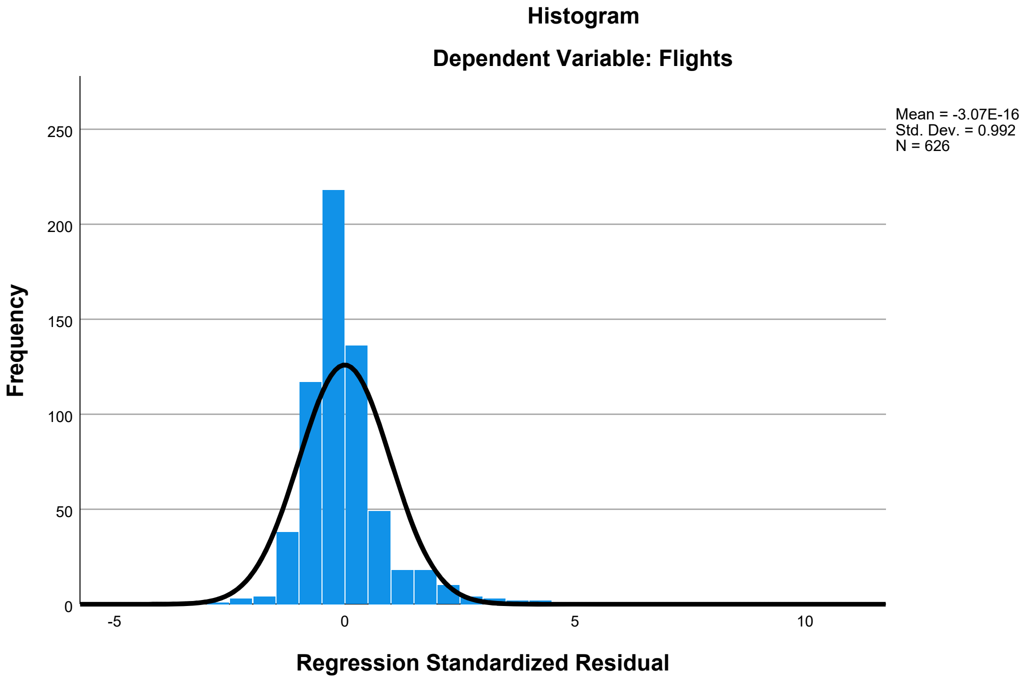
a. Dependent Variable: Flights

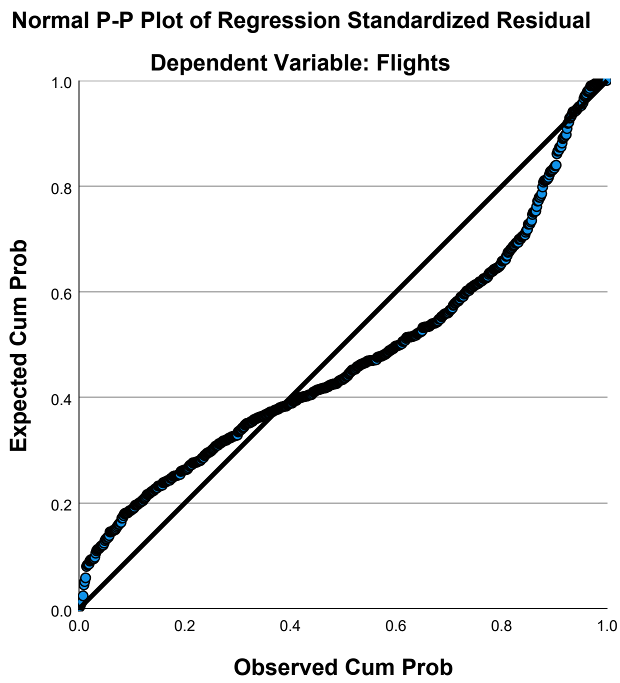
Residuals Statistics[a]

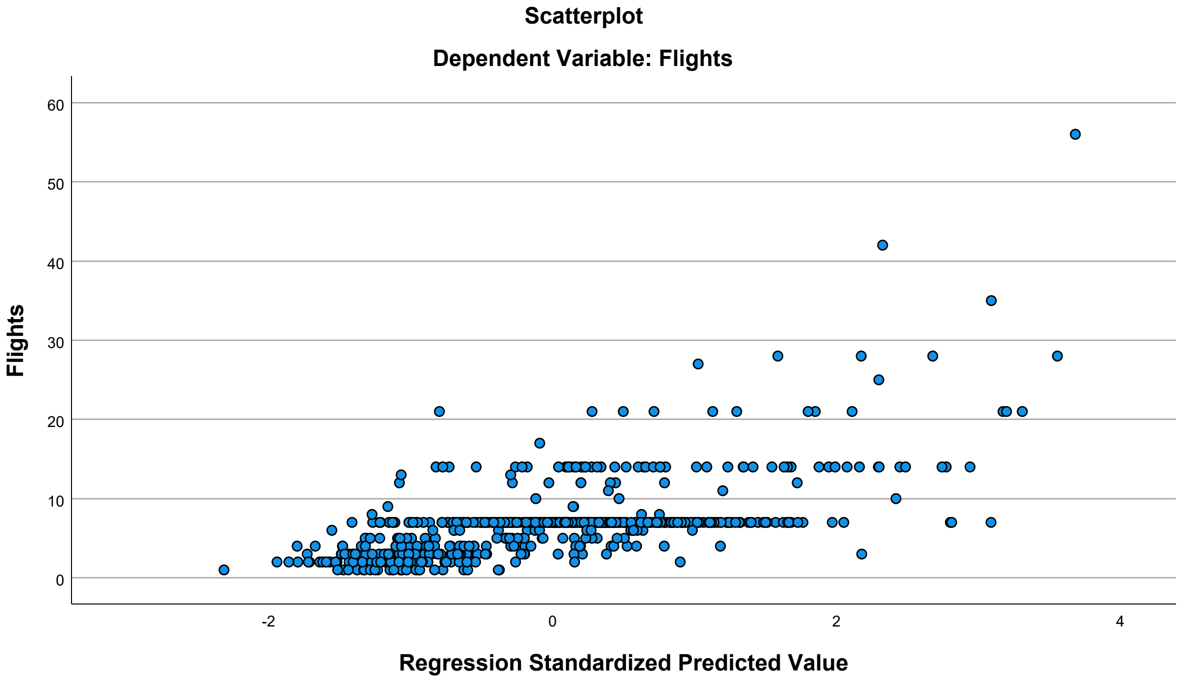
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.27	18.67	7.04	3.157	626
Residual	-10.916	37.332	.000	3.956	626
Std. Predicted Value	-2.316	3.683	.000	1.000	626
Std. Residual	-2.737	9.360	.000	.992	626

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -3.07E-16
Std. Dev. = 0.992
N = 626
Frequency
250
200
150
100
50
0
-5
0
5
10
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet8] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Regional\2007 Non-Euro.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	5.23	3.987	43
HomeConcentration	1.9993311163	3.0747817868	43
Congestion	4.23	1.360	43
GJFK	.37	.489	43
PartnerConcentration	.24989730233	1.1036499389	43
Seasonality	.63559627211	.20249488454	43
Distance	5.85630	1.188219	43
Language	.65547684	2.711323068	43
Ethnicity	.05381551	.058243607	43
Urban	13.49	3.832	43

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.222	.196	.248
	HomeConcentration	.222	1.000	-.101	-.297
	Congestion	.196	-.101	1.000	.368
	GJFK	.248	-.297	.368	1.000
	PartnerConcentration	.093	-.124	-.147	-.136
	Seasonality	-.277	-.055	-.351	-.298
	Distance	-.180	.179	.237	-.127
	Language	-.152	-.116	.288	.290
	Ethnicity	-.204	-.220	.067	.108
	Urban	.396	.029	.745	.485
Sig. (1-tailed)	Flights	.	.076	.104	.055
	HomeConcentration	.076	.	.259	.027
	Congestion	.104	.259	.	.008
	GJFK	.055	.027	.008	.
	PartnerConcentration	.277	.214	.173	.192
	Seasonality	.036	.364	.010	.026
	Distance	.124	.125	.063	.208
	Language	.166	.229	.030	.030
	Ethnicity	.095	.078	.334	.245
	Urban	.004	.426	.000	.000
N	Flights	43	43	43	43
	HomeConcentration	43	43	43	43
	Congestion	43	43	43	43
	GJFK	43	43	43	43
	PartnerConcentration	43	43	43	43

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.093	-.277	-.180	-.152
	HomeConcentration	-.124	-.055	.179	-.116
	Congestion	-.147	-.351	.237	.288
	GJFK	-.136	-.298	-.127	.290
	PartnerConcentration	1.000	-.093	-.079	-.053
	Seasonality	-.093	1.000	-.097	-.149
	Distance	-.079	-.097	1.000	-.144
	Language	-.053	-.149	-.144	1.000
	Ethnicity	-.015	.125	.242	-.109
	Urban	-.175	-.349	.402	-.033
Sig. (1-tailed)	Flights	.277	.036	.124	.166
	HomeConcentration	.214	.364	.125	.229
	Congestion	.173	.010	.063	.030
	GJFK	.192	.026	.208	.030
	PartnerConcentration	.	.278	.307	.369
	Seasonality	.278	.	.269	.170
	Distance	.307	.269	.	.179
	Language	.369	.170	.179	.
	Ethnicity	.461	.212	.059	.244
	Urban	.131	.011	.004	.417
N	Flights	43	43	43	43
	HomeConcentration	43	43	43	43
	Congestion	43	43	43	43
	GJFK	43	43	43	43
	PartnerConcentration	43	43	43	43

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	-.204	.396
	HomeConcentration	-.220	.029
	Congestion	.067	.745
	GJFK	.108	.485
	PartnerConcentration	-.015	-.175
	Seasonality	.125	-.349
	Distance	.242	.402
	Language	-.109	-.033
	Ethnicity	1.000	-.008
	Urban	-.008	1.000
Sig. (1-tailed)	Flights	.095	.004
	HomeConcentration	.078	.426
	Congestion	.334	.000
	GJFK	.245	.000
	PartnerConcentration	.461	.131
	Seasonality	.212	.011
	Distance	.059	.004
	Language	.244	.417
	Ethnicity	.	.480
	Urban	.480	.
N	Flights	43	43
	HomeConcentration	43	43
	Congestion	43	43
	GJFK	43	43
	PartnerConcentration	43	43

Correlations

		Flights	HomeConcentration	Congestion	GJFK
	Seasonality	43	43	43	43
	Distance	43	43	43	43
	Language	43	43	43	43
	Ethnicity	43	43	43	43
	Urban	43	43	43	43

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	Seasonality	43	43	43	43
	Distance	43	43	43	43
	Language	43	43	43	43
	Ethnicity	43	43	43	43
	Urban	43	43	43	43

Correlations

	Ethnicity	Urban
Seasonality	43	43
Distance	43	43
Language	43	43
Ethnicity	43	43
Urban	43	43

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, Language, PartnerConcentration, HomeConcentration, Seasonality, Distance, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.676[a]	.457	.309	3.315	.457	3.086

Model Summary[b]

	Change Statistics		
Model	df1	df2	Sig. F Change
1	9	33	.008

a. Predictors: (Constant), Urban, Ethnicity, Language, PartnerConcentration, HomeConcentration, Seasonality, Distance, GJFK, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	305.137	9	33.904	3.086	.008[b]
	Residual	362.538	33	10.986		
	Total	667.674	42			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, Language, PartnerConcentration, HomeConcentration, Seasonality, Distance, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	7.753	3.957		1.960	.059
	HomeConcentration	.365	.190	.282	1.924	.063
	Congestion	-.326	.706	-.111	-.462	.647
	GJFK	.436	1.631	.054	.268	.791
	PartnerConcentration	.613	.490	.170	1.251	.220
	Seasonality	-2.376	2.899	-.121	-.820	.418
	Distance	-1.538	.568	-.458	-2.706	.011
	Language	-.236	.244	-.160	-.964	.342
	Ethnicity	-1.664	10.324	-.024	-.161	.873
	Urban	.636	.303	.611	2.098	.044

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.767	1.304
	Congestion	.284	3.524
	GJFK	.411	2.432
	PartnerConcentration	.896	1.116
	Seasonality	.759	1.317
	Distance	.574	1.744
	Language	.596	1.677
	Ethnicity	.723	1.382
	Urban	.194	5.158

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.140	1.000	.00	.00	.00
	2	1.147	2.314	.00	.06	.00
	3	.988	2.493	.00	.10	.00
	4	.787	2.794	.00	.23	.00
	5	.450	3.695	.00	.01	.00
	6	.319	4.388	.00	.48	.00
	7	.114	7.327	.00	.03	.06
	8	.033	13.730	.03	.07	.25
	9	.014	21.195	.71	.00	.08
	10	.008	27.150	.26	.03	.61

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.01
	2	.05	.07	.00	.00	.26	.00
	3	.00	.68	.00	.00	.01	.00
	4	.02	.08	.00	.00	.20	.12
	5	.23	.02	.00	.00	.18	.31
	6	.13	.06	.03	.00	.00	.35
	7	.16	.00	.30	.00	.00	.01
	8	.01	.02	.22	.36	.02	.02
	9	.01	.05	.35	.09	.11	.00
	10	.39	.01	.09	.55	.21	.18

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.01
	8	.00
	9	.24
	10	.74

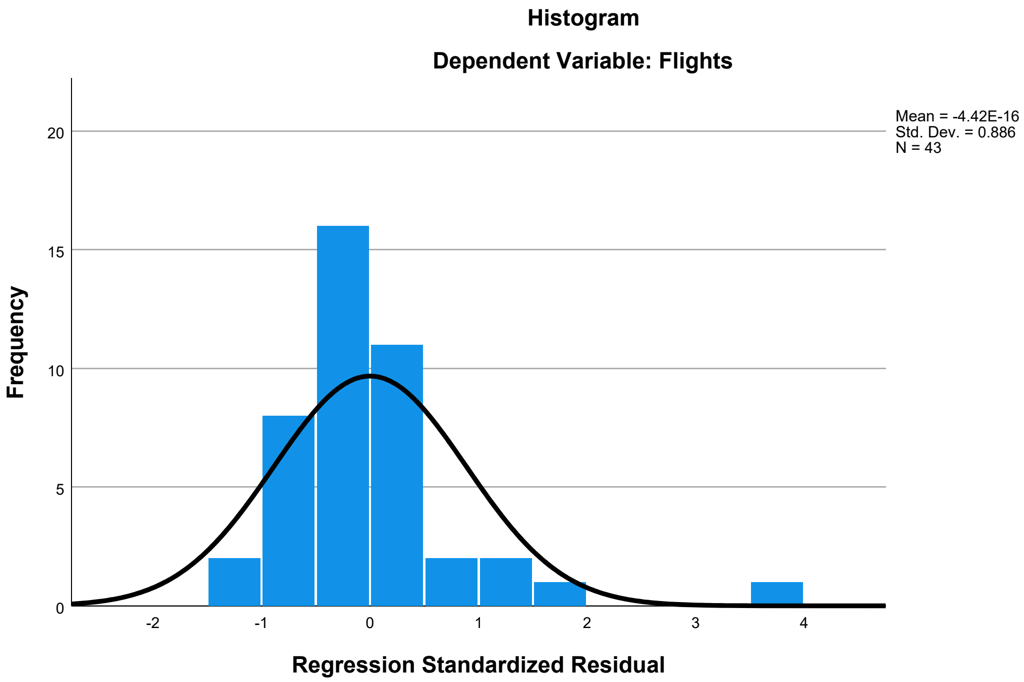
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.80	10.05	5.23	2.695	43
Residual	-4.690	13.140	.000	2.938	43
Std. Predicted Value	-2.239	1.789	.000	1.000	43
Std. Residual	-1.415	3.964	.000	.886	43

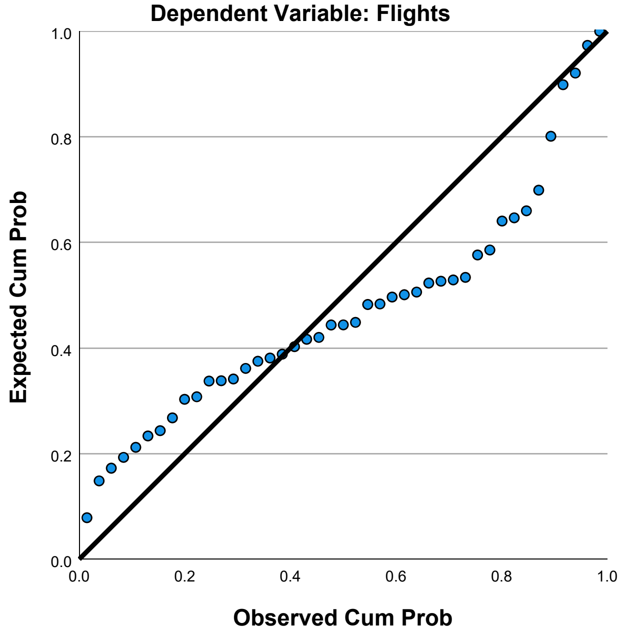
a. Dependent Variable: Flights

Charts



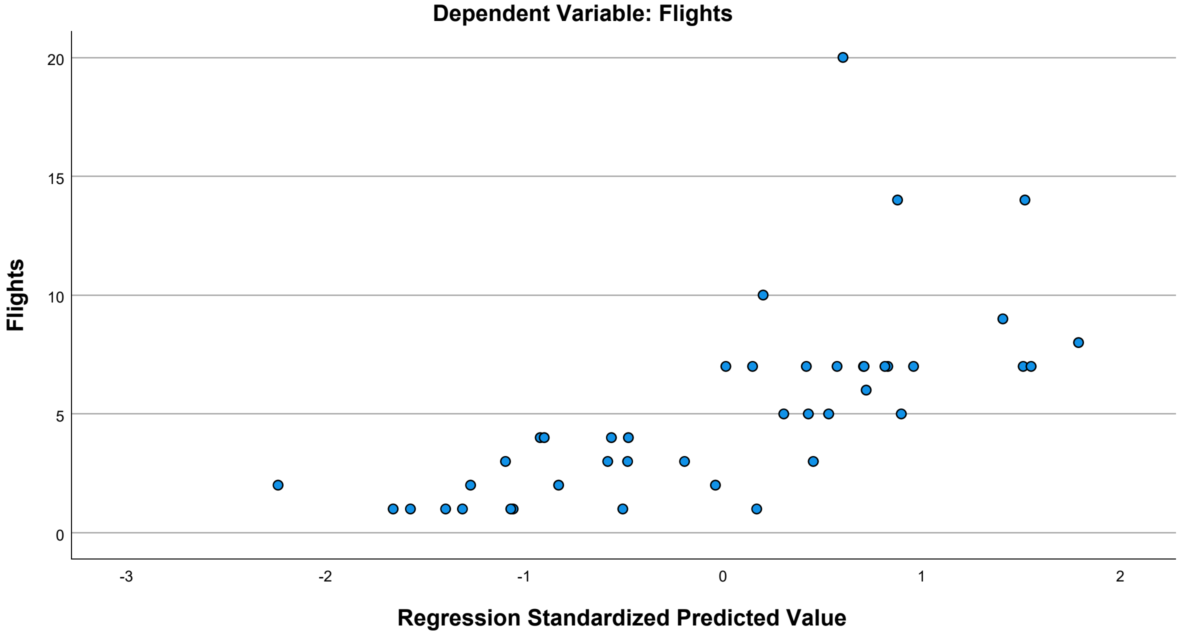
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	5.23	3.987	43
HomeConcentration	1.9993311163	3.0747817868	43
Congestion	4.23	1.360	43
GJFK	.37	.489	43
PartnerConcentration	.24989730233	1.1036499389	43
Seasonality	.63559627211	.20249488454	43
Distance	5.85630	1.188219	43
Language	.65547684	2.711323068	43
Ethnicity	.05381551	.058243607	43

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.222	.196	.248
	HomeConcentration	.222	1.000	-.101	-.297
	Congestion	.196	-.101	1.000	.368
	GJFK	.248	-.297	.368	1.000
	PartnerConcentration	.093	-.124	-.147	-.136
	Seasonality	-.277	-.055	-.351	-.298
	Distance	-.180	.179	.237	-.127
	Language	-.152	-.116	.288	.290
	Ethnicity	-.204	-.220	.067	.108
Sig. (1-tailed)	Flights	.	.076	.104	.055
	HomeConcentration	.076	.	.259	.027
	Congestion	.104	.259	.	.008
	GJFK	.055	.027	.008	.
	PartnerConcentration	.277	.214	.173	.192
	Seasonality	.036	.364	.010	.026
	Distance	.124	.125	.063	.208
	Language	.166	.229	.030	.030
	Ethnicity	.095	.078	.334	.245
N	Flights	43	43	43	43
	HomeConcentration	43	43	43	43
	Congestion	43	43	43	43
	GJFK	43	43	43	43
	PartnerConcentration	43	43	43	43
	Seasonality	43	43	43	43
	Distance	43	43	43	43
	Language	43	43	43	43
	Ethnicity	43	43	43	43

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.093	-.277	-.180	-.152
	HomeConcentration	-.124	-.055	.179	-.116
	Congestion	-.147	-.351	.237	.288
	GJFK	-.136	-.298	-.127	.290
	PartnerConcentration	1.000	-.093	-.079	-.053
	Seasonality	-.093	1.000	-.097	-.149
	Distance	-.079	-.097	1.000	-.144
	Language	-.053	-.149	-.144	1.000
	Ethnicity	-.015	.125	.242	-.109
Sig. (1-tailed)	Flights	.277	.036	.124	.166
	HomeConcentration	.214	.364	.125	.229
	Congestion	.173	.010	.063	.030
	GJFK	.192	.026	.208	.030
	PartnerConcentration	.	.278	.307	.369
	Seasonality	.278	.	.269	.170
	Distance	.307	.269	.	.179
	Language	.369	.170	.179	.
	Ethnicity	.461	.212	.059	.244
N	Flights	43	43	43	43
	HomeConcentration	43	43	43	43
	Congestion	43	43	43	43
	GJFK	43	43	43	43
	PartnerConcentration	43	43	43	43
	Seasonality	43	43	43	43
	Distance	43	43	43	43
	Language	43	43	43	43
	Ethnicity	43	43	43	43

Correlations

		Ethnicity
Pearson Correlation	Flights	-.204
	HomeConcentration	-.220
	Congestion	.067
	GJFK	.108
	PartnerConcentration	-.015
	Seasonality	.125
	Distance	.242
	Language	-.109
	Ethnicity	1.000
Sig. (1-tailed)	Flights	.095
	HomeConcentration	.078
	Congestion	.334
	GJFK	.245
	PartnerConcentration	.461
	Seasonality	.212
	Distance	.059
	Language	.244
	Ethnicity	.
N	Flights	43
	HomeConcentration	43
	Congestion	43
	GJFK	43
	PartnerConcentration	43
	Seasonality	43
	Distance	43
	Language	43
	Ethnicity	43

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Ethnicity, PartnerConcentration, Language, Seasonality, HomeConcentration, Distance, Congestion, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.620[a]	.385	.240	3.476	.385	2.656

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	34	.022

a. Predictors: (Constant), Ethnicity, PartnerConcentration, Language, Seasonality, HomeConcentration, Distance, Congestion, G

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	256.797	8	32.100	2.656	.022[b]
	Residual	410.877	34	12.085		
	Total	667.674	42			

a. Dependent Variable: Flights

b. Predictors: (Constant), Ethnicity, PartnerConcentration, Language, Seasonality, HomeConcentration, Distance, Congestion, GJFK

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	7.645	4.150		1.842	.074
	HomeConcentration	.438	.196	.338	2.239	.032
	Congestion	.803	.479	.274	1.678	.103
	GJFK	2.564	1.339	.314	1.914	.064
	PartnerConcentration	.595	.513	.165	1.160	.254
	Seasonality	-2.268	3.040	-.115	-.746	.461
	Distance	-.943	.516	-.281	-1.825	.077
	Language	-.509	.217	-.346	-2.352	.025
	Ethnicity	-9.224	10.146	-.135	-.909	.370

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.793	1.260
	Congestion	.678	1.474
	GJFK	.670	1.492
	PartnerConcentration	.896	1.116
	Seasonality	.759	1.317
	Distance	.764	1.309
	Language	.834	1.198
	Ethnicity	.824	1.214

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	5.193	1.000	.00	.01	.00
	2	1.147	2.128	.00	.06	.00
	3	.987	2.294	.00	.11	.00
	4	.786	2.570	.00	.23	.00
	5	.432	3.465	.00	.03	.00
	6	.312	4.083	.00	.46	.01
	7	.099	7.251	.00	.03	.26
	8	.032	12.643	.02	.07	.66
	9	.012	21.001	.97	.00	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.01	.00	.00	.00	.00	.01
	2	.07	.07	.00	.00	.37	.00
	3	.00	.67	.00	.00	.01	.00
	4	.04	.09	.00	.00	.28	.14
	5	.49	.03	.00	.00	.27	.30
	6	.12	.05	.03	.00	.01	.48
	7	.17	.00	.33	.02	.02	.00
	8	.01	.02	.20	.46	.04	.02
	9	.09	.06	.43	.52	.00	.05

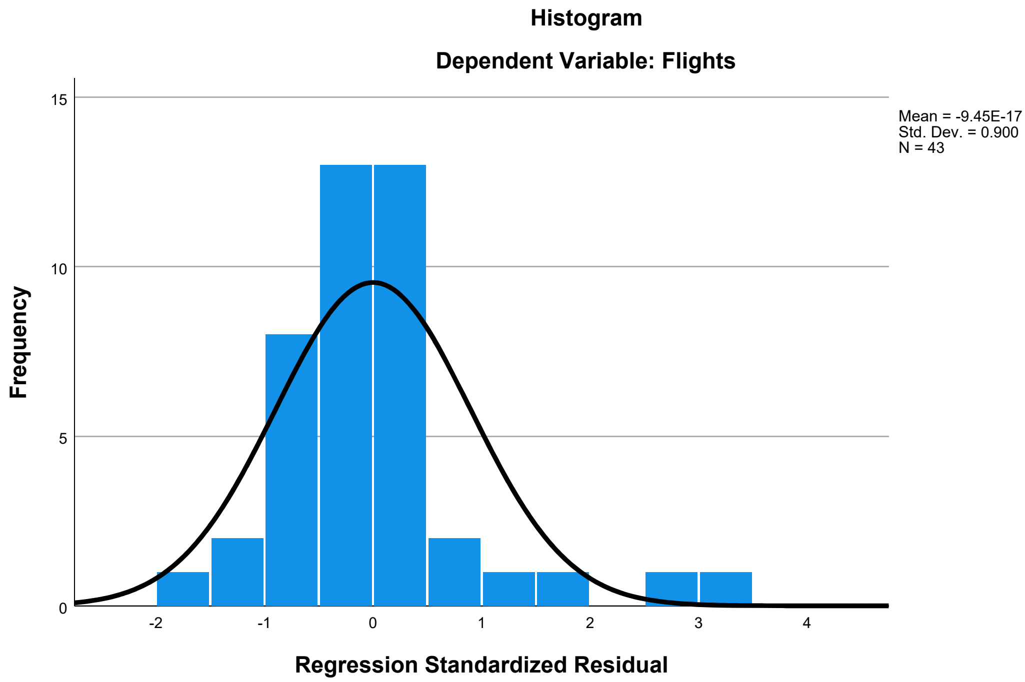
a. Dependent Variable: Flights

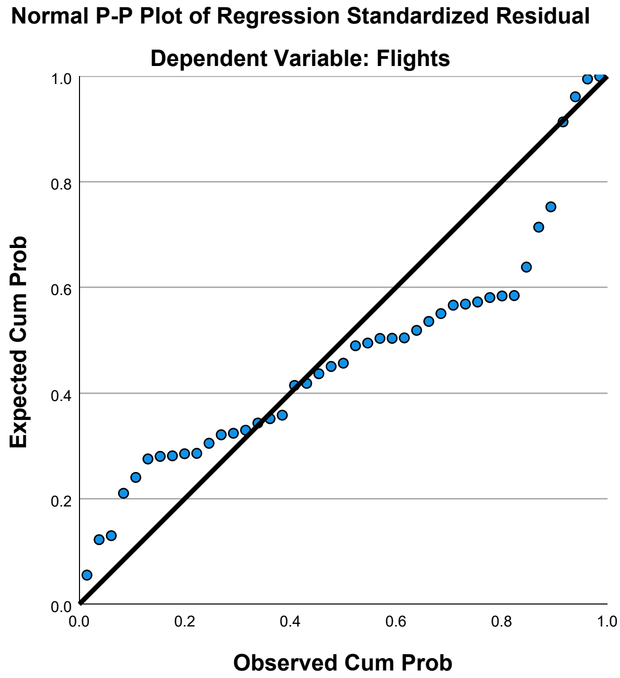
Residuals Statistics[a]

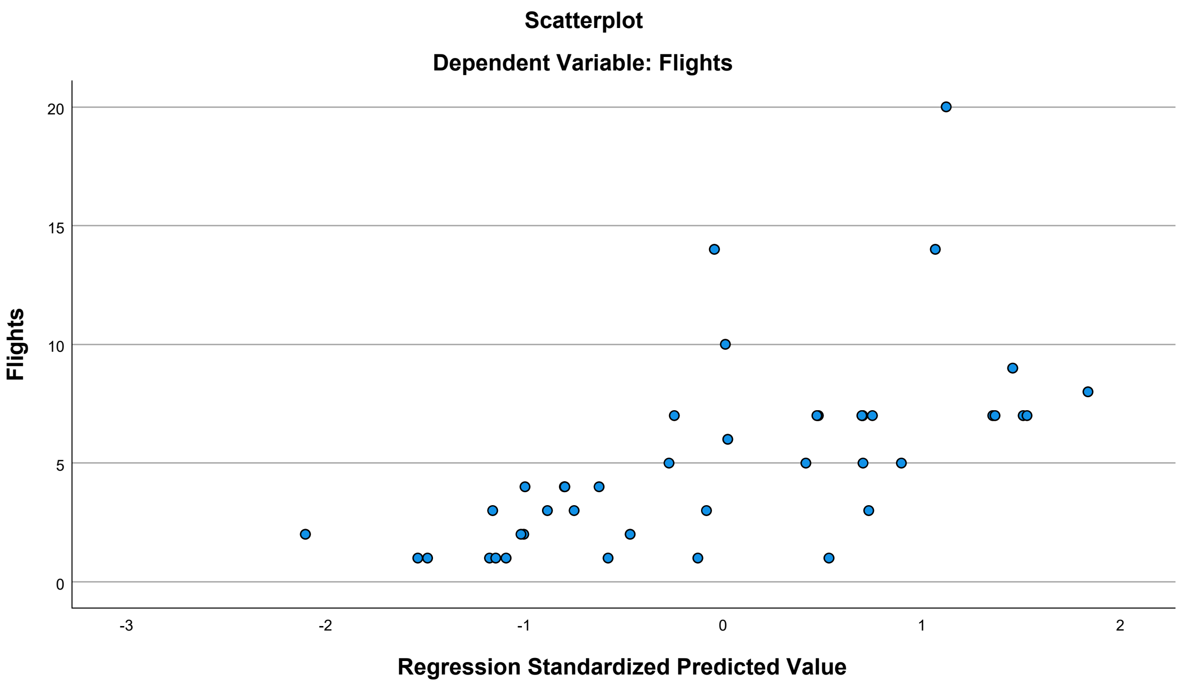
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.04	9.77	5.23	2.473	43
Residual	-5.551	11.990	.000	3.128	43
Std. Predicted Value	-2.102	1.837	.000	1.000	43
Std. Residual	-1.597	3.449	.000	.900	43

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
-3
-2
-1
0
1
2

Regression

```
[DataSet9] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Regional\2012 Non-Euro.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.25	3.910	61
HomeConcentration	2.6232589508	2.4498678053	61
Congestion	4.51	1.299	61
GJFK	.28	.452	61
PartnerConcentration	.44473357377	1.1478257777	61
Seasonality	.57840932595	.20919328296	61
Distance	6.11975	1.341173	61
Language	.27443520	1.635988729	61
Ethnicity	.05256410	.053545500	61
Urban	17.39	2.990	61

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.228	.142	.206
	HomeConcentration	.228	1.000	-.060	-.290
	Congestion	.142	-.060	1.000	.294
	GJFK	.206	-.290	.294	1.000
	PartnerConcentration	-.047	.065	-.055	-.103
	Seasonality	-.151	-.198	.006	-.118
	Distance	.146	.248	.116	-.165
	Language	-.081	-.089	.151	.216
	Ethnicity	-.124	-.308	.138	.182
	Urban	.461	.168	.703	.312
Sig. (1-tailed)	Flights	.	.038	.137	.056
	HomeConcentration	.038	.	.323	.012
	Congestion	.137	.323	.	.011
	GJFK	.056	.012	.011	.
	PartnerConcentration	.360	.309	.336	.214
	Seasonality	.122	.063	.482	.182
	Distance	.131	.027	.187	.102
	Language	.268	.247	.122	.048
	Ethnicity	.171	.008	.144	.081
	Urban	.000	.098	.000	.007
N	Flights	61	61	61	61
	HomeConcentration	61	61	61	61
	Congestion	61	61	61	61
	GJFK	61	61	61	61
	PartnerConcentration	61	61	61	61

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	-.047	-.151	.146	-.081
	HomeConcentration	.065	-.198	.248	-.089
	Congestion	-.055	.006	.116	.151
	GJFK	-.103	-.118	-.165	.216
	PartnerConcentration	1.000	.256	-.148	-.058
	Seasonality	.256	1.000	-.140	-.005
	Distance	-.148	-.140	1.000	-.106
	Language	-.058	-.005	-.106	1.000
	Ethnicity	-.075	.015	.070	-.060
	Urban	-.014	-.011	.369	-.110
Sig. (1-tailed)	Flights	.360	.122	.131	.268
	HomeConcentration	.309	.063	.027	.247
	Congestion	.336	.482	.187	.122
	GJFK	.214	.182	.102	.048
	PartnerConcentration	.	.023	.127	.327
	Seasonality	.023	.	.142	.486
	Distance	.127	.142	.	.208
	Language	.327	.486	.208	.
	Ethnicity	.284	.456	.297	.323
	Urban	.458	.466	.002	.199
N	Flights	61	61	61	61
	HomeConcentration	61	61	61	61
	Congestion	61	61	61	61
	GJFK	61	61	61	61
	PartnerConcentration	61	61	61	61

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	-.124	.461
	HomeConcentration	-.308	.168
	Congestion	.138	.703
	GJFK	.182	.312
	PartnerConcentration	-.075	-.014
	Seasonality	.015	-.011
	Distance	.070	.369
	Language	-.060	-.110
	Ethnicity	1.000	-.025
	Urban	-.025	1.000
Sig. (1-tailed)	Flights	.171	<.001
	HomeConcentration	.008	.098
	Congestion	.144	.000
	GJFK	.081	.007
	PartnerConcentration	.284	.458
	Seasonality	.456	.466
	Distance	.297	.002
	Language	.323	.199
	Ethnicity	.	.424
	Urban	.424	.
N	Flights	61	61
	HomeConcentration	61	61
	Congestion	61	61
	GJFK	61	61
	PartnerConcentration	61	61

Correlations

		Flights	HomeConcentration	Congestion	GJFK
	Seasonality	61	61	61	61
	Distance	61	61	61	61
	Language	61	61	61	61
	Ethnicity	61	61	61	61
	Urban	61	61	61	61

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	Seasonality	61	61	61	61
	Distance	61	61	61	61
	Language	61	61	61	61
	Ethnicity	61	61	61	61
	Urban	61	61	61	61

Correlations

	Ethnicity	Urban
Seasonality	61	61
Distance	61	61
Language	61	61
Ethnicity	61	61
Urban	61	61

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, Ethnicity, Language, PartnerConcentration, HomeConcentration, Distance, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change
1	.569[a]	.324	.205	3.487	.324	2.716

Model Summary[b]

Model	Change Statistics: df1	Change Statistics: df2	Change Statistics: Sig. F Change
1	9	51	.011

a. Predictors: (Constant), Urban, Seasonality, Ethnicity, Language, PartnerConcentration, HomeConcentration, Distance, GJFK, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	297.225	9	33.025	2.716	.011[b]
	Residual	620.086	51	12.159		
	Total	917.311	60			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, Ethnicity, Language, PartnerConcentration, HomeConcentration, Distance, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-2.401	3.344		-.718	.476
	HomeConcentration	.181	.220	.113	.819	.416
	Congestion	-1.101	.563	-.366	-1.956	.056
	GJFK	.771	1.290	.089	.598	.553
	PartnerConcentration	-.147	.416	-.043	-.353	.726
	Seasonality	-2.081	2.359	-.111	-.883	.382
	Distance	-.303	.415	-.104	-.729	.469
	Language	.066	.311	.028	.213	.832
	Ethnicity	-2.143	9.426	-.029	-.227	.821
	Urban	.928	.285	.710	3.256	.002

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.695	1.440
	Congestion	.379	2.636
	GJFK	.596	1.678
	PartnerConcentration	.889	1.125
	Seasonality	.832	1.201
	Distance	.653	1.532
	Language	.781	1.281
	Ethnicity	.795	1.257
	Urban	.279	3.584

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.386	1.000	.00	.00	.00
	2	1.139	2.367	.00	.02	.00
	3	.864	2.718	.00	.00	.00
	4	.724	2.970	.00	.12	.00
	5	.466	3.700	.00	.07	.00
	6	.267	4.889	.00	.48	.00
	7	.084	8.714	.00	.19	.07
	8	.047	11.676	.03	.06	.29
	9	.016	20.009	.74	.01	.04
	10	.006	32.706	.23	.05	.60

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.01
	2	.09	.11	.00	.00	.34	.00
	3	.01	.45	.00	.00	.31	.05
	4	.13	.31	.00	.00	.08	.06
	5	.38	.00	.00	.00	.09	.35
	6	.04	.03	.07	.00	.01	.41
	7	.09	.07	.67	.03	.00	.02
	8	.04	.01	.04	.26	.01	.01
	9	.04	.01	.21	.51	.00	.00
	10	.18	.01	.01	.20	.16	.08

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.00
	8	.00
	9	.00
	10	.99

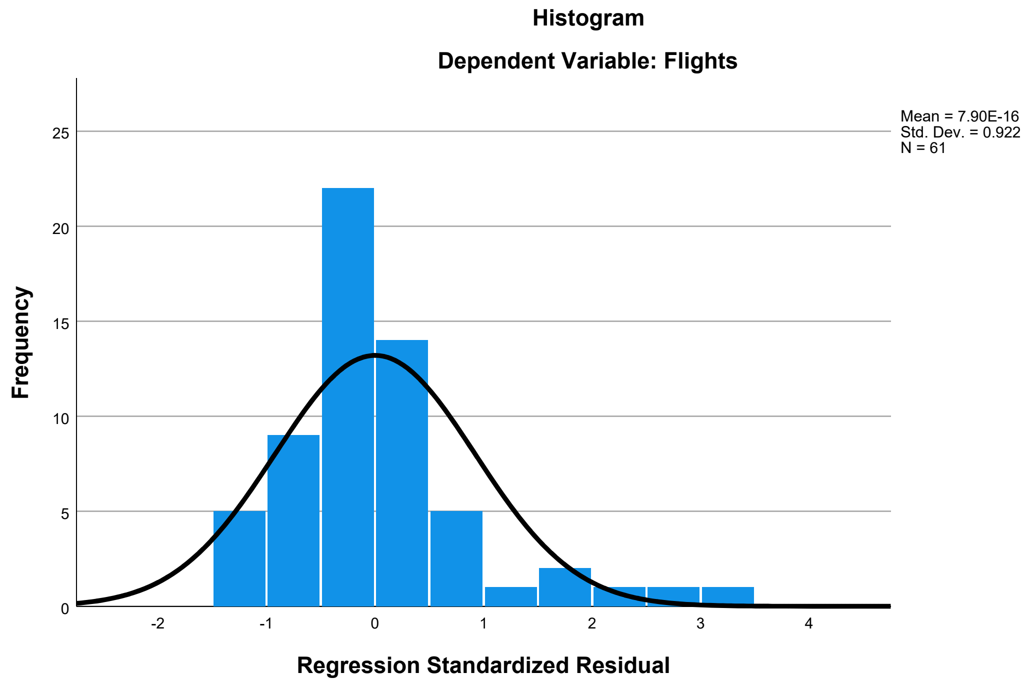
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.61	10.51	6.25	2.226	61
Residual	-5.056	11.278	.000	3.215	61
Std. Predicted Value	-2.534	1.918	.000	1.000	61
Std. Residual	-1.450	3.234	.000	.922	61

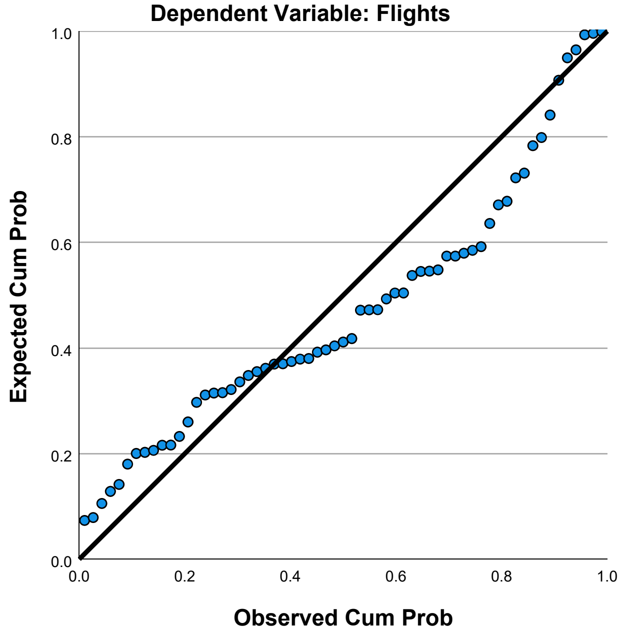
a. Dependent Variable: Flights

Charts



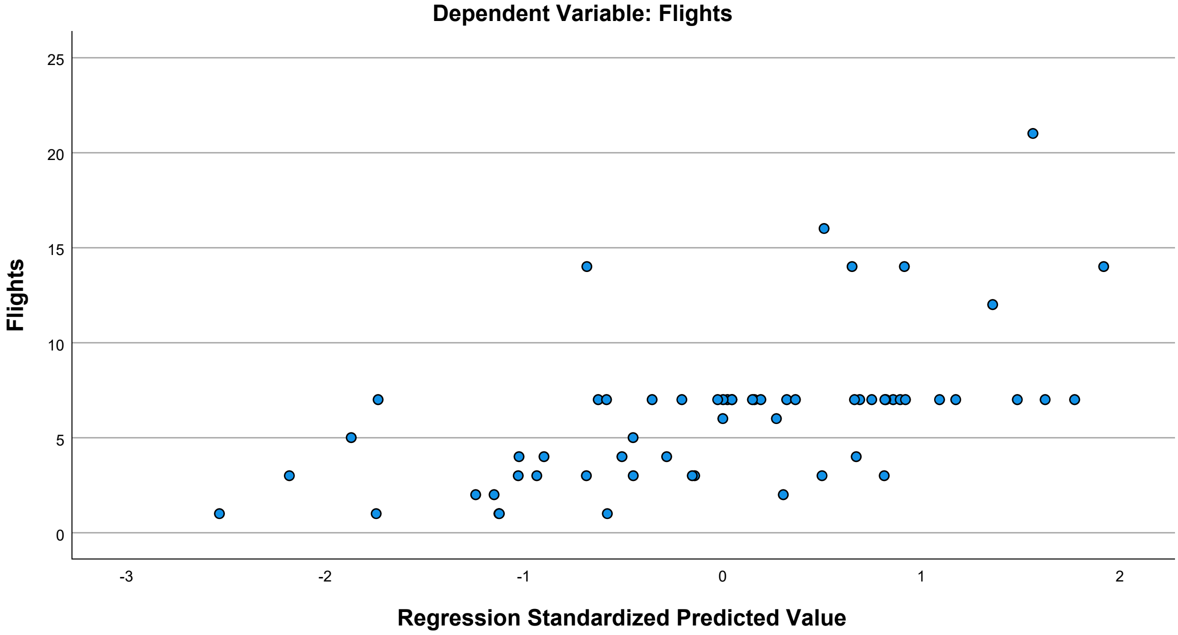
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

```
[DataSet10] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Regional\2017 Non-Euro.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.17	3.606	92
HomeConcentration	2.9426023696	2.3297072604	92
Congestion	4.41	1.131	92
GJFK	.17	.381	92
PartnerConcentration	.93480545652	1.7391884190	92
Seasonality	.58194703847	.17708207412	92
Distance	6.30501	1.383796	92
Language	.07553670	.115920025	92
Ethnicity	.06793293	.118217005	92
Urban	16.93	3.794	92

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.295	.249	.418
	HomeConcentration	.295	1.000	.013	-.124
	Congestion	.249	.013	1.000	.367
	GJFK	.418	-.124	.367	1.000
	PartnerConcentration	-.015	.121	-.157	-.147
	Seasonality	-.140	-.256	-.257	.000
	Distance	.079	.181	.029	-.132
	Language	-.090	-.195	.263	.276
	Ethnicity	.061	-.093	.243	.089
	Urban	.428	.324	.611	.312
Sig. (1-tailed)	Flights	.	.002	.008	<.001
	HomeConcentration	.002	.	.450	.120
	Congestion	.008	.450	.	.000
	GJFK	.000	.120	.000	.
	PartnerConcentration	.443	.126	.068	.080
	Seasonality	.091	.007	.007	.499
	Distance	.227	.042	.392	.105
	Language	.198	.031	.006	.004
	Ethnicity	.280	.189	.010	.200
	Urban	.000	.001	.000	.001
N	Flights	92	92	92	92
	HomeConcentration	92	92	92	92
	Congestion	92	92	92	92
	GJFK	92	92	92	92
	PartnerConcentration	92	92	92	92

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	-.015	-.140	.079	-.090
	HomeConcentration	.121	-.256	.181	-.195
	Congestion	-.157	-.257	.029	.263
	GJFK	-.147	.000	-.132	.276
	PartnerConcentration	1.000	-.107	.096	-.137
	Seasonality	-.107	1.000	-.231	.012
	Distance	.096	-.231	1.000	-.227
	Language	-.137	.012	-.227	1.000
	Ethnicity	-.052	-.050	.090	.119
	Urban	.039	-.371	.385	-.074
Sig. (1-tailed)	Flights	.443	.091	.227	.198
	HomeConcentration	.126	.007	.042	.031
	Congestion	.068	.007	.392	.006
	GJFK	.080	.499	.105	.004
	PartnerConcentration	.	.155	.181	.096
	Seasonality	.155	.	.014	.455
	Distance	.181	.014	.	.015
	Language	.096	.455	.015	.
	Ethnicity	.312	.316	.198	.130
	Urban	.354	.000	.000	.241
N	Flights	92	92	92	92
	HomeConcentration	92	92	92	92
	Congestion	92	92	92	92
	GJFK	92	92	92	92
	PartnerConcentration	92	92	92	92

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.061	.428
	HomeConcentration	-.093	.324
	Congestion	.243	.611
	GJFK	.089	.312
	PartnerConcentration	-.052	.039
	Seasonality	-.050	-.371
	Distance	.090	.385
	Language	.119	-.074
	Ethnicity	1.000	.122
	Urban	.122	1.000
Sig. (1-tailed)	Flights	.280	<.001
	HomeConcentration	.189	.001
	Congestion	.010	.000
	GJFK	.200	.001
	PartnerConcentration	.312	.354
	Seasonality	.316	.000
	Distance	.198	.000
	Language	.130	.241
	Ethnicity	.	.123
	Urban	.123	.
N	Flights	92	92
	HomeConcentration	92	92
	Congestion	92	92
	GJFK	92	92
	PartnerConcentration	92	92

Correlations

		Flights	HomeConcentration	Congestion	GJFK
	Seasonality	92	92	92	92
	Distance	92	92	92	92
	Language	92	92	92	92
	Ethnicity	92	92	92	92
	Urban	92	92	92	92

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	Seasonality	92	92	92	92
	Distance	92	92	92	92
	Language	92	92	92	92
	Ethnicity	92	92	92	92
	Urban	92	92	92	92

Correlations

	Ethnicity	Urban
Seasonality	92	92
Distance	92	92
Language	92	92
Ethnicity	92	92
Urban	92	92

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Ethnicity, Language, Seasonality, HomeConcentration, Distance, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.595[a]	.354	.284	3.052	.354	5.002

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	82	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, Ethnicity, Language, Seasonality, HomeConcentration, Distance, GJFK, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	419.352	9	46.595	5.002	<.001[b]
	Residual	763.865	82	9.315		
	Total	1183.217	91			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Ethnicity, Language, Seasonality, HomeConcentration, Distance, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.831	2.810		.652	.516
	HomeConcentration	.398	.156	.257	2.556	.012
	Congestion	-.049	.421	-.015	-.115	.908
	GJFK	3.946	.989	.417	3.989	<.001
	PartnerConcentration	-.022	.192	-.011	-.117	.907
	Seasonality	-.029	2.011	-.001	-.014	.989
	Distance	-.089	.273	-.034	-.324	.747
	Language	-4.624	3.125	-.149	-1.480	.143
	Ethnicity	1.380	2.827	.045	.488	.627
	Urban	.210	.141	.221	1.488	.141

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.776	1.288
	Congestion	.451	2.218
	GJFK	.720	1.389
	PartnerConcentration	.923	1.084
	Seasonality	.807	1.238
	Distance	.717	1.395
	Language	.780	1.282
	Ethnicity	.916	1.091
	Urban	.358	2.790

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.547	1.000	.00	.00	.00
	2	1.110	2.429	.00	.02	.00
	3	.705	3.047	.00	.00	.00
	4	.629	3.227	.00	.03	.00
	5	.551	3.448	.00	.01	.00
	6	.301	4.666	.00	.67	.00
	7	.096	8.278	.00	.16	.05
	8	.040	12.823	.00	.00	.27
	9	.012	23.386	.09	.06	.39
	10	.010	25.615	.90	.03	.29

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.01
	2	.19	.18	.00	.00	.11	.03
	3	.14	.01	.00	.00	.01	.78
	4	.08	.75	.00	.00	.05	.05
	5	.36	.00	.00	.00	.60	.05
	6	.01	.00	.04	.00	.09	.03
	7	.04	.00	.40	.02	.00	.04
	8	.08	.02	.03	.47	.05	.00
	9	.09	.01	.10	.11	.08	.00
	10	.00	.02	.42	.39	.01	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.02
	8	.00
	9	.96
	10	.01

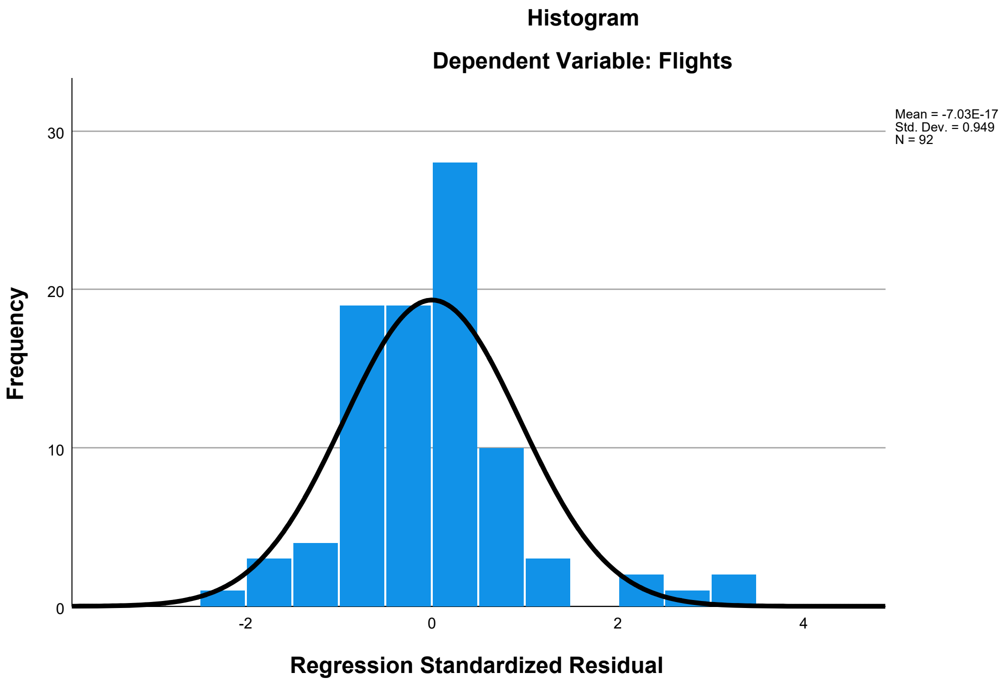
a. Dependent Variable: Flights

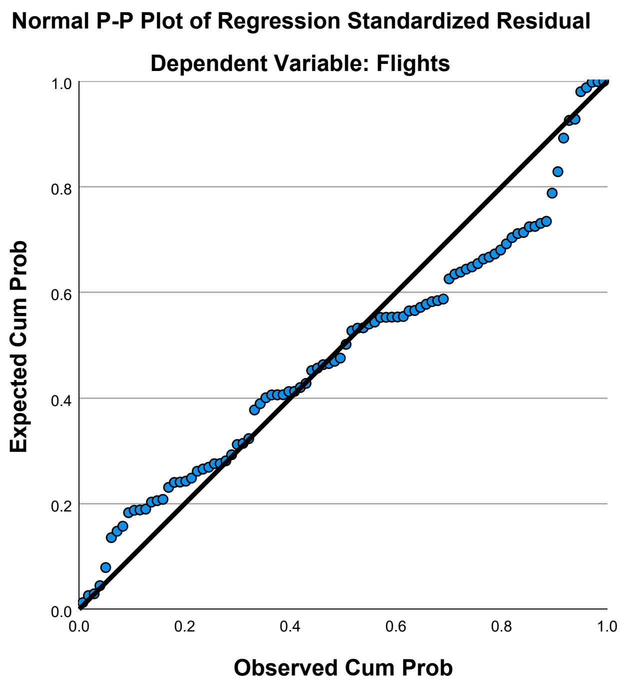
Residuals Statistics[a]

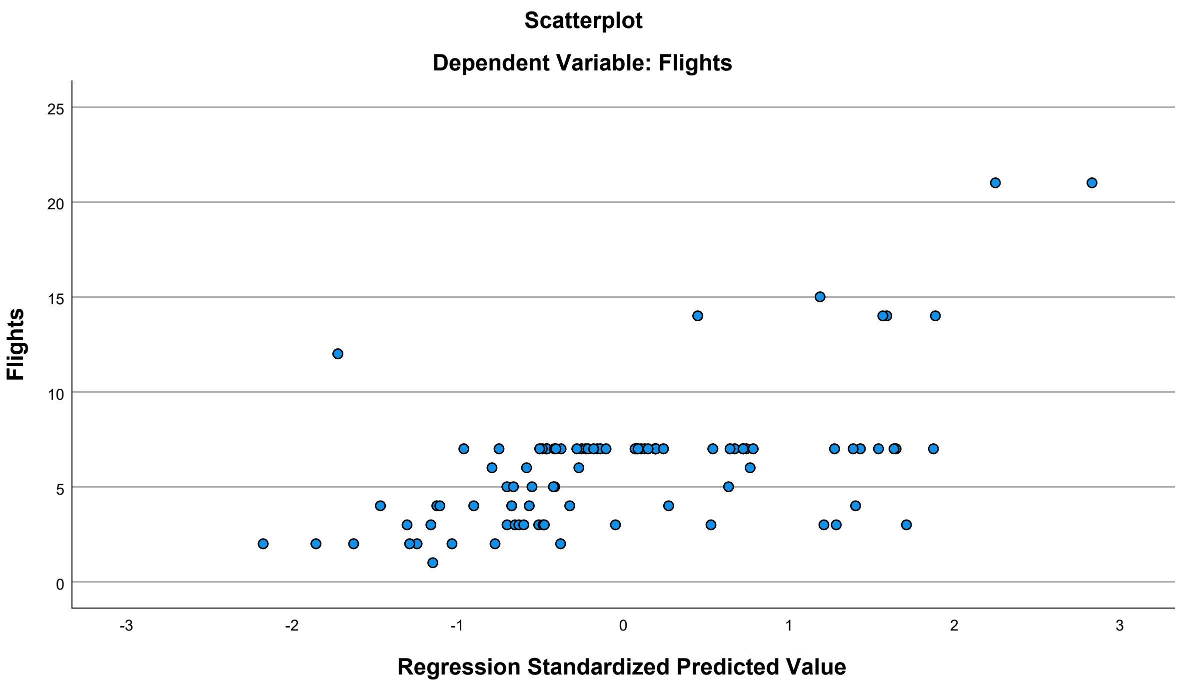
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.50	12.25	6.17	2.147	92
Residual	-6.845	10.001	.000	2.897	92
Std. Predicted Value	-2.177	2.832	.000	1.000	92
Std. Residual	-2.243	3.277	.000	.949	92

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
25
-3
-2
-1
0
1
2
3

Regression

```
[DataSet11] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final
Try\Regional\1997 to US.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.02	5.333	304
HomeConcentration	2.4378473026	2.8017898538	304
Congestion	4.71	.972	304
GLHR	.11	.307	304
GJFK	.27	.445	304
PartnerConcentration	.38493546053	1.3351998963	304
Seasonality	.61813444087	.18103314227	304
Distance	4.27519	.767108	304
Language	1.91840727	3.558175120	304
Ethnicity	.54241213	.698084224	304
Urban	17.35	4.708	304

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.298	.153	.394
	HomeConcentration	.298	1.000	-.153	-.018
	Congestion	.153	-.153	1.000	.035
	GLHR	.394	-.018	.035	1.000
	GJFK	.084	-.362	.546	-.064
	PartnerConcentration	.049	.101	.009	-.083
	Seasonality	-.137	-.152	-.039	-.062
	Distance	-.181	.016	-.104	-.052
	Language	.284	.011	.008	.473
	Ethnicity	.219	.051	.189	.071
	Urban	.349	.090	.525	.312
Sig. (1-tailed)	Flights	.	<.001	.004	<.001
	HomeConcentration	.000	.	.004	.376
	Congestion	.004	.004	.	.272
	GLHR	.000	.376	.272	.
	GJFK	.071	.000	.000	.135
	PartnerConcentration	.196	.039	.441	.074
	Seasonality	.008	.004	.251	.139
	Distance	.001	.394	.035	.181
	Language	.000	.422	.447	.000
	Ethnicity	.000	.190	.000	.107
	Urban	.000	.059	.000	.000
N	Flights	304	304	304	304
	HomeConcentration	304	304	304	304

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.084	.049	-.137	-.181
	HomeConcentration	-.362	.101	-.152	.016
	Congestion	.546	.009	-.039	-.104
	GLHR	-.064	-.083	-.062	-.052
	GJFK	1.000	-.141	-.044	-.256
	PartnerConcentration	-.141	1.000	.037	.037
	Seasonality	-.044	.037	1.000	.106
	Distance	-.256	.037	.106	1.000
	Language	.113	-.143	-.058	-.339
	Ethnicity	.223	.049	-.032	-.242
	Urban	.258	.010	-.096	-.062
Sig. (1-tailed)	Flights	.071	.196	.008	<.001
	HomeConcentration	.000	.039	.004	.394
	Congestion	.000	.441	.251	.035
	GLHR	.135	.074	.139	.181
	GJFK	.	.007	.222	.000
	PartnerConcentration	.007	.	.258	.259
	Seasonality	.222	.258	.	.032
	Distance	.000	.259	.032	.
	Language	.024	.006	.155	.000
	Ethnicity	.000	.196	.287	.000
	Urban	.000	.433	.048	.139
N	Flights	304	304	304	304
	HomeConcentration	304	304	304	304

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.284	.219	.349
	HomeConcentration	.011	.051	.090
	Congestion	.008	.189	.525
	GLHR	.473	.071	.312
	GJFK	.113	.223	.258
	PartnerConcentration	-.143	.049	.010
	Seasonality	-.058	-.032	-.096
	Distance	-.339	-.242	-.062
	Language	1.000	.317	.063
	Ethnicity	.317	1.000	.109
	Urban	.063	.109	1.000
Sig. (1-tailed)	Flights	<.001	<.001	<.001
	HomeConcentration	.422	.190	.059
	Congestion	.447	.000	.000
	GLHR	.000	.107	.000
	GJFK	.024	.000	.000
	PartnerConcentration	.006	.196	.433
	Seasonality	.155	.287	.048
	Distance	.000	.000	.139
	Language	.	.000	.136
	Ethnicity	.000	.	.029
	Urban	.136	.029	.
N	Flights	304	304	304
	HomeConcentration	304	304	304

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	304	304	304	304
	GLHR	304	304	304	304
	GJFK	304	304	304	304
	PartnerConcentration	304	304	304	304
	Seasonality	304	304	304	304
	Distance	304	304	304	304
	Language	304	304	304	304
	Ethnicity	304	304	304	304
	Urban	304	304	304	304

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	304	304	304	304
	GLHR	304	304	304	304
	GJFK	304	304	304	304
	PartnerConcentration	304	304	304	304
	Seasonality	304	304	304	304
	Distance	304	304	304	304
	Language	304	304	304	304
	Ethnicity	304	304	304	304
	Urban	304	304	304	304

Correlations

		Language	Ethnicity	Urban
	Congestion	304	304	304
	GLHR	304	304	304
	GJFK	304	304	304
	PartnerConcentration	304	304	304
	Seasonality	304	304	304
	Distance	304	304	304
	Language	304	304	304
	Ethnicity	304	304	304
	Urban	304	304	304

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, HomeConcentration, Seasonality, Ethnicity, GLHR, GJFK, Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.592[a]	.350	.328	4.371	.350	15.800

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	10	293	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, Seasonality, Ethnicity, GLHR, GJFK, La Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3018.832	10	301.883	15.800	<.001[b]
	Residual	5598.086	293	19.106		
	Total	8616.918	303			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, Seasonality, Ethnicity, GLHR, GJFK, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.715	2.338		1.589	.113
	HomeConcentration	.620	.102	.326	6.067	<.001
	Congestion	.024	.356	.004	.067	.947
	GLHR	5.704	1.033	.329	5.522	<.001
	GJFK	1.705	.773	.142	2.206	.028
	PartnerConcentration	.276	.194	.069	1.422	.156
	Seasonality	-.991	1.422	-.034	-.697	.486
	Distance	-.574	.364	-.083	-1.578	.116
	Language	.076	.091	.050	.827	.409
	Ethnicity	.684	.398	.090	1.719	.087
	Urban	.176	.069	.156	2.543	.012

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.768	1.301
	Congestion	.528	1.894
	GLHR	.626	1.599
	GJFK	.534	1.873
	PartnerConcentration	.936	1.068
	Seasonality	.951	1.051
	Distance	.810	1.234
	Language	.598	1.673
	Ethnicity	.818	1.223
	Urban	.591	1.692

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.541	1.000	.00	.00	.00
	2	1.272	2.268	.00	.01	.00
	3	1.005	2.551	.00	.06	.00
	4	.773	2.909	.00	.07	.00
	5	.604	3.292	.00	.14	.00
	6	.351	4.318	.00	.02	.00
	7	.321	4.512	.00	.54	.00
	8	.067	9.844	.00	.12	.03
	9	.038	13.100	.02	.01	.00
	10	.019	18.741	.01	.01	.73
	11	.008	27.750	.97	.02	.24

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.15	.01	.16	.00	.00	.11
	3	.11	.17	.15	.00	.00	.01
	4	.00	.05	.58	.00	.00	.02
	5	.19	.01	.04	.00	.00	.06
	6	.23	.03	.05	.00	.00	.58
	7	.11	.37	.01	.02	.00	.08
	8	.09	.15	.00	.66	.00	.02
	9	.05	.09	.00	.24	.29	.00
	10	.05	.11	.00	.00	.18	.02
	11	.02	.01	.00	.07	.52	.09

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.01	.00
	3	.00	.00
	4	.09	.00
	5	.33	.00
	6	.52	.00
	7	.03	.00
	8	.00	.15
	9	.00	.38
	10	.01	.47
	11	.00	.00

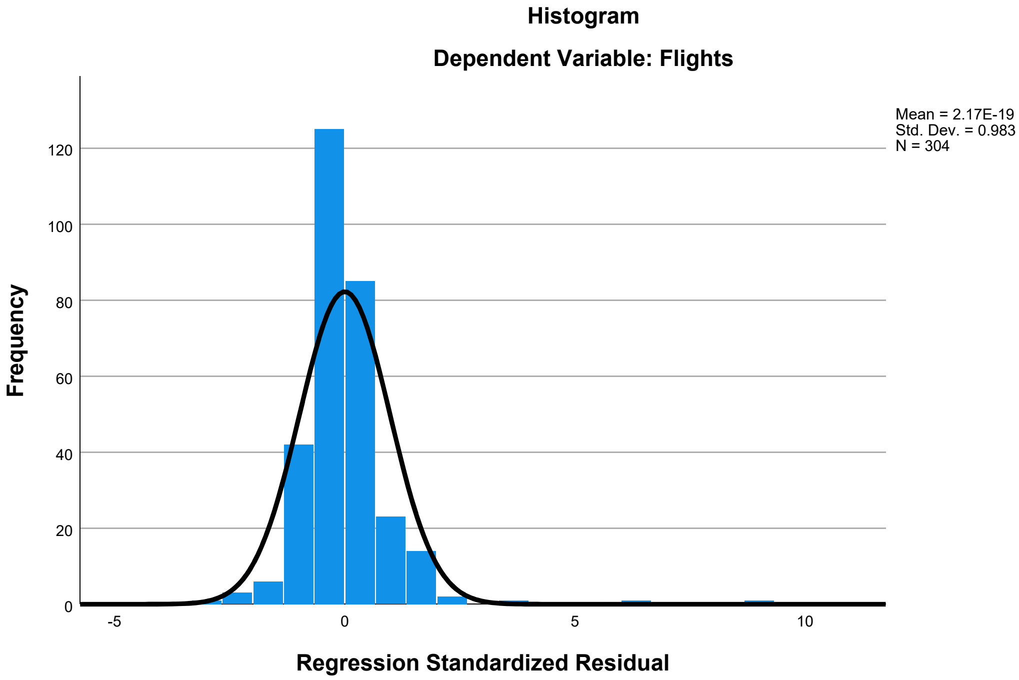
a. Dependent Variable: Flights

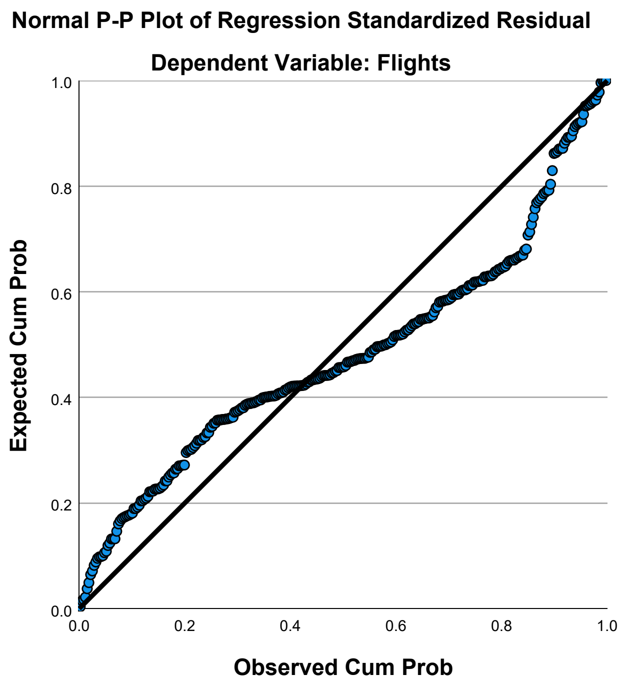
Residuals Statistics[a]

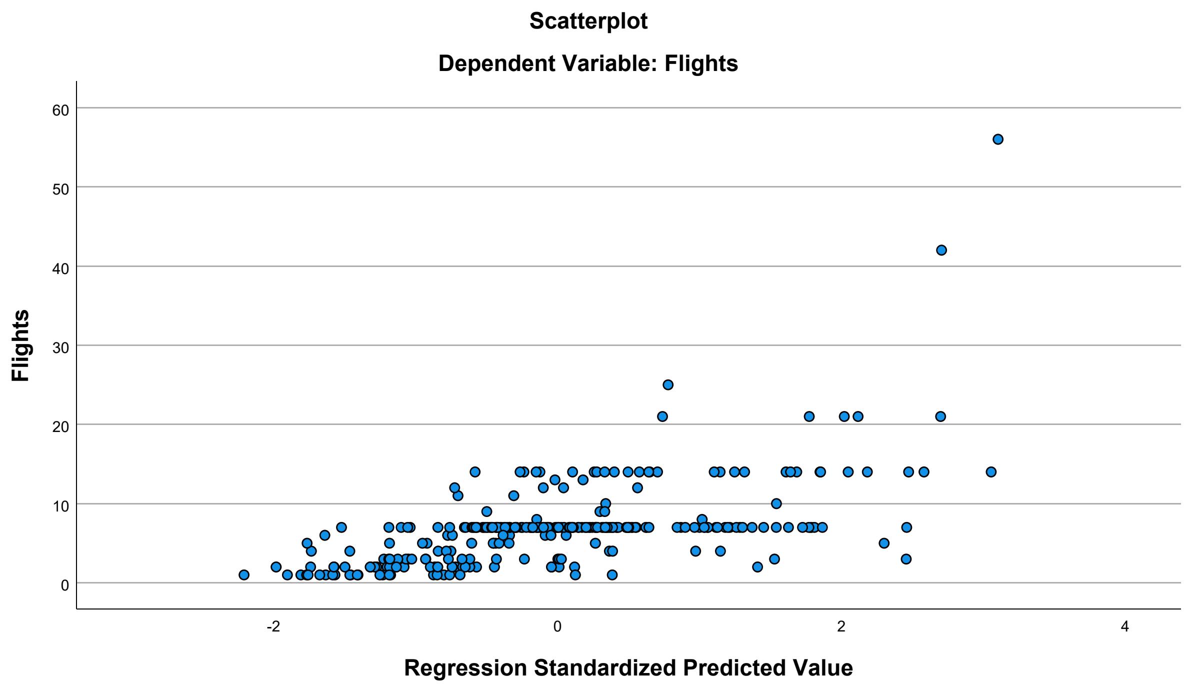
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.04	16.81	7.02	3.156	304
Residual	-11.768	39.190	.000	4.298	304
Std. Predicted Value	-2.209	3.103	.000	1.000	304
Std. Residual	-2.692	8.966	.000	.983	304

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 2.17E-19
Std. Dev. = 0.983
N = 304
Frequency
0
20
40
60
80
100
120
-5
0
5
10
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet12] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Regional\2002 to US.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.92	5.543	295
HomeConcentration	3.3040046610	3.1844318006	295
Congestion	4.55	.843	295
GLHR	.12	.324	295
GJFK	.22	.413	295
PartnerConcentration	1.0757181458	2.0284861510	295
Seasonality	.61019246150	.18142123507	295
Distance	4.28319	.764275	295
Language	1.92854806	3.451664523	295
Ethnicity	.53730425	.649921404	295
Urban	17.38	4.223	295

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.236	.182	.394
	HomeConcentration	.236	1.000	-.255	-.118
	Congestion	.182	-.255	1.000	.111
	GLHR	.394	-.118	.111	1.000
	GJFK	.037	-.375	.606	-.041
	PartnerConcentration	.210	.016	.002	.086
	Seasonality	-.162	-.091	-.066	-.190
	Distance	-.211	.027	.006	-.105
	Language	.277	-.050	.012	.512
	Ethnicity	.145	.029	.086	.089
	Urban	.359	.023	.580	.345
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.000	.021
	Congestion	.001	.000	.	.029
	GLHR	.000	.021	.029	.
	GJFK	.263	.000	.000	.244
	PartnerConcentration	.000	.393	.488	.070
	Seasonality	.003	.060	.131	.001
	Distance	.000	.321	.460	.035
	Language	.000	.194	.420	.000
	Ethnicity	.006	.312	.070	.064
	Urban	.000	.348	.000	.000
N	Flights	295	295	295	295
	HomeConcentration	295	295	295	295

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.037	.210	-.162	-.211
	HomeConcentration	-.375	.016	-.091	.027
	Congestion	.606	.002	-.066	.006
	GLHR	-.041	.086	-.190	-.105
	GJFK	1.000	-.149	.013	-.142
	PartnerConcentration	-.149	1.000	-.070	-.013
	Seasonality	.013	-.070	1.000	.070
	Distance	-.142	-.013	.070	1.000
	Language	.084	.039	-.149	-.319
	Ethnicity	.145	.092	-.064	-.206
	Urban	.189	.120	-.199	.000
Sig. (1-tailed)	Flights	.263	<.001	.003	<.001
	HomeConcentration	.000	.393	.060	.321
	Congestion	.000	.488	.131	.460
	GLHR	.244	.070	.001	.035
	GJFK	.	.005	.415	.007
	PartnerConcentration	.005	.	.116	.415
	Seasonality	.415	.116	.	.115
	Distance	.007	.415	.115	.
	Language	.075	.254	.005	.000
	Ethnicity	.006	.056	.137	.000
	Urban	.001	.020	.000	.497
N	Flights	295	295	295	295
	HomeConcentration	295	295	295	295

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.277	.145	.359
	HomeConcentration	-.050	.029	.023
	Congestion	.012	.086	.580
	GLHR	.512	.089	.345
	GJFK	.084	.145	.189
	PartnerConcentration	.039	.092	.120
	Seasonality	-.149	-.064	-.199
	Distance	-.319	-.206	.000
	Language	1.000	.316	.050
	Ethnicity	.316	1.000	.037
	Urban	.050	.037	1.000
Sig. (1-tailed)	Flights	<.001	.006	<.001
	HomeConcentration	.194	.312	.348
	Congestion	.420	.070	.000
	GLHR	.000	.064	.000
	GJFK	.075	.006	.001
	PartnerConcentration	.254	.056	.020
	Seasonality	.005	.137	.000
	Distance	.000	.000	.497
	Language	.	.000	.197
	Ethnicity	.000	.	.262
	Urban	.197	.262	.
N	Flights	295	295	295
	HomeConcentration	295	295	295

Correlations

		Flights	HomeConcentra tion	Congestion	GLHR
	Congestion	295	295	295	295
	GLHR	295	295	295	295
	GJFK	295	295	295	295
	PartnerConcentration	295	295	295	295
	Seasonality	295	295	295	295
	Distance	295	295	295	295
	Language	295	295	295	295
	Ethnicity	295	295	295	295
	Urban	295	295	295	295

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	295	295	295	295
GLHR	295	295	295	295
GJFK	295	295	295	295
PartnerConcentration	295	295	295	295
Seasonality	295	295	295	295
Distance	295	295	295	295
Language	295	295	295	295
Ethnicity	295	295	295	295
Urban	295	295	295	295

Correlations

	Language	Ethnicity	Urban
Congestion	295	295	295
GLHR	295	295	295
GJFK	295	295	295
PartnerConcentration	295	295	295
Seasonality	295	295	295
Distance	295	295	295
Language	295	295	295
Ethnicity	295	295	295
Urban	295	295	295

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, HomeConcentration, PartnerConcentration, Ethnicity, Seasonality, GLHR, GJFK, Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.600[a]	.360	.337	4.513	.360	15.950

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	284	<.001

a. Predictors: (Constant), Urban, Distance, HomeConcentration, PartnerConcentration, Ethnicity, Seasonality, GLHR, GJFK, La Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3248.650	10	324.865	15.950	<.001[b]
	Residual	5784.556	284	20.368		
	Total	9033.207	294			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, HomeConcentration, PartnerConcentration, Ethnicity, Seasonality, GLHR, GJFK, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.138	2.589		1.212	.226
	HomeConcentration	.570	.094	.327	6.090	<.001
	Congestion	.577	.498	.088	1.158	.248
	GLHR	5.327	1.069	.311	4.984	<.001
	GJFK	1.170	.903	.087	1.296	.196
	PartnerConcentration	.456	.134	.167	3.399	<.001
	Seasonality	-.210	1.510	-.007	-.139	.889
	Distance	-1.093	.371	-.151	-2.946	.003
	Language	.092	.099	.057	.929	.354
	Ethnicity	.141	.439	.017	.322	.747
	Urban	.199	.088	.152	2.275	.024

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.780	1.282
	Congestion	.393	2.546
	GLHR	.578	1.730
	GJFK	.499	2.006
	PartnerConcentration	.935	1.069
	Seasonality	.924	1.083
	Distance	.861	1.161
	Language	.591	1.693
	Ethnicity	.853	1.173
	Urban	.507	1.972

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.777	1.000	.00	.00	.00
	2	1.215	2.362	.00	.02	.00
	3	.988	2.619	.00	.05	.00
	4	.698	3.115	.00	.08	.00
	5	.583	3.408	.00	.03	.00
	6	.337	4.488	.00	.06	.00
	7	.277	4.950	.00	.65	.00
	8	.072	9.704	.00	.07	.01
	9	.033	14.348	.01	.00	.01
	10	.012	23.499	.12	.01	.45
	11	.007	30.327	.87	.03	.53

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.20	.00	.00	.00	.00	.13
	3	.01	.24	.17	.00	.00	.00
	4	.01	.05	.73	.00	.00	.01
	5	.16	.01	.00	.00	.00	.07
	6	.25	.03	.04	.00	.00	.57
	7	.14	.28	.03	.03	.00	.10
	8	.13	.07	.02	.66	.01	.01
	9	.05	.07	.01	.16	.43	.00
	10	.04	.11	.00	.06	.35	.05
	11	.00	.13	.00	.09	.21	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.01	.00
	3	.00	.00
	4	.01	.00
	5	.50	.00
	6	.46	.00
	7	.00	.00
	8	.00	.09
	9	.00	.29
	10	.01	.58
	11	.00	.04

a. Dependent Variable: Flights

Residuals Statistics[a]

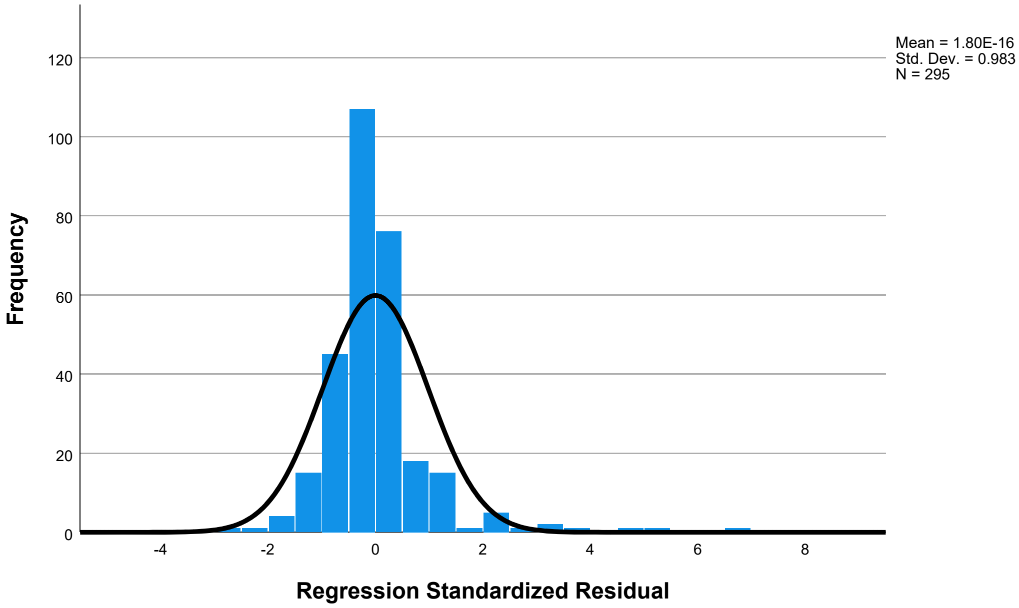
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.31	18.08	7.92	3.324	295
Residual	-12.337	30.919	.000	4.436	295
Std. Predicted Value	-2.289	3.056	.000	1.000	295
Std. Residual	-2.734	6.851	.000	.983	295

a. Dependent Variable: Flights

Charts

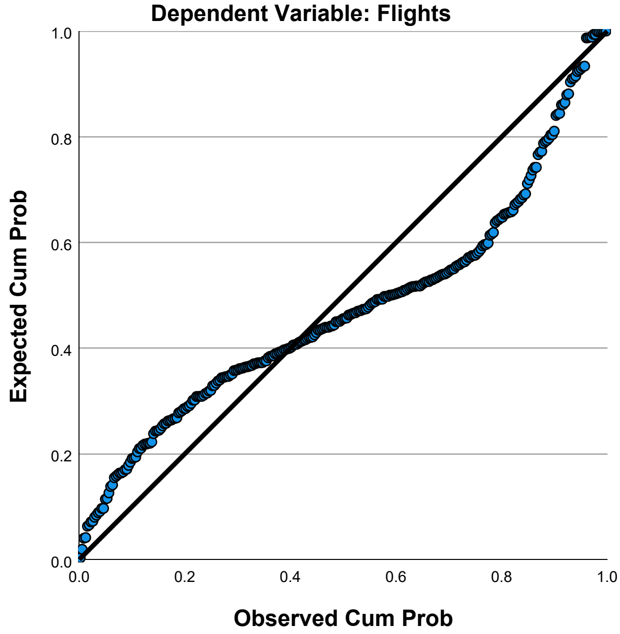
Histogram

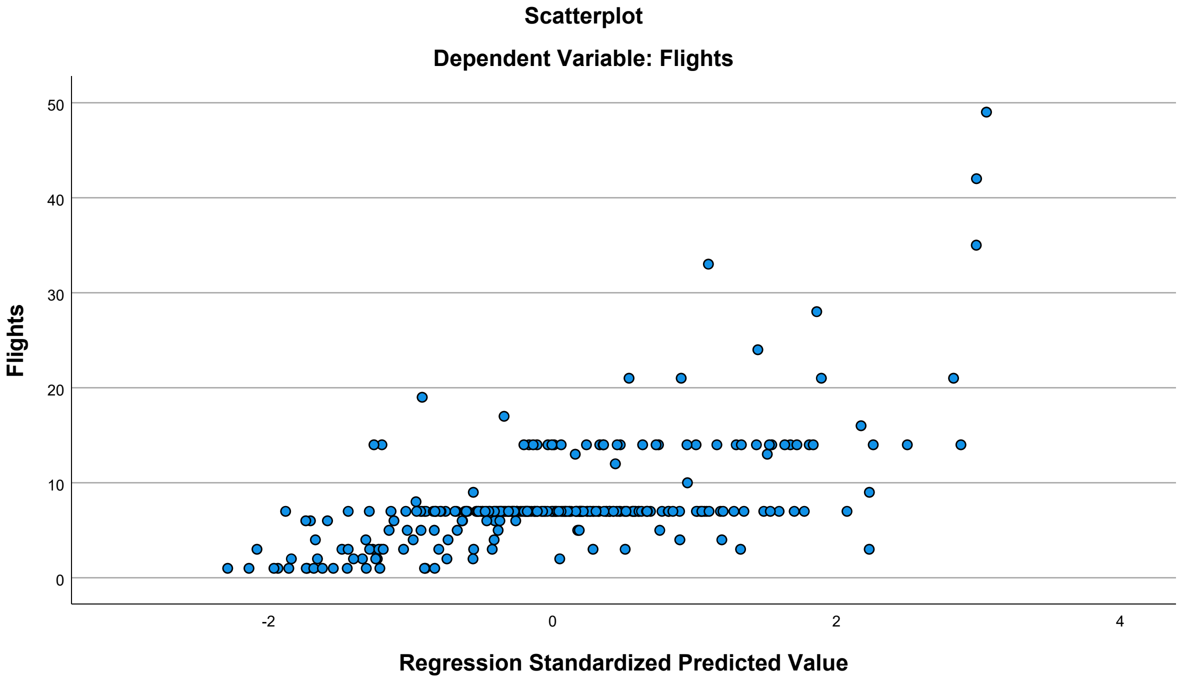
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights




Scatterplot
Dependent Variable: Flights
Flights
50
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

[DataSet13] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Regional\2007 to US.sav

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.16	5.825	389
HomeConcentration	3.2628534859	3.2181293427	389
Congestion	4.54	.998	389
GLHR	.09	.290	389
GJFK	.21	.408	389
PartnerConcentration	1.1090282982	2.1021794690	389
Seasonality	.64770196054	.19714899992	389
Distance	4.30334	.885016	389
Language	1.88491594	3.492506180	389
Ethnicity	.61295528	.785878742	389
Urban	16.00	5.075	389

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.223	.210	.377
	HomeConcentration	.223	1.000	-.156	-.082
	Congestion	.210	-.156	1.000	.092
	GLHR	.377	-.082	.092	1.000
	GJFK	.067	-.348	.489	-.056
	PartnerConcentration	.210	.097	.029	.012
	Seasonality	-.259	-.171	-.293	-.173
	Distance	-.151	.116	-.011	-.047
	Language	.244	-.103	.128	.412
	Ethnicity	.104	-.073	.224	.032
	Urban	.406	.117	.635	.280
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.001	.053
	Congestion	.000	.001	.	.034
	GLHR	.000	.053	.034	.
	GJFK	.093	.000	.000	.134
	PartnerConcentration	.000	.028	.287	.405
	Seasonality	.000	.000	.000	.000
	Distance	.001	.011	.417	.175
	Language	.000	.021	.006	.000
	Ethnicity	.021	.076	.000	.263
	Urban	.000	.010	.000	.000
N	Flights	389	389	389	389
	HomeConcentration	389	389	389	389

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.067	.210	-.259	-.151
	HomeConcentration	-.348	.097	-.171	.116
	Congestion	.489	.029	-.293	-.011
	GLHR	-.056	.012	-.173	-.047
	GJFK	1.000	-.177	-.063	-.044
	PartnerConcentration	-.177	1.000	-.193	.064
	Seasonality	-.063	-.193	1.000	-.088
	Distance	-.044	.064	-.088	1.000
	Language	.173	-.140	-.057	-.324
	Ethnicity	.233	.026	.046	-.226
	Urban	.236	.136	-.428	.031
Sig. (1-tailed)	Flights	.093	<.001	<.001	.001
	HomeConcentration	.000	.028	.000	.011
	Congestion	.000	.287	.000	.417
	GLHR	.134	.405	.000	.175
	GJFK	.	.000	.109	.195
	PartnerConcentration	.000	.	.000	.105
	Seasonality	.109	.000	.	.041
	Distance	.195	.105	.041	.
	Language	.000	.003	.130	.000
	Ethnicity	.000	.302	.184	.000
	Urban	.000	.004	.000	.271
N	Flights	389	389	389	389
	HomeConcentration	389	389	389	389

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.244	.104	.406
	HomeConcentration	-.103	-.073	.117
	Congestion	.128	.224	.635
	GLHR	.412	.032	.280
	GJFK	.173	.233	.236
	PartnerConcentration	-.140	.026	.136
	Seasonality	-.057	.046	-.428
	Distance	-.324	-.226	.031
	Language	1.000	.257	.101
	Ethnicity	.257	1.000	.093
	Urban	.101	.093	1.000
Sig. (1-tailed)	Flights	<.001	.021	<.001
	HomeConcentration	.021	.076	.010
	Congestion	.006	.000	.000
	GLHR	.000	.263	.000
	GJFK	.000	.000	.000
	PartnerConcentration	.003	.302	.004
	Seasonality	.130	.184	.000
	Distance	.000	.000	.271
	Language	.	.000	.023
	Ethnicity	.000	.	.034
	Urban	.023	.034	.
N	Flights	389	389	389
	HomeConcentration	389	389	389

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	389	389	389	389
	GLHR	389	389	389	389
	GJFK	389	389	389	389
	PartnerConcentration	389	389	389	389
	Seasonality	389	389	389	389
	Distance	389	389	389	389
	Language	389	389	389	389
	Ethnicity	389	389	389	389
	Urban	389	389	389	389

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	389	389	389	389
GLHR	389	389	389	389
GJFK	389	389	389	389
PartnerConcentration	389	389	389	389
Seasonality	389	389	389	389
Distance	389	389	389	389
Language	389	389	389	389
Ethnicity	389	389	389	389
Urban	389	389	389	389

Correlations

	Language	Ethnicity	Urban
Congestion	389	389	389
GLHR	389	389	389
GJFK	389	389	389
PartnerConcentration	389	389	389
Seasonality	389	389	389
Distance	389	389	389
Language	389	389	389
Ethnicity	389	389	389
Urban	389	389	389

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, HomeConcentration, Ethnicity, GLHR, Seasonality, GJFK, Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.601[a]	.362	.345	4.715	.362	21.420

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	10	378	<.001

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, HomeConcentration, Ethnicity, GLHR, Seasonality, GJFK, La
Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4761.187	10	476.119	21.420	<.001[b]
	Residual	8402.247	378	22.228		
	Total	13163.434	388			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, HomeConcentration, Ethnicity, GLHR, Seasonality, GJFK, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.160	2.276		2.707	.007
	HomeConcentration	.491	.086	.271	5.740	<.001
	Congestion	-.079	.359	-.014	-.221	.826
	GLHR	6.021	.991	.300	6.077	<.001
	GJFK	2.044	.749	.143	2.731	.007
	PartnerConcentration	.524	.121	.189	4.336	<.001
	Seasonality	-1.007	1.393	-.034	-.723	.470
	Distance	-1.044	.294	-.159	-3.557	<.001
	Language	.125	.084	.075	1.484	.139
	Ethnicity	.032	.333	.004	.095	.924
	Urban	.255	.070	.222	3.646	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.756	1.323
	Congestion	.446	2.241
	GLHR	.693	1.443
	GJFK	.613	1.631
	PartnerConcentration	.887	1.127
	Seasonality	.759	1.317
	Distance	.849	1.178
	Language	.667	1.498
	Ethnicity	.835	1.197
	Urban	.455	2.197

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.627	1.000	.00	.00	.00
	2	1.239	2.313	.00	.03	.00
	3	1.019	2.551	.00	.01	.00
	4	.683	3.115	.00	.07	.00
	5	.554	3.459	.00	.04	.00
	6	.393	4.105	.00	.02	.00
	7	.319	4.561	.00	.59	.00
	8	.098	8.212	.00	.13	.02
	9	.041	12.655	.00	.01	.00
	10	.018	19.130	.03	.04	.63
	11	.008	28.136	.97	.03	.34

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.13	.04	.08	.00	.00	.13
	3	.24	.18	.07	.00	.00	.01
	4	.00	.05	.66	.00	.00	.00
	5	.14	.13	.00	.00	.00	.13
	6	.24	.02	.11	.00	.00	.57
	7	.07	.28	.00	.03	.00	.04
	8	.13	.23	.07	.26	.00	.00
	9	.00	.00	.00	.30	.51	.03
	10	.05	.02	.00	.07	.16	.03
	11	.00	.05	.01	.33	.33	.05

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.01	.00
	3	.02	.00
	4	.07	.00
	5	.43	.00
	6	.40	.00
	7	.01	.00
	8	.00	.16
	9	.04	.16
	10	.02	.67
	11	.00	.00

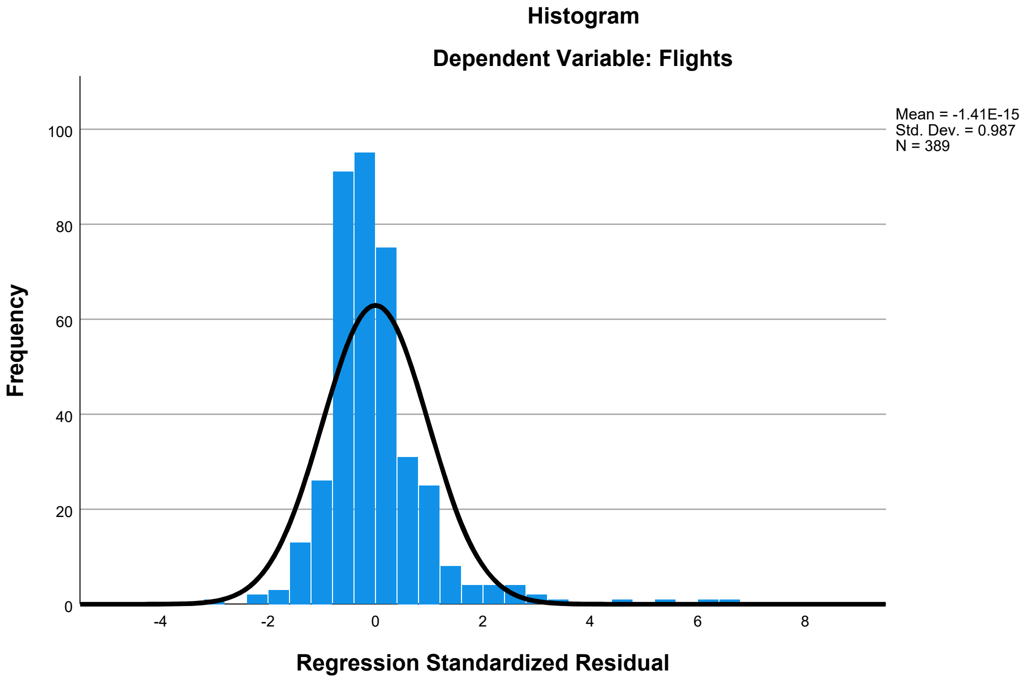
a. Dependent Variable: Flights

Residuals Statistics[a]

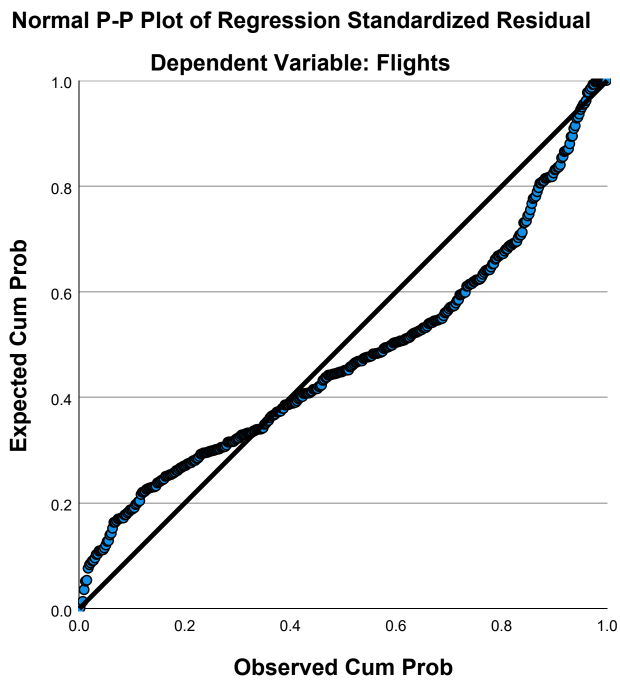
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.51	20.02	8.16	3.503	389
Residual	-14.393	31.067	.000	4.654	389
Std. Predicted Value	-2.184	3.385	.000	1.000	389
Std. Residual	-3.053	6.589	.000	.987	389

a. Dependent Variable: Flights

Charts



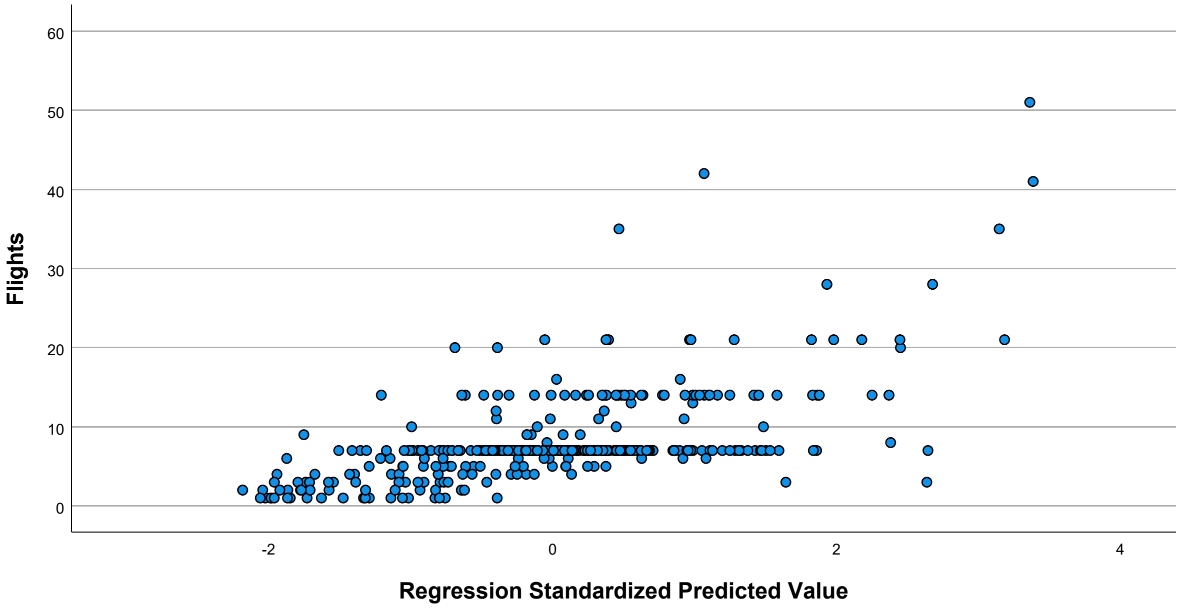
Histogram
Dependent Variable: Flights
Mean = -1.41E-15
Std. Dev. = 0.987
N = 389
Frequency
100
80
60
40
20
0
-4
-2
0
2
4
6
8
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob

Scatterplot

Dependent Variable: Flights



Regression

```
[DataSet14] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Regional\2012 to US.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.17	5.657	395
HomeConcentration	3.0705879089	2.5817804914	395
Congestion	4.62	1.016	395
GLHR	.12	.324	395
GJFK	.21	.408	395
PartnerConcentration	1.2377454228	1.9941784371	395
Seasonality	.63922232464	.21388677532	395
Distance	4.47922	1.057508	395
Language	1.38782361	2.995666550	395
Ethnicity	.48115718	.677126397	395
Urban	17.84	3.911	395

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.232	.208	.426
	HomeConcentration	.232	1.000	-.106	.024
	Congestion	.208	-.106	1.000	-.010
	GLHR	.426	.024	-.010	1.000
	GJFK	.087	-.347	.522	-.094
	PartnerConcentration	.173	.078	-.020	.015
	Seasonality	-.103	-.177	-.107	-.165
	Distance	-.144	.087	-.158	-.082
	Language	.331	-.049	.074	.554
	Ethnicity	.121	-.036	.215	.073
	Urban	.415	.187	.547	.279
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.018	.318
	Congestion	.000	.018	.	.423
	GLHR	.000	.318	.423	.
	GJFK	.042	.000	.000	.032
	PartnerConcentration	.000	.060	.343	.387
	Seasonality	.021	.000	.017	.001
	Distance	.002	.042	.001	.051
	Language	.000	.166	.070	.000
	Ethnicity	.008	.237	.000	.075
	Urban	.000	.000	.000	.000
N	Flights	395	395	395	395
	HomeConcentration	395	395	395	395

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.087	.173	-.103	-.144
	HomeConcentration	-.347	.078	-.177	.087
	Congestion	.522	-.020	-.107	-.158
	GLHR	-.094	.015	-.165	-.082
	GJFK	1.000	-.190	.055	-.133
	PartnerConcentration	-.190	1.000	-.152	-.049
	Seasonality	.055	-.152	1.000	-.114
	Distance	-.133	-.049	-.114	1.000
	Language	.121	-.131	-.026	-.290
	Ethnicity	.258	.038	.027	-.237
	Urban	.241	.146	-.354	.021
Sig. (1-tailed)	Flights	.042	<.001	.021	.002
	HomeConcentration	.000	.060	.000	.042
	Congestion	.000	.343	.017	.001
	GLHR	.032	.387	.001	.051
	GJFK	.	.000	.137	.004
	PartnerConcentration	.000	.	.001	.167
	Seasonality	.137	.001	.	.012
	Distance	.004	.167	.012	.
	Language	.008	.004	.306	.000
	Ethnicity	.000	.226	.295	.000
	Urban	.000	.002	.000	.339
N	Flights	395	395	395	395
	HomeConcentration	395	395	395	395

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.331	.121	.415
	HomeConcentration	-.049	-.036	.187
	Congestion	.074	.215	.547
	GLHR	.554	.073	.279
	GJFK	.121	.258	.241
	PartnerConcentration	-.131	.038	.146
	Seasonality	-.026	.027	-.354
	Distance	-.290	-.237	.021
	Language	1.000	.323	.113
	Ethnicity	.323	1.000	.112
	Urban	.113	.112	1.000
Sig. (1-tailed)	Flights	<.001	.008	<.001
	HomeConcentration	.166	.237	.000
	Congestion	.070	.000	.000
	GLHR	.000	.075	.000
	GJFK	.008	.000	.000
	PartnerConcentration	.004	.226	.002
	Seasonality	.306	.295	.000
	Distance	.000	.000	.339
	Language	.	.000	.012
	Ethnicity	.000	.	.013
	Urban	.012	.013	.
N	Flights	395	395	395
	HomeConcentration	395	395	395

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	395	395	395	395
	GLHR	395	395	395	395
	GJFK	395	395	395	395
	PartnerConcentration	395	395	395	395
	Seasonality	395	395	395	395
	Distance	395	395	395	395
	Language	395	395	395	395
	Ethnicity	395	395	395	395
	Urban	395	395	395	395

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	395	395	395	395
GLHR	395	395	395	395
GJFK	395	395	395	395
PartnerConcentration	395	395	395	395
Seasonality	395	395	395	395
Distance	395	395	395	395
Language	395	395	395	395
Ethnicity	395	395	395	395
Urban	395	395	395	395

Correlations

	Language	Ethnicity	Urban
Congestion	395	395	395
GLHR	395	395	395
GJFK	395	395	395
PartnerConcentration	395	395	395
Seasonality	395	395	395
Distance	395	395	395
Language	395	395	395
Ethnicity	395	395	395
Urban	395	395	395

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, HomeConcentration, Ethnicity, GLHR, Seasonality, GJFK, Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.612[a]	.374	.358	4.533	.374	22.960

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	10	384	<.001

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, HomeConcentration, Ethnicity, GLHR, Seasonality, GJFK, La
Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4717.381	10	471.738	22.960	<.001[b]
	Residual	7889.592	384	20.546		
	Total	12606.972	394			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, HomeConcentration, Ethnicity, GLHR, Seasonality, GJFK, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.197	2.134		-1.030	.304
	HomeConcentration	.545	.101	.249	5.426	<.001
	Congestion	.243	.316	.044	.767	.444
	GLHR	5.181	.933	.297	5.550	<.001
	GJFK	1.868	.744	.135	2.512	.012
	PartnerConcentration	.494	.123	.174	4.016	<.001
	Seasonality	2.392	1.171	.090	2.043	.042
	Distance	-.360	.236	-.067	-1.528	.127
	Language	.284	.103	.151	2.759	.006
	Ethnicity	-.291	.377	-.035	-.774	.439
	Urban	.324	.084	.224	3.862	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.774	1.292
	Congestion	.505	1.981
	GLHR	.569	1.756
	GJFK	.567	1.764
	PartnerConcentration	.867	1.153
	Seasonality	.831	1.203
	Distance	.837	1.194
	Language	.547	1.828
	Ethnicity	.802	1.247
	Urban	.485	2.064

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.720	1.000	.00	.00	.00
	2	1.313	2.263	.00	.01	.00
	3	1.052	2.527	.00	.03	.00
	4	.657	3.197	.00	.03	.00
	5	.518	3.602	.00	.08	.00
	6	.302	4.717	.00	.02	.00
	7	.277	4.927	.00	.63	.00
	8	.090	8.641	.00	.14	.02
	9	.047	11.960	.00	.01	.13
	10	.015	21.356	.00	.05	.64
	11	.009	27.306	.99	.00	.21

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.14	.00	.03	.00	.00	.15
	3	.07	.23	.08	.00	.00	.00
	4	.00	.00	.57	.00	.00	.00
	5	.13	.16	.13	.00	.00	.02
	6	.48	.02	.07	.01	.00	.71
	7	.01	.27	.03	.04	.01	.03
	8	.08	.09	.04	.57	.05	.02
	9	.00	.15	.03	.01	.55	.02
	10	.08	.00	.02	.06	.02	.00
	11	.00	.07	.01	.31	.37	.04

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.01	.00
	3	.04	.00
	4	.20	.00
	5	.41	.00
	6	.24	.00
	7	.07	.00
	8	.00	.03
	9	.02	.06
	10	.00	.85
	11	.00	.06

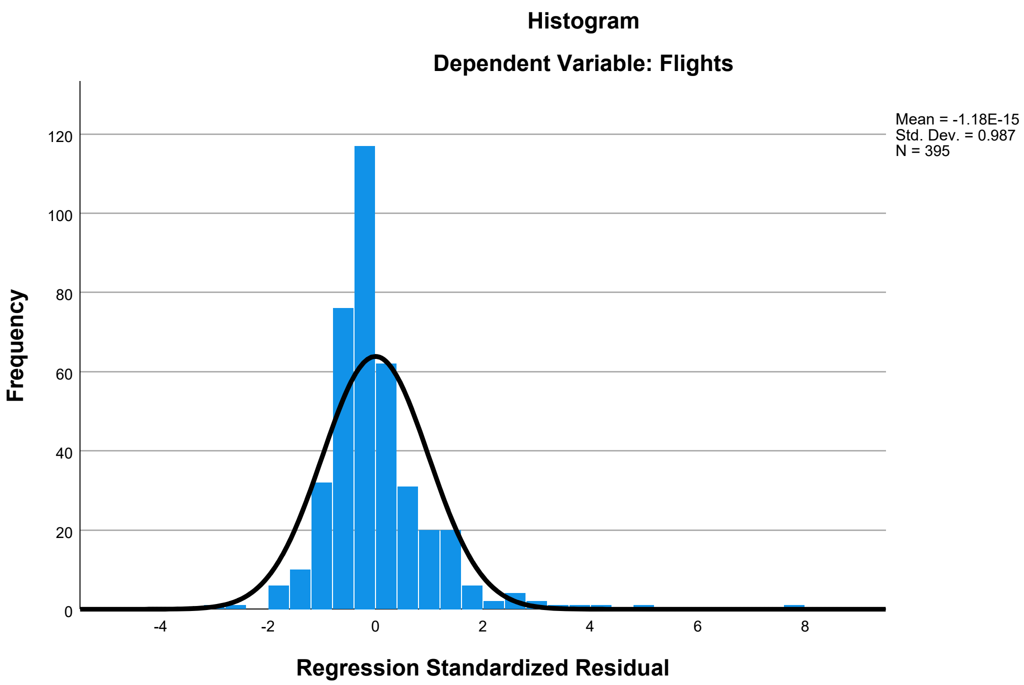
a. Dependent Variable: Flights

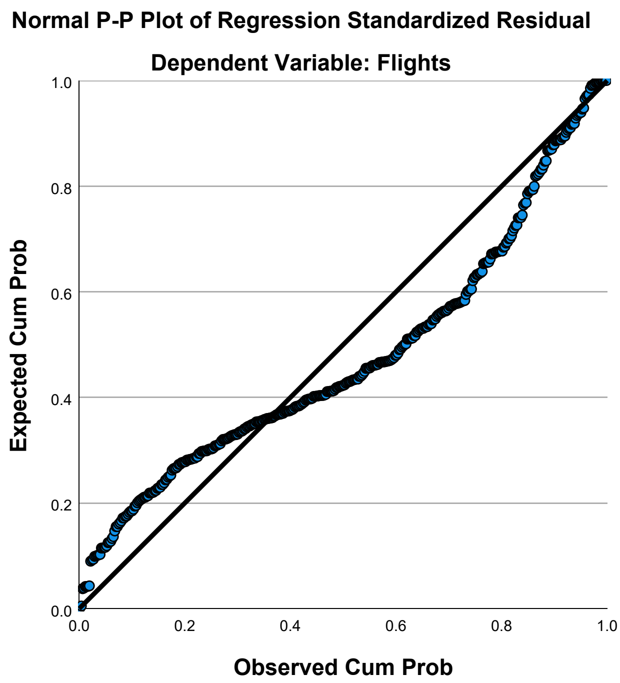
Residuals Statistics[a]

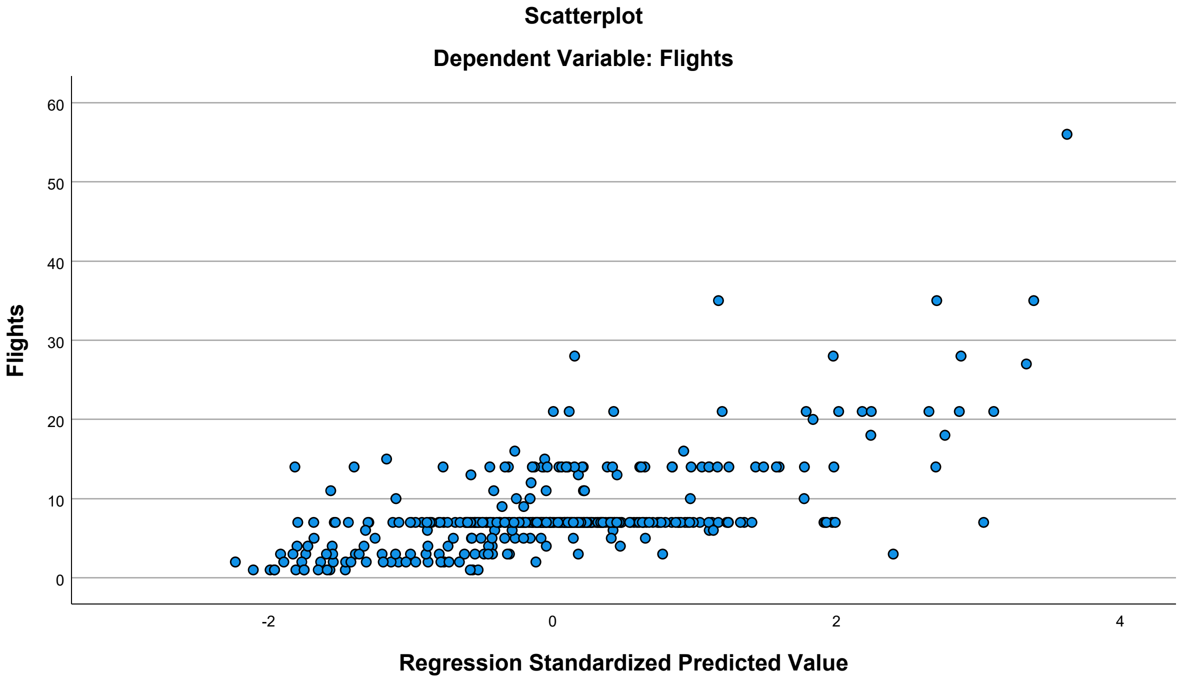
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.43	20.71	8.17	3.460	395
Residual	-13.469	35.294	.000	4.475	395
Std. Predicted Value	-2.235	3.624	.000	1.000	395
Std. Residual	-2.972	7.786	.000	.987	395

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -1.18E-15
Std. Dev. = 0.987
N = 395
Frequency
0
20
40
60
80
100
120
-4
-2
0
2
4
6
8
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet15] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Regional\2017 to US.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.45	5.141	550
HomeConcentration	2.9096500364	2.7009192579	550
Congestion	4.48	.886	550
GLHR	.10	.298	550
GJFK	.17	.378	550
PartnerConcentration	1.1376078145	1.9474613743	550
Seasonality	.70473578366	.21968952765	550
Distance	4.54240	1.182519	550
Language	1.50961292	3.180923087	550
Ethnicity	.40485144364	.58803876035	550
Urban	16.71	4.625	550

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.285	.264	.400
	HomeConcentration	.285	1.000	-.096	.096
	Congestion	.264	-.096	1.000	-.007
	GLHR	.400	.096	-.007	1.000
	GJFK	.184	-.163	.631	-.086
	PartnerConcentration	.200	.096	.008	.111
	Seasonality	-.191	-.098	-.130	-.222
	Distance	-.120	.122	-.057	-.061
	Language	.255	-.106	.052	.395
	Ethnicity	.144	-.005	.219	.060
	Urban	.396	.202	.567	.220
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.012	.012
	Congestion	.000	.012	.	.435
	GLHR	.000	.012	.435	.
	GJFK	.000	.000	.000	.022
	PartnerConcentration	.000	.012	.427	.005
	Seasonality	.000	.011	.001	.000
	Distance	.002	.002	.093	.075
	Language	.000	.006	.111	.000
	Ethnicity	.000	.455	.000	.081
	Urban	.000	.000	.000	.000
N	Flights	550	550	550	550
	HomeConcentration	550	550	550	550

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.184	.200	-.191	-.120
	HomeConcentration	-.163	.096	-.098	.122
	Congestion	.631	.008	-.130	-.057
	GLHR	-.086	.111	-.222	-.061
	GJFK	1.000	-.112	-.026	-.166
	PartnerConcentration	-.112	1.000	-.169	.037
	Seasonality	-.026	-.169	1.000	-.181
	Distance	-.166	.037	-.181	1.000
	Language	.182	-.043	.016	-.318
	Ethnicity	.280	.007	.034	-.239
	Urban	.302	.199	-.329	.103
Sig. (1-tailed)	Flights	<.001	<.001	<.001	.002
	HomeConcentration	.000	.012	.011	.002
	Congestion	.000	.427	.001	.093
	GLHR	.022	.005	.000	.075
	GJFK	.	.004	.273	.000
	PartnerConcentration	.004	.	.000	.193
	Seasonality	.273	.000	.	.000
	Distance	.000	.193	.000	.
	Language	.000	.159	.358	.000
	Ethnicity	.000	.438	.216	.000
	Urban	.000	.000	.000	.008
N	Flights	550	550	550	550
	HomeConcentration	550	550	550	550

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.255	.144	.396
	HomeConcentration	-.106	-.005	.202
	Congestion	.052	.219	.567
	GLHR	.395	.060	.220
	GJFK	.182	.280	.302
	PartnerConcentration	-.043	.007	.199
	Seasonality	.016	.034	-.329
	Distance	-.318	-.239	.103
	Language	1.000	.380	.119
	Ethnicity	.380	1.000	.132
	Urban	.119	.132	1.000
Sig. (1-tailed)	Flights	<.001	<.001	<.001
	HomeConcentration	.006	.455	.000
	Congestion	.111	.000	.000
	GLHR	.000	.081	.000
	GJFK	.000	.000	.000
	PartnerConcentration	.159	.438	.000
	Seasonality	.358	.216	.000
	Distance	.000	.000	.008
	Language	.	.000	.003
	Ethnicity	.000	.	.001
	Urban	.003	.001	.
N	Flights	550	550	550
	HomeConcentration	550	550	550

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	550	550	550	550
	GLHR	550	550	550	550
	GJFK	550	550	550	550
	PartnerConcentration	550	550	550	550
	Seasonality	550	550	550	550
	Distance	550	550	550	550
	Language	550	550	550	550
	Ethnicity	550	550	550	550
	Urban	550	550	550	550

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	550	550	550	550
	GLHR	550	550	550	550
	GJFK	550	550	550	550
	PartnerConcentration	550	550	550	550
	Seasonality	550	550	550	550
	Distance	550	550	550	550
	Language	550	550	550	550
	Ethnicity	550	550	550	550
	Urban	550	550	550	550

Correlations

		Language	Ethnicity	Urban
	Congestion	550	550	550
	GLHR	550	550	550
	GJFK	550	550	550
	PartnerConcentration	550	550	550
	Seasonality	550	550	550
	Distance	550	550	550
	Language	550	550	550
	Ethnicity	550	550	550
	Urban	550	550	550

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, HomeConcentration, GLHR, Ethnicity, Seasonality, GJFK, Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change
1	.608[a]	.370	.358	4.119	.370	31.627

Model Summary[b]

Model	Change Statistics: df1	Change Statistics: df2	Change Statistics: Sig. F Change
1	10	539	<.001

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, HomeConcentration, GLHR, Ethnicity, Seasonality, GJFK, La
Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5365.681	10	536.568	31.627	<.001[b]
	Residual	9144.494	539	16.966		
	Total	14510.175	549			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, HomeConcentration, GLHR, Ethnicity, Seasonality, GJFK, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients: B	Unstandardized Coefficients: Std. Error	Standardized Coefficients: Beta	t	Sig.
1	(Constant)	1.273	1.611		.791	.430
	HomeConcentration	.514	.070	.270	7.322	<.001
	Congestion	.792	.307	.137	2.583	.010
	GLHR	4.932	.692	.286	7.130	<.001
	GJFK	1.463	.637	.108	2.297	.022
	PartnerConcentration	.344	.095	.130	3.634	<.001
	Seasonality	-.834	.879	-.036	-.949	.343
	Distance	-.450	.164	-.103	-2.743	.006
	Language	.174	.070	.108	2.488	.013
	Ethnicity	-.127	.339	-.015	-.374	.708
	Urban	.145	.054	.130	2.708	.007

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.858	1.165
	Congestion	.419	2.389
	GLHR	.728	1.373
	GJFK	.532	1.879
	PartnerConcentration	.910	1.099
	Seasonality	.829	1.207
	Distance	.822	1.217
	Language	.624	1.602
	Ethnicity	.778	1.286
	Urban	.504	1.985

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.614	1.000	.00	.01	.00
	2	1.212	2.336	.00	.02	.00
	3	1.068	2.488	.00	.01	.00
	4	.655	3.178	.00	.03	.00
	5	.545	3.485	.00	.01	.00
	6	.415	3.990	.00	.35	.00
	7	.323	4.525	.00	.48	.00
	8	.093	8.435	.00	.03	.00
	9	.047	11.824	.00	.01	.03
	10	.019	18.837	.13	.03	.29
	11	.008	28.620	.87	.02	.67

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions: GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.12	.03	.02	.00	.00	.18
	3	.24	.16	.08	.00	.00	.00
	4	.02	.03	.79	.00	.00	.00
	5	.21	.29	.00	.00	.00	.05
	6	.10	.04	.01	.01	.00	.25
	7	.21	.03	.02	.00	.00	.40
	8	.09	.06	.04	.50	.07	.03
	9	.01	.14	.02	.00	.64	.03
	10	.00	.03	.00	.33	.11	.00
	11	.00	.19	.00	.15	.18	.05

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions: Ethnicity	Urban
1	1	.01	.00
	2	.05	.00
	3	.03	.00
	4	.04	.00
	5	.36	.00
	6	.24	.00
	7	.26	.00
	8	.00	.07
	9	.02	.23
	10	.01	.64
	11	.00	.05

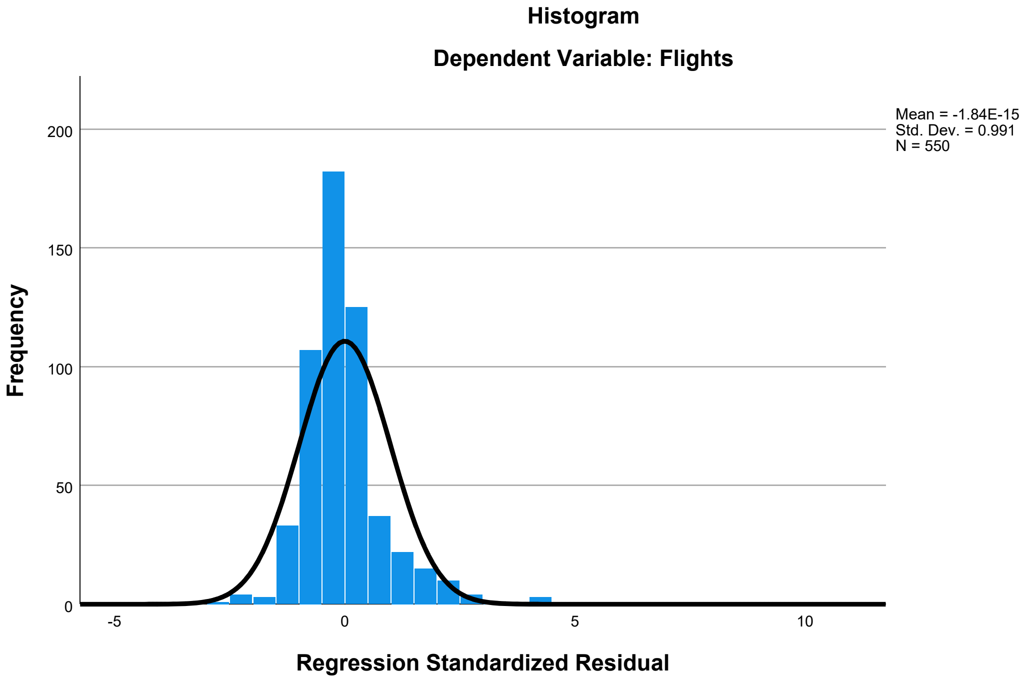
a. Dependent Variable: Flights

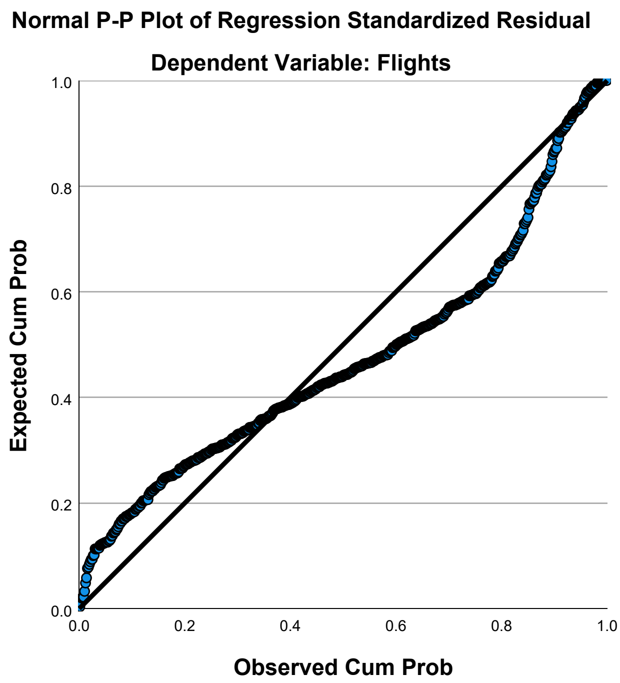
Residuals Statistics[a]

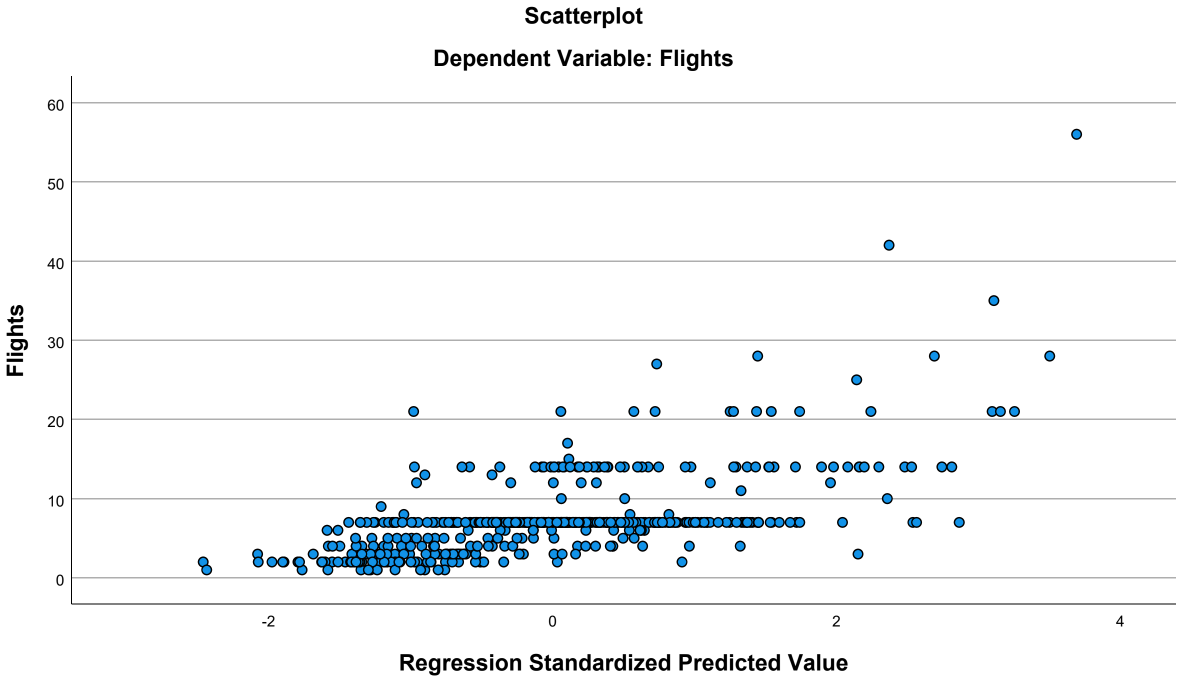
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.25	18.99	7.45	3.126	550
Residual	-11.176	37.009	.000	4.081	550
Std. Predicted Value	-2.462	3.691	.000	1.000	550
Std. Residual	-2.713	8.985	.000	.991	550

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -1.84E-15
Std. Dev. = 0.991
N = 550
Frequency
200
150
100
50
0
-5
0
5
10
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
60
50
40
30
20
10
0
-2
0
2
4

Regression

```
[DataSet16] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Regional\1997 to CAN.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GJFK. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	5.78	4.398	49
HomeConcentration	1.6811877551	1.2808929194	49
Congestion	4.90	1.104	49
GLHR	.31	.466	49
GJFK	.00	.000	49
PartnerConcentration	.44748285714	1.0882424639	49
Seasonality	.64325681710	.20452478500	49
Distance	4.03841	.849527	49
Language	1.74141798	2.778210284	49
Ethnicity	.86142235	1.066632386	49
Urban	15.94	4.225	49

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.576	.373	.299
	HomeConcentration	.576	1.000	.529	-.088
	Congestion	.373	.529	1.000	.022
	GLHR	.299	-.088	.022	1.000
	GJFK	.	.	.	.
	PartnerConcentration	.047	.100	.096	-.168
	Seasonality	-.184	-.122	.190	-.085
	Distance	-.180	.070	.317	-.227
	Language	.502	.144	.199	.479
	Ethnicity	.596	.244	.309	.405
	Urban	.527	.441	.664	.222
Sig. (1-tailed)	Flights	.	<.001	.004	.019
	HomeConcentration	.000	.	.000	.273
	Congestion	.004	.000	.	.442
	GLHR	.019	.273	.442	.
	GJFK	.000	.000	.000	.000
	PartnerConcentration	.374	.247	.256	.124
	Seasonality	.103	.201	.095	.280
	Distance	.107	.315	.013	.058
	Language	.000	.161	.085	.000
	Ethnicity	.000	.046	.015	.002
	Urban	.000	.001	.000	.063
N	Flights	49	49	49	49
	HomeConcentration	49	49	49	49
	Congestion	49	49	49	49
	GLHR	49	49	49	49
	GJFK	49	49	49	49
	PartnerConcentration	49	49	49	49
	Seasonality	49	49	49	49
	Distance	49	49	49	49
	Language	49	49	49	49
	Ethnicity	49	49	49	49
	Urban	49	49	49	49

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.	.047	-.184	-.180
	HomeConcentration	.	.100	-.122	.070
	Congestion	.	.096	.190	.317
	GLHR	.	-.168	-.085	-.227
	GJFK	1.000	.	.	.
	PartnerConcentration	.	1.000	.140	.057
	Seasonality	.	.140	1.000	.242
	Distance	.	.057	.242	1.000
	Language	.	-.195	-.084	-.296
	Ethnicity	.	-.073	-.090	-.278
	Urban	.	-.027	-.100	.037
Sig. (1-tailed)	Flights	.000	.374	.103	.107
	HomeConcentration	.000	.247	.201	.315
	Congestion	.000	.256	.095	.013
	GLHR	.000	.124	.280	.058
	GJFK	.	.000	.000	.000
	PartnerConcentration	.000	.	.169	.348
	Seasonality	.000	.169	.	.047
	Distance	.000	.348	.047	.
	Language	.000	.089	.282	.020
	Ethnicity	.000	.308	.270	.026
	Urban	.000	.427	.246	.399
N	Flights	49	49	49	49
	HomeConcentration	49	49	49	49
	Congestion	49	49	49	49
	GLHR	49	49	49	49
	GJFK	49	49	49	49
	PartnerConcentration	49	49	49	49
	Seasonality	49	49	49	49
	Distance	49	49	49	49
	Language	49	49	49	49
	Ethnicity	49	49	49	49
	Urban	49	49	49	49

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.502	.596	.527
	HomeConcentration	.144	.244	.441
	Congestion	.199	.309	.664
	GLHR	.479	.405	.222
	GJFK	.	.	.
	PartnerConcentration	-.195	-.073	-.027
	Seasonality	-.084	-.090	-.100
	Distance	-.296	-.278	.037
	Language	1.000	.943	.273
	Ethnicity	.943	1.000	.407
	Urban	.273	.407	1.000
Sig. (1-tailed)	Flights	<.001	<.001	<.001
	HomeConcentration	.161	.046	.001
	Congestion	.085	.015	.000
	GLHR	.000	.002	.063
	GJFK	.000	.000	.000
	PartnerConcentration	.089	.308	.427
	Seasonality	.282	.270	.246
	Distance	.020	.026	.399
	Language	.	.000	.029
	Ethnicity	.000	.	.002
	Urban	.029	.002	.
N	Flights	49	49	49
	HomeConcentration	49	49	49
	Congestion	49	49	49
	GLHR	49	49	49
	GJFK	49	49	49
	PartnerConcentration	49	49	49
	Seasonality	49	49	49
	Distance	49	49	49
	Language	49	49	49
	Ethnicity	49	49	49
	Urban	49	49	49

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, Seasonality, GLHR, HomeConcentration, Language, Congestion, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.785[a]	.616	.528	3.022	.616	6.962

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	39	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, Seasonality, GLHR, HomeConcentration, Language, Congest
Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	572.308	9	63.590	6.962	<.001[b]
	Residual	356.223	39	9.134		
	Total	928.531	48			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, Seasonality, GLHR, HomeConcentration, Language, Congestion, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.575	2.936		.537	.595
	HomeConcentration	1.554	.429	.453	3.622	<.001
	Congestion	-.466	.669	-.117	-.697	.490
	GLHR	1.540	1.145	.163	1.344	.187
	PartnerConcentration	.235	.447	.058	.525	.602
	Seasonality	-.789	2.384	-.037	-.331	.742
	Distance	-.234	.609	-.045	-.385	.702
	Language	-.276	.588	-.174	-.470	.641
	Ethnicity	2.171	1.540	.527	1.410	.167
	Urban	.211	.164	.202	1.289	.205

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.630	1.587
	Congestion	.349	2.867
	GLHR	.669	1.495
	PartnerConcentration	.804	1.244
	Seasonality	.801	1.249
	Distance	.712	1.405
	Language	.071	14.028
	Ethnicity	.070	14.184
	Urban	.399	2.509

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.970	1.000	.00	.00	.00
	2	1.375	2.252	.00	.00	.00
	3	.718	3.116	.00	.00	.00
	4	.511	3.694	.00	.07	.00
	5	.269	5.086	.00	.54	.00
	6	.068	10.121	.00	.26	.01
	7	.040	13.176	.04	.02	.01
	8	.021	18.261	.08	.00	.00
	9	.017	20.018	.60	.07	.34
	10	.011	25.289	.26	.04	.65

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.05	.11	.00	.00	.01	.01
	3	.00	.68	.00	.00	.00	.01
	4	.60	.05	.00	.00	.01	.01
	5	.20	.00	.03	.00	.01	.00
	6	.02	.00	.53	.00	.03	.02
	7	.00	.04	.30	.25	.17	.11
	8	.10	.07	.00	.38	.53	.63
	9	.00	.02	.00	.05	.15	.16
	10	.02	.03	.13	.31	.09	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.11
	7	.10
	8	.14
	9	.00
	10	.65

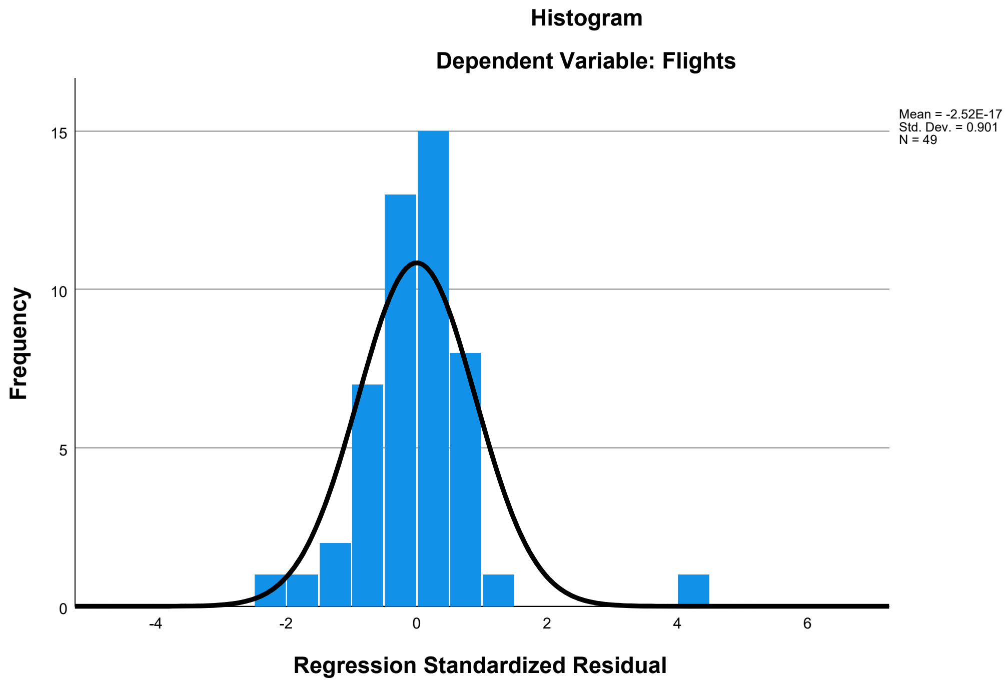
a. Dependent Variable: Flights

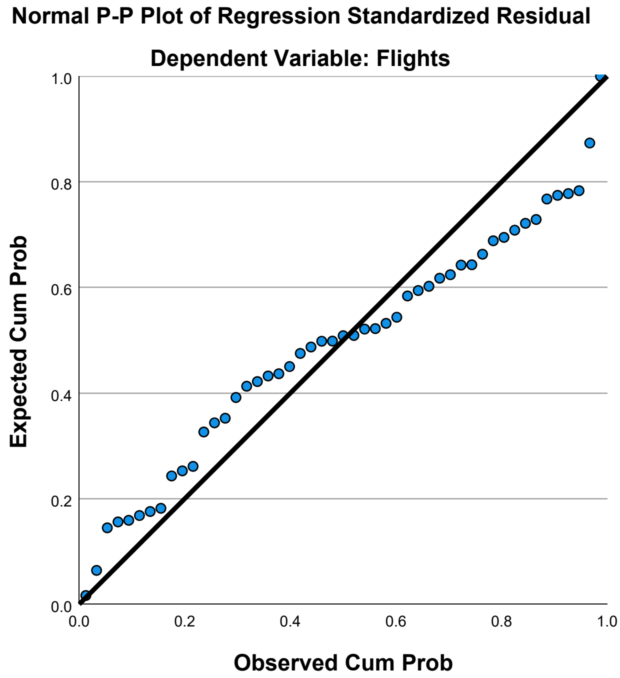
Residuals Statistics[a]

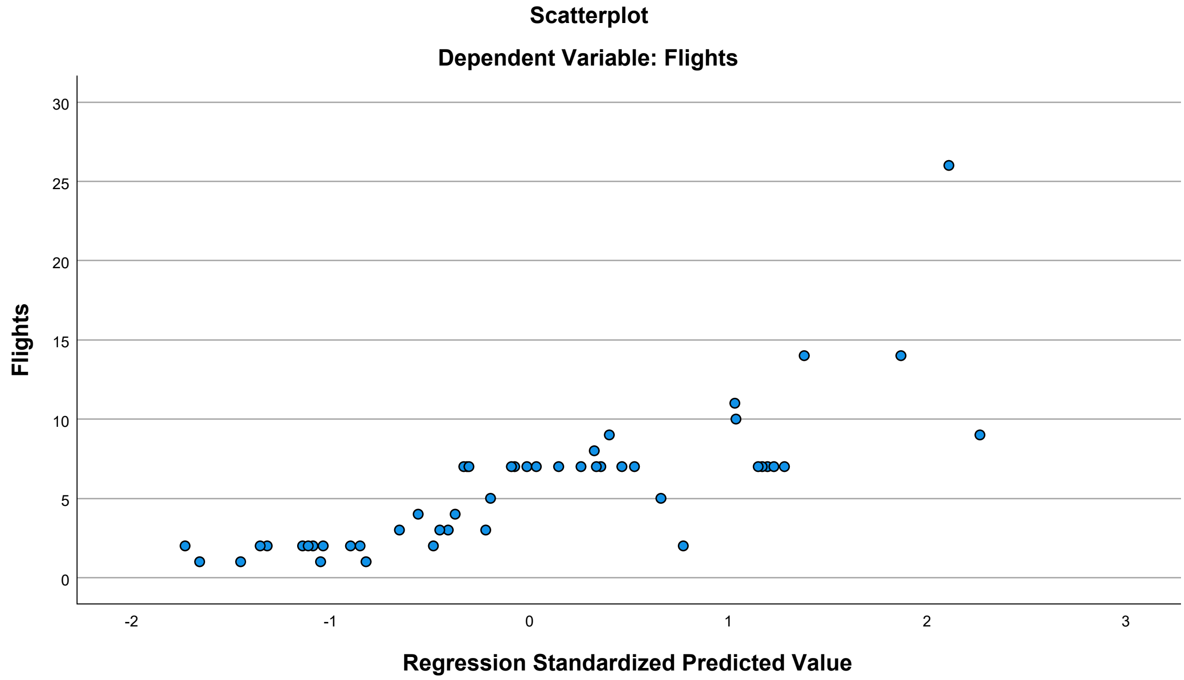
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.21	13.60	5.78	3.453	49
Residual	-6.446	12.941	.000	2.724	49
Std. Predicted Value	-1.733	2.266	.000	1.000	49
Std. Residual	-2.133	4.282	.000	.901	49

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GJFK. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	5.78	4.398	49
HomeConcentration	1.6811877551	1.2808929194	49
Congestion	4.90	1.104	49
GLHR	.31	.466	49
GJFK	.00	.000	49
PartnerConcentration	.44748285714	1.0882424639	49
Seasonality	.64325681710	.20452478500	49
Distance	4.03841	.849527	49
Ethnicity	.86142235	1.066632386	49
Urban	15.94	4.225	49

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.576	.373	.299
	HomeConcentration	.576	1.000	.529	-.088
	Congestion	.373	.529	1.000	.022
	GLHR	.299	-.088	.022	1.000
	GJFK	.	.	.	.
	PartnerConcentration	.047	.100	.096	-.168
	Seasonality	-.184	-.122	.190	-.085
	Distance	-.180	.070	.317	-.227
	Ethnicity	.596	.244	.309	.405
	Urban	.527	.441	.664	.222
Sig. (1-tailed)	Flights	.	<.001	.004	.019
	HomeConcentration	.000	.	.000	.273
	Congestion	.004	.000	.	.442
	GLHR	.019	.273	.442	.
	GJFK	.000	.000	.000	.000
	PartnerConcentration	.374	.247	.256	.124
	Seasonality	.103	.201	.095	.280
	Distance	.107	.315	.013	.058
	Ethnicity	.000	.046	.015	.002
	Urban	.000	.001	.000	.063
N	Flights	49	49	49	49
	HomeConcentration	49	49	49	49

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.	.047	-.184	-.180
	HomeConcentration	.	.100	-.122	.070
	Congestion	.	.096	.190	.317
	GLHR	.	-.168	-.085	-.227
	GJFK	1.000	.	.	.
	PartnerConcentration	.	1.000	.140	.057
	Seasonality	.	.140	1.000	.242
	Distance	.	.057	.242	1.000
	Ethnicity	.	-.073	-.090	-.278
	Urban	.	-.027	-.100	.037
Sig. (1-tailed)	Flights	.000	.374	.103	.107
	HomeConcentration	.000	.247	.201	.315
	Congestion	.000	.256	.095	.013
	GLHR	.000	.124	.280	.058
	GJFK	.	.000	.000	.000
	PartnerConcentration	.000	.	.169	.348
	Seasonality	.000	.169	.	.047
	Distance	.000	.348	.047	.
	Ethnicity	.000	.308	.270	.026
	Urban	.000	.427	.246	.399
N	Flights	49	49	49	49
	HomeConcentration	49	49	49	49

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.596	.527
	HomeConcentration	.244	.441
	Congestion	.309	.664
	GLHR	.405	.222
	GJFK	.	.
	PartnerConcentration	-.073	-.027
	Seasonality	-.090	-.100
	Distance	-.278	.037
	Ethnicity	1.000	.407
	Urban	.407	1.000
Sig. (1-tailed)	Flights	<.001	<.001
	HomeConcentration	.046	.001
	Congestion	.015	.000
	GLHR	.002	.063
	GJFK	.000	.000
	PartnerConcentration	.308	.427
	Seasonality	.270	.246
	Distance	.026	.399
	Ethnicity	.	.002
	Urban	.002	.
N	Flights	49	49
	HomeConcentration	49	49

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	49	49	49	49
	GLHR	49	49	49	49
	GJFK	49	49	49	49
	PartnerConcentration	49	49	49	49
	Seasonality	49	49	49	49
	Distance	49	49	49	49
	Ethnicity	49	49	49	49
	Urban	49	49	49	49

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	49	49	49	49
GLHR	49	49	49	49
GJFK	49	49	49	49
PartnerConcentration	49	49	49	49
Seasonality	49	49	49	49
Distance	49	49	49	49
Ethnicity	49	49	49	49
Urban	49	49	49	49

Correlations

	Ethnicity	Urban
Congestion	49	49
GLHR	49	49
GJFK	49	49
PartnerConcentration	49	49
Seasonality	49	49
Distance	49	49
Ethnicity	49	49
Urban	49	49

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, Seasonality, GLHR, HomeConcentration, Ethnicity, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.784[a]	.614	.537	2.993	.614	7.960

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	40	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, Seasonality, GLHR, HomeConcentration, Ethnicity, Congestic

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	570.293	8	71.287	7.960	<.001[b]
	Residual	358.237	40	8.956		
	Total	928.531	48			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, Seasonality, GLHR, HomeConcentration, Ethnicity, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.336	2.863		.467	.643
	HomeConcentration	1.559	.425	.454	3.671	<.001
	Congestion	-.475	.662	-.119	-.717	.477
	GLHR	1.363	1.071	.144	1.273	.210
	PartnerConcentration	.315	.410	.078	.768	.447
	Seasonality	-.819	2.360	-.038	-.347	.730
	Distance	-.233	.603	-.045	-.387	.701
	Ethnicity	1.489	.510	.361	2.922	.006
	Urban	.237	.152	.227	1.552	.128

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.631	1.586
	Congestion	.349	2.865
	GLHR	.750	1.334
	PartnerConcentration	.939	1.065
	Seasonality	.801	1.248
	Distance	.712	1.405
	Ethnicity	.631	1.584
	Urban	.450	2.224

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.535	1.000	.00	.00	.00
	2	1.014	2.538	.00	.00	.00
	3	.639	3.199	.00	.01	.00
	4	.442	3.844	.00	.13	.00
	5	.242	5.195	.00	.51	.00
	6	.065	10.042	.01	.21	.01
	7	.033	14.005	.04	.04	.02
	8	.018	19.030	.75	.05	.22
	9	.011	23.943	.20	.05	.75

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.16	.41	.00	.00	.05	.00
	3	.21	.56	.00	.00	.09	.00
	4	.29	.01	.01	.00	.34	.00
	5	.28	.00	.03	.00	.34	.00
	6	.03	.02	.66	.01	.01	.11
	7	.02	.00	.15	.40	.13	.32
	8	.02	.00	.00	.23	.00	.01
	9	.00	.00	.14	.35	.03	.56

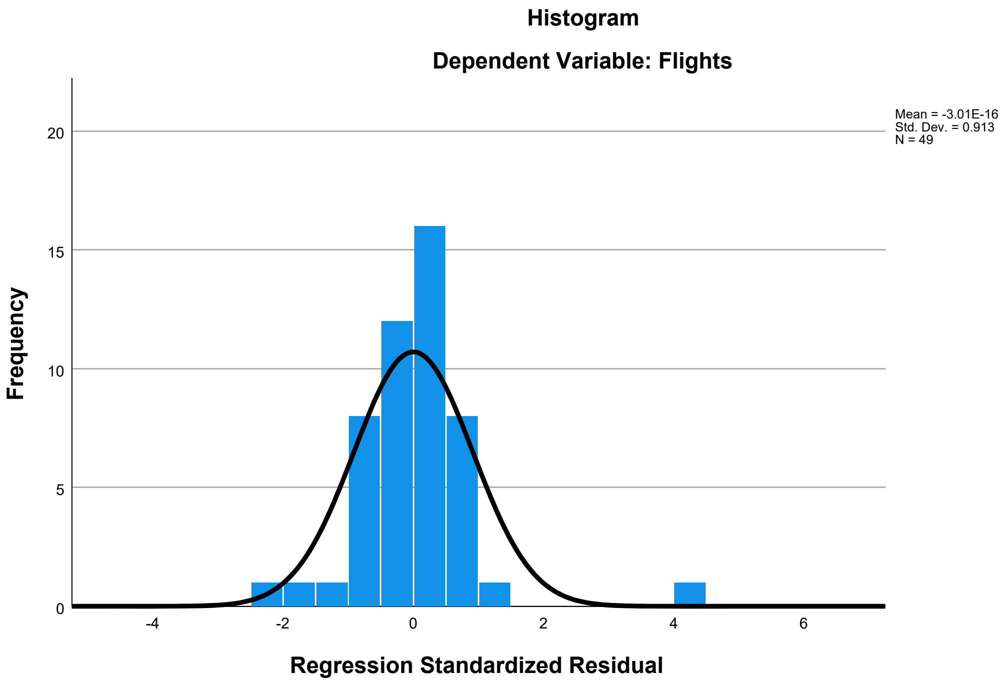
a. Dependent Variable: Flights

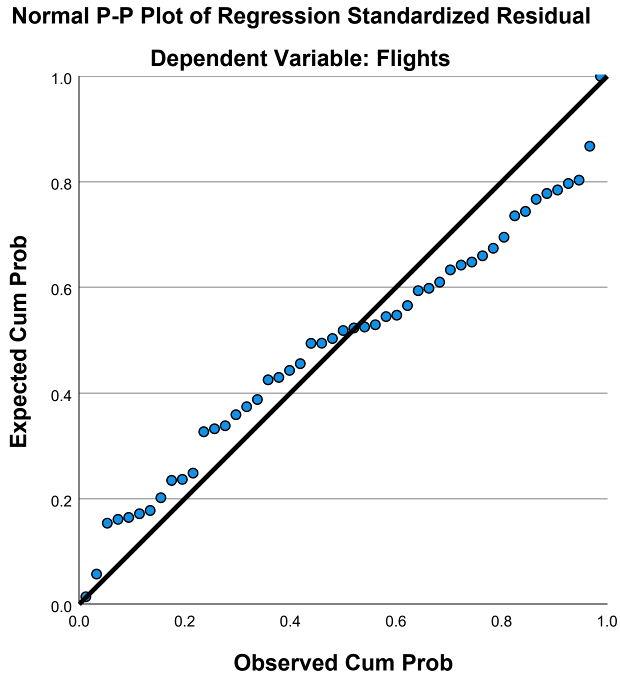
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.48	13.73	5.78	3.447	49
Residual	-6.560	12.791	.000	2.732	49
Std. Predicted Value	-1.816	2.307	.000	1.000	49
Std. Residual	-2.192	4.274	.000	.913	49

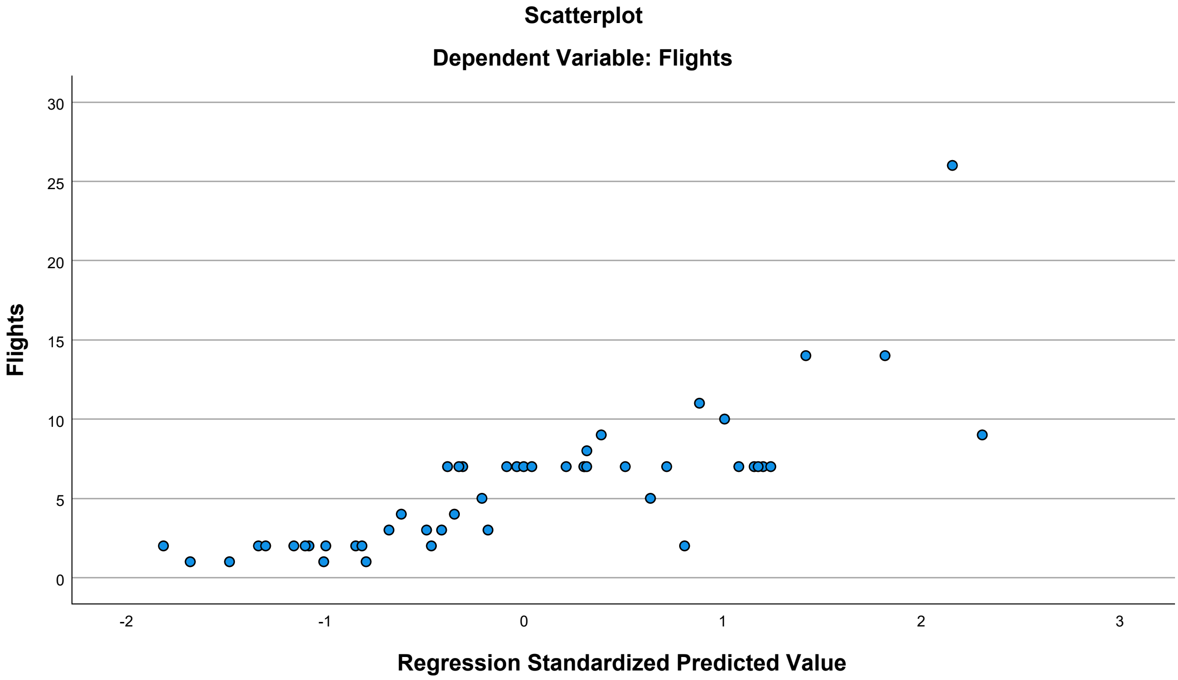
a. Dependent Variable: Flights

Charts





Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0



Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
30
25
20
15
10
5
0
-2
-1
0
1
2
3

Regression

```
[DataSet1] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Regional\2002 to CAN.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GJFK. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.84	5.496	83
HomeConcentration	1.4895327831	1.8143173758	83
Congestion	4.77	1.172	83
GLHR	.12	.328	83
GJFK	.00	.000	83
PartnerConcentration	.53068697590	1.2655199766	83
Seasonality	.81994775639	.22459181509	83
Distance	3.90836	.610189	83
Language	2.43637905	3.201320382	83
Ethnicity	.90259801	.925870570	83
Urban	14.94	4.130	83

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.565	.250	.478
	HomeConcentration	.565	1.000	.444	.133
	Congestion	.250	.444	1.000	.009
	GLHR	.478	.133	.009	1.000
	GJFK	.	.	.	.
	PartnerConcentration	.313	.279	.128	.171
	Seasonality	-.458	-.479	-.187	-.398
	Distance	-.066	.065	.325	-.196
	Language	.174	-.108	-.180	.116
	Ethnicity	.275	.020	.002	.122
	Urban	.442	.372	.604	.240
Sig. (1-tailed)	Flights	.	<.001	.011	<.001
	HomeConcentration	.000	.	.000	.115
	Congestion	.011	.000	.	.467
	GLHR	.000	.115	.467	.
	GJFK	.000	.000	.000	.000
	PartnerConcentration	.002	.005	.125	.061
	Seasonality	.000	.000	.046	.000
	Distance	.275	.279	.001	.038
	Language	.058	.166	.052	.147
	Ethnicity	.006	.429	.493	.135
	Urban	.000	.000	.000	.014
N	Flights	83	83	83	83
	HomeConcentration	83	83	83	83
	Congestion	83	83	83	83
	GLHR	83	83	83	83
	GJFK	83	83	83	83
	PartnerConcentration	83	83	83	83
	Seasonality	83	83	83	83
	Distance	83	83	83	83
	Language	83	83	83	83
	Ethnicity	83	83	83	83
	Urban	83	83	83	83

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.	.313	-.458	-.066
	HomeConcentration	.	.279	-.479	.065
	Congestion	.	.128	-.187	.325
	GLHR	.	.171	-.398	-.196
	GJFK	1.000	.	.	.
	PartnerConcentration	.	1.000	-.307	.042
	Seasonality	.	-.307	1.000	-.105
	Distance	.	.042	-.105	1.000
	Language	.	-.179	.207	-.492
	Ethnicity	.	-.068	.093	-.375
	Urban	.	.231	-.425	.062
Sig. (1-tailed)	Flights	.000	.002	<.001	.275
	HomeConcentration	.000	.005	.000	.279
	Congestion	.000	.125	.046	.001
	GLHR	.000	.061	.000	.038
	GJFK	.	.000	.000	.000
	PartnerConcentration	.000	.	.002	.353
	Seasonality	.000	.002	.	.172
	Distance	.000	.353	.172	.
	Language	.000	.053	.030	.000
	Ethnicity	.000	.271	.202	.000
	Urban	.000	.018	.000	.288
N	Flights	83	83	83	83
	HomeConcentration	83	83	83	83
	Congestion	83	83	83	83
	GLHR	83	83	83	83
	GJFK	83	83	83	83
	PartnerConcentration	83	83	83	83
	Seasonality	83	83	83	83
	Distance	83	83	83	83
	Language	83	83	83	83
	Ethnicity	83	83	83	83
	Urban	83	83	83	83

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.174	.275	.442
	HomeConcentration	-.108	.020	.372
	Congestion	-.180	.002	.604
	GLHR	.116	.122	.240
	GJFK	.	.	.
	PartnerConcentration	-.179	-.068	.231
	Seasonality	.207	.093	-.425
	Distance	-.492	-.375	.062
	Language	1.000	.826	-.208
	Ethnicity	.826	1.000	-.028
	Urban	-.208	-.028	1.000
Sig. (1-tailed)	Flights	.058	.006	<.001
	HomeConcentration	.166	.429	.000
	Congestion	.052	.493	.000
	GLHR	.147	.135	.014
	GJFK	.000	.000	.000
	PartnerConcentration	.053	.271	.018
	Seasonality	.030	.202	.000
	Distance	.000	.000	.288
	Language	.	.000	.029
	Ethnicity	.000	.	.402
	Urban	.029	.402	.
N	Flights	83	83	83
	HomeConcentration	83	83	83
	Congestion	83	83	83
	GLHR	83	83	83
	GJFK	83	83	83
	PartnerConcentration	83	83	83
	Seasonality	83	83	83
	Distance	83	83	83
	Language	83	83	83
	Ethnicity	83	83	83
	Urban	83	83	83

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, PartnerConcentration, GLHR, Distance, HomeConcentration, Seasonality, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.777[a]	.603	.555	3.668	.603	12.345	9	73	<.001

a. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, GLHR, Distance, HomeConcentration, Seasonality, Congestic
Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1494.793	9	166.088	12.345	<.001[b]
	Residual	982.170	73	13.454		
	Total	2476.964	82			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, GLHR, Distance, HomeConcentration, Seasonality, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-6.348	4.620		-1.374	.174
	HomeConcentration	1.359	.286	.448	4.743	<.001
	Congestion	-.759	.517	-.162	-1.468	.146
	GLHR	5.090	1.428	.303	3.565	<.001
	PartnerConcentration	.517	.347	.119	1.489	.141
	Seasonality	-.731	2.442	-.030	-.299	.765
	Distance	1.274	.843	.141	1.512	.135
	Language	.365	.260	.213	1.407	.164
	Ethnicity	.749	.820	.126	.914	.364
	Urban	.398	.143	.299	2.795	.007

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.608	1.646
	Congestion	.447	2.235
	GLHR	.751	1.332
	PartnerConcentration	.849	1.178
	Seasonality	.546	1.833
	Distance	.621	1.611
	Language	.238	4.208
	Ethnicity	.285	3.510
	Urban	.473	2.112

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.600	1.000	.00	.00	.00
	2	1.171	2.374	.00	.04	.00
	3	.936	2.655	.00	.00	.00
	4	.611	3.285	.00	.00	.00
	5	.475	3.729	.00	.57	.00
	6	.099	8.159	.00	.10	.01
	7	.054	11.030	.00	.15	.03
	8	.027	15.514	.01	.03	.00
	9	.021	17.807	.04	.05	.83
	10	.005	36.049	.95	.06	.12

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.02	.24	.00	.00	.04	.02
	3	.45	.02	.00	.00	.02	.01
	4	.28	.50	.00	.00	.03	.03
	5	.02	.20	.00	.00	.00	.00
	6	.01	.02	.03	.00	.48	.68
	7	.12	.00	.19	.00	.31	.25
	8	.01	.00	.45	.26	.03	.00
	9	.04	.01	.00	.01	.01	.01
	10	.05	.00	.32	.72	.09	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.02
	7	.24
	8	.15
	9	.31
	10	.28

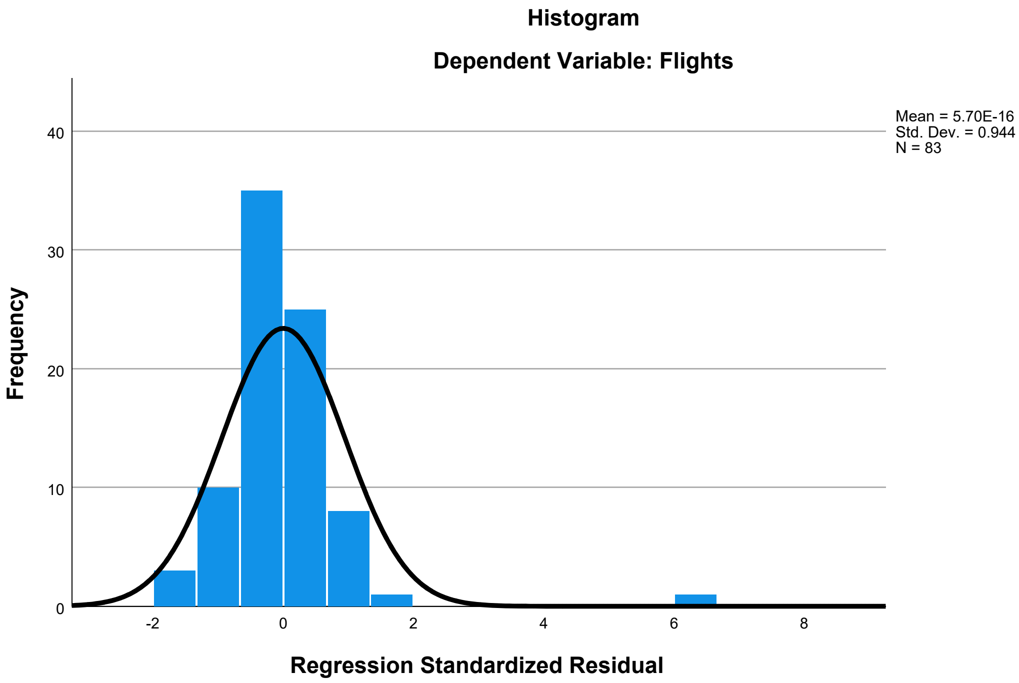
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-1.91	18.84	4.84	4.270	83
Residual	-7.117	23.155	.000	3.461	83
Std. Predicted Value	-1.583	3.279	.000	1.000	83
Std. Residual	-1.940	6.313	.000	.944	83

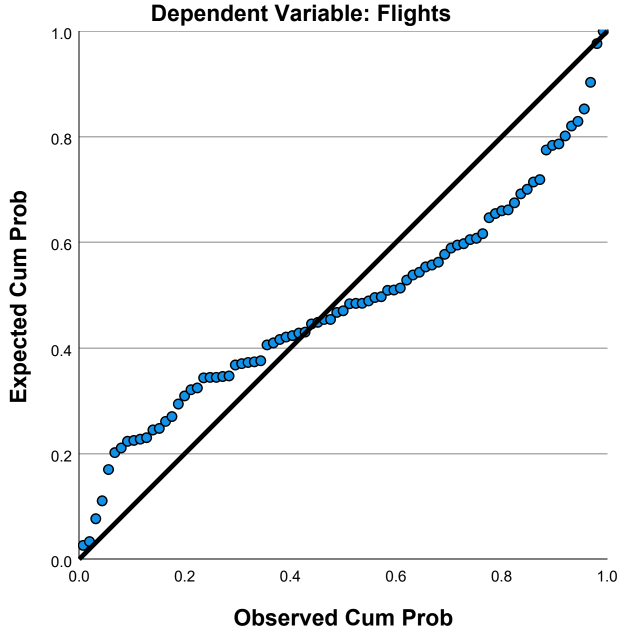
a. Dependent Variable: Flights

Charts



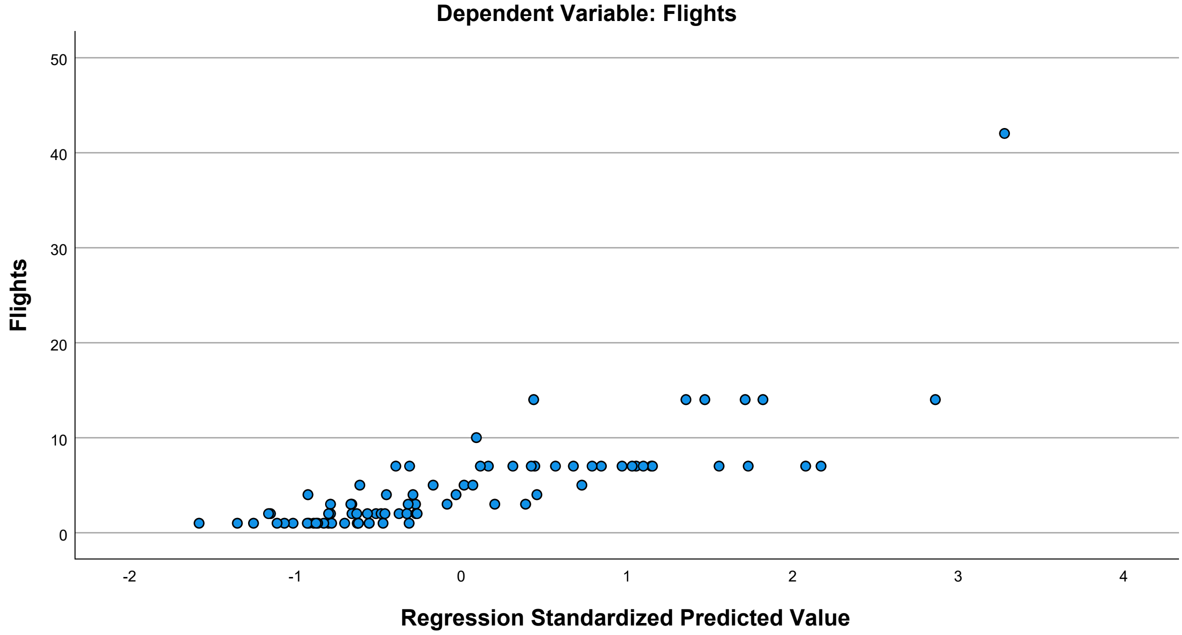
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GJFK. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.84	5.496	83
HomeConcentration	1.4895327831	1.8143173758	83
Congestion	4.77	1.172	83
GLHR	.12	.328	83
GJFK	.00	.000	83
PartnerConcentration	.53068697590	1.2655199766	83
Seasonality	.81994775639	.22459181509	83
Distance	3.90836	.610189	83
Ethnicity	.90259801	.925870570	83
Urban	14.94	4.130	83

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.565	.250	.478
	HomeConcentration	.565	1.000	.444	.133
	Congestion	.250	.444	1.000	.009
	GLHR	.478	.133	.009	1.000
	GJFK	.	.	.	.
	PartnerConcentration	.313	.279	.128	.171
	Seasonality	-.458	-.479	-.187	-.398
	Distance	-.066	.065	.325	-.196
	Ethnicity	.275	.020	.002	.122
	Urban	.442	.372	.604	.240
Sig. (1-tailed)	Flights	.	<.001	.011	<.001
	HomeConcentration	.000	.	.000	.115
	Congestion	.011	.000	.	.467
	GLHR	.000	.115	.467	.
	GJFK	.000	.000	.000	.000
	PartnerConcentration	.002	.005	.125	.061
	Seasonality	.000	.000	.046	.000
	Distance	.275	.279	.001	.038
	Ethnicity	.006	.429	.493	.135
	Urban	.000	.000	.000	.014
N	Flights	83	83	83	83
	HomeConcentration	83	83	83	83

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.	.313	-.458	-.066
	HomeConcentration	.	.279	-.479	.065
	Congestion	.	.128	-.187	.325
	GLHR	.	.171	-.398	-.196
	GJFK	1.000	.	.	.
	PartnerConcentration	.	1.000	-.307	.042
	Seasonality	.	-.307	1.000	-.105
	Distance	.	.042	-.105	1.000
	Ethnicity	.	-.068	.093	-.375
	Urban	.	.231	-.425	.062
Sig. (1-tailed)	Flights	.000	.002	<.001	.275
	HomeConcentration	.000	.005	.000	.279
	Congestion	.000	.125	.046	.001
	GLHR	.000	.061	.000	.038
	GJFK	.	.000	.000	.000
	PartnerConcentration	.000	.	.002	.353
	Seasonality	.000	.002	.	.172
	Distance	.000	.353	.172	.
	Ethnicity	.000	.271	.202	.000
	Urban	.000	.018	.000	.288
N	Flights	83	83	83	83
	HomeConcentration	83	83	83	83

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.275	.442
	HomeConcentration	.020	.372
	Congestion	.002	.604
	GLHR	.122	.240
	GJFK	.	.
	PartnerConcentration	-.068	.231
	Seasonality	.093	-.425
	Distance	-.375	.062
	Ethnicity	1.000	-.028
	Urban	-.028	1.000
Sig. (1-tailed)	Flights	.006	<.001
	HomeConcentration	.429	.000
	Congestion	.493	.000
	GLHR	.135	.014
	GJFK	.000	.000
	PartnerConcentration	.271	.018
	Seasonality	.202	.000
	Distance	.000	.288
	Ethnicity	.	.402
	Urban	.402	.
N	Flights	83	83
	HomeConcentration	83	83

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	83	83	83	83
	GLHR	83	83	83	83
	GJFK	83	83	83	83
	PartnerConcentration	83	83	83	83
	Seasonality	83	83	83	83
	Distance	83	83	83	83
	Ethnicity	83	83	83	83
	Urban	83	83	83	83

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	83	83	83	83
GLHR	83	83	83	83
GJFK	83	83	83	83
PartnerConcentration	83	83	83	83
Seasonality	83	83	83	83
Distance	83	83	83	83
Ethnicity	83	83	83	83
Urban	83	83	83	83

Correlations

	Ethnicity	Urban
Congestion	83	83
GLHR	83	83
GJFK	83	83
PartnerConcentration	83	83
Seasonality	83	83
Distance	83	83
Ethnicity	83	83
Urban	83	83

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, PartnerConcentration, GLHR, Distance, HomeConcentration, Seasonality, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.770[a]	.593	.549	3.692	.593	13.462

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	74	<.001

a. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, GLHR, Distance, HomeConcentration, Seasonality, Congestic

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1468.170	8	183.521	13.462	<.001[b]
	Residual	1008.794	74	13.632		
	Total	2476.964	82			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, GLHR, Distance, HomeConcentration, Seasonality, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-4.484	4.455		-1.007	.317
	HomeConcentration	1.349	.288	.445	4.680	<.001
	Congestion	-.773	.520	-.165	-1.486	.142
	GLHR	5.302	1.429	.316	3.710	<.001
	PartnerConcentration	.445	.346	.102	1.287	.202
	Seasonality	-.469	2.451	-.019	-.191	.849
	Distance	.928	.811	.103	1.144	.256
	Ethnicity	1.680	.487	.283	3.452	<.001
	Urban	.360	.141	.270	2.554	.013

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.608	1.645
	Congestion	.448	2.234
	GLHR	.759	1.317
	PartnerConcentration	.868	1.152
	Seasonality	.549	1.822
	Distance	.679	1.473
	Ethnicity	.818	1.222
	Urban	.492	2.033

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.166	1.000	.00	.01	.00
	2	1.023	2.454	.00	.02	.00
	3	.771	2.827	.00	.03	.00
	4	.481	3.580	.00	.50	.00
	5	.438	3.753	.00	.06	.00
	6	.066	9.689	.00	.25	.04
	7	.028	14.828	.01	.03	.00
	8	.021	17.156	.05	.04	.81
	9	.006	33.419	.94	.06	.15

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Ethnicity	Urban
1	1	.00	.00	.00	.00	.01	.00
	2	.25	.29	.00	.00	.01	.00
	3	.45	.30	.00	.00	.06	.00
	4	.00	.36	.00	.00	.05	.00
	5	.08	.02	.00	.00	.69	.00
	6	.09	.01	.22	.00	.02	.22
	7	.00	.00	.37	.29	.07	.21
	8	.05	.01	.01	.01	.00	.31
	9	.07	.00	.39	.69	.10	.26

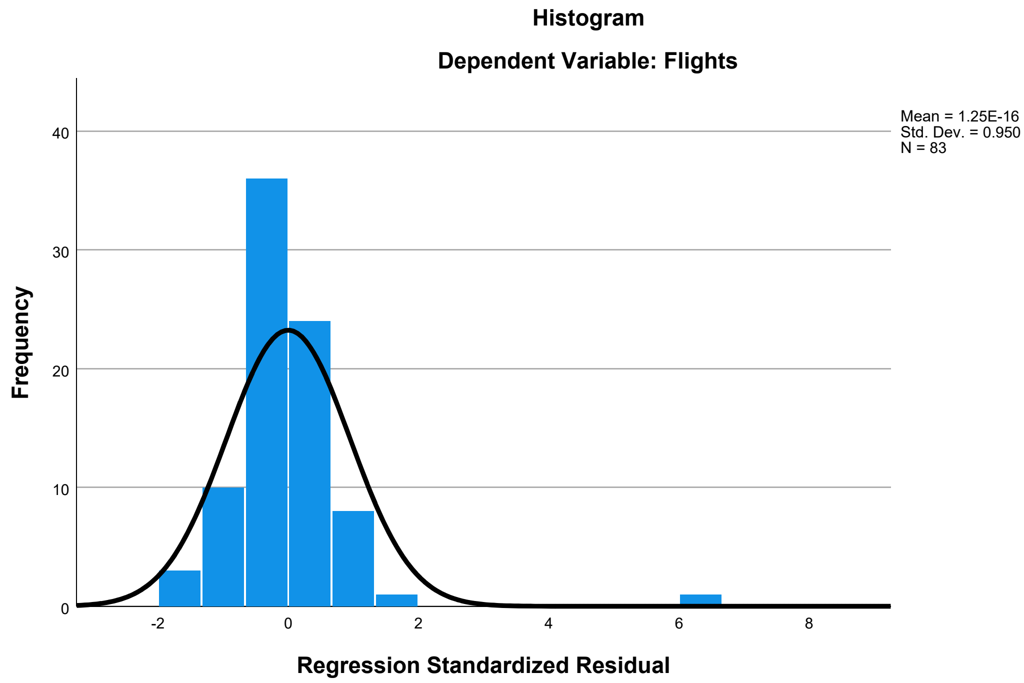
a. Dependent Variable: Flights

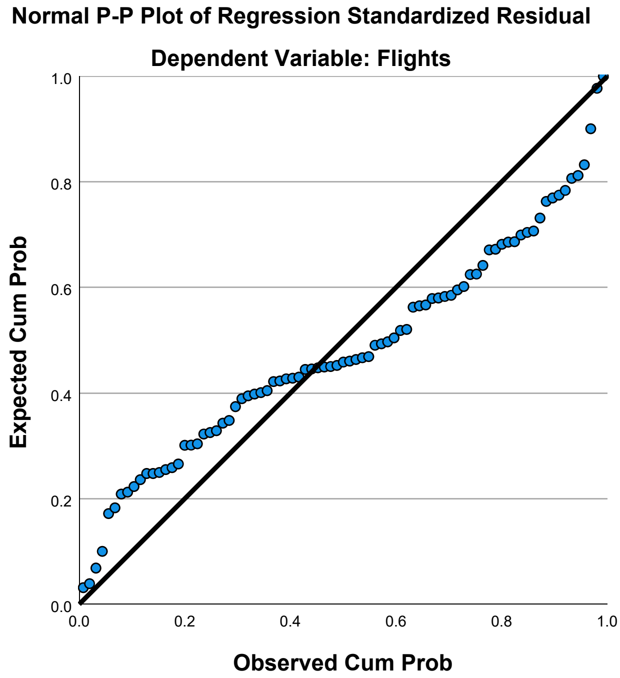
Residuals Statistics[a]

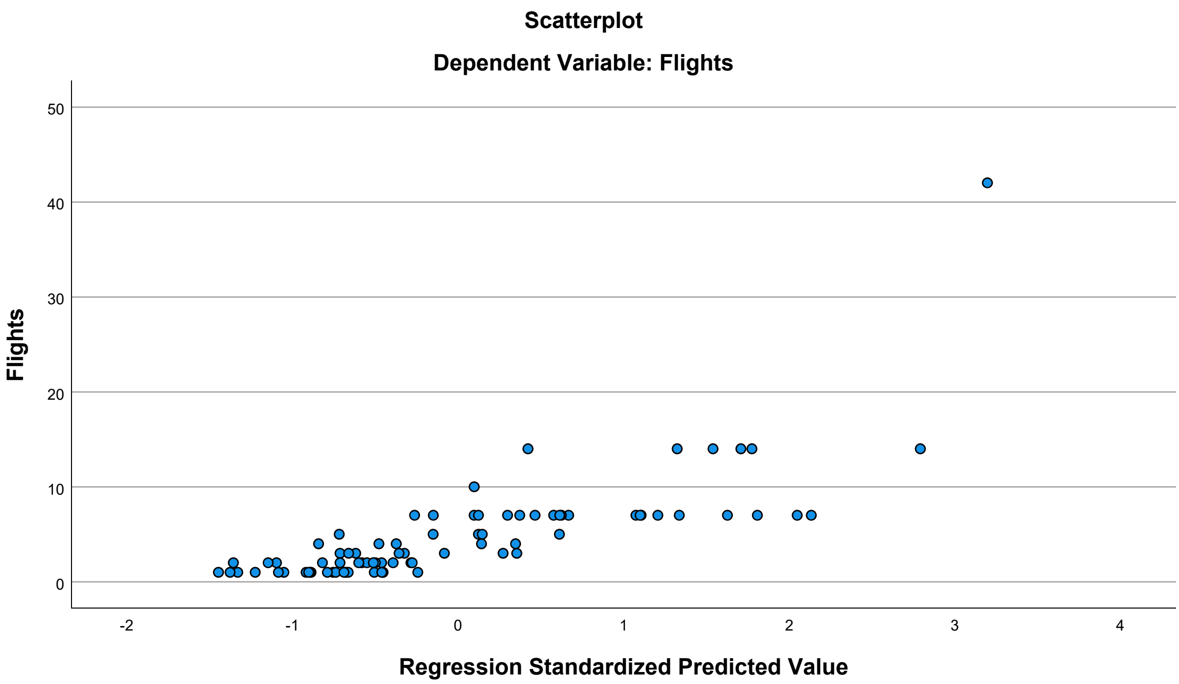
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-1.28	18.37	4.84	4.231	83
Residual	-6.871	23.629	.000	3.507	83
Std. Predicted Value	-1.447	3.197	.000	1.000	83
Std. Residual	-1.861	6.400	.000	.950	83

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-2
-1
0
1
2
3
4

Regression

```
[DataSet2] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Regional\2007 to CAN.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	3.76	4.402	168
HomeConcentration	.89398305952	1.5909482373	168
Congestion	4.76	1.123	168
GLHR	.08	.268	168
PartnerConcentration	.33208741667	1.1048526411	168
Seasonality	.86015822590	.20511731366	168
Distance	3.94808	.848026	168
Language	2.61183553	3.235979277	168
Ethnicity	1.01006283	1.002767063	168
Urban	14.02	4.403	168

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.656	.276	.513
	HomeConcentration	.656	1.000	.360	.262
	Congestion	.276	.360	1.000	.082
	GLHR	.513	.262	.082	1.000
	PartnerConcentration	.407	.417	.145	.146
	Seasonality	-.475	-.546	-.274	-.285
	Distance	-.083	.086	.301	-.088
	Language	.101	-.143	-.226	.103
	Ethnicity	.174	-.039	-.051	.107
	Urban	.424	.406	.598	.201
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.000	.000
	Congestion	.000	.000	.	.147
	GLHR	.000	.000	.147	.
	PartnerConcentration	.000	.000	.031	.030
	Seasonality	.000	.000	.000	.000
	Distance	.141	.133	.000	.129
	Language	.097	.032	.002	.092
	Ethnicity	.012	.306	.256	.083
	Urban	.000	.000	.000	.004
N	Flights	168	168	168	168
	HomeConcentration	168	168	168	168
	Congestion	168	168	168	168
	GLHR	168	168	168	168
	PartnerConcentration	168	168	168	168

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.407	-.475	-.083	.101
	HomeConcentration	.417	-.546	.086	-.143
	Congestion	.145	-.274	.301	-.226
	GLHR	.146	-.285	-.088	.103
	PartnerConcentration	1.000	-.346	.026	-.172
	Seasonality	-.346	1.000	-.229	.090
	Distance	.026	-.229	1.000	-.347
	Language	-.172	.090	-.347	1.000
	Ethnicity	-.089	.060	-.287	.886
	Urban	.236	-.317	.168	-.040
Sig. (1-tailed)	Flights	<.001	<.001	.141	.097
	HomeConcentration	.000	.000	.133	.032
	Congestion	.031	.000	.000	.002
	GLHR	.030	.000	.129	.092
	PartnerConcentration	.	.000	.370	.013
	Seasonality	.000	.	.001	.123
	Distance	.370	.001	.	.000
	Language	.013	.123	.000	.
	Ethnicity	.126	.221	.000	.000
	Urban	.001	.000	.015	.305
N	Flights	168	168	168	168
	HomeConcentration	168	168	168	168
	Congestion	168	168	168	168
	GLHR	168	168	168	168
	PartnerConcentration	168	168	168	168

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.174	.424
	HomeConcentration	-.039	.406
	Congestion	-.051	.598
	GLHR	.107	.201
	PartnerConcentration	-.089	.236
	Seasonality	.060	-.317
	Distance	-.287	.168
	Language	.886	-.040
	Ethnicity	1.000	.119
	Urban	.119	1.000
Sig. (1-tailed)	Flights	.012	<.001
	HomeConcentration	.306	.000
	Congestion	.256	.000
	GLHR	.083	.004
	PartnerConcentration	.126	.001
	Seasonality	.221	.000
	Distance	.000	.015
	Language	.000	.305
	Ethnicity	.	.062
	Urban	.062	.
N	Flights	168	168
	HomeConcentration	168	168
	Congestion	168	168
	GLHR	168	168
	PartnerConcentration	168	168

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Seasonality	168	168	168	168
	Distance	168	168	168	168
	Language	168	168	168	168
	Ethnicity	168	168	168	168
	Urban	168	168	168	168

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	Seasonality	168	168	168	168
	Distance	168	168	168	168
	Language	168	168	168	168
	Ethnicity	168	168	168	168
	Urban	168	168	168	168

Correlations

		Ethnicity	Urban
	Seasonality	168	168
	Distance	168	168
	Language	168	168
	Ethnicity	168	168
	Urban	168	168

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, GLHR, PartnerConcentration, Distance, Seasonality, HomeConcentration, Congestion, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.791[a]	.626	.604	2.769	.626	29.349

Model Summary[b]

	Change Statistics		
Model	df1	df2	Sig. F Change
1	9	158	<.001

a. Predictors: (Constant), Urban, Language, GLHR, PartnerConcentration, Distance, Seasonality, HomeConcentration, Congest
Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2025.126	9	225.014	29.349	<.001[b]
	Residual	1211.350	158	7.667		
	Total	3236.476	167			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, GLHR, PartnerConcentration, Distance, Seasonality, HomeConcentration, Congestion, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.008	2.125		1.416	.159
	HomeConcentration	1.194	.179	.431	6.680	<.001
	Congestion	.132	.258	.034	.511	.610
	GLHR	4.961	.863	.302	5.751	<.001
	PartnerConcentration	.564	.221	.142	2.555	.012
	Seasonality	-1.965	1.337	-.092	-1.469	.144
	Distance	-.525	.288	-.101	-1.824	.070
	Language	.140	.161	.103	.872	.385
	Ethnicity	.189	.502	.043	.377	.706
	Urban	.121	.065	.121	1.846	.067

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.568	1.761
	Congestion	.548	1.825
	GLHR	.859	1.165
	PartnerConcentration	.771	1.298
	Seasonality	.610	1.639
	Distance	.771	1.297
	Language	.169	5.905
	Ethnicity	.181	5.522
	Urban	.555	1.803

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Congestion
1	1	6.353	1.000	.00	.00	.00
	2	1.374	2.150	.00	.08	.00
	3	.952	2.584	.00	.00	.00
	4	.668	3.084	.00	.00	.00
	5	.456	3.731	.00	.60	.00
	6	.077	9.095	.01	.19	.03
	7	.050	11.254	.00	.05	.00
	8	.040	12.594	.00	.00	.00
	9	.023	16.761	.00	.01	.89
	10	.008	28.996	.99	.06	.08

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions					
		GLHR	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.06	.20	.00	.00	.01	.01
	3	.45	.00	.00	.00	.02	.01
	4	.31	.36	.00	.00	.02	.02
	5	.12	.38	.00	.00	.00	.00
	6	.01	.01	.09	.00	.18	.21
	7	.02	.00	.18	.05	.54	.51
	8	.01	.00	.10	.43	.08	.18
	9	.00	.01	.01	.14	.03	.02
	10	.03	.03	.61	.37	.11	.04

Collinearity Diagnostics[a]

Model	Dimension	Variance ...
		Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.20
	7	.08
	8	.31
	9	.40
	10	.01

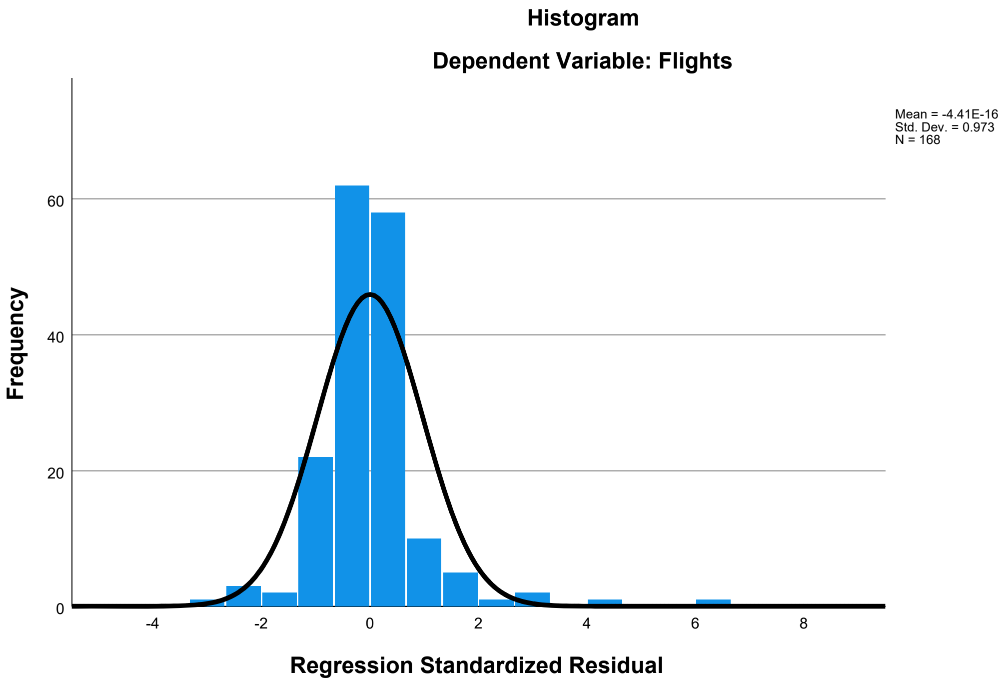
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.24	16.97	3.76	3.482	168
Residual	-7.416	18.027	.000	2.693	168
Std. Predicted Value	-1.011	3.794	.000	1.000	168
Std. Residual	-2.678	6.511	.000	.973	168

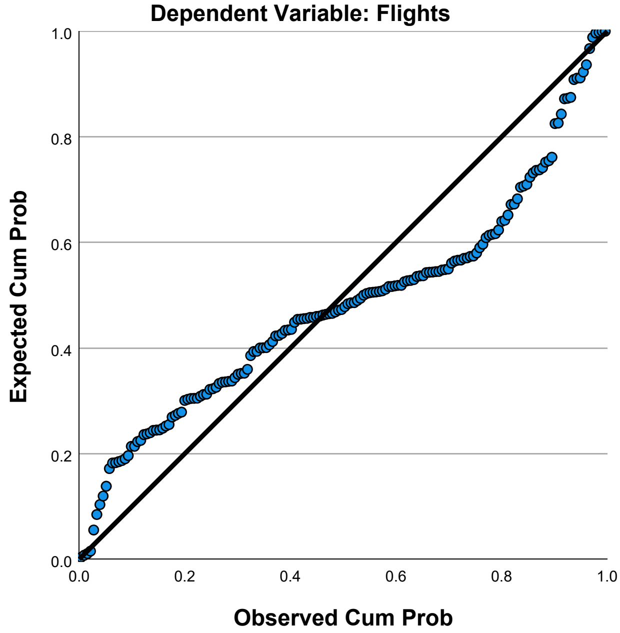
a. Dependent Variable: Flights

Charts



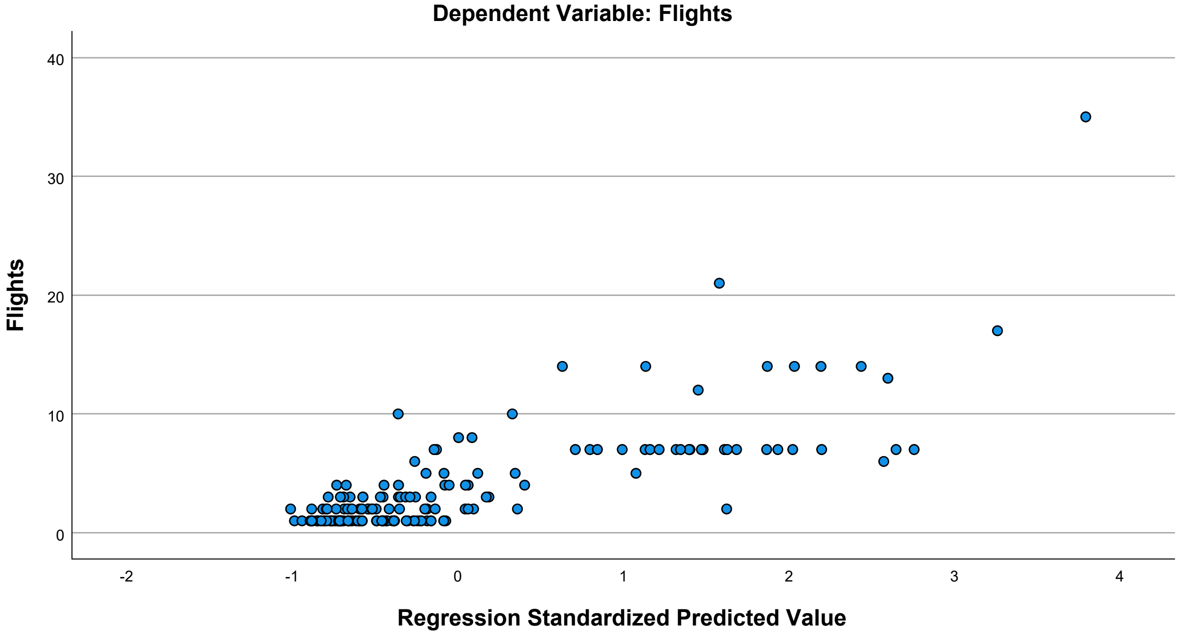
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	3.76	4.402	168
HomeConcentration	.89398305952	1.5909482373	168
Congestion	4.76	1.123	168
GLHR	.08	.268	168
PartnerConcentration	.33208741667	1.1048526411	168
Seasonality	.86015822590	.20511731366	168
Distance	3.94808	.848026	168
Ethnicity	1.01006283	1.002767063	168
Urban	14.02	4.403	168

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.656	.276	.513
	HomeConcentration	.656	1.000	.360	.262
	Congestion	.276	.360	1.000	.082
	GLHR	.513	.262	.082	1.000
	PartnerConcentration	.407	.417	.145	.146
	Seasonality	-.475	-.546	-.274	-.285
	Distance	-.083	.086	.301	-.088
	Ethnicity	.174	-.039	-.051	.107
	Urban	.424	.406	.598	.201
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.000	.000
	Congestion	.000	.000	.	.147
	GLHR	.000	.000	.147	.
	PartnerConcentration	.000	.000	.031	.030
	Seasonality	.000	.000	.000	.000
	Distance	.141	.133	.000	.129
	Ethnicity	.012	.306	.256	.083
	Urban	.000	.000	.000	.004
N	Flights	168	168	168	168
	HomeConcentration	168	168	168	168
	Congestion	168	168	168	168
	GLHR	168	168	168	168
	PartnerConcentration	168	168	168	168
	Seasonality	168	168	168	168
	Distance	168	168	168	168
	Ethnicity	168	168	168	168
	Urban	168	168	168	168

Correlations

		PartnerConcentration	Seasonality	Distance	Ethnicity
Pearson Correlation	Flights	.407	-.475	-.083	.174
	HomeConcentration	.417	-.546	.086	-.039
	Congestion	.145	-.274	.301	-.051
	GLHR	.146	-.285	-.088	.107
	PartnerConcentration	1.000	-.346	.026	-.089
	Seasonality	-.346	1.000	-.229	.060
	Distance	.026	-.229	1.000	-.287
	Ethnicity	-.089	.060	-.287	1.000
	Urban	.236	-.317	.168	.119
Sig. (1-tailed)	Flights	<.001	<.001	.141	.012
	HomeConcentration	.000	.000	.133	.306
	Congestion	.031	.000	.000	.256
	GLHR	.030	.000	.129	.083
	PartnerConcentration	.	.000	.370	.126
	Seasonality	.000	.	.001	.221
	Distance	.370	.001	.	.000
	Ethnicity	.126	.221	.000	.
	Urban	.001	.000	.015	.062
N	Flights	168	168	168	168
	HomeConcentration	168	168	168	168
	Congestion	168	168	168	168
	GLHR	168	168	168	168
	PartnerConcentration	168	168	168	168
	Seasonality	168	168	168	168
	Distance	168	168	168	168
	Ethnicity	168	168	168	168
	Urban	168	168	168	168

Correlations

		Urban
Pearson Correlation	Flights	.424
	HomeConcentration	.406
	Congestion	.598
	GLHR	.201
	PartnerConcentration	.236
	Seasonality	-.317
	Distance	.168
	Ethnicity	.119
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.000
	Congestion	.000
	GLHR	.004
	PartnerConcentration	.001
	Seasonality	.000
	Distance	.015
	Ethnicity	.062
	Urban	.
N	Flights	168
	HomeConcentration	168
	Congestion	168
	GLHR	168
	PartnerConcentration	168
	Seasonality	168
	Distance	168
	Ethnicity	168
	Urban	168

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, GLHR, PartnerConcentration, Distance, Seasonality, Congestion, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.790[a]	.624	.605	2.767	.624	32.973

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	159	<.001

a. Predictors: (Constant), Urban, Ethnicity, GLHR, PartnerConcentration, Distance, Seasonality, Congestion, HomeConcentratio

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2019.299	8	252.412	32.973	<.001[b]
	Residual	1217.177	159	7.655		
	Total	3236.476	167			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, GLHR, PartnerConcentration, Distance, Seasonality, Congestion, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.580	2.019		1.773	.078
	HomeConcentration	1.178	.178	.426	6.630	<.001
	Congestion	.079	.251	.020	.317	.752
	GLHR	5.011	.860	.305	5.825	<.001
	PartnerConcentration	.536	.218	.134	2.454	.015
	Seasonality	-2.124	1.324	-.099	-1.604	.111
	Distance	-.558	.285	-.107	-1.956	.052
	Ethnicity	.578	.230	.132	2.515	.013
	Urban	.116	.065	.116	1.785	.076

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.574	1.742
	Congestion	.579	1.726
	GLHR	.862	1.159
	PartnerConcentration	.788	1.268
	Seasonality	.622	1.609
	Distance	.785	1.275
	Ethnicity	.862	1.160
	Urban	.558	1.792

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	5.885	1.000	.00	.00	.00
	2	1.258	2.163	.00	.09	.00
	3	.823	2.673	.00	.01	.00
	4	.472	3.529	.00	.42	.00
	5	.421	3.739	.00	.17	.00
	6	.068	9.296	.01	.24	.04
	7	.041	11.979	.00	.01	.00
	8	.023	15.950	.00	.01	.92
	9	.008	26.573	.99	.05	.04

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Ethnicity	Urban
1	1	.00	.00	.00	.00	.01	.00
	2	.13	.23	.00	.00	.01	.00
	3	.67	.20	.00	.00	.03	.00
	4	.02	.52	.00	.00	.15	.00
	5	.12	.01	.00	.00	.65	.00
	6	.02	.01	.18	.00	.00	.32
	7	.00	.00	.18	.50	.10	.21
	8	.00	.00	.01	.12	.00	.46
	9	.04	.02	.63	.38	.05	.00

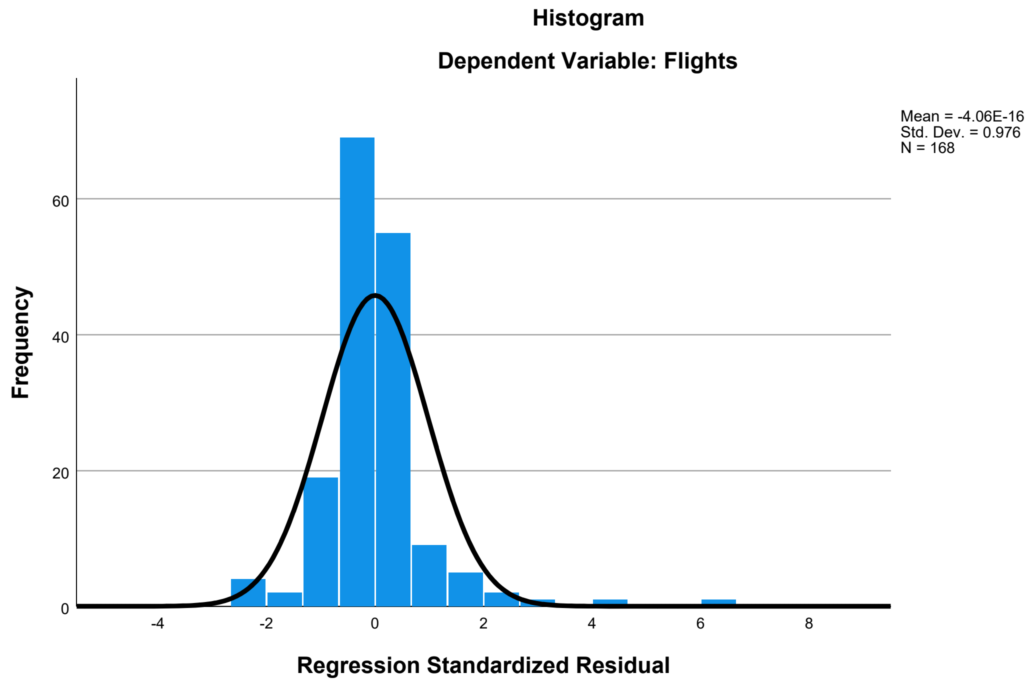
a. Dependent Variable: Flights

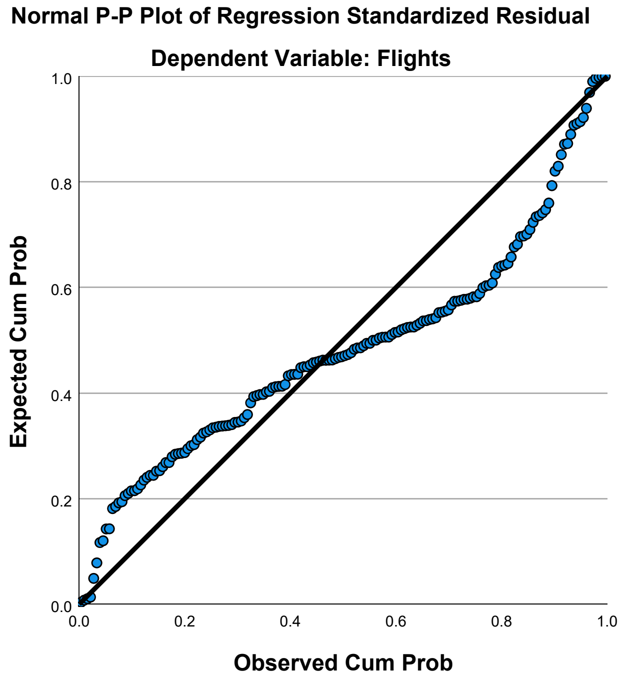
Residuals Statistics[a]

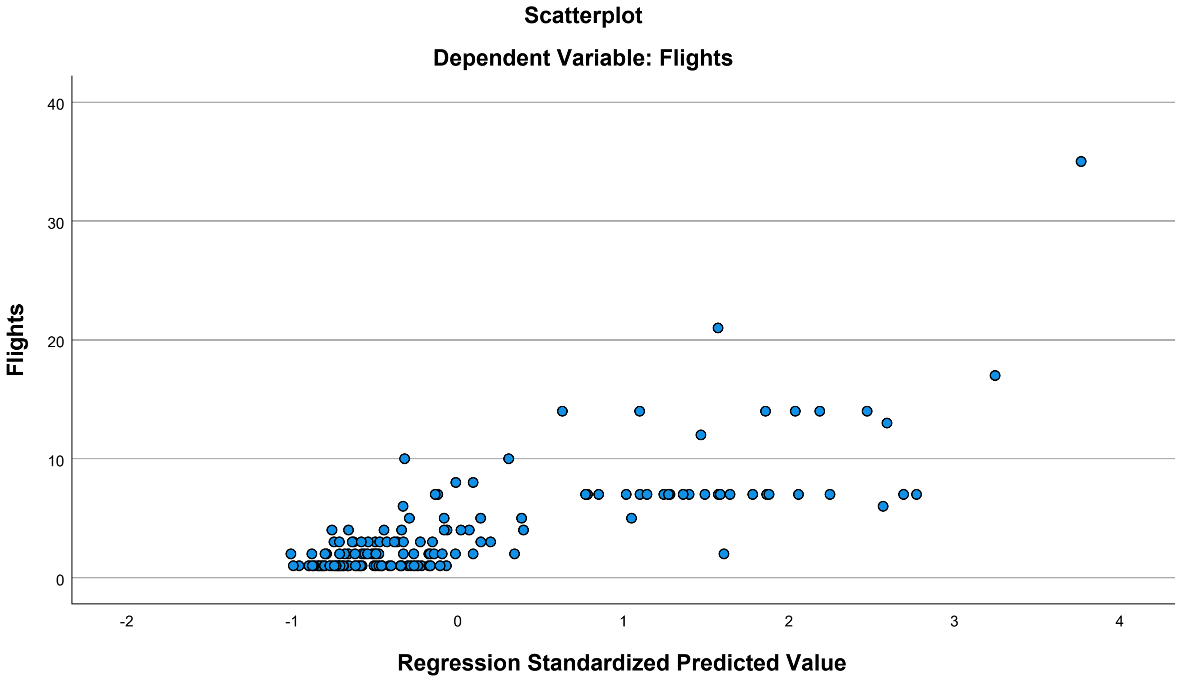
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.25	16.86	3.76	3.477	168
Residual	-7.350	18.144	.000	2.700	168
Std. Predicted Value	-1.009	3.765	.000	1.000	168
Std. Residual	-2.657	6.558	.000	.976	168

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
-2
-1
0
1
2
3
4

Regression

```
[DataSet3] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Regional\2012 to CAN.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.48	4.250	141
HomeConcentration	1.2712044397	1.7454562471	141
Congestion	5.15	.978	141
GLHR	.09	.290	141
PartnerConcentration	.55449465248	1.4058482460	141
Seasonality	.81099220709	.23523464588	141
Distance	4.02540	.864793	141
Language	1.79532262	2.866035889	141
Ethnicity	.77894887	.860276836	141
Urban	16.01	4.082	141

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.592	.201	.404
	HomeConcentration	.592	1.000	.272	.207
	Congestion	.201	.272	1.000	-.024
	GLHR	.404	.207	-.024	1.000
	PartnerConcentration	.260	.344	.075	.034
	Seasonality	-.305	-.257	-.072	-.274
	Distance	-.111	.132	.248	-.090
	Language	.280	-.083	-.199	.195
	Ethnicity	.328	-.040	-.057	.168
	Urban	.408	.404	.683	.132
Sig. (1-tailed)	Flights	.	<.001	.008	<.001
	HomeConcentration	.000	.	.001	.007
	Congestion	.008	.001	.	.391
	GLHR	.000	.007	.391	.
	PartnerConcentration	.001	.000	.189	.346
	Seasonality	.000	.001	.197	.001
	Distance	.095	.059	.002	.144
	Language	.000	.164	.009	.010
	Ethnicity	.000	.319	.251	.023
	Urban	.000	.000	.000	.059
N	Flights	141	141	141	141
	HomeConcentration	141	141	141	141
	Congestion	141	141	141	141
	GLHR	141	141	141	141
	PartnerConcentration	141	141	141	141

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.260	-.305	-.111	.280
	HomeConcentration	.344	-.257	.132	-.083
	Congestion	.075	-.072	.248	-.199
	GLHR	.034	-.274	-.090	.195
	PartnerConcentration	1.000	-.069	.019	-.167
	Seasonality	-.069	1.000	-.130	-.024
	Distance	.019	-.130	1.000	-.286
	Language	-.167	-.024	-.286	1.000
	Ethnicity	-.046	.005	-.248	.832
	Urban	.159	-.256	.247	-.073
Sig. (1-tailed)	Flights	<.001	<.001	.095	<.001
	HomeConcentration	.000	.001	.059	.164
	Congestion	.189	.197	.002	.009
	GLHR	.346	.001	.144	.010
	PartnerConcentration	.	.210	.411	.024
	Seasonality	.210	.	.062	.388
	Distance	.411	.062	.	.000
	Language	.024	.388	.000	.
	Ethnicity	.295	.476	.001	.000
	Urban	.030	.001	.002	.195
N	Flights	141	141	141	141
	HomeConcentration	141	141	141	141
	Congestion	141	141	141	141
	GLHR	141	141	141	141
	PartnerConcentration	141	141	141	141

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.328	.408
	HomeConcentration	-.040	.404
	Congestion	-.057	.683
	GLHR	.168	.132
	PartnerConcentration	-.046	.159
	Seasonality	.005	-.256
	Distance	-.248	.247
	Language	.832	-.073
	Ethnicity	1.000	.036
	Urban	.036	1.000
Sig. (1-tailed)	Flights	<.001	<.001
	HomeConcentration	.319	.000
	Congestion	.251	.000
	GLHR	.023	.059
	PartnerConcentration	.295	.030
	Seasonality	.476	.001
	Distance	.001	.002
	Language	.000	.195
	Ethnicity	.	.335
	Urban	.335	.
N	Flights	141	141
	HomeConcentration	141	141
	Congestion	141	141
	GLHR	141	141
	PartnerConcentration	141	141

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Seasonality	141	141	141	141
	Distance	141	141	141	141
	Language	141	141	141	141
	Ethnicity	141	141	141	141
	Urban	141	141	141	141

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	Seasonality	141	141	141	141
	Distance	141	141	141	141
	Language	141	141	141	141
	Ethnicity	141	141	141	141
	Urban	141	141	141	141

Correlations

	Ethnicity	Urban
Seasonality	141	141
Distance	141	141
Language	141	141
Ethnicity	141	141
Urban	141	141

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, PartnerConcentration, GLHR, Seasonality, Distance, HomeConcentration, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.765[a]	.585	.557	2.830	.585	20.531

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	131	<.001

a. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, GLHR, Seasonality, Distance, HomeConcentration, Congestic Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1479.946	9	164.438	20.531	<.001[b]
	Residual	1049.217	131	8.009		
	Total	2529.163	140			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, GLHR, Seasonality, Distance, HomeConcentration, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.477	2.028		1.221	.224
	HomeConcentration	1.100	.162	.452	6.781	<.001
	Congestion	.018	.351	.004	.052	.958
	GLHR	2.771	.895	.189	3.098	.002
	PartnerConcentration	.278	.187	.092	1.485	.140
	Seasonality	-1.748	1.115	-.097	-1.569	.119
	Distance	-.681	.302	-.138	-2.257	.026
	Language	.184	.162	.124	1.131	.260
	Ethnicity	.861	.522	.174	1.649	.102
	Urban	.203	.088	.195	2.302	.023

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.713	1.402
	Congestion	.485	2.063
	GLHR	.848	1.179
	PartnerConcentration	.828	1.208
	Seasonality	.832	1.201
	Distance	.841	1.189
	Language	.264	3.791
	Ethnicity	.284	3.525
	Urban	.440	2.270

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.388	1.000	.00	.01	.00
	2	1.257	2.255	.00	.04	.00
	3	.982	2.551	.00	.06	.00
	4	.702	3.016	.00	.00	.00
	5	.434	3.839	.00	.73	.00
	6	.099	8.013	.00	.01	.00
	7	.076	9.151	.00	.14	.01
	8	.038	13.047	.00	.02	.04
	9	.014	21.498	.23	.01	.39
	10	.010	25.396	.76	.00	.55

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.02	.15	.00	.00	.05	.03
	3	.48	.08	.00	.00	.00	.00
	4	.26	.44	.00	.00	.03	.03
	5	.17	.26	.00	.00	.01	.00
	6	.00	.04	.03	.00	.74	.82
	7	.04	.01	.52	.03	.07	.05
	8	.00	.00	.04	.59	.02	.06
	9	.00	.00	.29	.17	.00	.00
	10	.04	.02	.12	.21	.07	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.07
	8	.17
	9	.62
	10	.13

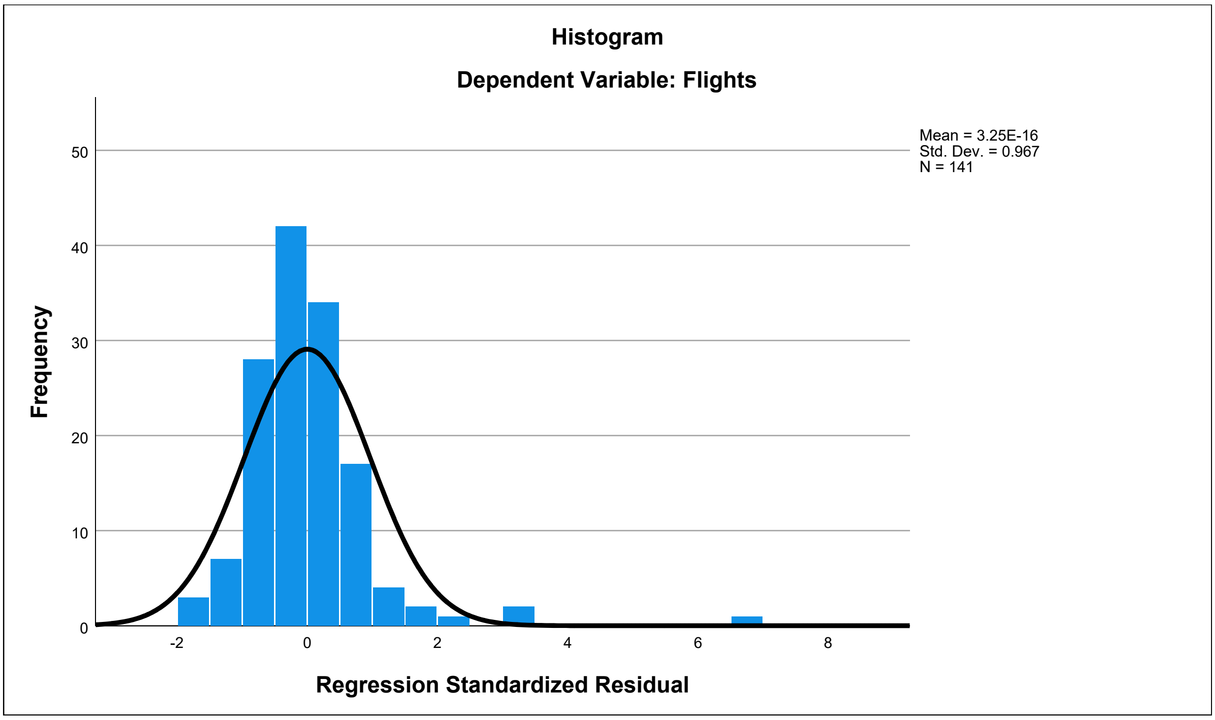
a. Dependent Variable: Flights

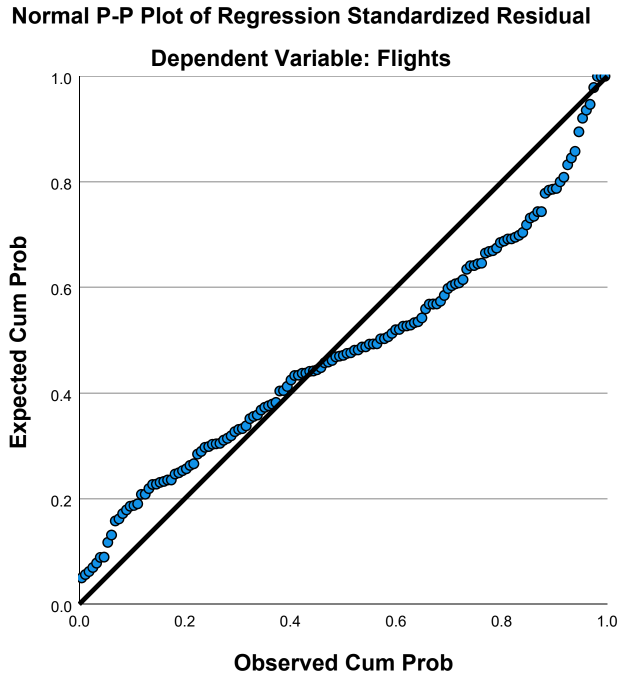
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.78	15.73	4.48	3.251	141
Residual	-4.657	19.268	.000	2.738	141
Std. Predicted Value	-1.615	3.462	.000	1.000	141
Std. Residual	-1.645	6.808	.000	.967	141

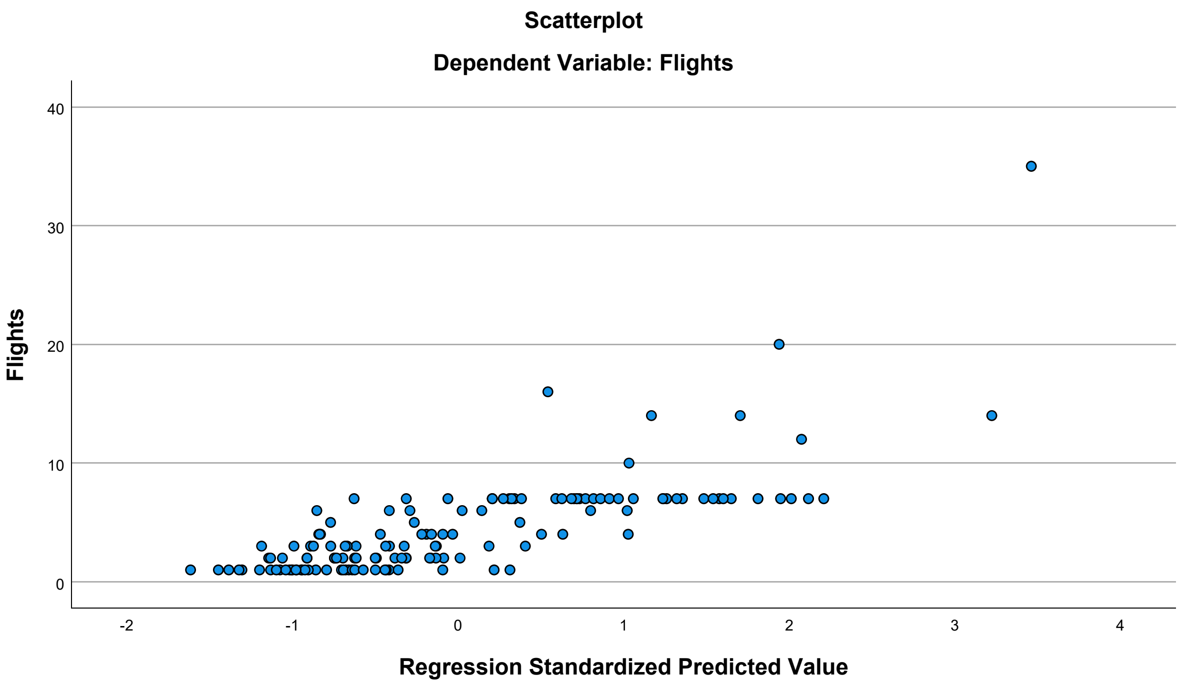
a. Dependent Variable: Flights

Charts





Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0



Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
-2
-1
0
1
2
3
4

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.48	4.250	141
HomeConcentration	1.2712044397	1.7454562471	141
Congestion	5.15	.978	141
GLHR	.09	.290	141
PartnerConcentration	.55449465248	1.4058482460	141
Seasonality	.81099220709	.23523464588	141
Distance	4.02540	.864793	141
Ethnicity	.77894887	.860276836	141
Urban	16.01	4.082	141

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.592	.201	.404
	HomeConcentration	.592	1.000	.272	.207
	Congestion	.201	.272	1.000	-.024
	GLHR	.404	.207	-.024	1.000
	PartnerConcentration	.260	.344	.075	.034
	Seasonality	-.305	-.257	-.072	-.274
	Distance	-.111	.132	.248	-.090
	Ethnicity	.328	-.040	-.057	.168
	Urban	.408	.404	.683	.132
Sig. (1-tailed)	Flights	.	<.001	.008	<.001
	HomeConcentration	.000	.	.001	.007
	Congestion	.008	.001	.	.391
	GLHR	.000	.007	.391	.
	PartnerConcentration	.001	.000	.189	.346
	Seasonality	.000	.001	.197	.001
	Distance	.095	.059	.002	.144
	Ethnicity	.000	.319	.251	.023
	Urban	.000	.000	.000	.059
N	Flights	141	141	141	141
	HomeConcentration	141	141	141	141
	Congestion	141	141	141	141
	GLHR	141	141	141	141
	PartnerConcentration	141	141	141	141
	Seasonality	141	141	141	141
	Distance	141	141	141	141
	Ethnicity	141	141	141	141
	Urban	141	141	141	141

Correlations

		PartnerConcentration	Seasonality	Distance	Ethnicity
Pearson Correlation	Flights	.260	-.305	-.111	.328
	HomeConcentration	.344	-.257	.132	-.040
	Congestion	.075	-.072	.248	-.057
	GLHR	.034	-.274	-.090	.168
	PartnerConcentration	1.000	-.069	.019	-.046
	Seasonality	-.069	1.000	-.130	.005
	Distance	.019	-.130	1.000	-.248
	Ethnicity	-.046	.005	-.248	1.000
	Urban	.159	-.256	.247	.036
Sig. (1-tailed)	Flights	<.001	<.001	.095	<.001
	HomeConcentration	.000	.001	.059	.319
	Congestion	.189	.197	.002	.251
	GLHR	.346	.001	.144	.023
	PartnerConcentration	.	.210	.411	.295
	Seasonality	.210	.	.062	.476
	Distance	.411	.062	.	.001
	Ethnicity	.295	.476	.001	.
	Urban	.030	.001	.002	.335
N	Flights	141	141	141	141
	HomeConcentration	141	141	141	141
	Congestion	141	141	141	141
	GLHR	141	141	141	141
	PartnerConcentration	141	141	141	141
	Seasonality	141	141	141	141
	Distance	141	141	141	141
	Ethnicity	141	141	141	141
	Urban	141	141	141	141

Correlations

		Urban
Pearson Correlation	Flights	.408
	HomeConcentration	.404
	Congestion	.683
	GLHR	.132
	PartnerConcentration	.159
	Seasonality	-.256
	Distance	.247
	Ethnicity	.036
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.000
	Congestion	.000
	GLHR	.059
	PartnerConcentration	.030
	Seasonality	.001
	Distance	.002
	Ethnicity	.335
	Urban	.
N	Flights	141
	HomeConcentration	141
	Congestion	141
	GLHR	141
	PartnerConcentration	141
	Seasonality	141
	Distance	141
	Ethnicity	141
	Urban	141

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, PartnerConcentration, GLHR, Seasonality, Distance, HomeConcentration, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.762[a]	.581	.556	2.833	.581	22.889

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	132	<.001

a. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, GLHR, Seasonality, Distance, HomeConcentration, Congestic

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1469.700	8	183.713	22.889	<.001[b]
	Residual	1059.463	132	8.026		
	Total	2529.163	140			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, GLHR, Seasonality, Distance, HomeConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.021	1.972		1.532	.128
	HomeConcentration	1.106	.162	.454	6.812	<.001
	Congestion	-.058	.345	-.013	-.167	.867
	GLHR	2.847	.893	.194	3.188	.002
	PartnerConcentration	.229	.182	.076	1.257	.211
	Seasonality	-1.831	1.113	-.101	-1.645	.102
	Distance	-.715	.300	-.145	-2.380	.019
	Ethnicity	1.349	.294	.273	4.595	<.001
	Urban	.204	.088	.196	2.310	.022

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.714	1.400
	Congestion	.503	1.988
	GLHR	.853	1.173
	PartnerConcentration	.874	1.144
	Seasonality	.836	1.196
	Distance	.850	1.177
	Ethnicity	.898	1.113
	Urban	.441	2.270

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.033	1.000	.00	.01	.00
	2	.998	2.459	.00	.10	.00
	3	.908	2.578	.00	.01	.00
	4	.518	3.414	.00	.19	.00
	5	.403	3.868	.00	.53	.00
	6	.078	8.800	.00	.15	.01
	7	.038	12.602	.01	.01	.05
	8	.014	20.875	.27	.01	.38
	9	.011	23.861	.72	.00	.56

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Ethnicity	Urban
1	1	.00	.00	.00	.00	.01	.00
	2	.21	.29	.00	.00	.01	.00
	3	.51	.25	.00	.00	.05	.00
	4	.00	.31	.00	.00	.50	.00
	5	.19	.14	.01	.00	.34	.00
	6	.03	.00	.54	.02	.01	.07
	7	.00	.00	.05	.59	.04	.17
	8	.00	.00	.30	.18	.00	.60
	9	.05	.00	.10	.19	.05	.16

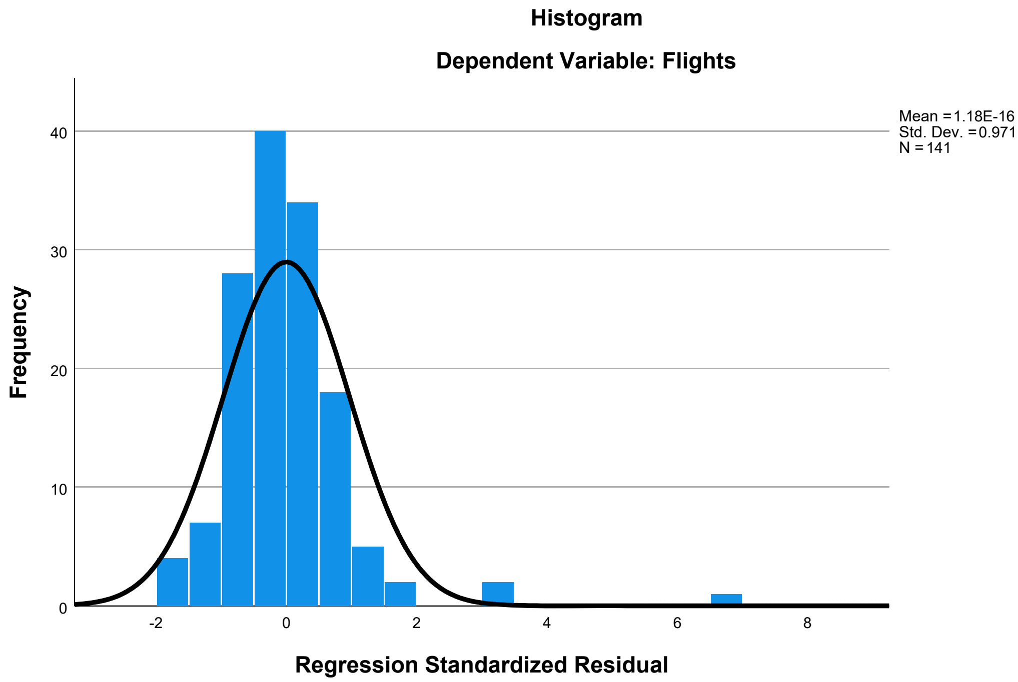
a. Dependent Variable: Flights

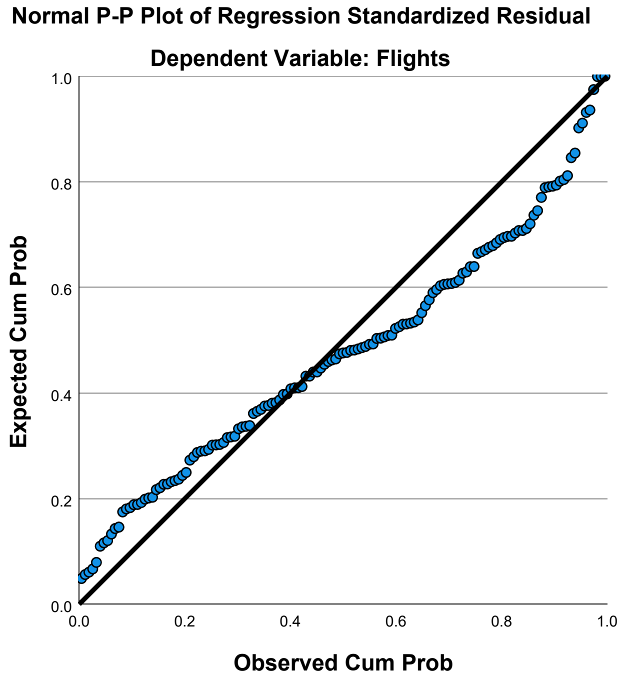
Residuals Statistics[a]

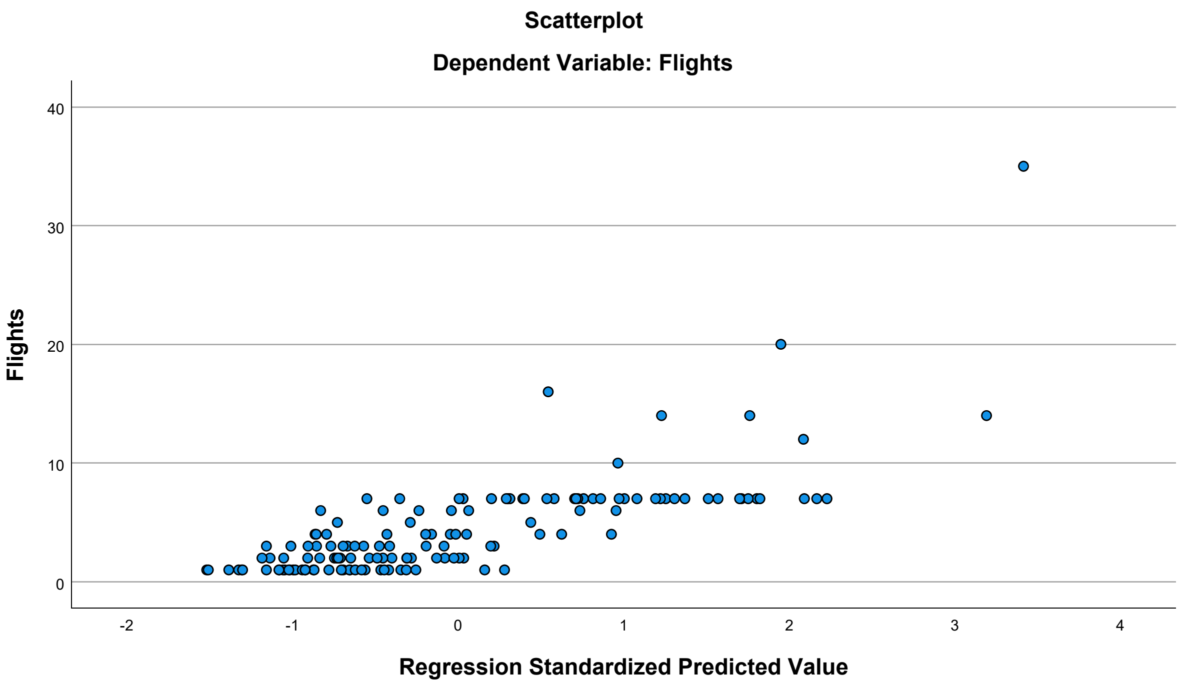
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.44	15.54	4.48	3.240	141
Residual	-4.693	19.460	.000	2.751	141
Std. Predicted Value	-1.517	3.415	.000	1.000	141
Std. Residual	-1.657	6.869	.000	.971	141

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
-2
-1
0
1
2
3
4

Regression

```
[DataSet4] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Regional\2017 to CAN.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	5.22	3.552	168
HomeConcentration	1.7828673452	1.7525852450	168
Congestion	5.17	.929	168
GLHR	.07	.248	168
PartnerConcentration	.55476997619	1.4039186490	168
Seasonality	.80554908946	.21993060086	168
Distance	3.99973	.965816	168
Language	1.72193537	2.984622869	168
Ethnicity	.69932577	.807228448	168
Urban	15.36	4.327	168

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.407	.197	.323
	HomeConcentration	.407	1.000	.273	.166
	Congestion	.197	.273	1.000	-.023
	GLHR	.323	.166	-.023	1.000
	PartnerConcentration	.185	.279	.153	-.105
	Seasonality	-.275	-.281	-.141	-.324
	Distance	-.124	.233	.208	-.094
	Language	.207	-.062	-.050	.148
	Ethnicity	.286	.026	.158	.175
	Urban	.328	.382	.647	.139
Sig. (1-tailed)	Flights	.	<.001	.005	<.001
	HomeConcentration	.000	.	.000	.016
	Congestion	.005	.000	.	.382
	GLHR	.000	.016	.382	.
	PartnerConcentration	.008	.000	.024	.088
	Seasonality	.000	.000	.034	.000
	Distance	.055	.001	.003	.113
	Language	.004	.211	.258	.028
	Ethnicity	.000	.370	.021	.012
	Urban	.000	.000	.000	.036
N	Flights	168	168	168	168
	HomeConcentration	168	168	168	168
	Congestion	168	168	168	168
	GLHR	168	168	168	168
	PartnerConcentration	168	168	168	168

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.185	-.275	-.124	.207
	HomeConcentration	.279	-.281	.233	-.062
	Congestion	.153	-.141	.208	-.050
	GLHR	-.105	-.324	-.094	.148
	PartnerConcentration	1.000	-.006	.116	-.157
	Seasonality	-.006	1.000	-.224	-.058
	Distance	.116	-.224	1.000	-.246
	Language	-.157	-.058	-.246	1.000
	Ethnicity	-.051	.036	-.138	.835
	Urban	.204	-.287	.367	.070
Sig. (1-tailed)	Flights	.008	<.001	.055	.004
	HomeConcentration	.000	.000	.001	.211
	Congestion	.024	.034	.003	.258
	GLHR	.088	.000	.113	.028
	PartnerConcentration	.	.471	.068	.021
	Seasonality	.471	.	.002	.226
	Distance	.068	.002	.	.001
	Language	.021	.226	.001	.
	Ethnicity	.254	.320	.038	.000
	Urban	.004	.000	.000	.183
N	Flights	168	168	168	168
	HomeConcentration	168	168	168	168
	Congestion	168	168	168	168
	GLHR	168	168	168	168
	PartnerConcentration	168	168	168	168

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.286	.328
	HomeConcentration	.026	.382
	Congestion	.158	.647
	GLHR	.175	.139
	PartnerConcentration	-.051	.204
	Seasonality	.036	-.287
	Distance	-.138	.367
	Language	.835	.070
	Ethnicity	1.000	.213
	Urban	.213	1.000
Sig. (1-tailed)	Flights	<.001	<.001
	HomeConcentration	.370	.000
	Congestion	.021	.000
	GLHR	.012	.036
	PartnerConcentration	.254	.004
	Seasonality	.320	.000
	Distance	.038	.000
	Language	.000	.183
	Ethnicity	.	.003
	Urban	.003	.
N	Flights	168	168
	HomeConcentration	168	168
	Congestion	168	168
	GLHR	168	168
	PartnerConcentration	168	168

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Seasonality	168	168	168	168
	Distance	168	168	168	168
	Language	168	168	168	168
	Ethnicity	168	168	168	168
	Urban	168	168	168	168

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	Seasonality	168	168	168	168
	Distance	168	168	168	168
	Language	168	168	168	168
	Ethnicity	168	168	168	168
	Urban	168	168	168	168

Correlations

	Ethnicity	Urban
Seasonality	168	168
Distance	168	168
Language	168	168
Ethnicity	168	168
Urban	168	168

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, GLHR, PartnerConcentration, Seasonality, HomeConcentration, Distance, Congestion, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.620[a]	.384	.349	2.866	.384	10.936

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	9	158	<.001

a. Predictors: (Constant), Urban, Language, GLHR, PartnerConcentration, Seasonality, HomeConcentration, Distance, Congest
Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	808.665	9	89.852	10.936	<.001[b]
	Residual	1298.186	158	8.216		
	Total	2106.851	167			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, GLHR, PartnerConcentration, Seasonality, HomeConcentration, Distance, Congestion, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.965	2.153		3.700	<.001
	HomeConcentration	.585	.146	.289	4.011	<.001
	Congestion	-.167	.334	-.044	-.500	.618
	GLHR	2.026	1.017	.142	1.993	.048
	PartnerConcentration	.288	.171	.114	1.686	.094
	Seasonality	-2.816	1.200	-.174	-2.347	.020
	Distance	-1.045	.270	-.284	-3.875	<.001
	Language	-.128	.156	-.108	-.824	.411
	Ethnicity	1.230	.572	.280	2.150	.033
	Urban	.169	.077	.205	2.181	.031

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.754	1.327
	Congestion	.511	1.956
	GLHR	.773	1.294
	PartnerConcentration	.856	1.169
	Seasonality	.707	1.415
	Distance	.726	1.378
	Language	.228	4.382
	Ethnicity	.231	4.335
	Urban	.439	2.276

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Congestion
1	1	6.482	1.000	.00	.01	.00
	2	1.286	2.245	.00	.01	.00
	3	.892	2.696	.00	.03	.00
	4	.739	2.962	.00	.01	.00
	5	.358	4.256	.00	.77	.00
	6	.100	8.049	.00	.00	.00
	7	.081	8.948	.00	.17	.01
	8	.039	12.971	.00	.00	.06
	9	.018	19.019	.09	.00	.34
	10	.007	30.462	.90	.00	.60

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions					
		GLHR	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.08	.14	.00	.00	.05	.02
	3	.62	.01	.00	.00	.02	.01
	4	.00	.64	.00	.00	.02	.01
	5	.13	.17	.01	.00	.00	.00
	6	.00	.03	.00	.00	.68	.74
	7	.03	.00	.34	.05	.00	.00
	8	.01	.01	.01	.64	.00	.04
	9	.01	.01	.33	.03	.01	.02
	10	.12	.00	.31	.27	.22	.16

Collinearity Diagnostics[a]

Model	Dimension	Variance ...
		Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.10
	8	.19
	9	.59
	10	.12

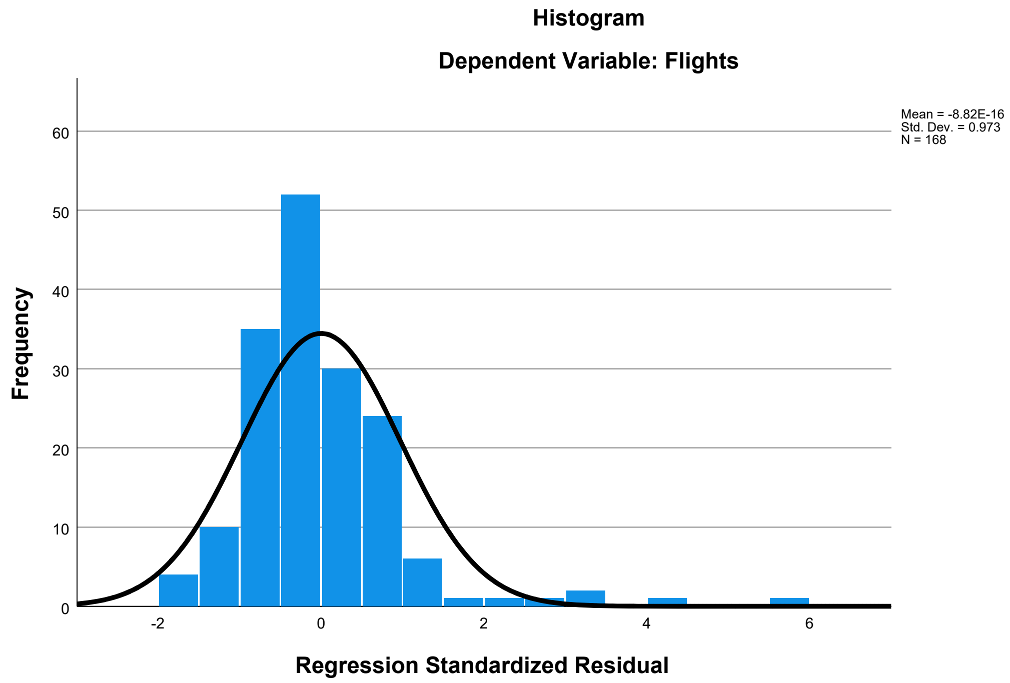
a. Dependent Variable: Flights

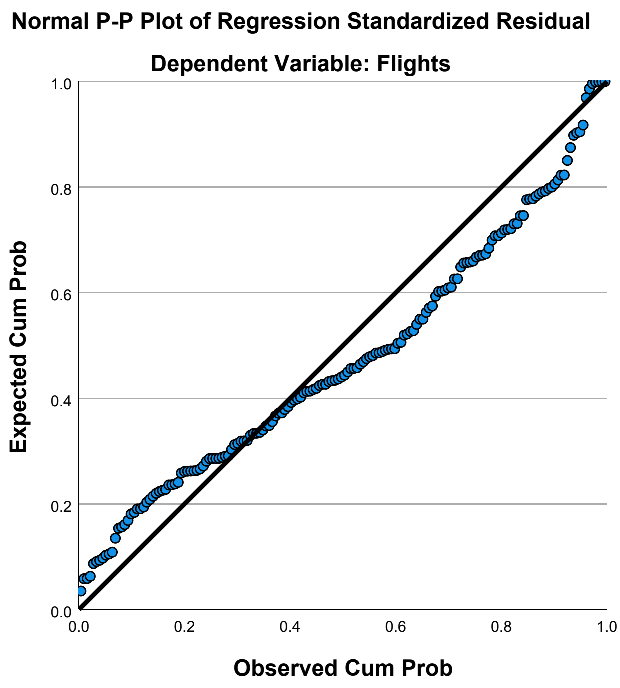
Residuals Statistics[a]

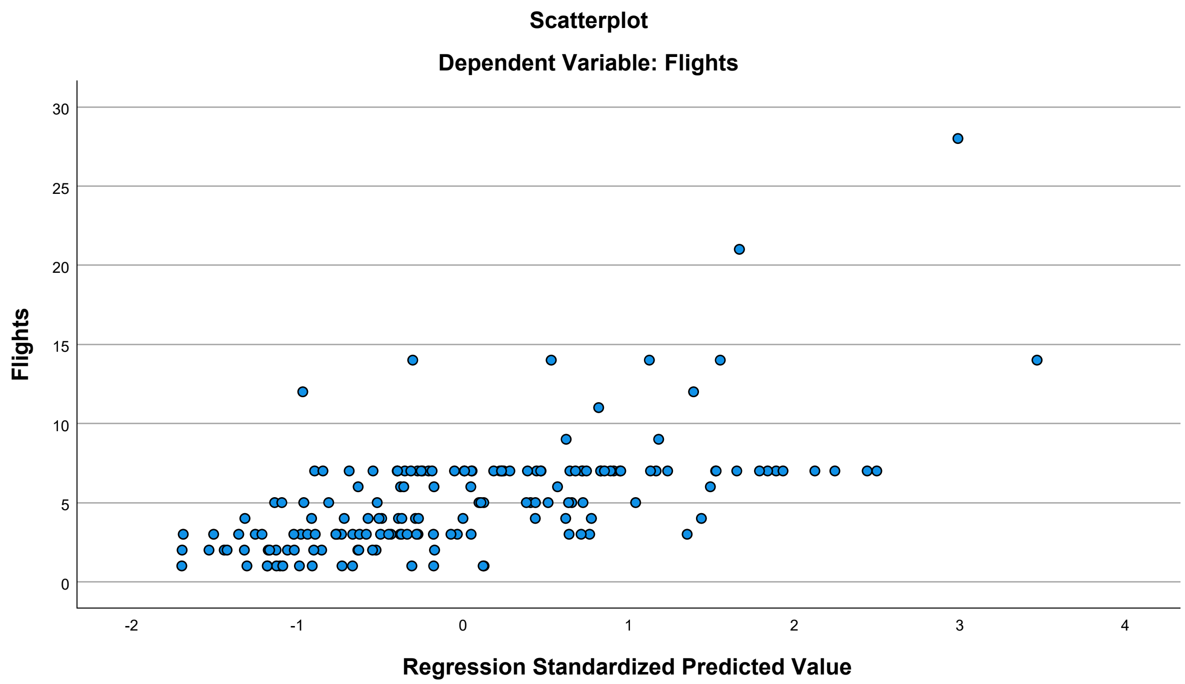
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.48	12.85	5.22	2.201	168
Residual	-5.199	16.204	.000	2.788	168
Std. Predicted Value	-1.699	3.466	.000	1.000	168
Std. Residual	-1.814	5.653	.000	.973	168

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
25
30
-2
-1
0
1
2
3
4

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	5.22	3.552	168
HomeConcentration	1.7828673452	1.7525852450	168
Congestion	5.17	.929	168
GLHR	.07	.248	168
PartnerConcentration	.55476997619	1.4039186490	168
Seasonality	.80554908946	.21993060086	168
Distance	3.99973	.965816	168
Ethnicity	.69932577	.807228448	168
Urban	15.36	4.327	168

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.407	.197	.323
	HomeConcentration	.407	1.000	.273	.166
	Congestion	.197	.273	1.000	-.023
	GLHR	.323	.166	-.023	1.000
	PartnerConcentration	.185	.279	.153	-.105
	Seasonality	-.275	-.281	-.141	-.324
	Distance	-.124	.233	.208	-.094
	Ethnicity	.286	.026	.158	.175
	Urban	.328	.382	.647	.139
Sig. (1-tailed)	Flights	.	<.001	.005	<.001
	HomeConcentration	.000	.	.000	.016
	Congestion	.005	.000	.	.382
	GLHR	.000	.016	.382	.
	PartnerConcentration	.008	.000	.024	.088
	Seasonality	.000	.000	.034	.000
	Distance	.055	.001	.003	.113
	Ethnicity	.000	.370	.021	.012
	Urban	.000	.000	.000	.036
N	Flights	168	168	168	168
	HomeConcentration	168	168	168	168
	Congestion	168	168	168	168
	GLHR	168	168	168	168
	PartnerConcentration	168	168	168	168
	Seasonality	168	168	168	168
	Distance	168	168	168	168
	Ethnicity	168	168	168	168
	Urban	168	168	168	168

Correlations

		PartnerConcentration	Seasonality	Distance	Ethnicity
Pearson Correlation	Flights	.185	-.275	-.124	.286
	HomeConcentration	.279	-.281	.233	.026
	Congestion	.153	-.141	.208	.158
	GLHR	-.105	-.324	-.094	.175
	PartnerConcentration	1.000	-.006	.116	-.051
	Seasonality	-.006	1.000	-.224	.036
	Distance	.116	-.224	1.000	-.138
	Ethnicity	-.051	.036	-.138	1.000
	Urban	.204	-.287	.367	.213
Sig. (1-tailed)	Flights	.008	<.001	.055	<.001
	HomeConcentration	.000	.000	.001	.370
	Congestion	.024	.034	.003	.021
	GLHR	.088	.000	.113	.012
	PartnerConcentration	.	.471	.068	.254
	Seasonality	.471	.	.002	.320
	Distance	.068	.002	.	.038
	Ethnicity	.254	.320	.038	.
	Urban	.004	.000	.000	.003
N	Flights	168	168	168	168
	HomeConcentration	168	168	168	168
	Congestion	168	168	168	168
	GLHR	168	168	168	168
	PartnerConcentration	168	168	168	168
	Seasonality	168	168	168	168
	Distance	168	168	168	168
	Ethnicity	168	168	168	168
	Urban	168	168	168	168

Correlations

		Urban
Pearson Correlation	Flights	.328
	HomeConcentration	.382
	Congestion	.647
	GLHR	.139
	PartnerConcentration	.204
	Seasonality	-.287
	Distance	.367
	Ethnicity	.213
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.000
	Congestion	.000
	GLHR	.036
	PartnerConcentration	.004
	Seasonality	.000
	Distance	.000
	Ethnicity	.003
	Urban	.
N	Flights	168
	HomeConcentration	168
	Congestion	168
	GLHR	168
	PartnerConcentration	168
	Seasonality	168
	Distance	168
	Ethnicity	168
	Urban	168

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, GLHR, PartnerConcentration, Ethnicity, Seasonality, Distance, HomeConcentration, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.617[a]	.381	.350	2.864	.381	12.242

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	8	159	<.001

a. Predictors: (Constant), Urban, GLHR, PartnerConcentration, Ethnicity, Seasonality, Distance, HomeConcentration, Congestic

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	803.086	8	100.386	12.242	<.001[b]
	Residual	1303.765	159	8.200		
	Total	2106.851	167			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, GLHR, PartnerConcentration, Ethnicity, Seasonality, Distance, HomeConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	7.196	1.938		3.714	<.001
	HomeConcentration	.592	.145	.292	4.069	<.001
	Congestion	-.084	.318	-.022	-.265	.791
	GLHR	2.157	1.003	.151	2.150	.033
	PartnerConcentration	.310	.169	.123	1.839	.068
	Seasonality	-2.524	1.145	-.156	-2.205	.029
	Distance	-.990	.261	-.269	-3.792	<.001
	Ethnicity	.826	.295	.188	2.804	.006
	Urban	.163	.077	.199	2.121	.035

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.756	1.323
	Congestion	.562	1.780
	GLHR	.792	1.262
	PartnerConcentration	.877	1.140
	Seasonality	.774	1.292
	Distance	.772	1.295
	Ethnicity	.868	1.152
	Urban	.443	2.260

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.154	1.000	.00	.01	.00
	2	1.039	2.434	.00	.00	.00
	3	.814	2.749	.00	.05	.00
	4	.495	3.527	.00	.06	.00
	5	.351	4.185	.00	.71	.00
	6	.081	8.717	.00	.17	.01
	7	.039	12.625	.00	.00	.06
	8	.018	18.431	.14	.00	.33
	9	.009	26.521	.86	.00	.60

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Ethnicity	Urban
1	1	.00	.00	.00	.00	.01	.00
	2	.45	.21	.00	.00	.03	.00
	3	.24	.48	.00	.00	.01	.00
	4	.01	.12	.00	.00	.76	.00
	5	.15	.16	.01	.00	.09	.00
	6	.03	.00	.37	.06	.00	.10
	7	.01	.01	.01	.67	.09	.19
	8	.01	.01	.38	.04	.01	.57
	9	.10	.00	.23	.22	.00	.14

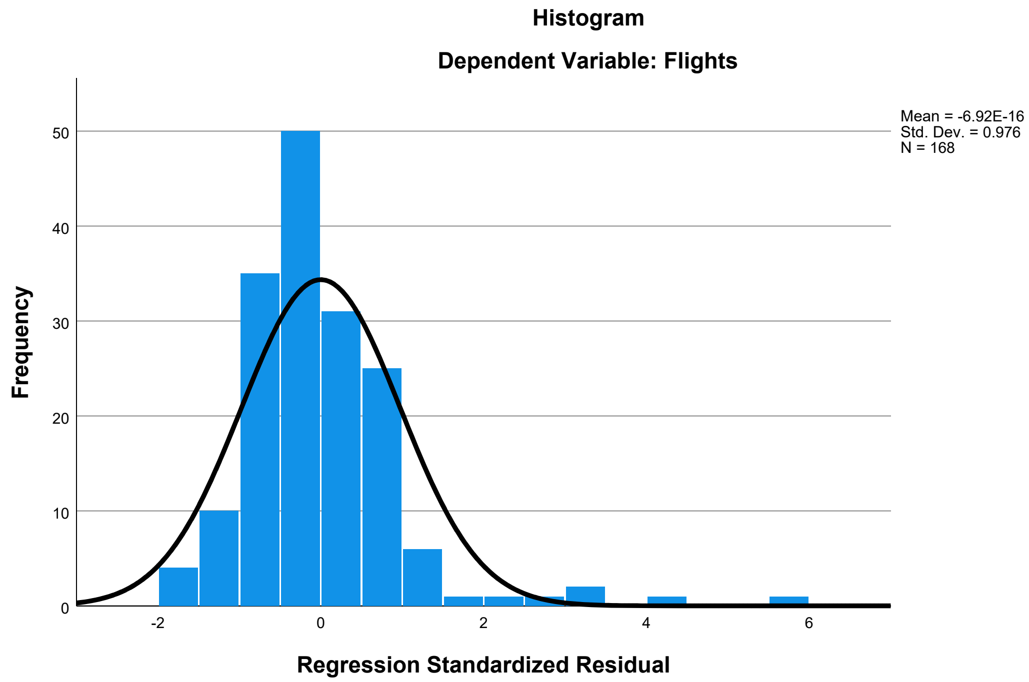
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.61	12.97	5.22	2.193	168
Residual	-5.251	16.094	.000	2.794	168
Std. Predicted Value	-1.648	3.533	.000	1.000	168
Std. Residual	-1.834	5.620	.000	.976	168

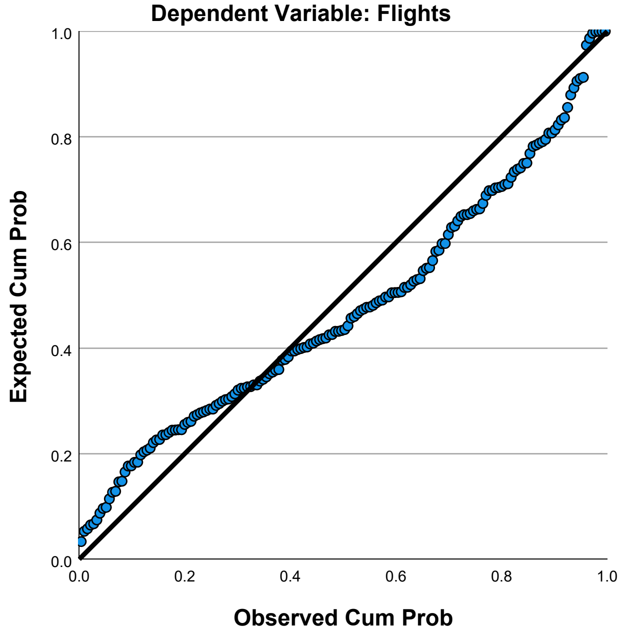
a. Dependent Variable: Flights

Charts



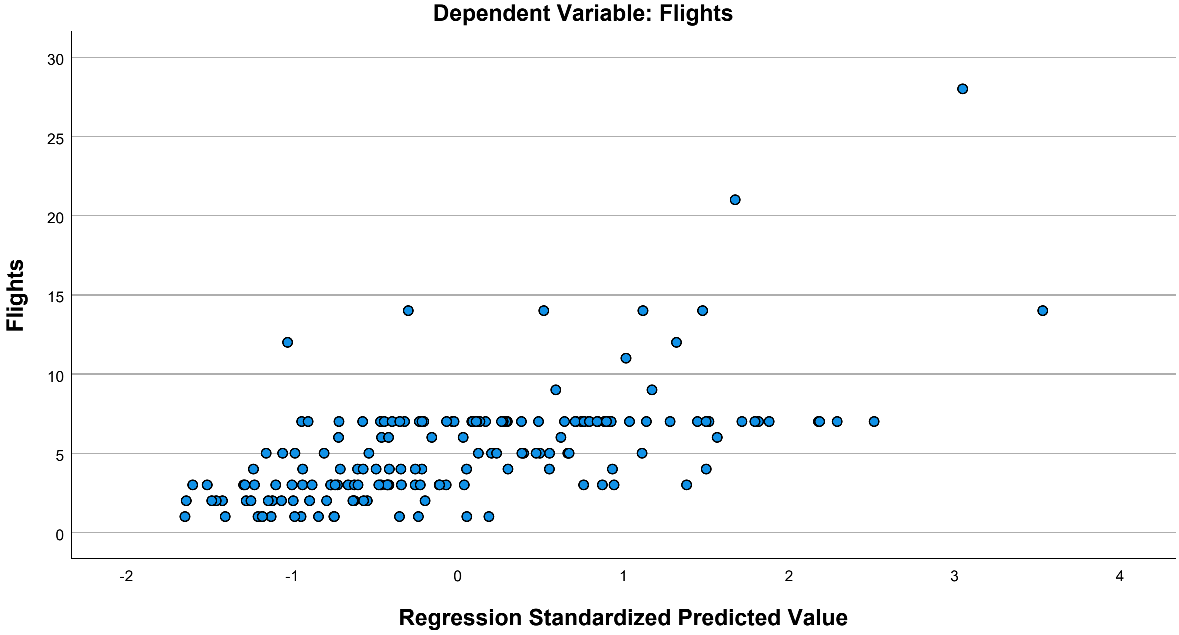
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

```
[DataSet5] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airline R
egion\1997 - nonEuro Based.sav
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Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	3.53	2.158	36
NAFlights	.67400793651	.31558759178	36
Congestion	5.28	.974	36
GLHR	.14	.351	36
GJFK	.56	.504	36
PartnerConcentration	.000100	.0000000	36
Seasonality	.62320241487	.19860602622	36
Distance	4402.83	1100.059	36
Language	39357.81	64188.261	36
Ethnicity	539881.94	835762.221	36
Urban	17.89	5.564	36

Correlations

		Flights	NAFlights	Congestion	GLHR
Pearson Correlation	Flights	1.000	.300	-.017	.014
	NAFlights	.300	1.000	-.162	.181
	Congestion	-.017	-.162	1.000	.135
	GLHR	.014	.181	.135	1.000
	GJFK	.406	.080	.259	-.126
	PartnerConcentration	.	.	.	.
	Seasonality	-.225	.013	-.067	-.111
	Distance	.064	.011	-.224	-.160
	Language	.164	-.079	.243	-.250
	Ethnicity	-.065	-.018	.168	.391
	Urban	.038	-.311	.586	.360
Sig. (1-tailed)	Flights	.	.038	.460	.469
	NAFlights	.038	.	.173	.145
	Congestion	.460	.173	.	.217
	GLHR	.469	.145	.217	.
	GJFK	.007	.322	.064	.233
	PartnerConcentration	.000	.000	.000	.000
	Seasonality	.093	.470	.349	.259
	Distance	.356	.474	.094	.175
	Language	.170	.324	.077	.071
	Ethnicity	.354	.460	.164	.009
	Urban	.412	.032	.000	.016
N	Flights	36	36	36	36
	NAFlights	36	36	36	36
	Congestion	36	36	36	36
	GLHR	36	36	36	36
	GJFK	36	36	36	36
	PartnerConcentration	36	36	36	36
	Seasonality	36	36	36	36
	Distance	36	36	36	36
	Language	36	36	36	36
	Ethnicity	36	36	36	36
	Urban	36	36	36	36

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.406	.	-.225	.064
	NAFlights	.080	.	.013	.011
	Congestion	.259	.	-.067	-.224
	GLHR	-.126	.	-.111	-.160
	GJFK	1.000	.	-.294	-.427
	PartnerConcentration	.	1.000	.	.
	Seasonality	-.294	.	1.000	.146
	Distance	-.427	.	.146	1.000
	Language	.313	.	-.074	-.076
	Ethnicity	.145	.	-.238	-.373
	Urban	.247	.	-.462	-.372
Sig. (1-tailed)	Flights	.007	.000	.093	.356
	NAFlights	.322	.000	.470	.474
	Congestion	.064	.000	.349	.094
	GLHR	.233	.000	.259	.175
	GJFK	.	.000	.041	.005
	PartnerConcentration	.000	.	.000	.000
	Seasonality	.041	.000	.	.198
	Distance	.005	.000	.198	.
	Language	.031	.000	.334	.329
	Ethnicity	.199	.000	.081	.013
	Urban	.073	.000	.002	.013
N	Flights	36	36	36	36
	NAFlights	36	36	36	36
	Congestion	36	36	36	36
	GLHR	36	36	36	36
	GJFK	36	36	36	36
	PartnerConcentration	36	36	36	36
	Seasonality	36	36	36	36
	Distance	36	36	36	36
	Language	36	36	36	36
	Ethnicity	36	36	36	36
	Urban	36	36	36	36

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.164	-.065	.038
	NAFlights	-.079	-.018	-.311
	Congestion	.243	.168	.586
	GLHR	-.250	.391	.360
	GJFK	.313	.145	.247
	PartnerConcentration	.	.	.
	Seasonality	-.074	-.238	-.462
	Distance	-.076	-.373	-.372
	Language	1.000	.008	.134
	Ethnicity	.008	1.000	.317
	Urban	.134	.317	1.000
Sig. (1-tailed)	Flights	.170	.354	.412
	NAFlights	.324	.460	.032
	Congestion	.077	.164	.000
	GLHR	.071	.009	.016
	GJFK	.031	.199	.073
	PartnerConcentration	.000	.000	.000
	Seasonality	.334	.081	.002
	Distance	.329	.013	.013
	Language	.	.482	.218
	Ethnicity	.482	.	.030
	Urban	.218	.030	.
N	Flights	36	36	36
	NAFlights	36	36	36
	Congestion	36	36	36
	GLHR	36	36	36
	GJFK	36	36	36
	PartnerConcentration	36	36	36
	Seasonality	36	36	36
	Distance	36	36	36
	Language	36	36	36
	Ethnicity	36	36	36
	Urban	36	36	36

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, NAFlights, Ethnicity, GJFK, Seasonality, Distance, GLHR, ...[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.585[a]	.342	.114	2.031	.342	1.502

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	26	.199

a. Predictors: (Constant), Urban, Language, NAFlights, Ethnicity, GJFK, Seasonality, Distance, GLHR, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	55.751	9	6.195	1.502	.199[b]
	Residual	107.221	26	4.124		
	Total	162.972	35			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, NAFlights, Ethnicity, GJFK, Seasonality, Distance, GLHR, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.151	3.819		-.039	.969
	NAFlights	1.840	1.283	.269	1.434	.164
	Congestion	-.308	.475	-.139	-.649	.522
	GLHR	.564	1.298	.092	.435	.667
	GJFK	2.060	.861	.481	2.393	.024
	Seasonality	-.874	2.189	-.080	-.399	.693
	Distance	.001	.000	.282	1.436	.163
	Language	2.977E-6	.000	.089	.500	.621
	Ethnicity	-2.606E-7	.000	-.101	-.536	.597
	Urban	.054	.110	.140	.494	.626

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	NAFlights	.719	1.392
	Congestion	.551	1.815
	GLHR	.568	1.760
	GJFK	.626	1.598
	Seasonality	.623	1.605
	Distance	.654	1.528
	Language	.806	1.241
	Ethnicity	.713	1.402
	Urban	.315	3.174

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	Congestion	GLHR
1	1	7.031	1.000	.00	.00	.00	.00
	2	1.160	2.462	.00	.00	.00	.24
	3	.724	3.116	.00	.01	.00	.00
	4	.420	4.092	.00	.00	.00	.36
	5	.340	4.548	.00	.01	.00	.11
	6	.176	6.313	.00	.48	.01	.00
	7	.083	9.227	.00	.13	.00	.09
	8	.047	12.215	.00	.15	.02	.10
	9	.013	23.080	.02	.01	.97	.02
	10	.006	33.566	.98	.21	.00	.08

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.01	.00	.00	.11	.08	.00
	3	.04	.01	.00	.27	.23	.00
	4	.07	.00	.00	.50	.27	.00
	5	.49	.01	.00	.06	.28	.00
	6	.00	.00	.00	.03	.04	.04
	7	.13	.43	.01	.00	.00	.06
	8	.19	.06	.51	.00	.03	.08
	9	.01	.13	.00	.01	.00	.42
	10	.06	.37	.47	.01	.06	.40

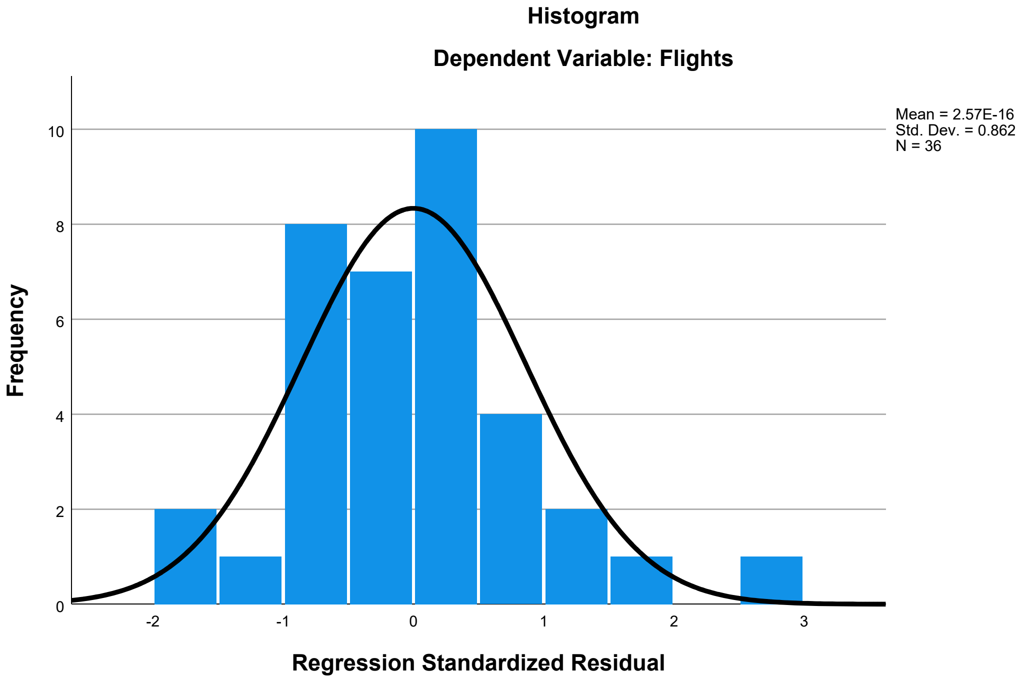
a. Dependent Variable: Flights

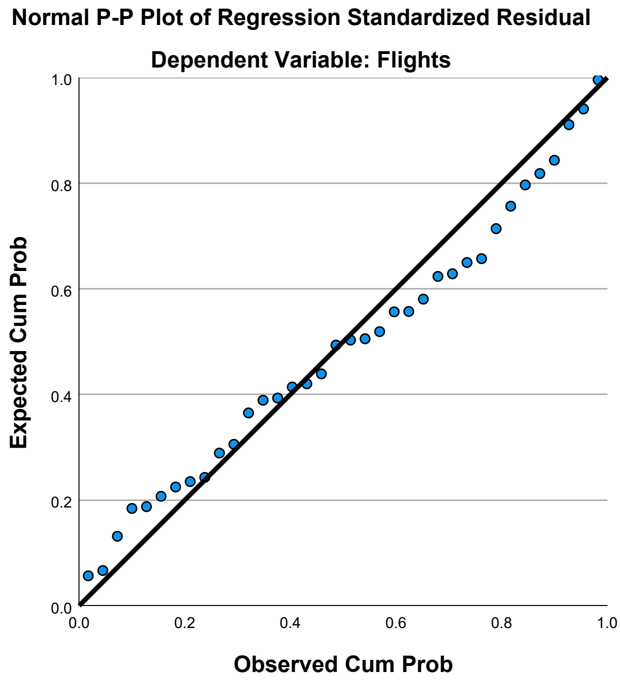
Residuals Statistics[a]

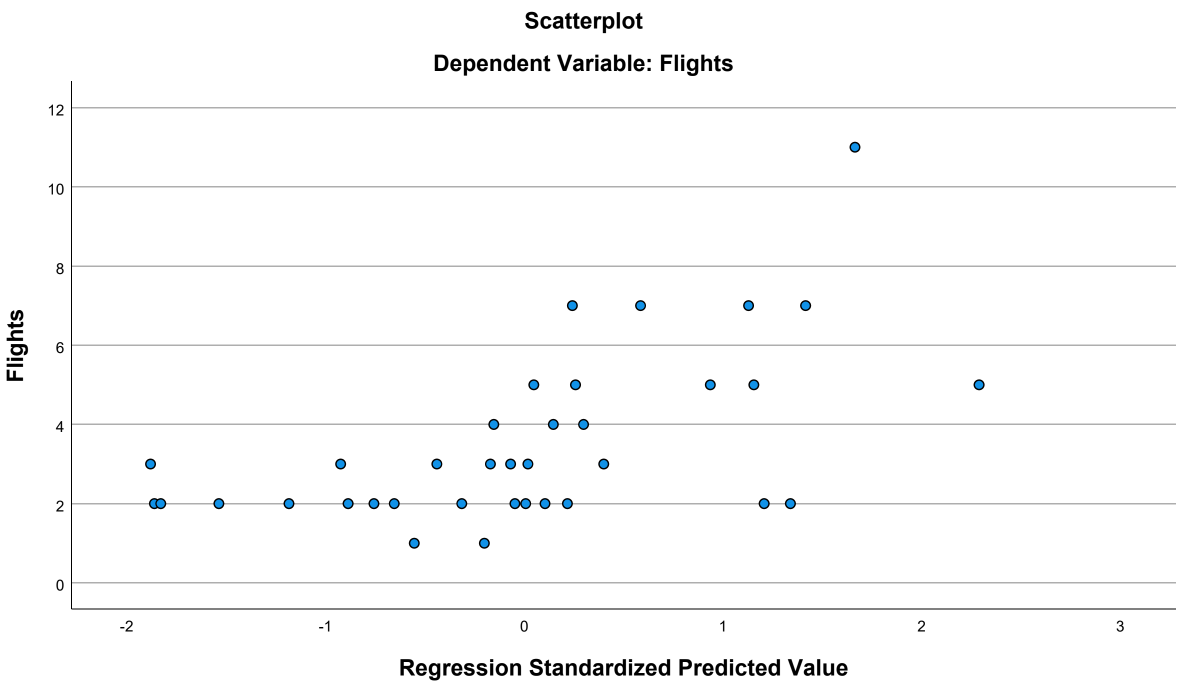
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.15	6.42	3.53	1.262	36
Residual	-3.218	5.372	.000	1.750	36
Std. Predicted Value	-1.881	2.289	.000	1.000	36
Std. Residual	-1.585	2.645	.000	.862	36

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 2.57E-16
Std. Dev. = 0.862
N = 36
Frequency
10
8
6
4
2
0
-2
-1
0
1
2
3
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	3.53	2.158	36
NAFlights	.67400793651	.31558759178	36
Congestion	5.28	.974	36
GLHR	.14	.351	36
GJFK	.56	.504	36
PartnerConcentration	.000100	.0000000	36
Distance	4402.83	1100.059	36
Language	39357.81	64188.261	36
Ethnicity	539881.94	835762.221	36
Urban	17.89	5.564	36

Correlations

		Flights	NAFlights	Congestion	GLHR
Pearson Correlation	Flights	1.000	.300	-.017	.014
	NAFlights	.300	1.000	-.162	.181
	Congestion	-.017	-.162	1.000	.135
	GLHR	.014	.181	.135	1.000
	GJFK	.406	.080	.259	-.126
	PartnerConcentration	.	.	.	.
	Distance	.064	.011	-.224	-.160
	Language	.164	-.079	.243	-.250
	Ethnicity	-.065	-.018	.168	.391
	Urban	.038	-.311	.586	.360
Sig. (1-tailed)	Flights	.	.038	.460	.469
	NAFlights	.038	.	.173	.145
	Congestion	.460	.173	.	.217
	GLHR	.469	.145	.217	.
	GJFK	.007	.322	.064	.233
	PartnerConcentration	.000	.000	.000	.000
	Distance	.356	.474	.094	.175
	Language	.170	.324	.077	.071
	Ethnicity	.354	.460	.164	.009
	Urban	.412	.032	.000	.016
N	Flights	36	36	36	36
	NAFlights	36	36	36	36
	Congestion	36	36	36	36
	GLHR	36	36	36	36
	GJFK	36	36	36	36
	PartnerConcentration	36	36	36	36
	Distance	36	36	36	36
	Language	36	36	36	36
	Ethnicity	36	36	36	36
	Urban	36	36	36	36

Correlations

		GJFK	PartnerConcentration	Distance	Language
Pearson Correlation	Flights	.406	.	.064	.164
	NAFlights	.080	.	.011	-.079
	Congestion	.259	.	-.224	.243
	GLHR	-.126	.	-.160	-.250
	GJFK	1.000	.	-.427	.313
	PartnerConcentration	.	1.000	.	.
	Distance	-.427	.	1.000	-.076
	Language	.313	.	-.076	1.000
	Ethnicity	.145	.	-.373	.008
	Urban	.247	.	-.372	.134
Sig. (1-tailed)	Flights	.007	.000	.356	.170
	NAFlights	.322	.000	.474	.324
	Congestion	.064	.000	.094	.077
	GLHR	.233	.000	.175	.071
	GJFK	.	.000	.005	.031
	PartnerConcentration	.000	.	.000	.000
	Distance	.005	.000	.	.329
	Language	.031	.000	.329	.
	Ethnicity	.199	.000	.013	.482
	Urban	.073	.000	.013	.218
N	Flights	36	36	36	36
	NAFlights	36	36	36	36
	Congestion	36	36	36	36
	GLHR	36	36	36	36
	GJFK	36	36	36	36
	PartnerConcentration	36	36	36	36
	Distance	36	36	36	36
	Language	36	36	36	36
	Ethnicity	36	36	36	36
	Urban	36	36	36	36

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	-.065	.038
	NAFlights	-.018	-.311
	Congestion	.168	.586
	GLHR	.391	.360
	GJFK	.145	.247
	PartnerConcentration	.	.
	Distance	-.373	-.372
	Language	.008	.134
	Ethnicity	1.000	.317
	Urban	.317	1.000
Sig. (1-tailed)	Flights	.354	.412
	NAFlights	.460	.032
	Congestion	.164	.000
	GLHR	.009	.016
	GJFK	.199	.073
	PartnerConcentration	.000	.000
	Distance	.013	.013
	Language	.482	.218
	Ethnicity	.	.030
	Urban	.030	.
N	Flights	36	36
	NAFlights	36	36
	Congestion	36	36
	GLHR	36	36
	GJFK	36	36
	PartnerConcentration	36	36
	Distance	36	36
	Language	36	36
	Ethnicity	36	36
	Urban	36	36

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, NAFlights, Ethnicity, GJFK, Distance, Congestion, ...[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.581[a]	.338	.142	1.999	.338	1.724

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	27	.138

a. Predictors: (Constant), Urban, Language, NAFlights, Ethnicity, GJFK, Distance, Congestion, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	55.094	8	6.887	1.724	.138[b]
	Residual	107.878	27	3.995		
	Total	162.972	35			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, NAFlights, Ethnicity, GJFK, Distance, Congestion, GLHR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.004	3.116		-.322	.750
	NAFlights	1.930	1.243	.282	1.553	.132
	Congestion	-.373	.439	-.168	-.848	.404
	GLHR	.494	1.266	.080	.390	.700
	GJFK	2.141	.824	.500	2.599	.015
	Distance	.001	.000	.297	1.561	.130
	Language	2.919E-6	.000	.087	.498	.622
	Ethnicity	-2.281E-7	.000	-.088	-.483	.633
	Urban	.077	.092	.199	.839	.409

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	NAFlights	.742	1.348
	Congestion	.623	1.606
	GLHR	.579	1.727
	GJFK	.662	1.510
	Distance	.677	1.477
	Language	.806	1.240
	Ethnicity	.734	1.363
	Urban	.435	2.300

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	Congestion	GLHR
1	1	6.183	1.000	.00	.00	.00	.00
	2	1.154	2.315	.00	.00	.00	.24
	3	.666	3.046	.00	.01	.00	.00
	4	.420	3.837	.00	.00	.00	.37
	5	.324	4.366	.00	.00	.00	.13
	6	.176	5.920	.00	.49	.01	.00
	7	.050	11.140	.00	.27	.02	.17
	8	.017	18.973	.01	.09	.68	.05
	9	.009	26.654	.98	.13	.29	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	Distance	Language	Ethnicity	Urban
1	1	.01	.00	.01	.01	.00
	2	.01	.00	.12	.07	.00
	3	.02	.01	.27	.29	.00
	4	.07	.00	.50	.27	.00
	5	.58	.01	.04	.24	.00
	6	.00	.00	.03	.05	.05
	7	.29	.39	.00	.04	.21
	8	.01	.15	.00	.00	.69
	9	.01	.45	.02	.04	.05

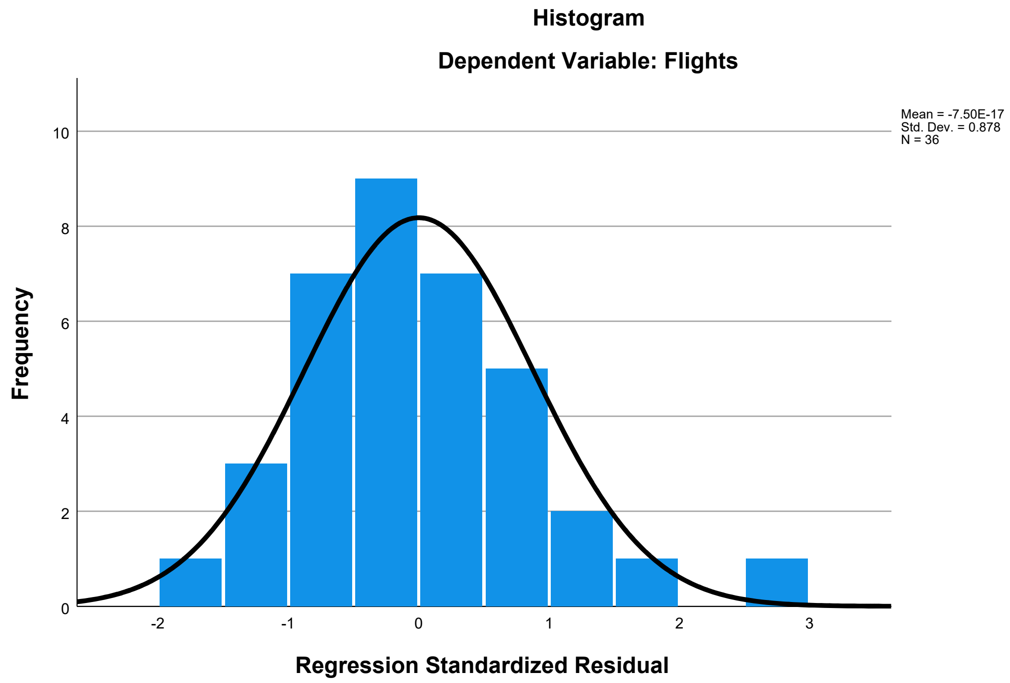
a. Dependent Variable: Flights

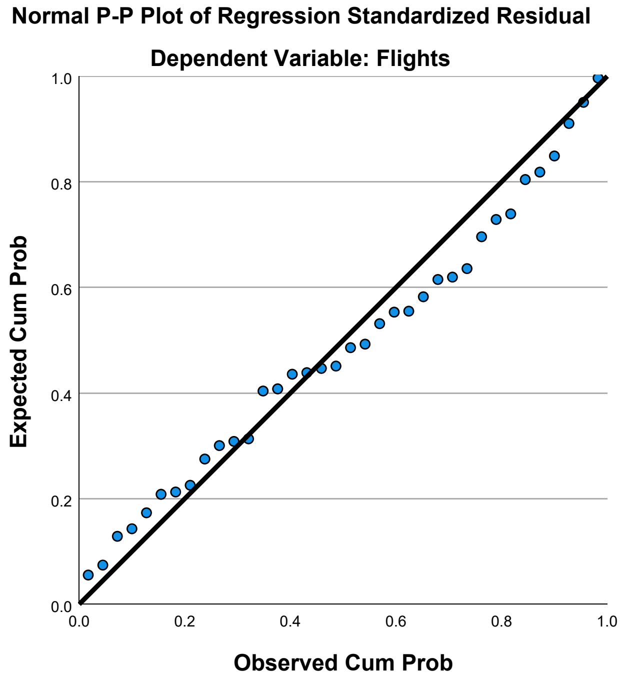
Residuals Statistics[a]

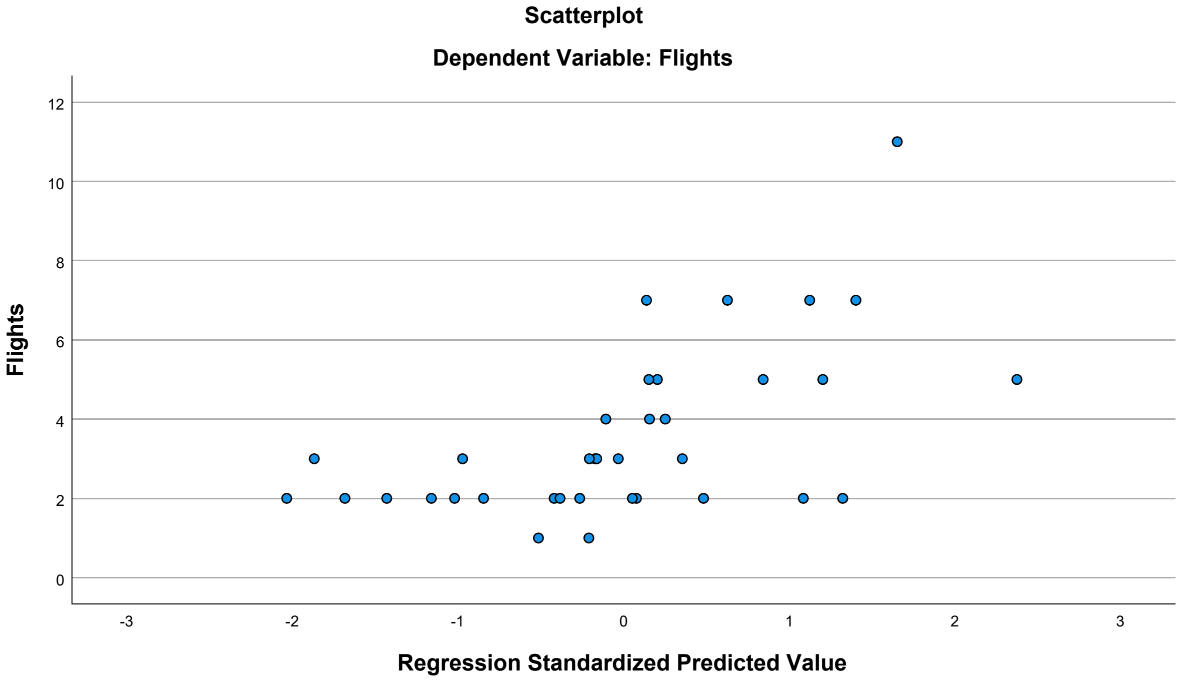
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.97	6.51	3.53	1.255	36
Residual	-3.188	5.399	.000	1.756	36
Std. Predicted Value	-2.035	2.375	.000	1.000	36
Std. Residual	-1.595	2.701	.000	.878	36

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	3.53	2.158	36
NAFlights	.67400793651	.31558759178	36
Congestion	5.28	.974	36
GJFK	.56	.504	36
PartnerConcentration	.000100	.0000000	36
Distance	4402.83	1100.059	36
Language	39357.81	64188.261	36
Ethnicity	539881.94	835762.221	36
Urban	17.89	5.564	36

Correlations

		Flights	NAFlights	Congestion	GJFK
Pearson Correlation	Flights	1.000	.300	-.017	.406
	NAFlights	.300	1.000	-.162	.080
	Congestion	-.017	-.162	1.000	.259
	GJFK	.406	.080	.259	1.000
	PartnerConcentration	.	.	.	.
	Distance	.064	.011	-.224	-.427
	Language	.164	-.079	.243	.313
	Ethnicity	-.065	-.018	.168	.145
	Urban	.038	-.311	.586	.247
Sig. (1-tailed)	Flights	.	.038	.460	.007
	NAFlights	.038	.	.173	.322
	Congestion	.460	.173	.	.064
	GJFK	.007	.322	.064	.
	PartnerConcentration	.000	.000	.000	.000
	Distance	.356	.474	.094	.005
	Language	.170	.324	.077	.031
	Ethnicity	.354	.460	.164	.199
	Urban	.412	.032	.000	.073
N	Flights	36	36	36	36
	NAFlights	36	36	36	36
	Congestion	36	36	36	36
	GJFK	36	36	36	36
	PartnerConcentration	36	36	36	36
	Distance	36	36	36	36
	Language	36	36	36	36
	Ethnicity	36	36	36	36
	Urban	36	36	36	36

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
Pearson Correlation	Flights	.	.064	.164	-.065
	NAFlights	.	.011	-.079	-.018
	Congestion	.	-.224	.243	.168
	GJFK	.	-.427	.313	.145
	PartnerConcentration	1.000	.	.	.
	Distance	.	1.000	-.076	-.373
	Language	.	-.076	1.000	.008
	Ethnicity	.	-.373	.008	1.000
	Urban	.	-.372	.134	.317
Sig. (1-tailed)	Flights	.000	.356	.170	.354
	NAFlights	.000	.474	.324	.460
	Congestion	.000	.094	.077	.164
	GJFK	.000	.005	.031	.199
	PartnerConcentration	.	.000	.000	.000
	Distance	.000	.	.329	.013
	Language	.000	.329	.	.482
	Ethnicity	.000	.013	.482	.
	Urban	.000	.013	.218	.030
N	Flights	36	36	36	36
	NAFlights	36	36	36	36
	Congestion	36	36	36	36
	GJFK	36	36	36	36
	PartnerConcentration	36	36	36	36
	Distance	36	36	36	36
	Language	36	36	36	36
	Ethnicity	36	36	36	36
	Urban	36	36	36	36

Correlations

		Urban
Pearson Correlation	Flights	.038
	NAFlights	-.311
	Congestion	.586
	GJFK	.247
	PartnerConcentration	.
	Distance	-.372
	Language	.134
	Ethnicity	.317
	Urban	1.000
Sig. (1-tailed)	Flights	.412
	NAFlights	.032
	Congestion	.000
	GJFK	.073
	PartnerConcentration	.000
	Distance	.013
	Language	.218
	Ethnicity	.030
	Urban	.
N	Flights	36
	NAFlights	36
	Congestion	36
	GJFK	36
	PartnerConcentration	36
	Distance	36
	Language	36
	Ethnicity	36
	Urban	36

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, NAFlights, Ethnicity, GJFK, Distance, ...[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.578[a]	.334	.168	1.968	.334	2.009

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	7	28	.090

a. Predictors: (Constant), Urban, Language, NAFlights, Ethnicity, GJFK, Distance, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	54.487	7	7.784	2.009	.090[b]
	Residual	108.485	28	3.874		
	Total	162.972	35			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, NAFlights, Ethnicity, GJFK, Distance, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.256	3.001		-.419	.679
	NAFlights	2.112	1.135	.309	1.861	.073
	Congestion	-.377	.433	-.170	-.871	.391
	GJFK	2.058	.784	.481	2.626	.014
	Distance	.001	.000	.296	1.582	.125
	Language	2.358E-6	.000	.070	.421	.677
	Ethnicity	-1.691E-7	.000	-.065	-.384	.704
	Urban	.092	.083	.237	1.111	.276

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	NAFlights	.863	1.158
	Congestion	.623	1.605
	GJFK	.710	1.409
	Distance	.677	1.477
	Language	.858	1.165
	Ethnicity	.818	1.222
	Urban	.522	1.916

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	Congestion	GJFK
1	1	6.006	1.000	.00	.00	.00	.01
	2	.725	2.878	.00	.00	.00	.02
	3	.662	3.013	.00	.01	.00	.02
	4	.343	4.184	.00	.00	.00	.70
	5	.177	5.827	.00	.58	.01	.00
	6	.060	9.993	.00	.25	.01	.19
	7	.018	18.230	.02	.06	.64	.03
	8	.009	25.862	.97	.10	.34	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Distance	Language	Ethnicity	Urban
1	1	.00	.01	.01	.00
	2	.00	.58	.19	.00
	3	.01	.11	.55	.00
	4	.01	.24	.06	.00
	5	.00	.04	.03	.06
	6	.30	.00	.14	.25
	7	.23	.01	.00	.67
	8	.46	.01	.02	.02

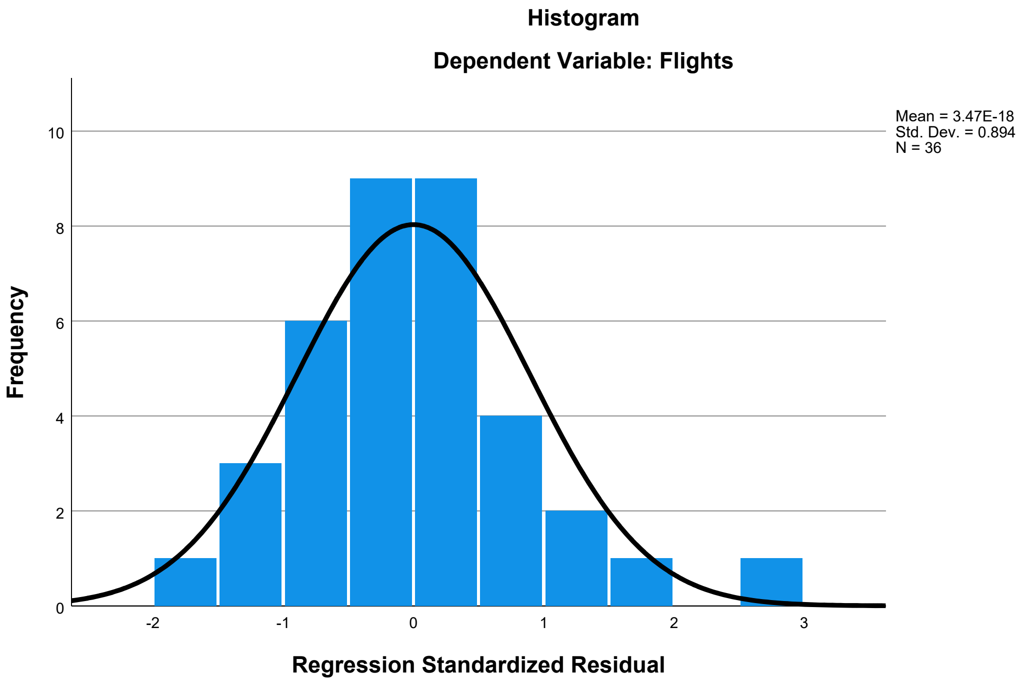
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.03	6.57	3.53	1.248	36
Residual	-3.226	5.477	.000	1.761	36
Std. Predicted Value	-2.005	2.440	.000	1.000	36
Std. Residual	-1.639	2.782	.000	.894	36

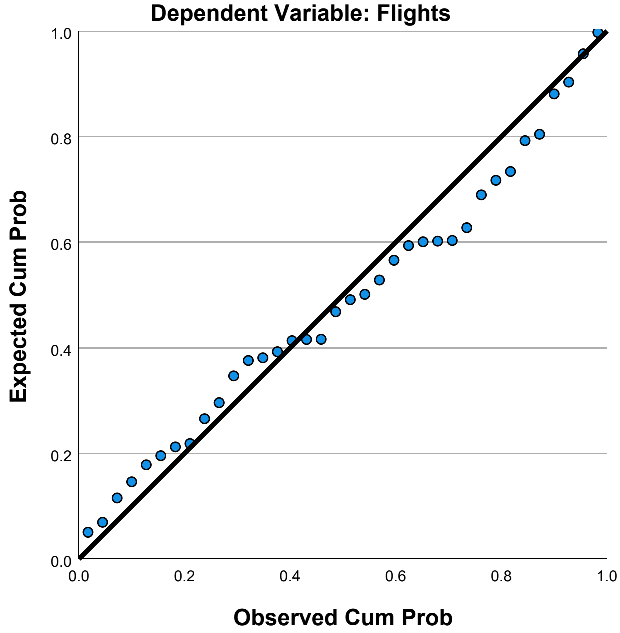
a. Dependent Variable: Flights

Charts



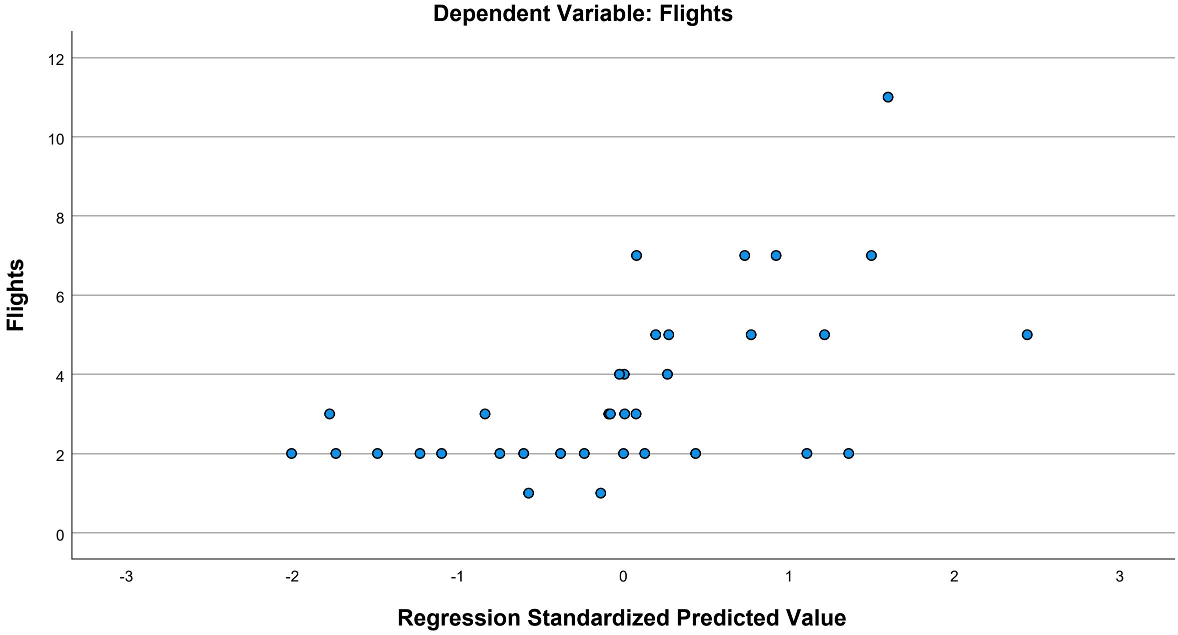
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	3.53	2.158	36
NAFlights	.67400793651	.31558759178	36
Congestion	5.28	.974	36
GJFK	.56	.504	36
PartnerConcentration	.000100	.0000000	36
Distance	4402.83	1100.059	36
Language	39357.81	64188.261	36
Urban	17.89	5.564	36

Correlations

		Flights	NAFlights	Congestion	GJFK
Pearson Correlation	Flights	1.000	.300	-.017	.406
	NAFlights	.300	1.000	-.162	.080
	Congestion	-.017	-.162	1.000	.259
	GJFK	.406	.080	.259	1.000
	PartnerConcentration	.	.	.	.
	Distance	.064	.011	-.224	-.427
	Language	.164	-.079	.243	.313
	Urban	.038	-.311	.586	.247
Sig. (1-tailed)	Flights	.	.038	.460	.007
	NAFlights	.038	.	.173	.322
	Congestion	.460	.173	.	.064
	GJFK	.007	.322	.064	.
	PartnerConcentration	.000	.000	.000	.000
	Distance	.356	.474	.094	.005
	Language	.170	.324	.077	.031
	Urban	.412	.032	.000	.073
N	Flights	36	36	36	36
	NAFlights	36	36	36	36
	Congestion	36	36	36	36
	GJFK	36	36	36	36
	PartnerConcentration	36	36	36	36
	Distance	36	36	36	36
	Language	36	36	36	36
	Urban	36	36	36	36

Correlations

		PartnerConcentration	Distance	Language	Urban
Pearson Correlation	Flights	.	.064	.164	.038
	NAFlights	.	.011	-.079	-.311
	Congestion	.	-.224	.243	.586
	GJFK	.	-.427	.313	.247
	PartnerConcentration	1.000	.	.	.
	Distance	.	1.000	-.076	-.372
	Language	.	-.076	1.000	.134
	Urban	.	-.372	.134	1.000
Sig. (1-tailed)	Flights	.000	.356	.170	.412
	NAFlights	.000	.474	.324	.032
	Congestion	.000	.094	.077	.000
	GJFK	.000	.005	.031	.073
	PartnerConcentration	.	.000	.000	.000
	Distance	.000	.	.329	.013
	Language	.000	.329	.	.218
	Urban	.000	.013	.218	.
N	Flights	36	36	36	36
	NAFlights	36	36	36	36
	Congestion	36	36	36	36
	GJFK	36	36	36	36
	PartnerConcentration	36	36	36	36
	Distance	36	36	36	36
	Language	36	36	36	36
	Urban	36	36	36	36

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, NAFlights, Distance, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.575[a]	.331	.192	1.939	.331	2.389

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	29	.053

a. Predictors: (Constant), Urban, Language, NAFlights, Distance, GJFK, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	53.915	6	8.986	2.389	.053[b]
	Residual	109.057	29	3.761		
	Total	162.972	35			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, NAFlights, Distance, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-1.412	2.930		-.482	.634
	NAFlights	2.085	1.116	.305	1.869	.072
	Congestion	-.374	.426	-.169	-.878	.387
	GJFK	2.068	.772	.483	2.680	.012
	Distance	.001	.000	.316	1.783	.085
	Language	2.419E-6	.000	.072	.439	.664
	Urban	.086	.080	.221	1.071	.293

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	NAFlights	.867	1.154
	Congestion	.623	1.604
	GJFK	.710	1.408
	Distance	.733	1.364
	Language	.859	1.164
	Urban	.543	1.842

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	Congestion	GJFK
1	1	5.658	1.000	.00	.00	.00	.01
	2	.708	2.828	.00	.01	.00	.03
	3	.356	3.988	.00	.00	.00	.67
	4	.183	5.566	.00	.56	.01	.00
	5	.069	9.040	.00	.26	.00	.23
	6	.018	17.691	.02	.06	.64	.03
	7	.009	24.851	.97	.11	.35	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Distance	Language	Urban
1	1	.00	.01	.00
	2	.00	.68	.00
	3	.01	.24	.00
	4	.00	.03	.07
	5	.30	.01	.20
	6	.24	.01	.71
	7	.44	.02	.03

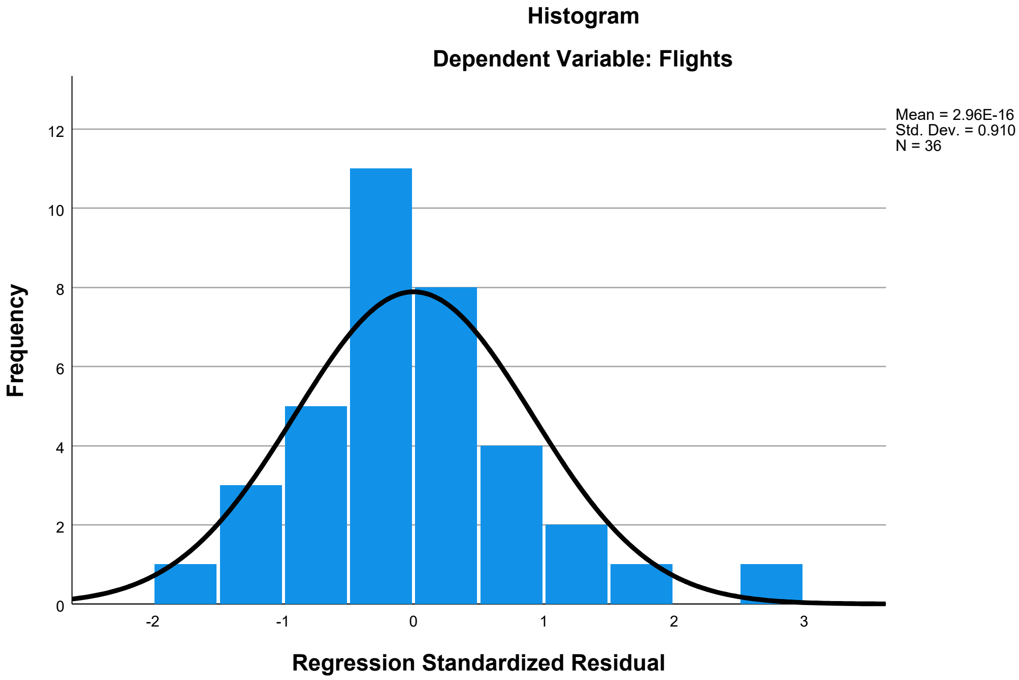
a. Dependent Variable: Flights

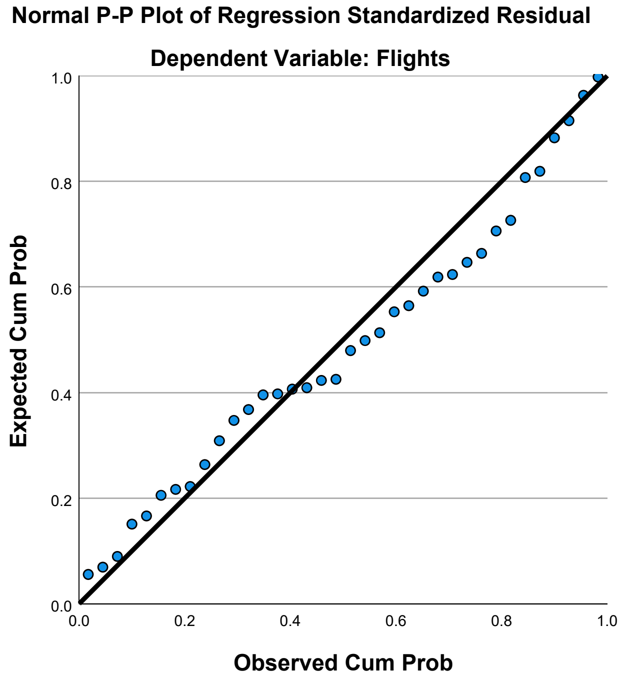
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.95	6.52	3.53	1.241	36
Residual	-3.089	5.491	.000	1.765	36
Std. Predicted Value	-2.078	2.410	.000	1.000	36
Std. Residual	-1.593	2.831	.000	.910	36

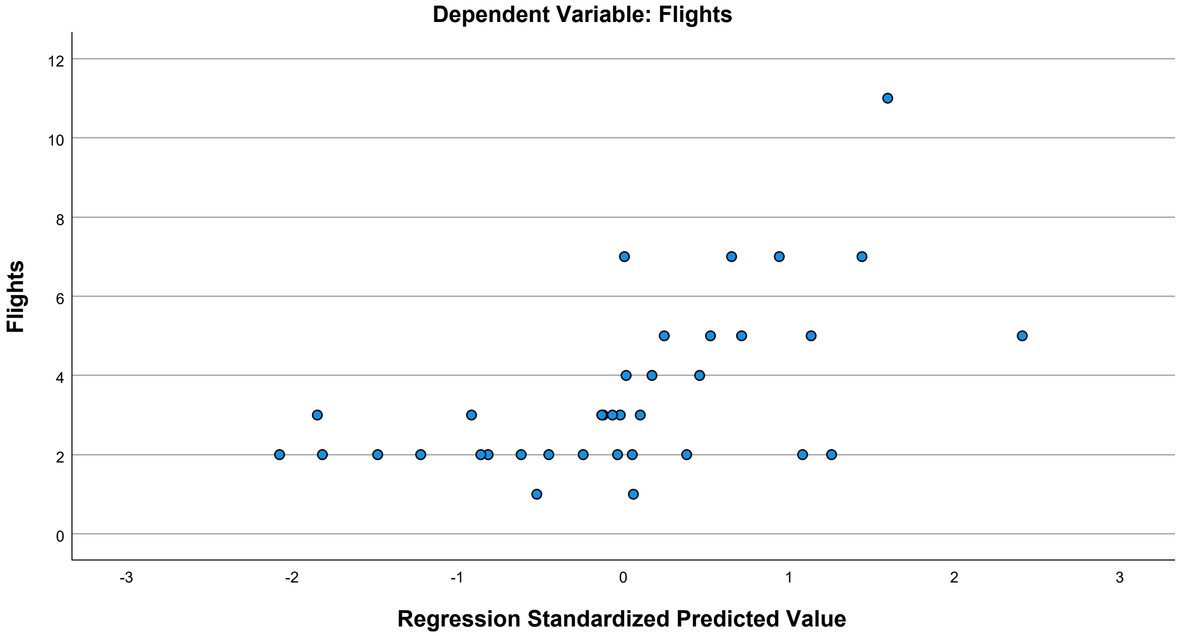
a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 2.96E-16
Std. Dev. = 0.910
N = 36
Frequency
0
2
4
6
8
10
12
-2
-1
0
1
2
3
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob

Scatterplot



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	3.53	2.158	36
NAFlights	.67400793651	.31558759178	36
Congestion	5.28	.974	36
GJFK	.56	.504	36
PartnerConcentration	.000100	.0000000	36
Distance	4402.83	1100.059	36
Urban	17.89	5.564	36

Correlations

		Flights	NAFlights	Congestion	GJFK
Pearson Correlation	Flights	1.000	.300	-.017	.406
	NAFlights	.300	1.000	-.162	.080
	Congestion	-.017	-.162	1.000	.259
	GJFK	.406	.080	.259	1.000
	PartnerConcentration	.	.	.	.
	Distance	.064	.011	-.224	-.427
	Urban	.038	-.311	.586	.247
Sig. (1-tailed)	Flights	.	.038	.460	.007
	NAFlights	.038	.	.173	.322
	Congestion	.460	.173	.	.064
	GJFK	.007	.322	.064	.
	PartnerConcentration	.000	.000	.000	.000
	Distance	.356	.474	.094	.005
	Urban	.412	.032	.000	.073
N	Flights	36	36	36	36
	NAFlights	36	36	36	36
	Congestion	36	36	36	36
	GJFK	36	36	36	36
	PartnerConcentration	36	36	36	36
	Distance	36	36	36	36
	Urban	36	36	36	36

Correlations

		PartnerConcentration	Distance	Urban
Pearson Correlation	Flights	.	.064	.038
	NAFlights	.	.011	-.311
	Congestion	.	-.224	.586
	GJFK	.	-.427	.247
	PartnerConcentration	1.000	.	.
	Distance	.	1.000	-.372
	Urban	.	-.372	1.000
Sig. (1-tailed)	Flights	.000	.356	.412
	NAFlights	.000	.474	.032
	Congestion	.000	.094	.000
	GJFK	.000	.005	.073
	PartnerConcentration	.	.000	.000
	Distance	.000	.	.013
	Urban	.000	.013	.
N	Flights	36	36	36
	NAFlights	36	36	36
	Congestion	36	36	36
	GJFK	36	36	36
	PartnerConcentration	36	36	36
	Distance	36	36	36
	Urban	36	36	36

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, GJFK, NAFlights, Distance, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.571[a]	.326	.214	1.913	.326	2.907

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	5	30	.030

a. Predictors: (Constant), Urban, GJFK, NAFlights, Distance, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	53.190	5	10.638	2.907	.030[b]
	Residual	109.782	30	3.659		
	Total	162.972	35			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, GJFK, NAFlights, Distance, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-1.531	2.878		-.532	.599
	NAFlights	2.040	1.096	.298	1.862	.072
	Congestion	-.342	.414	-.155	-.826	.415
	GJFK	2.167	.728	.506	2.974	.006
	Distance	.001	.000	.322	1.847	.075
	Urban	.084	.079	.217	1.067	.295

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	NAFlights	.874	1.144
	Congestion	.642	1.559
	GJFK	.776	1.289
	Distance	.738	1.356
	Urban	.544	1.838

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	Congestion	GJFK
1	1	5.306	1.000	.00	.00	.00	.01
	2	.410	3.598	.00	.01	.00	.69
	3	.187	5.332	.00	.56	.01	.01
	4	.070	8.719	.00	.25	.00	.23
	5	.018	17.043	.02	.05	.66	.05
	6	.009	23.882	.98	.12	.33	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Distance	Urban
1	1	.00	.00
	2	.01	.00
	3	.00	.06
	4	.30	.20
	5	.24	.70
	6	.44	.03

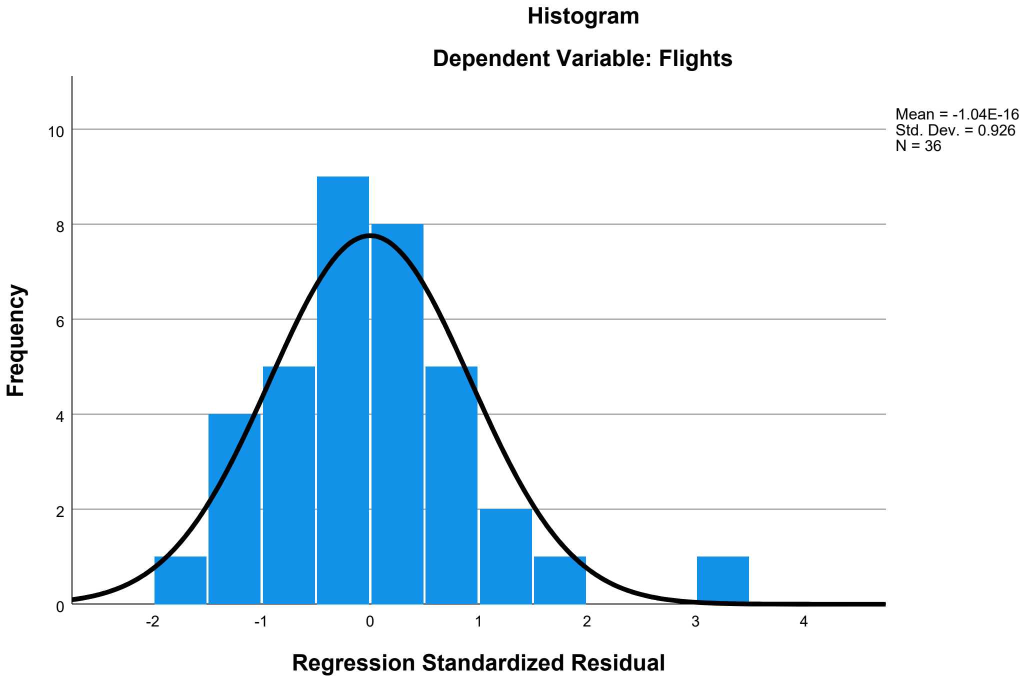
a. Dependent Variable: Flights

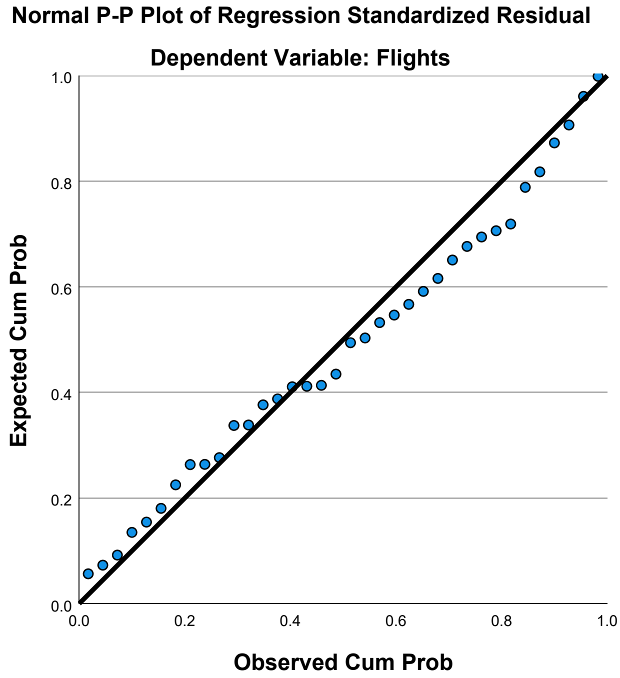
Residuals Statistics[a]

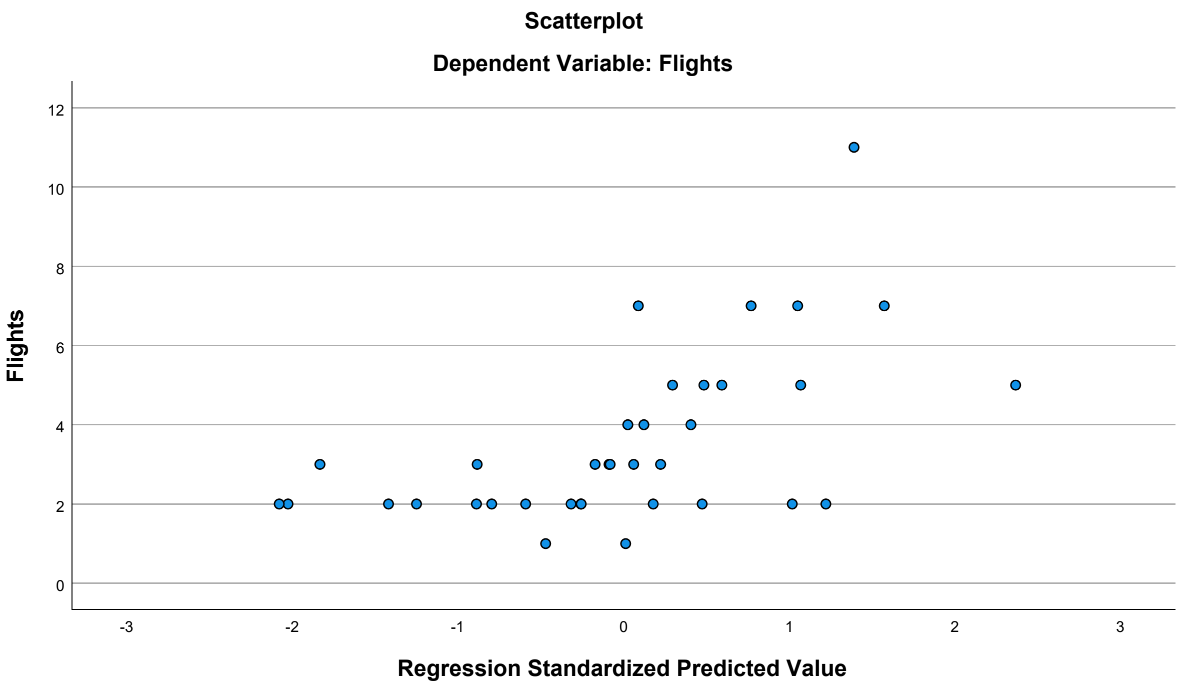
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.96	6.45	3.53	1.233	36
Residual	-3.033	5.757	.000	1.771	36
Std. Predicted Value	-2.081	2.367	.000	1.000	36
Std. Residual	-1.586	3.010	.000	.926	36

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -1.04E-16
Std. Dev. = 0.926
N = 36
Frequency
10
8
6
4
2
0
-2
-1
0
1
2
3
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
12
10
8
6
4
2
0
-3
-2
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

```
[DataSet6] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airline R
egion\2002 - nonEuro Based.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.09	3.423	34
HomeConcentration	.22362011765	.40855495405	34
Congestion	4.62	1.256	34
GLHR	.12	.327	34
GJFK	.50	.508	34
PartnerConcentration	.34415897059	1.4258937512	34
Seasonality	.64524844029	.21057360354	34
Distance	4.65182	1.156115	34
Language	3.22905141	4.983977742	34
Ethnicity	.48634356	.763678014	34
Urban	16.26	5.259	34

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.104	.361	.153
	HomeConcentration	.104	1.000	.136	-.177
	Congestion	.361	.136	1.000	.260
	GLHR	.153	-.177	.260	1.000
	GJFK	.235	.056	.404	.000
	PartnerConcentration	.014	-.121	.076	.147
	Seasonality	-.250	-.161	-.334	-.260
	Distance	.025	.408	.037	-.185
	Language	.021	-.305	.155	.508
	Ethnicity	.058	-.277	.082	.203
	Urban	.221	.058	.603	.475
Sig. (1-tailed)	Flights	.	.280	.018	.194
	HomeConcentration	.280	.	.221	.158
	Congestion	.018	.221	.	.068
	GLHR	.194	.158	.068	.
	GJFK	.090	.378	.009	.500
	PartnerConcentration	.468	.248	.335	.203
	Seasonality	.077	.182	.027	.069
	Distance	.444	.008	.418	.148
	Language	.452	.040	.191	.001
	Ethnicity	.373	.057	.323	.124
	Urban	.105	.373	.000	.002
N	Flights	34	34	34	34
	HomeConcentration	34	34	34	34

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.235	.014	-.250	.025
	HomeConcentration	.056	-.121	-.161	.408
	Congestion	.404	.076	-.334	.037
	GLHR	.000	.147	-.260	-.185
	GJFK	1.000	-.245	-.097	-.091
	PartnerConcentration	-.245	1.000	.023	-.032
	Seasonality	-.097	.023	1.000	.048
	Distance	-.091	-.032	.048	1.000
	Language	.119	-.078	-.132	-.480
	Ethnicity	.030	-.058	.113	-.520
	Urban	.210	.210	-.169	-.004
Sig. (1-tailed)	Flights	.090	.468	.077	.444
	HomeConcentration	.378	.248	.182	.008
	Congestion	.009	.335	.027	.418
	GLHR	.500	.203	.069	.148
	GJFK	.	.081	.292	.304
	PartnerConcentration	.081	.	.448	.428
	Seasonality	.292	.448	.	.394
	Distance	.304	.428	.394	.
	Language	.252	.331	.228	.002
	Ethnicity	.433	.371	.263	.001
	Urban	.117	.117	.170	.490
N	Flights	34	34	34	34
	HomeConcentration	34	34	34	34

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.021	.058	.221
	HomeConcentration	-.305	-.277	.058
	Congestion	.155	.082	.603
	GLHR	.508	.203	.475
	GJFK	.119	.030	.210
	PartnerConcentration	-.078	-.058	.210
	Seasonality	-.132	.113	-.169
	Distance	-.480	-.520	-.004
	Language	1.000	.632	-.052
	Ethnicity	.632	1.000	-.033
	Urban	-.052	-.033	1.000
Sig. (1-tailed)	Flights	.452	.373	.105
	HomeConcentration	.040	.057	.373
	Congestion	.191	.323	.000
	GLHR	.001	.124	.002
	GJFK	.252	.433	.117
	PartnerConcentration	.331	.371	.117
	Seasonality	.228	.263	.170
	Distance	.002	.001	.490
	Language	.	.000	.386
	Ethnicity	.000	.	.427
	Urban	.386	.427	.
N	Flights	34	34	34
	HomeConcentration	34	34	34

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	34	34	34	34
	GLHR	34	34	34	34
	GJFK	34	34	34	34
	PartnerConcentration	34	34	34	34
	Seasonality	34	34	34	34
	Distance	34	34	34	34
	Language	34	34	34	34
	Ethnicity	34	34	34	34
	Urban	34	34	34	34

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	34	34	34	34
GLHR	34	34	34	34
GJFK	34	34	34	34
PartnerConcentration	34	34	34	34
Seasonality	34	34	34	34
Distance	34	34	34	34
Language	34	34	34	34
Ethnicity	34	34	34	34
Urban	34	34	34	34

Correlations

	Language	Ethnicity	Urban
Congestion	34	34	34
GLHR	34	34	34
GJFK	34	34	34
PartnerConcentration	34	34	34
Seasonality	34	34	34
Distance	34	34	34
Language	34	34	34
Ethnicity	34	34	34
Urban	34	34	34

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Seasonality, PartnerConcentration, GJFK, HomeConcentration, Language, Ethnicity, Congestion, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.441[a]	.195	-.155	3.680	.195	.556

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	23	.832

a. Predictors: (Constant), Urban, Distance, Seasonality, PartnerConcentration, GJFK, HomeConcentration, Language, Ethnicity, Congestion, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75.342	10	7.534	.556	.832[b]
	Residual	311.393	23	13.539		
	Total	386.735	33			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Seasonality, PartnerConcentration, GJFK, HomeConcentration, Language, Ethnicity, Congestion, GLHR

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.324	5.005		.464	.647
	HomeConcentration	.291	1.815	.035	.160	.874
	Congestion	.734	.780	.269	.941	.356
	GLHR	2.034	3.105	.194	.655	.519
	GJFK	1.137	1.495	.169	.761	.455
	PartnerConcentration	.075	.494	.031	.151	.881
	Seasonality	-2.725	3.536	-.168	-.771	.449
	Distance	.121	.733	.041	.165	.870
	Language	-.182	.230	-.265	-.790	.438
	Ethnicity	.925	1.217	.206	.760	.455
	Urban	-.073	.201	-.113	-.365	.718

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.746	1.341
	Congestion	.428	2.338
	GLHR	.398	2.514
	GJFK	.713	1.403
	PartnerConcentration	.828	1.207
	Seasonality	.740	1.351
	Distance	.571	1.751
	Language	.312	3.204
	Ethnicity	.475	2.107
	Urban	.367	2.724

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.487	1.000	.00	.00	.00
	2	1.512	2.071	.00	.09	.00
	3	1.069	2.463	.00	.00	.00
	4	.691	3.064	.00	.17	.00
	5	.508	3.574	.00	.49	.00
	6	.375	4.157	.00	.09	.00
	7	.203	5.659	.00	.00	.00
	8	.085	8.734	.00	.07	.09
	9	.040	12.728	.01	.07	.00
	10	.018	19.126	.04	.00	.90
	11	.012	23.227	.95	.02	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.05	.00	.00	.00	.00	.04
	3	.01	.02	.58	.00	.00	.01
	4	.26	.00	.04	.01	.00	.00
	5	.01	.17	.02	.00	.00	.02
	6	.02	.51	.28	.02	.01	.01
	7	.12	.02	.02	.00	.00	.58
	8	.18	.16	.02	.40	.00	.01
	9	.09	.07	.03	.23	.40	.08
	10	.16	.04	.01	.25	.08	.10
	11	.08	.00	.00	.10	.52	.15

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.04	.00
	3	.02	.00
	4	.08	.00
	5	.15	.00
	6	.01	.00
	7	.49	.01
	8	.00	.05
	9	.19	.25
	10	.01	.52
	11	.01	.16

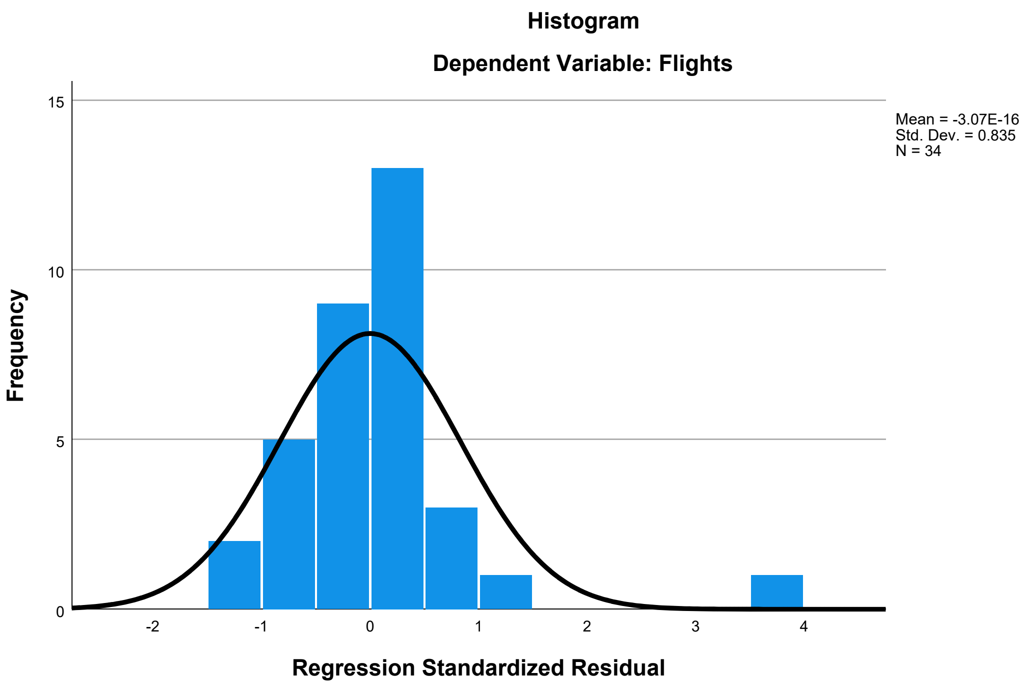
a. Dependent Variable: Flights

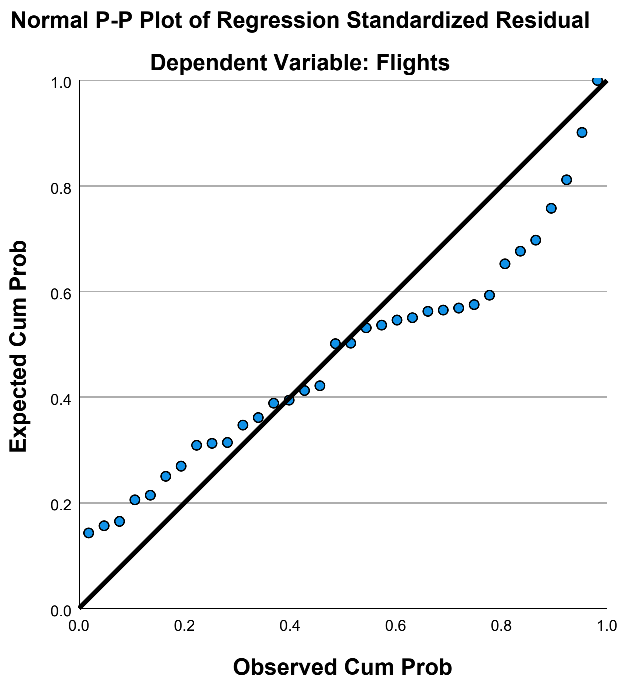
Residuals Statistics[a]

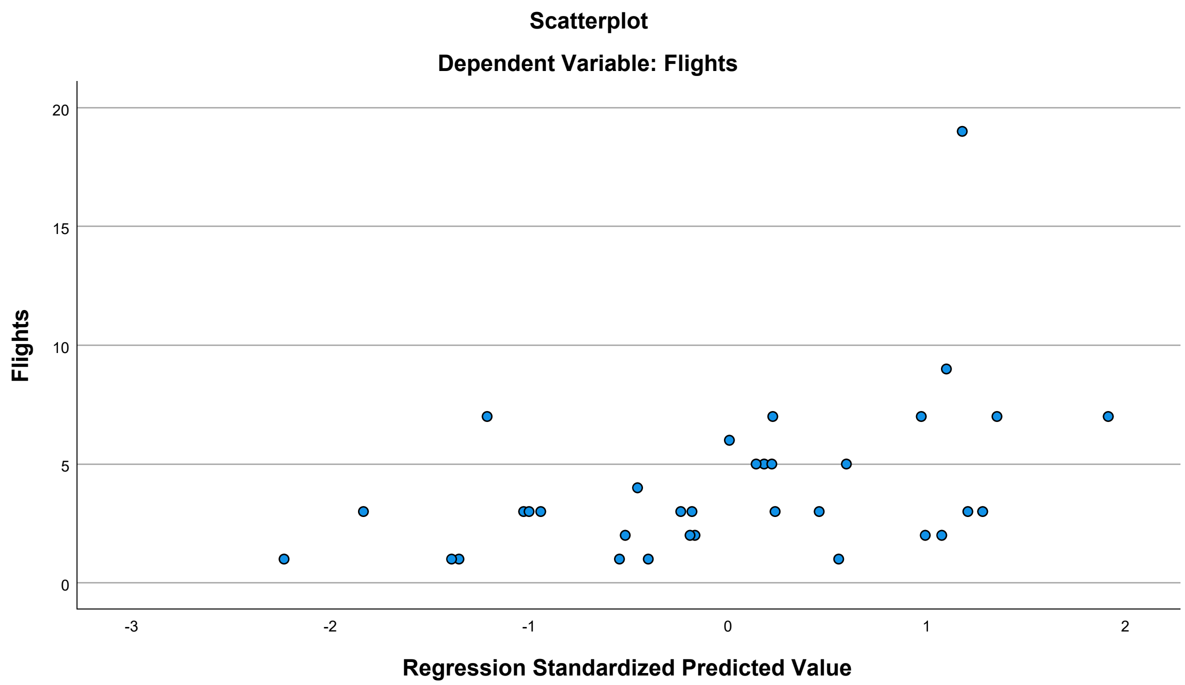
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.71	6.98	4.09	1.511	34
Residual	-3.930	13.130	.000	3.072	34
Std. Predicted Value	-2.234	1.914	.000	1.000	34
Std. Residual	-1.068	3.569	.000	.835	34

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -3.07E-16
Std. Dev. = 0.835
N = 34
Frequency
15
10
5
0
-2
-1
0
1
2
3
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.09	3.423	34
HomeConcentration	.22362011765	.40855495405	34
Congestion	4.62	1.256	34
GLHR	.12	.327	34
GJFK	.50	.508	34
PartnerConcentration	.34415897059	1.4258937512	34
Seasonality	.64524844029	.21057360354	34
Distance	4.65182	1.156115	34
Ethnicity	.48634356	.763678014	34
Urban	16.26	5.259	34

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.104	.361	.153
	HomeConcentration	.104	1.000	.136	-.177
	Congestion	.361	.136	1.000	.260
	GLHR	.153	-.177	.260	1.000
	GJFK	.235	.056	.404	.000
	PartnerConcentration	.014	-.121	.076	.147
	Seasonality	-.250	-.161	-.334	-.260
	Distance	.025	.408	.037	-.185
	Ethnicity	.058	-.277	.082	.203
	Urban	.221	.058	.603	.475
Sig. (1-tailed)	Flights	.	.280	.018	.194
	HomeConcentration	.280	.	.221	.158
	Congestion	.018	.221	.	.068
	GLHR	.194	.158	.068	.
	GJFK	.090	.378	.009	.500
	PartnerConcentration	.468	.248	.335	.203
	Seasonality	.077	.182	.027	.069
	Distance	.444	.008	.418	.148
	Ethnicity	.373	.057	.323	.124
	Urban	.105	.373	.000	.002
N	Flights	34	34	34	34
	HomeConcentration	34	34	34	34
	Congestion	34	34	34	34
	GLHR	34	34	34	34
	GJFK	34	34	34	34
	PartnerConcentration	34	34	34	34
	Seasonality	34	34	34	34
	Distance	34	34	34	34
	Ethnicity	34	34	34	34
	Urban	34	34	34	34

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.235	.014	-.250	.025
	HomeConcentration	.056	-.121	-.161	.408
	Congestion	.404	.076	-.334	.037
	GLHR	.000	.147	-.260	-.185
	GJFK	1.000	-.245	-.097	-.091
	PartnerConcentration	-.245	1.000	.023	-.032
	Seasonality	-.097	.023	1.000	.048
	Distance	-.091	-.032	.048	1.000
	Ethnicity	.030	-.058	.113	-.520
	Urban	.210	.210	-.169	-.004
Sig. (1-tailed)	Flights	.090	.468	.077	.444
	HomeConcentration	.378	.248	.182	.008
	Congestion	.009	.335	.027	.418
	GLHR	.500	.203	.069	.148
	GJFK	.	.081	.292	.304
	PartnerConcentration	.081	.	.448	.428
	Seasonality	.292	.448	.	.394
	Distance	.304	.428	.394	.
	Ethnicity	.433	.371	.263	.001
	Urban	.117	.117	.170	.490
N	Flights	34	34	34	34
	HomeConcentration	34	34	34	34
	Congestion	34	34	34	34
	GLHR	34	34	34	34
	GJFK	34	34	34	34
	PartnerConcentration	34	34	34	34
	Seasonality	34	34	34	34
	Distance	34	34	34	34
	Ethnicity	34	34	34	34
	Urban	34	34	34	34

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.058	.221
	HomeConcentration	-.277	.058
	Congestion	.082	.603
	GLHR	.203	.475
	GJFK	.030	.210
	PartnerConcentration	-.058	.210
	Seasonality	.113	-.169
	Distance	-.520	-.004
	Ethnicity	1.000	-.033
	Urban	-.033	1.000
Sig. (1-tailed)	Flights	.373	.105
	HomeConcentration	.057	.373
	Congestion	.323	.000
	GLHR	.124	.002
	GJFK	.433	.117
	PartnerConcentration	.371	.117
	Seasonality	.263	.170
	Distance	.001	.490
	Ethnicity	.	.427
	Urban	.427	.
N	Flights	34	34
	HomeConcentration	34	34
	Congestion	34	34
	GLHR	34	34
	GJFK	34	34
	PartnerConcentration	34	34
	Seasonality	34	34
	Distance	34	34
	Ethnicity	34	34
	Urban	34	34

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Seasonality, PartnerConcentration, GJFK, HomeConcentration, Ethnicity, GLHR, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.416[a]	.173	-.137	3.651	.173	.558

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	24	.817

a. Predictors: (Constant), Urban, Distance, Seasonality, PartnerConcentration, GJFK, HomeConcentration, Ethnicity, GLHR, Co

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	66.892	9	7.432	.558	.817[b]
	Residual	319.843	24	13.327		
	Total	386.735	33			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Seasonality, PartnerConcentration, GJFK, HomeConcentration, Ethnicity, GLHR, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.030	4.693		.219	.828
	HomeConcentration	.420	1.794	.050	.234	.817
	Congestion	.576	.748	.211	.770	.449
	GLHR	.540	2.443	.052	.221	.827
	GJFK	.988	1.471	.147	.672	.508
	PartnerConcentration	.107	.488	.045	.219	.829
	Seasonality	-2.599	3.504	-.160	-.742	.465
	Distance	.244	.711	.082	.343	.734
	Ethnicity	.462	1.059	.103	.436	.666
	Urban	.002	.176	.003	.010	.992

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.752	1.330
	Congestion	.458	2.183
	GLHR	.632	1.581
	GJFK	.724	1.381
	PartnerConcentration	.834	1.199
	Seasonality	.742	1.348
	Distance	.598	1.673
	Ethnicity	.618	1.619
	Urban	.473	2.113

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.109	1.000	.00	.00	.00
	2	1.216	2.242	.00	.13	.00
	3	.965	2.515	.00	.05	.00
	4	.690	2.975	.00	.15	.00
	5	.488	3.539	.00	.40	.00
	6	.368	4.076	.00	.11	.00
	7	.086	8.452	.00	.07	.10
	8	.045	11.691	.02	.04	.00
	9	.020	17.301	.00	.02	.74
	10	.013	21.297	.98	.03	.16

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Ethnicity
1	1	.00	.01	.00	.00	.00	.00
	2	.15	.01	.17	.00	.00	.03
	3	.02	.02	.46	.00	.00	.11
	4	.45	.00	.05	.01	.00	.09
	5	.00	.20	.00	.00	.00	.33
	6	.01	.49	.25	.02	.01	.09
	7	.25	.15	.03	.38	.00	.01
	8	.05	.03	.04	.21	.30	.04
	9	.07	.08	.00	.21	.31	.23
	10	.00	.00	.00	.18	.38	.07

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.09
	8	.40
	9	.51
	10	.00

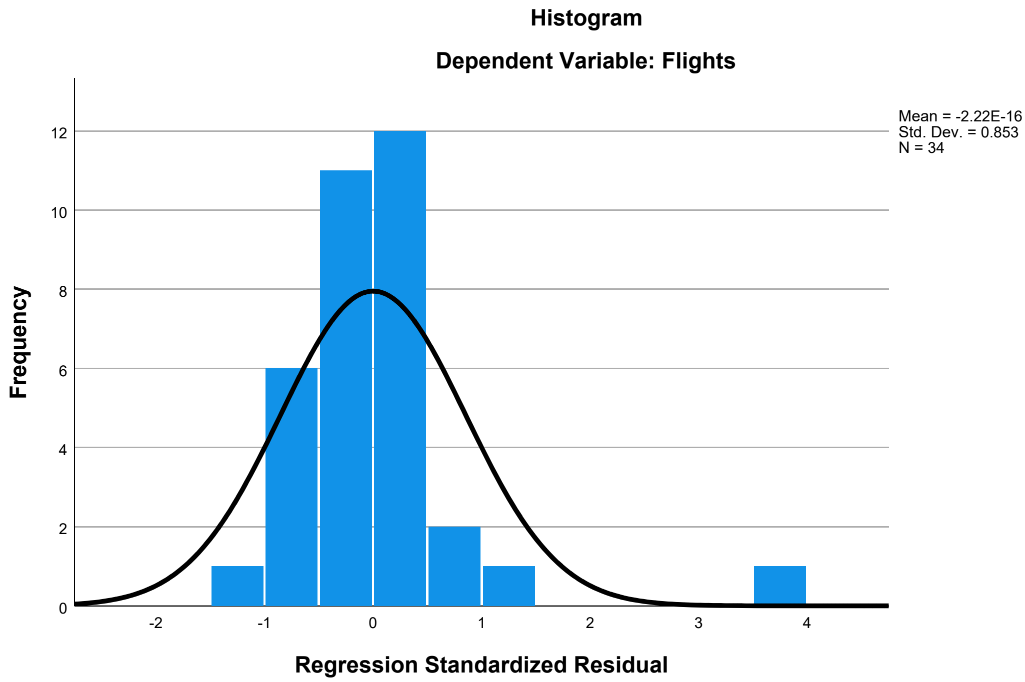
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.96	6.12	4.09	1.424	34
Residual	-3.806	13.487	.000	3.113	34
Std. Predicted Value	-2.199	1.429	.000	1.000	34
Std. Residual	-1.042	3.695	.000	.853	34

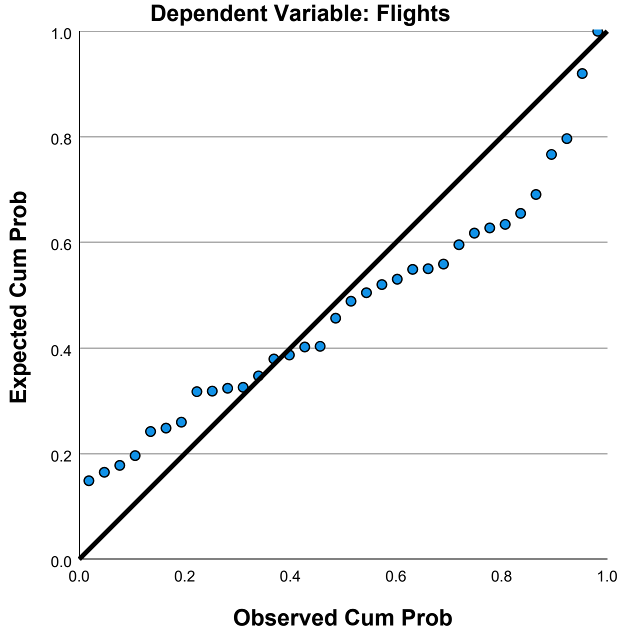
a. Dependent Variable: Flights

Charts



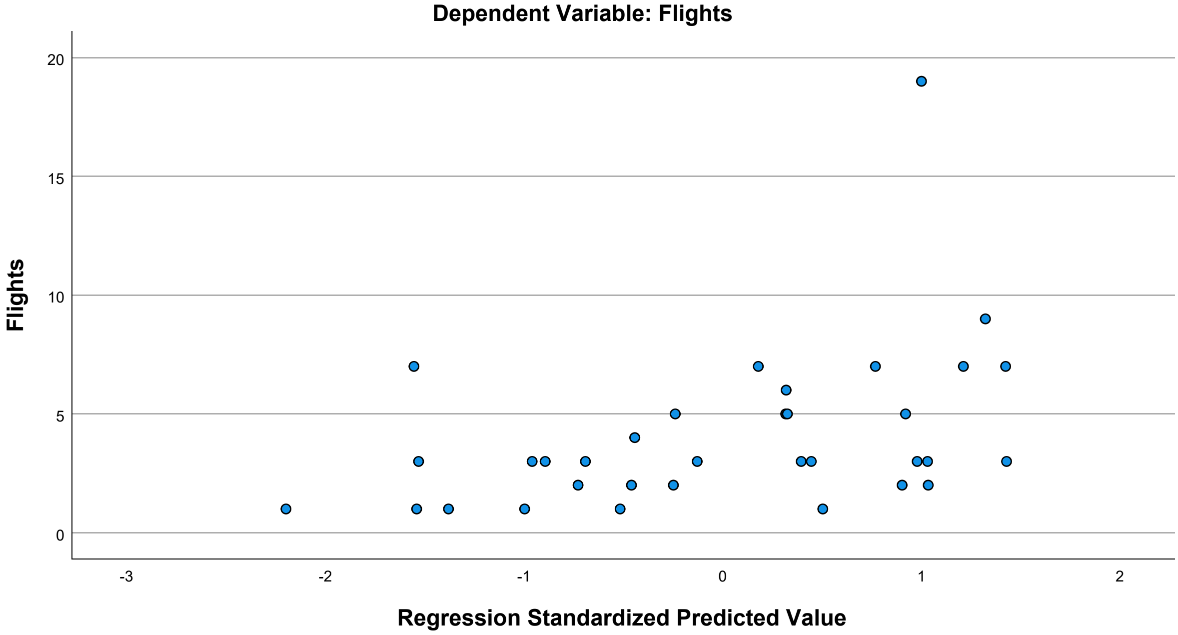
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.09	3.423	34
HomeConcentration	.22362011765	.40855495405	34
Congestion	4.62	1.256	34
GLHR	.12	.327	34
GJFK	.50	.508	34
PartnerConcentration	.34415897059	1.4258937512	34
Seasonality	.64524844029	.21057360354	34
Distance	4.65182	1.156115	34
Ethnicity	.48634356	.763678014	34

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.104	.361	.153
	HomeConcentration	.104	1.000	.136	-.177
	Congestion	.361	.136	1.000	.260
	GLHR	.153	-.177	.260	1.000
	GJFK	.235	.056	.404	.000
	PartnerConcentration	.014	-.121	.076	.147
	Seasonality	-.250	-.161	-.334	-.260
	Distance	.025	.408	.037	-.185
	Ethnicity	.058	-.277	.082	.203
Sig. (1-tailed)	Flights	.	.280	.018	.194
	HomeConcentration	.280	.	.221	.158
	Congestion	.018	.221	.	.068
	GLHR	.194	.158	.068	.
	GJFK	.090	.378	.009	.500
	PartnerConcentration	.468	.248	.335	.203
	Seasonality	.077	.182	.027	.069
	Distance	.444	.008	.418	.148
	Ethnicity	.373	.057	.323	.124
N	Flights	34	34	34	34
	HomeConcentration	34	34	34	34
	Congestion	34	34	34	34
	GLHR	34	34	34	34
	GJFK	34	34	34	34
	PartnerConcentration	34	34	34	34
	Seasonality	34	34	34	34
	Distance	34	34	34	34
	Ethnicity	34	34	34	34

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.235	.014	-.250	.025
	HomeConcentration	.056	-.121	-.161	.408
	Congestion	.404	.076	-.334	.037
	GLHR	.000	.147	-.260	-.185
	GJFK	1.000	-.245	-.097	-.091
	PartnerConcentration	-.245	1.000	.023	-.032
	Seasonality	-.097	.023	1.000	.048
	Distance	-.091	-.032	.048	1.000
	Ethnicity	.030	-.058	.113	-.520
Sig. (1-tailed)	Flights	.090	.468	.077	.444
	HomeConcentration	.378	.248	.182	.008
	Congestion	.009	.335	.027	.418
	GLHR	.500	.203	.069	.148
	GJFK	.	.081	.292	.304
	PartnerConcentration	.081	.	.448	.428
	Seasonality	.292	.448	.	.394
	Distance	.304	.428	.394	.
	Ethnicity	.433	.371	.263	.001
N	Flights	34	34	34	34
	HomeConcentration	34	34	34	34
	Congestion	34	34	34	34
	GLHR	34	34	34	34
	GJFK	34	34	34	34
	PartnerConcentration	34	34	34	34
	Seasonality	34	34	34	34
	Distance	34	34	34	34
	Ethnicity	34	34	34	34

Correlations

		Ethnicity
Pearson Correlation	Flights	.058
	HomeConcentration	-.277
	Congestion	.082
	GLHR	.203
	GJFK	.030
	PartnerConcentration	-.058
	Seasonality	.113
	Distance	-.520
	Ethnicity	1.000
Sig. (1-tailed)	Flights	.373
	HomeConcentration	.057
	Congestion	.323
	GLHR	.124
	GJFK	.433
	PartnerConcentration	.371
	Seasonality	.263
	Distance	.001
	Ethnicity	.
N	Flights	34
	HomeConcentration	34
	Congestion	34
	GLHR	34
	GJFK	34
	PartnerConcentration	34
	Seasonality	34
	Distance	34
	Ethnicity	34

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Ethnicity, GJFK, Seasonality, PartnerConcentration, HomeConcentration, GLHR, Congestion, ...[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.416[a]	.173	-.092	3.577	.173	.654

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	25	.726

a. Predictors: (Constant), Ethnicity, GJFK, Seasonality, PartnerConcentration, HomeConcentration, GLHR, Congestion, Distanc

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	66.891	8	8.361	.654	.726[b]
	Residual	319.845	25	12.794		
	Total	386.735	33			

a. Dependent Variable: Flights

b. Predictors: (Constant), Ethnicity, GJFK, Seasonality, PartnerConcentration, HomeConcentration, GLHR, Congestion, Distance

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.038	4.533		.229	.821
	HomeConcentration	.422	1.751	.050	.241	.812
	Congestion	.580	.620	.213	.935	.359
	GLHR	.552	2.133	.053	.259	.798
	GJFK	.989	1.441	.147	.686	.499
	PartnerConcentration	.108	.473	.045	.227	.822
	Seasonality	-2.593	3.372	-.159	-.769	.449
	Distance	.243	.694	.082	.351	.729
	Ethnicity	.460	1.012	.103	.454	.654

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.758	1.320
	Congestion	.639	1.564
	GLHR	.797	1.255
	GJFK	.725	1.379
	PartnerConcentration	.852	1.174
	Seasonality	.769	1.300
	Distance	.603	1.659
	Ethnicity	.649	1.542

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	5.172	1.000	.00	.01	.00
	2	1.213	2.065	.00	.13	.00
	3	.963	2.317	.00	.05	.00
	4	.687	2.745	.00	.16	.00
	5	.483	3.272	.00	.37	.00
	6	.364	3.771	.00	.12	.00
	7	.076	8.258	.00	.10	.21
	8	.029	13.430	.00	.04	.51
	9	.013	19.580	.99	.02	.28

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Ethnicity
1	1	.00	.01	.00	.00	.00	.01
	2	.20	.01	.17	.00	.00	.04
	3	.02	.02	.49	.00	.00	.11
	4	.59	.00	.05	.01	.00	.08
	5	.00	.23	.00	.00	.00	.34
	6	.02	.45	.24	.02	.01	.11
	7	.16	.12	.01	.49	.01	.01
	8	.00	.16	.05	.28	.61	.24
	9	.00	.00	.00	.20	.36	.06

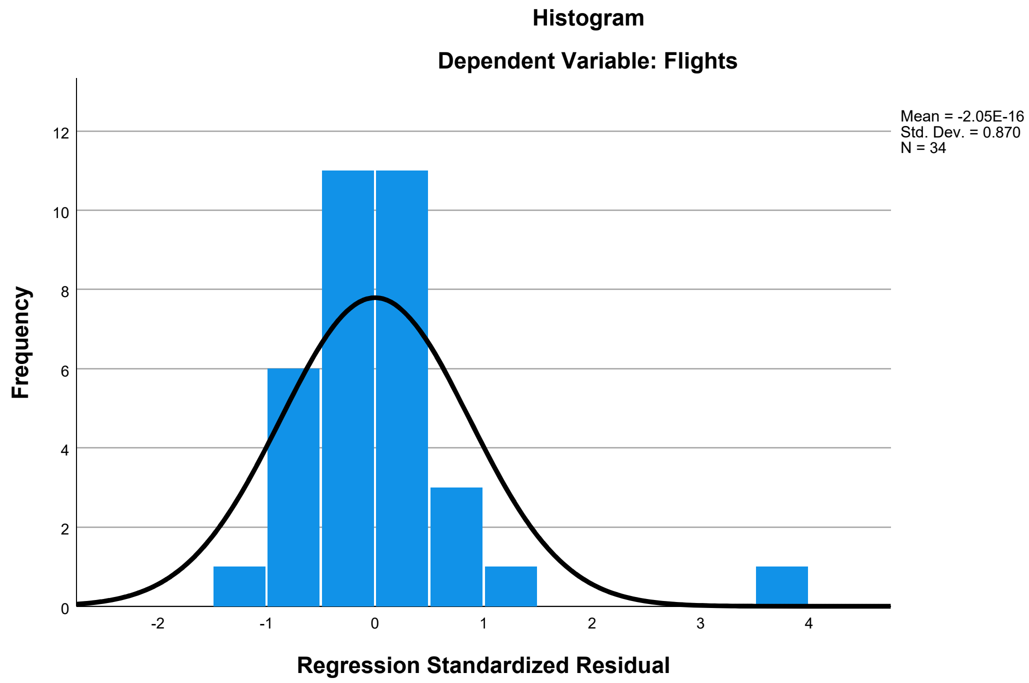
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.97	6.12	4.09	1.424	34
Residual	-3.803	13.482	.000	3.113	34
Std. Predicted Value	-2.191	1.429	.000	1.000	34
Std. Residual	-1.063	3.769	.000	.870	34

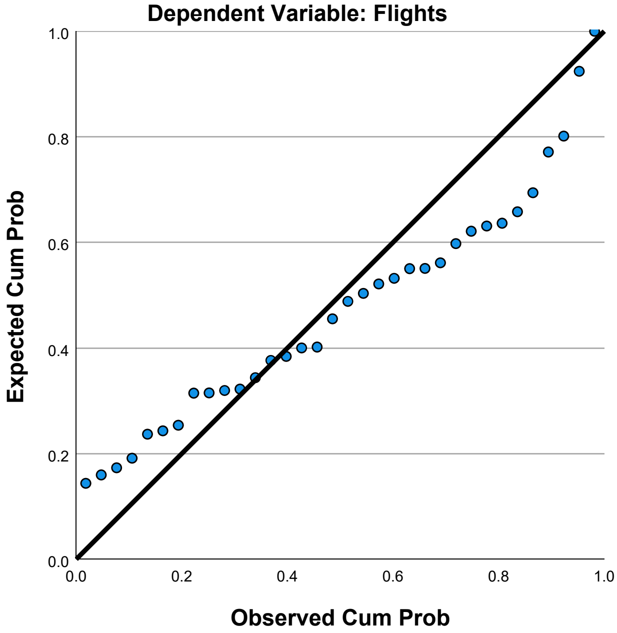
a. Dependent Variable: Flights

Charts



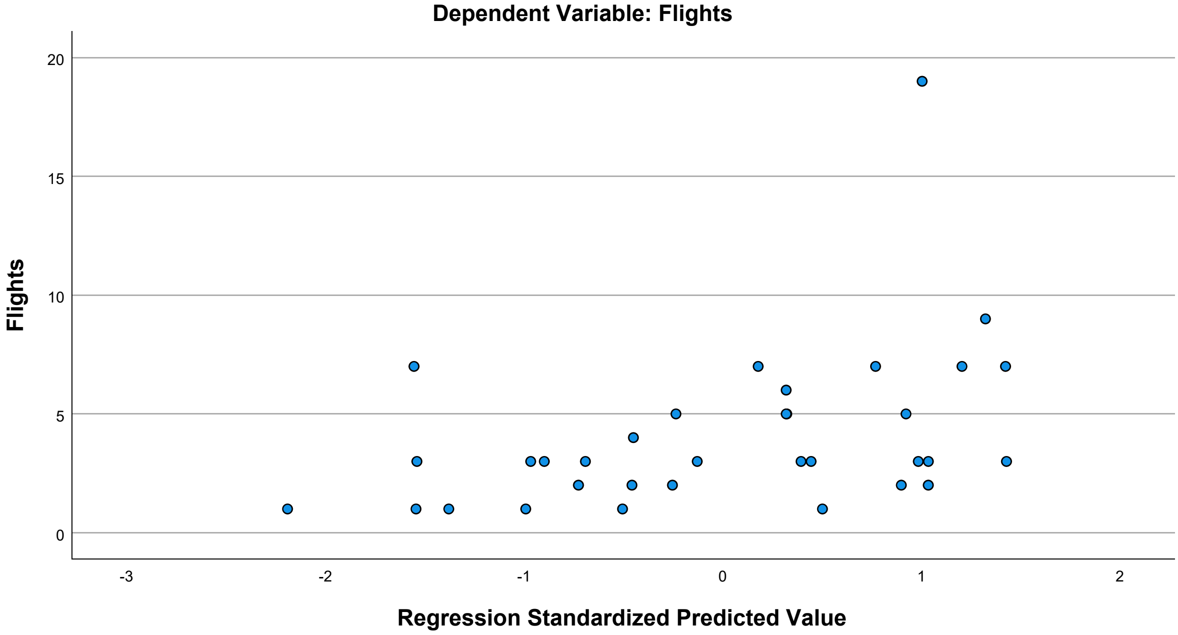
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.09	3.423	34
HomeConcentration	.22362011765	.40855495405	34
Congestion	4.62	1.256	34
GLHR	.12	.327	34
GJFK	.50	.508	34
Seasonality	.64524844029	.21057360354	34
Distance	4.65182	1.156115	34
Ethnicity	.48634356	.763678014	34

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.104	.361	.153
	HomeConcentration	.104	1.000	.136	-.177
	Congestion	.361	.136	1.000	.260
	GLHR	.153	-.177	.260	1.000
	GJFK	.235	.056	.404	.000
	Seasonality	-.250	-.161	-.334	-.260
	Distance	.025	.408	.037	-.185
	Ethnicity	.058	-.277	.082	.203
Sig. (1-tailed)	Flights	.	.280	.018	.194
	HomeConcentration	.280	.	.221	.158
	Congestion	.018	.221	.	.068
	GLHR	.194	.158	.068	.
	GJFK	.090	.378	.009	.500
	Seasonality	.077	.182	.027	.069
	Distance	.444	.008	.418	.148
	Ethnicity	.373	.057	.323	.124
N	Flights	34	34	34	34
	HomeConcentration	34	34	34	34
	Congestion	34	34	34	34
	GLHR	34	34	34	34
	GJFK	34	34	34	34
	Seasonality	34	34	34	34
	Distance	34	34	34	34
	Ethnicity	34	34	34	34

Correlations

		GJFK	Seasonality	Distance	Ethnicity
Pearson Correlation	Flights	.235	-.250	.025	.058
	HomeConcentration	.056	-.161	.408	-.277
	Congestion	.404	-.334	.037	.082
	GLHR	.000	-.260	-.185	.203
	GJFK	1.000	-.097	-.091	.030
	Seasonality	-.097	1.000	.048	.113
	Distance	-.091	.048	1.000	-.520
	Ethnicity	.030	.113	-.520	1.000
Sig. (1-tailed)	Flights	.090	.077	.444	.373
	HomeConcentration	.378	.182	.008	.057
	Congestion	.009	.027	.418	.323
	GLHR	.500	.069	.148	.124
	GJFK	.	.292	.304	.433
	Seasonality	.292	.	.394	.263
	Distance	.304	.394	.	.001
	Ethnicity	.433	.263	.001	.
N	Flights	34	34	34	34
	HomeConcentration	34	34	34	34
	Congestion	34	34	34	34
	GLHR	34	34	34	34
	GJFK	34	34	34	34
	Seasonality	34	34	34	34
	Distance	34	34	34	34
	Ethnicity	34	34	34	34

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Ethnicity, GJFK, Seasonality, HomeConcentration, GLHR, Congestion, ...[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.414[a]	.171	-.052	3.511	.171	.768

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	7	26	.619

a. Predictors: (Constant), Ethnicity, GJFK, Seasonality, HomeConcentration, GLHR, Congestion, Distance

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	66.229	7	9.461	.768	.619[b]
	Residual	320.506	26	12.327		
	Total	386.735	33			

a. Dependent Variable: Flights

b. Predictors: (Constant), Ethnicity, GJFK, Seasonality, HomeConcentration, GLHR, Congestion, Distance

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.020	4.448		.229	.820
	HomeConcentration	.382	1.710	.046	.223	.825
	Congestion	.611	.594	.224	1.029	.313
	GLHR	.603	2.081	.058	.290	.774
	GJFK	.887	1.345	.132	.660	.515
	Seasonality	-2.509	3.290	-.154	-.763	.453
	Distance	.228	.678	.077	.336	.739
	Ethnicity	.421	.980	.094	.430	.671

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.765	1.307
	Congestion	.672	1.488
	GLHR	.806	1.240
	GJFK	.802	1.247
	Seasonality	.778	1.285
	Distance	.609	1.643
	Ethnicity	.668	1.498

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	5.121	1.000	.00	.01	.00
	2	1.140	2.119	.00	.17	.00
	3	.703	2.699	.00	.16	.00
	4	.483	3.255	.00	.38	.00
	5	.433	3.441	.00	.12	.00
	6	.077	8.178	.00	.09	.23
	7	.030	13.066	.00	.05	.49
	8	.014	19.470	.99	.02	.28

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	Seasonality	Distance	Ethnicity
1	1	.00	.01	.00	.00	.01
	2	.25	.00	.00	.00	.10
	3	.56	.00	.00	.00	.14
	4	.00	.25	.00	.00	.36
	5	.00	.50	.02	.01	.10
	6	.18	.11	.49	.01	.01
	7	.01	.12	.29	.60	.22
	8	.00	.00	.20	.38	.06

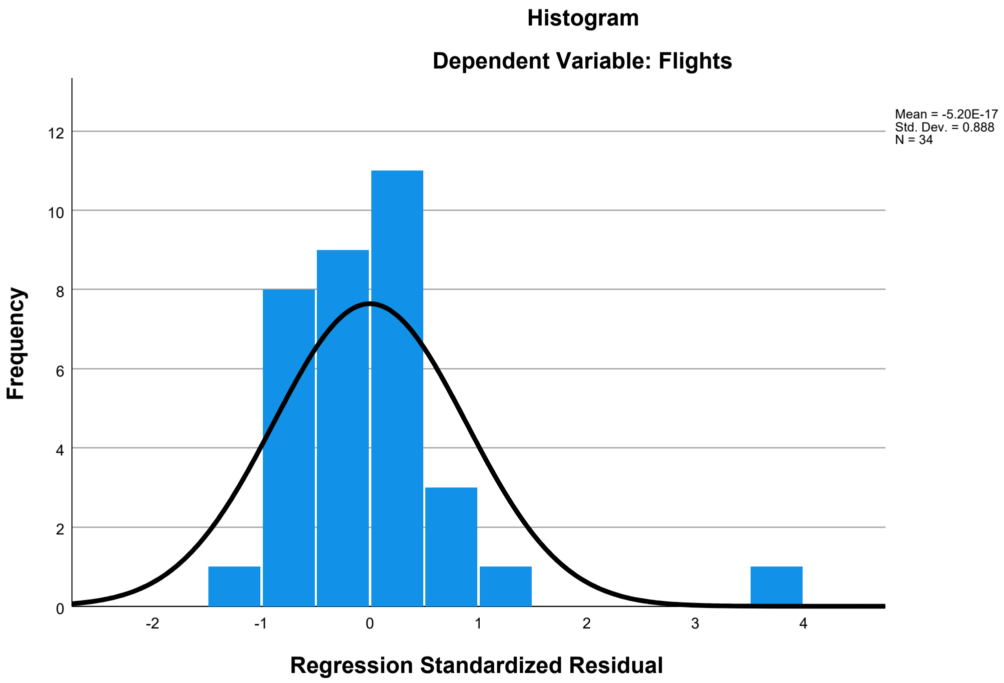
a. Dependent Variable: Flights

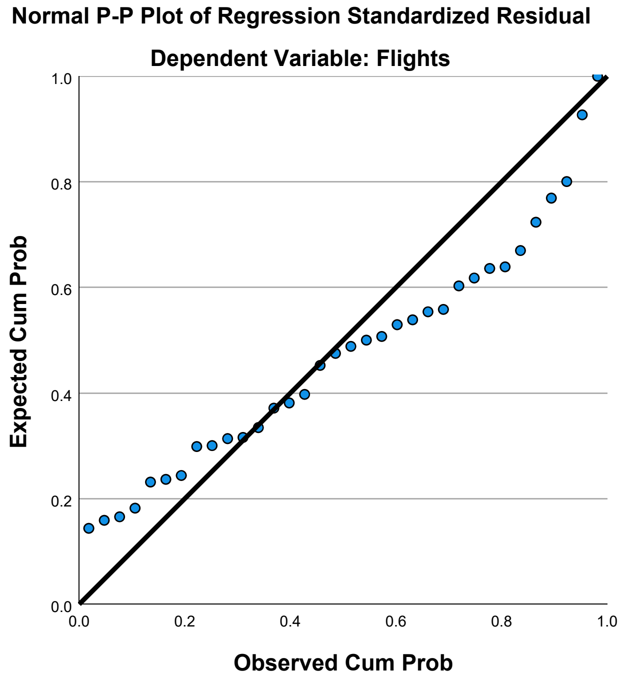
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.00	6.19	4.09	1.417	34
Residual	-3.734	13.467	.000	3.116	34
Std. Predicted Value	-2.180	1.482	.000	1.000	34
Std. Residual	-1.064	3.836	.000	.888	34

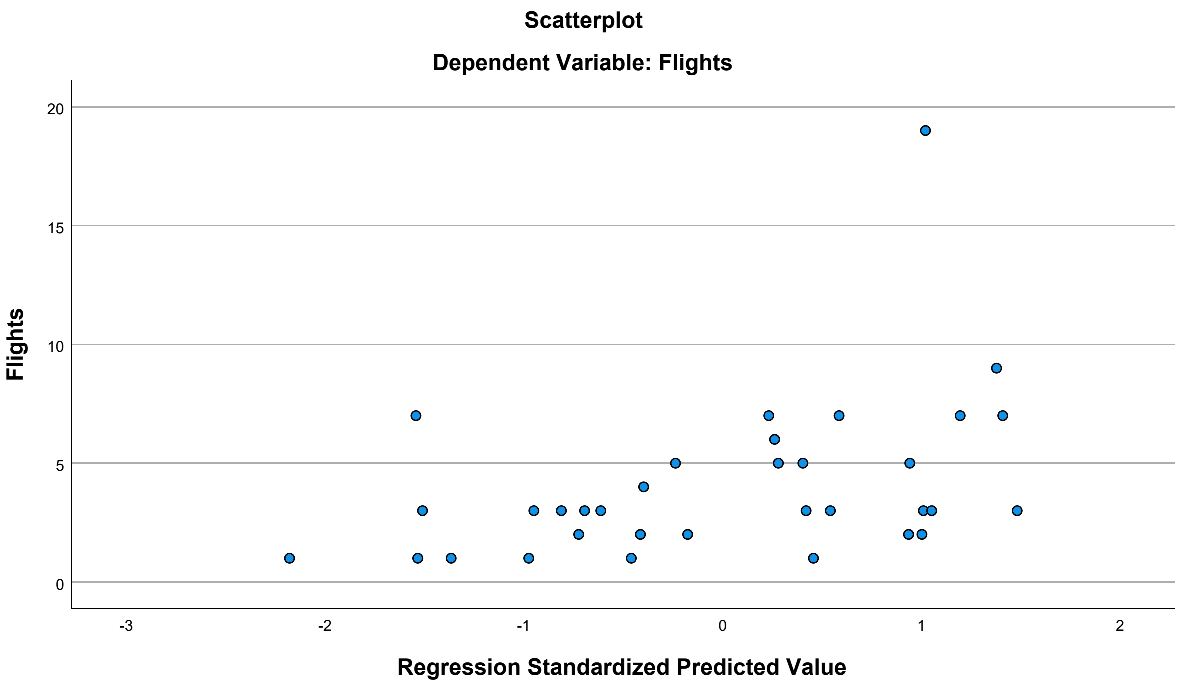
a. Dependent Variable: Flights

Charts





Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0



Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
-3
-2
-1
0
1
2

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.09	3.423	34
HomeConcentration	.22362011765	.40855495405	34
Congestion	4.62	1.256	34
GLHR	.12	.327	34
GJFK	.50	.508	34
Seasonality	.64524844029	.21057360354	34
Ethnicity	.48634356	.763678014	34

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.104	.361	.153
	HomeConcentration	.104	1.000	.136	-.177
	Congestion	.361	.136	1.000	.260
	GLHR	.153	-.177	.260	1.000
	GJFK	.235	.056	.404	.000
	Seasonality	-.250	-.161	-.334	-.260
	Ethnicity	.058	-.277	.082	.203
Sig. (1-tailed)	Flights	.	.280	.018	.194
	HomeConcentration	.280	.	.221	.158
	Congestion	.018	.221	.	.068
	GLHR	.194	.158	.068	.
	GJFK	.090	.378	.009	.500
	Seasonality	.077	.182	.027	.069
	Ethnicity	.373	.057	.323	.124
N	Flights	34	34	34	34
	HomeConcentration	34	34	34	34
	Congestion	34	34	34	34
	GLHR	34	34	34	34
	GJFK	34	34	34	34
	Seasonality	34	34	34	34
	Ethnicity	34	34	34	34

Correlations

		GJFK	Seasonality	Ethnicity
Pearson Correlation	Flights	.235	-.250	.058
	HomeConcentration	.056	-.161	-.277
	Congestion	.404	-.334	.082
	GLHR	.000	-.260	.203
	GJFK	1.000	-.097	.030
	Seasonality	-.097	1.000	.113
	Ethnicity	.030	.113	1.000
Sig. (1-tailed)	Flights	.090	.077	.373
	HomeConcentration	.378	.182	.057
	Congestion	.009	.027	.323
	GLHR	.500	.069	.124
	GJFK	.	.292	.433
	Seasonality	.292	.	.263
	Ethnicity	.433	.263	.
N	Flights	34	34	34
	HomeConcentration	34	34	34
	Congestion	34	34	34
	GLHR	34	34	34
	GJFK	34	34	34
	Seasonality	34	34	34
	Ethnicity	34	34	34

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Ethnicity, GJFK, Seasonality, HomeConcentration, GLHR, ...[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.409[a]	.168	-.017	3.453	.168	.906

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	27	.505

a. Predictors: (Constant), Ethnicity, GJFK, Seasonality, HomeConcentration, GLHR, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	64.833	6	10.806	.906	.505[b]
	Residual	321.902	27	11.922		
	Total	386.735	33			

a. Dependent Variable: Flights

b. Predictors: (Constant), Ethnicity, GJFK, Seasonality, HomeConcentration, GLHR, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.858	3.624		.513	.612
	HomeConcentration	.568	1.591	.068	.357	.724
	Congestion	.645	.575	.236	1.120	.272
	GLHR	.574	2.045	.055	.281	.781
	GJFK	.814	1.305	.121	.624	.538
	Seasonality	-2.288	3.170	-.141	-.722	.477
	Ethnicity	.262	.843	.058	.310	.759

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.855	1.170
	Congestion	.692	1.445
	GLHR	.808	1.238
	GJFK	.824	1.214
	Seasonality	.811	1.233
	Ethnicity	.871	1.148

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	4.231	1.000	.00	.01	.00
	2	1.113	1.950	.00	.23	.00
	3	.703	2.454	.00	.19	.00
	4	.482	2.963	.00	.35	.00
	5	.380	3.339	.01	.13	.00
	6	.075	7.517	.01	.09	.30
	7	.017	15.743	.98	.00	.69

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	Seasonality	Ethnicity
1	1	.01	.01	.00	.01
	2	.25	.00	.00	.12
	3	.56	.00	.00	.18
	4	.00	.34	.00	.42
	5	.00	.44	.04	.27
	6	.19	.15	.43	.00
	7	.00	.04	.52	.01

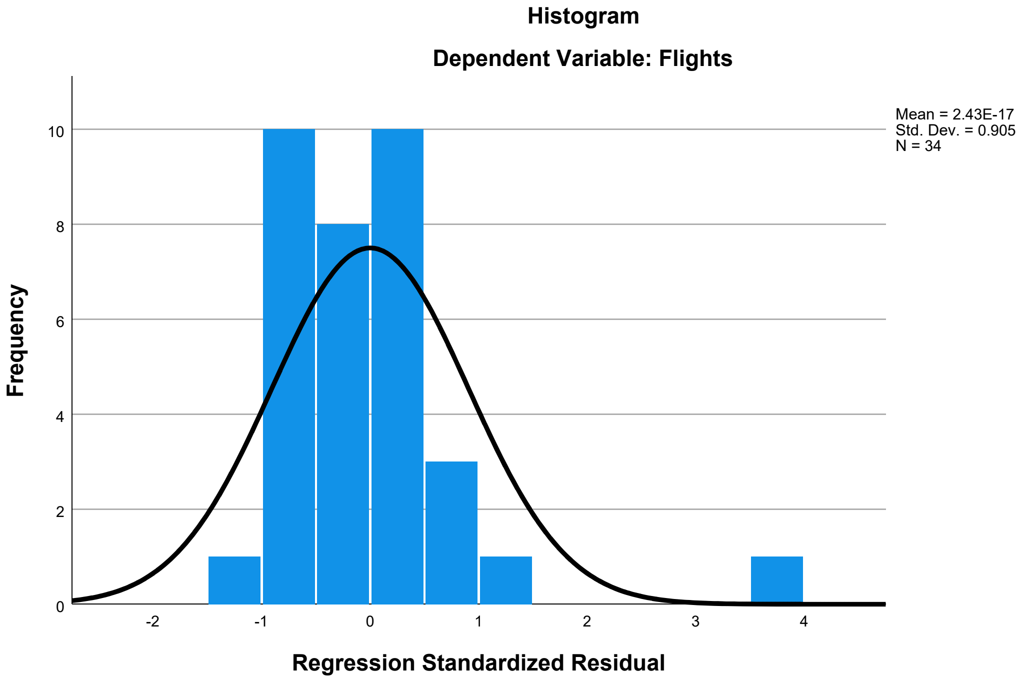
a. Dependent Variable: Flights

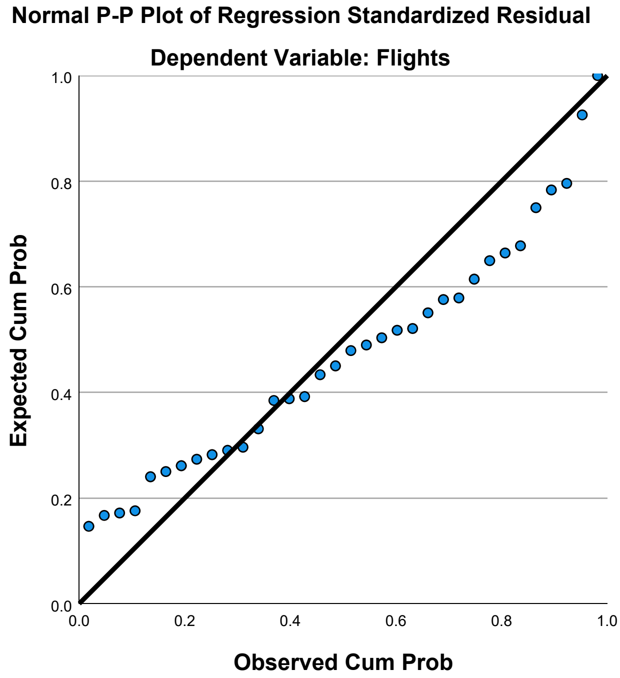
Residuals Statistics[a]

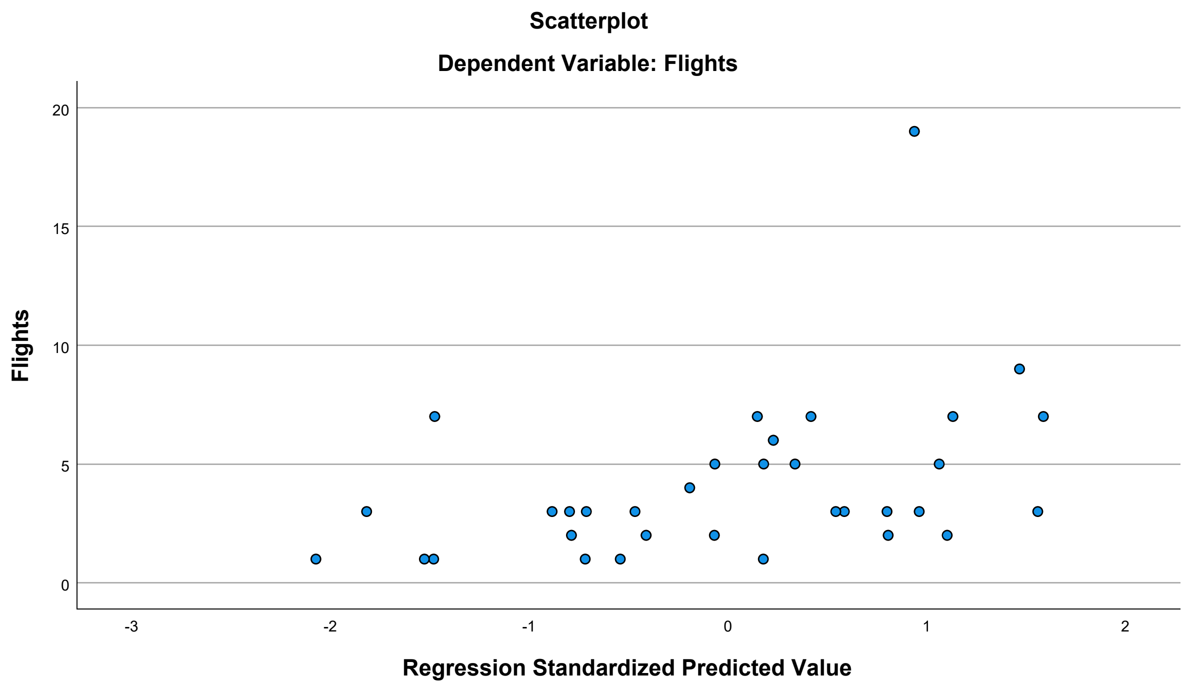
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.18	6.31	4.09	1.402	34
Residual	-3.634	13.597	.000	3.123	34
Std. Predicted Value	-2.074	1.587	.000	1.000	34
Std. Residual	-1.052	3.938	.000	.905	34

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 2.43E-17
Std. Dev. = 0.905
N = 34
Frequency
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.09	3.423	34
HomeConcentration	.22362011765	.40855495405	34
Congestion	4.62	1.256	34
GJFK	.50	.508	34
Seasonality	.64524844029	.21057360354	34
Ethnicity	.48634356	.763678014	34

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.104	.361	.235
	HomeConcentration	.104	1.000	.136	.056
	Congestion	.361	.136	1.000	.404
	GJFK	.235	.056	.404	1.000
	Seasonality	-.250	-.161	-.334	-.097
	Ethnicity	.058	-.277	.082	.030
Sig. (1-tailed)	Flights	.	.280	.018	.090
	HomeConcentration	.280	.	.221	.378
	Congestion	.018	.221	.	.009
	GJFK	.090	.378	.009	.
	Seasonality	.077	.182	.027	.292
	Ethnicity	.373	.057	.323	.433
N	Flights	34	34	34	34
	HomeConcentration	34	34	34	34
	Congestion	34	34	34	34
	GJFK	34	34	34	34
	Seasonality	34	34	34	34
	Ethnicity	34	34	34	34

Correlations

		Seasonality	Ethnicity
Pearson Correlation	Flights	-.250	.058
	HomeConcentration	-.161	-.277
	Congestion	-.334	.082
	GJFK	-.097	.030
	Seasonality	1.000	.113
	Ethnicity	.113	1.000
Sig. (1-tailed)	Flights	.077	.373
	HomeConcentration	.182	.057
	Congestion	.027	.323
	GJFK	.292	.433
	Seasonality	.	.263
	Ethnicity	.263	.
N	Flights	34	34
	HomeConcentration	34	34
	Congestion	34	34
	GJFK	34	34
	Seasonality	34	34
	Ethnicity	34	34

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Ethnicity, GJFK, Seasonality, HomeConcentration, ...[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.406[a]	.165	.016	3.396	.165	1.108

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	5	28	.378

a. Predictors: (Constant), Ethnicity, GJFK, Seasonality, HomeConcentration, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	63.893	5	12.779	1.108	.378[b]
	Residual	322.842	28	11.530		
	Total	386.735	33			

a. Dependent Variable: Flights

b. Predictors: (Constant), Ethnicity, GJFK, Seasonality, HomeConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.921	3.558		.540	.594
	HomeConcentration	.477	1.532	.057	.311	.758
	Congestion	.681	.552	.250	1.234	.228
	GJFK	.772	1.275	.114	.605	.550
	Seasonality	-2.502	3.026	-.154	-.827	.415
	Ethnicity	.301	.818	.067	.368	.716

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.892	1.122
	Congestion	.728	1.374
	GJFK	.835	1.198
	Seasonality	.861	1.162
	Ethnicity	.896	1.116

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions Congestion
1	1	4.087	1.000	.00	.01	.00
	2	.944	2.081	.00	.41	.00
	3	.482	2.912	.00	.38	.00
	4	.380	3.282	.01	.14	.00
	5	.090	6.735	.01	.05	.26
	6	.017	15.473	.98	.00	.73

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	Variance Proportions Seasonality	Variance Proportions Ethnicity
1	1	.02	.00	.01
	2	.00	.00	.28
	3	.35	.00	.42
	4	.44	.05	.27
	5	.15	.41	.00
	6	.05	.54	.01

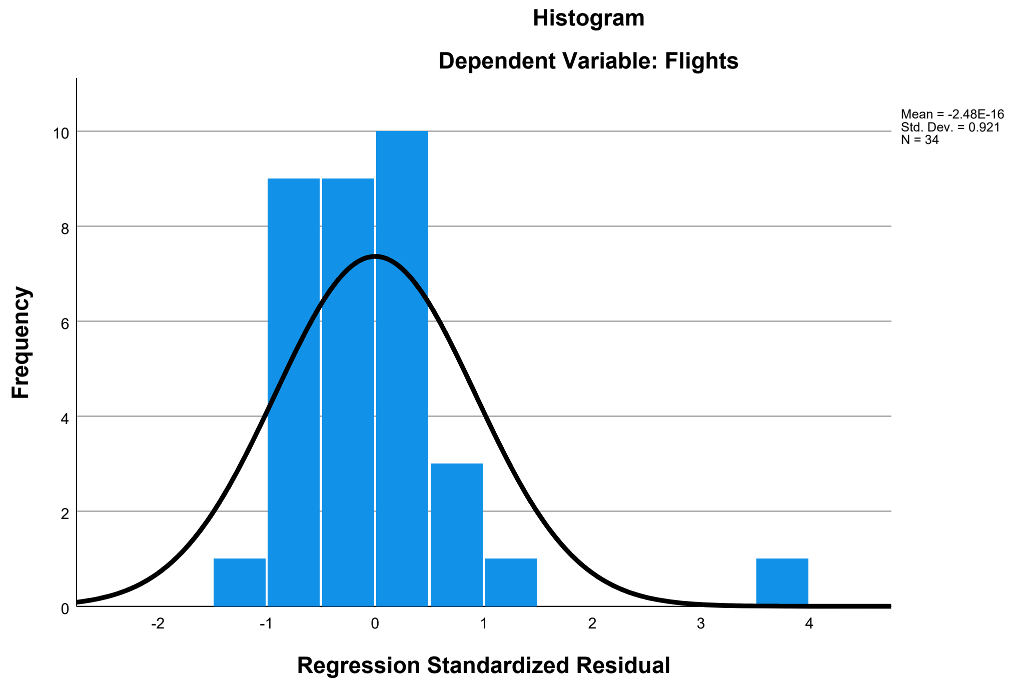
a. Dependent Variable: Flights

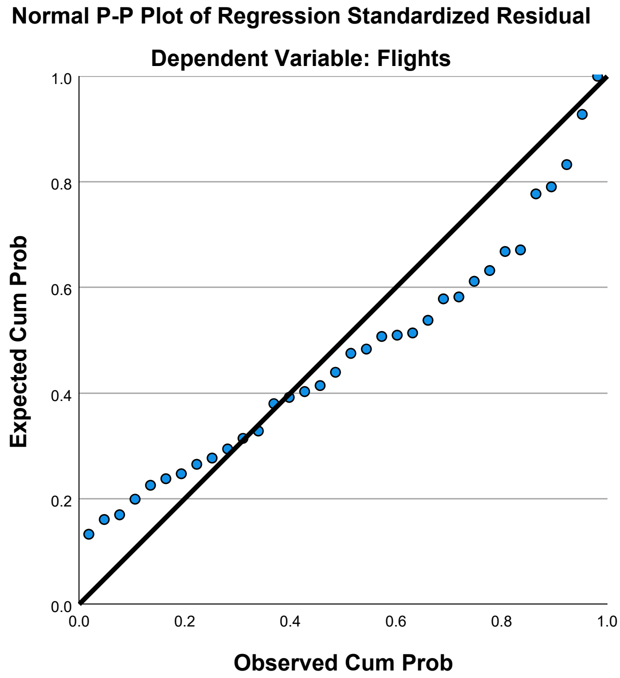
Residuals Statistics[a]

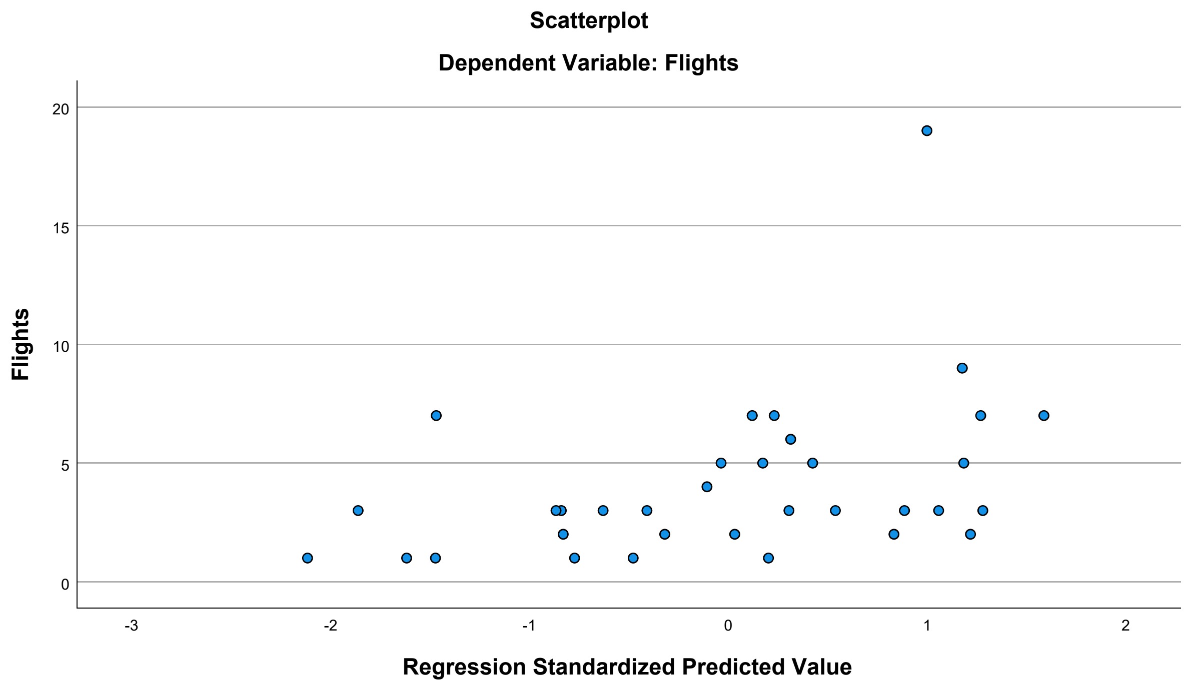
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.14	6.30	4.09	1.391	34
Residual	-3.784	13.521	.000	3.128	34
Std. Predicted Value	-2.117	1.588	.000	1.000	34
Std. Residual	-1.114	3.982	.000	.921	34

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
-3
-2
-1
0
1
2

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.09	3.423	34
HomeConcentration	.22362011765	.40855495405	34
Congestion	4.62	1.256	34
GJFK	.50	.508	34
Seasonality	.64524844029	.21057360354	34

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.104	.361	.235
	HomeConcentration	.104	1.000	.136	.056
	Congestion	.361	.136	1.000	.404
	GJFK	.235	.056	.404	1.000
	Seasonality	-.250	-.161	-.334	-.097
Sig. (1-tailed)	Flights	.	.280	.018	.090
	HomeConcentration	.280	.	.221	.378
	Congestion	.018	.221	.	.009
	GJFK	.090	.378	.009	.
	Seasonality	.077	.182	.027	.292
N	Flights	34	34	34	34
	HomeConcentration	34	34	34	34
	Congestion	34	34	34	34
	GJFK	34	34	34	34
	Seasonality	34	34	34	34

Correlations

		Seasonality
Pearson Correlation	Flights	-.250
	HomeConcentration	-.161
	Congestion	-.334
	GJFK	-.097
	Seasonality	1.000
Sig. (1-tailed)	Flights	.077
	HomeConcentration	.182
	Congestion	.027
	GJFK	.292
	Seasonality	.
N	Flights	34
	HomeConcentration	34
	Congestion	34
	GJFK	34
	Seasonality	34

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Seasonality, GJFK, HomeConcentration, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.401[a]	.161	.045	3.345	.161	1.393	4	29	.261

a. Predictors: (Constant), Seasonality, GJFK, HomeConcentration, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	62.334	4	15.583	1.393	.261[b]
	Residual	324.402	29	11.186		
	Total	386.735	33			

a. Dependent Variable: Flights

b. Predictors: (Constant), Seasonality, GJFK, HomeConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.880	3.502		.537	.596
	HomeConcentration	.320	1.450	.038	.221	.827
	Congestion	.711	.538	.261	1.322	.196
	GJFK	.768	1.255	.114	.611	.546
	Seasonality	-2.369	2.959	-.146	-.801	.430

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.966	1.035
	Congestion	.744	1.344
	GJFK	.835	1.198
	Seasonality	.873	1.145

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions Congestion
1	1	3.767	1.000	.00	.02	.00
	2	.715	2.296	.00	.93	.00
	3	.411	3.029	.00	.00	.00
	4	.090	6.455	.01	.05	.26
	5	.017	14.803	.99	.00	.73

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	Variance Proportions Seasonality
1	1	.02	.00
	2	.02	.00
	3	.77	.03
	4	.15	.42
	5	.04	.54

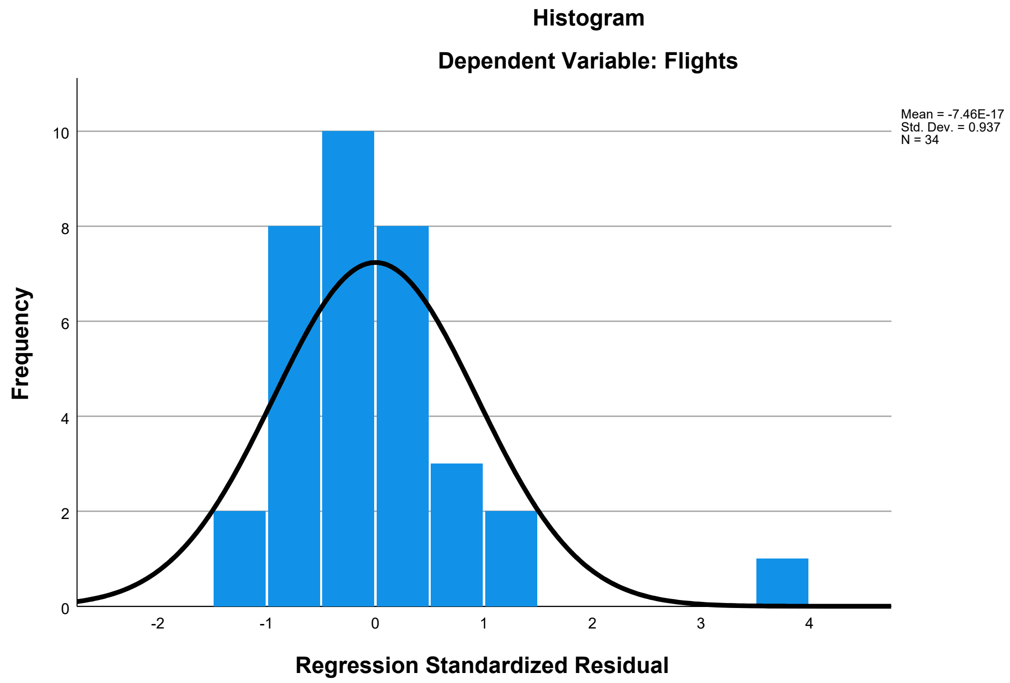
a. Dependent Variable: Flights

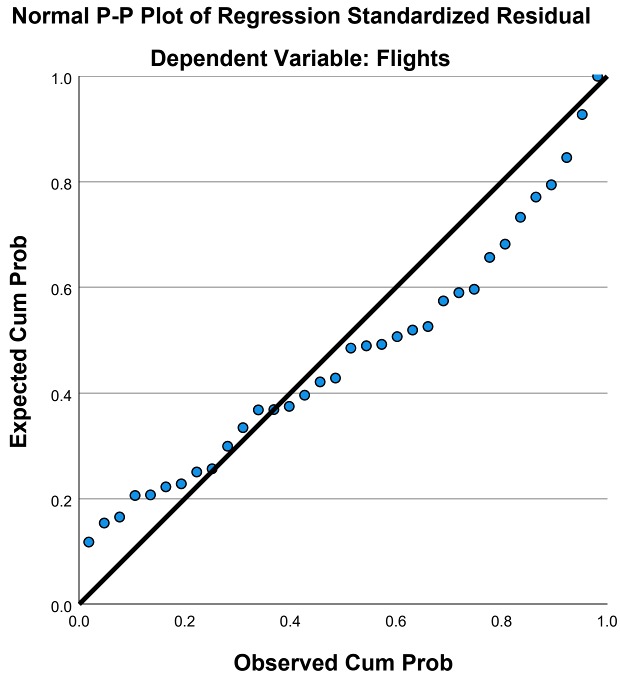
Residuals Statistics[a]

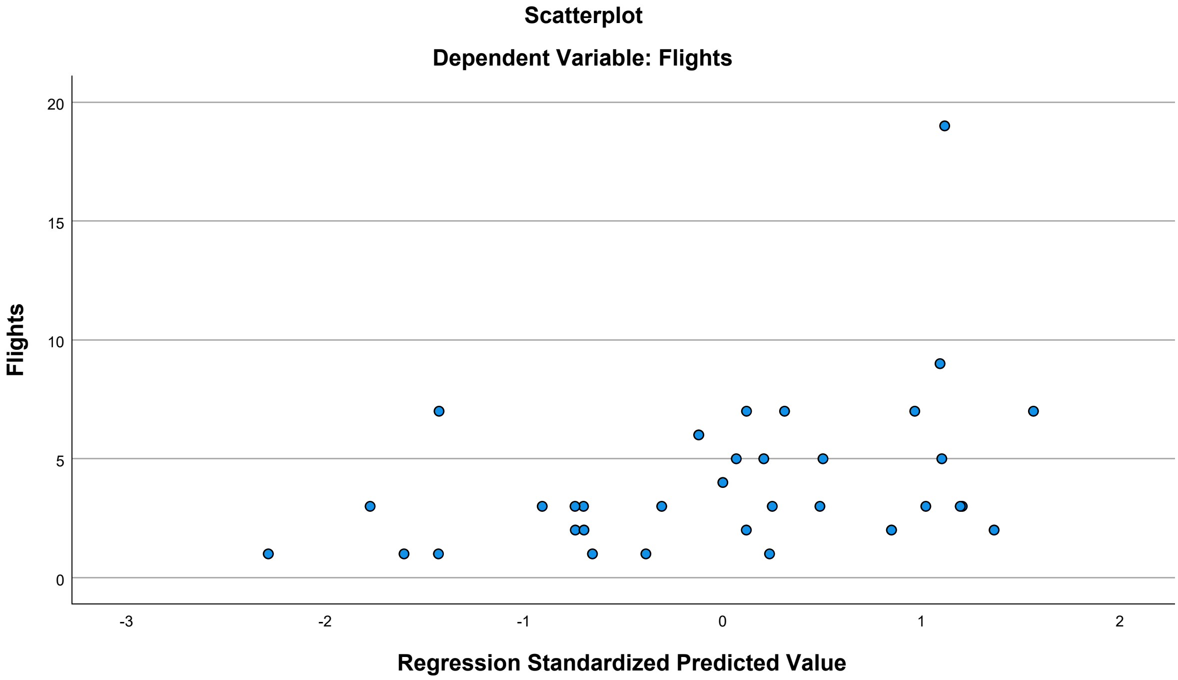
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.94	6.24	4.09	1.374	34
Residual	-3.966	13.376	.000	3.135	34
Std. Predicted Value	-2.288	1.565	.000	1.000	34
Std. Residual	-1.186	3.999	.000	.937	34

a. Dependent Variable: Flights

Charts







Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.09	3.423	34
Congestion	4.62	1.256	34
GJFK	.50	.508	34
Seasonality	.64524844029	.21057360354	34

Correlations

		Flights	Congestion	GJFK	Seasonality
Pearson Correlation	Flights	1.000	.361	.235	-.250
	Congestion	.361	1.000	.404	-.334
	GJFK	.235	.404	1.000	-.097
	Seasonality	-.250	-.334	-.097	1.000
Sig. (1-tailed)	Flights	.	.018	.090	.077
	Congestion	.018	.	.009	.027
	GJFK	.090	.009	.	.292
	Seasonality	.077	.027	.292	.
N	Flights	34	34	34	34
	Congestion	34	34	34	34
	GJFK	34	34	34	34
	Seasonality	34	34	34	34

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Seasonality, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.400[a]	.160	.076	3.291	.160	1.901

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	3	30	.151

a. Predictors: (Constant), Seasonality, GJFK, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	61.788	3	20.596	1.901	.151[b]
	Residual	324.947	30	10.832		
	Total	386.735	33			

a. Dependent Variable: Flights

b. Predictors: (Constant), Seasonality, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.960	3.428		.572	.572
	Congestion	.720	.527	.264	1.366	.182
	GJFK	.769	1.235	.114	.623	.538
	Seasonality	-2.450	2.890	-.151	-.848	.403

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Congestion	.749	1.335
	GJFK	.835	1.198
	Seasonality	.887	1.128

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	Congestion	GJFK	Seasonality
1	1	3.477	1.000	.00	.00	.02	.01
	2	.411	2.909	.00	.00	.78	.03
	3	.094	6.072	.01	.24	.15	.43
	4	.017	14.195	.99	.75	.05	.54

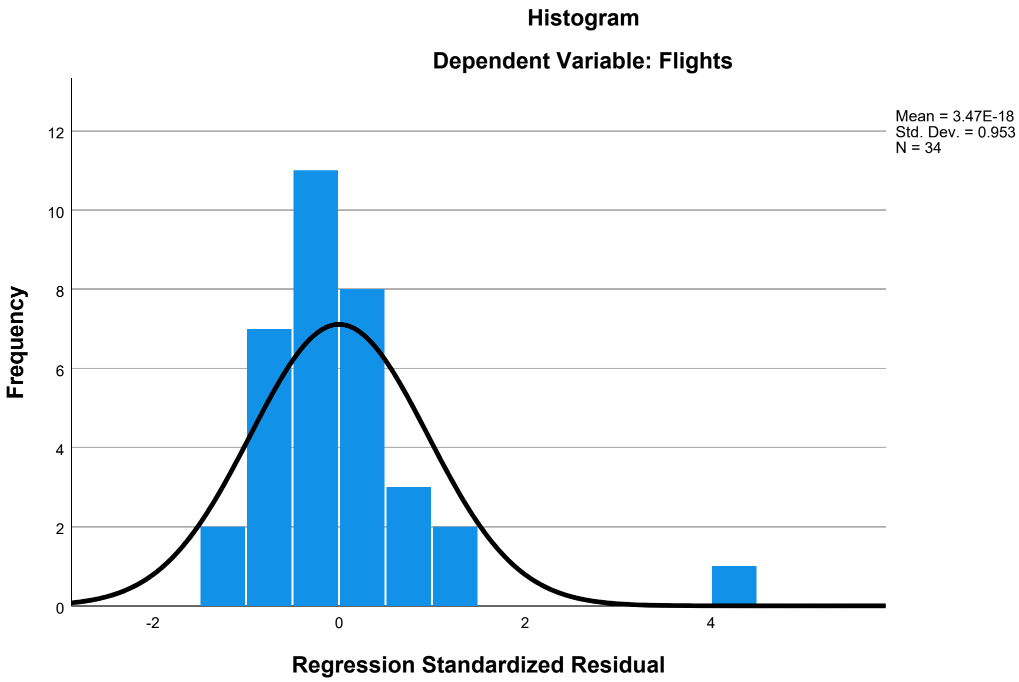
a. Dependent Variable: Flights

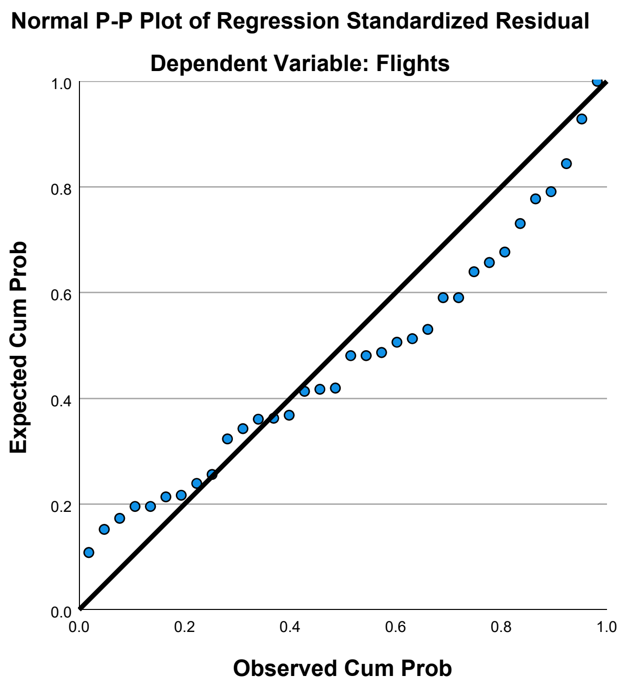
Residuals Statistics[a]

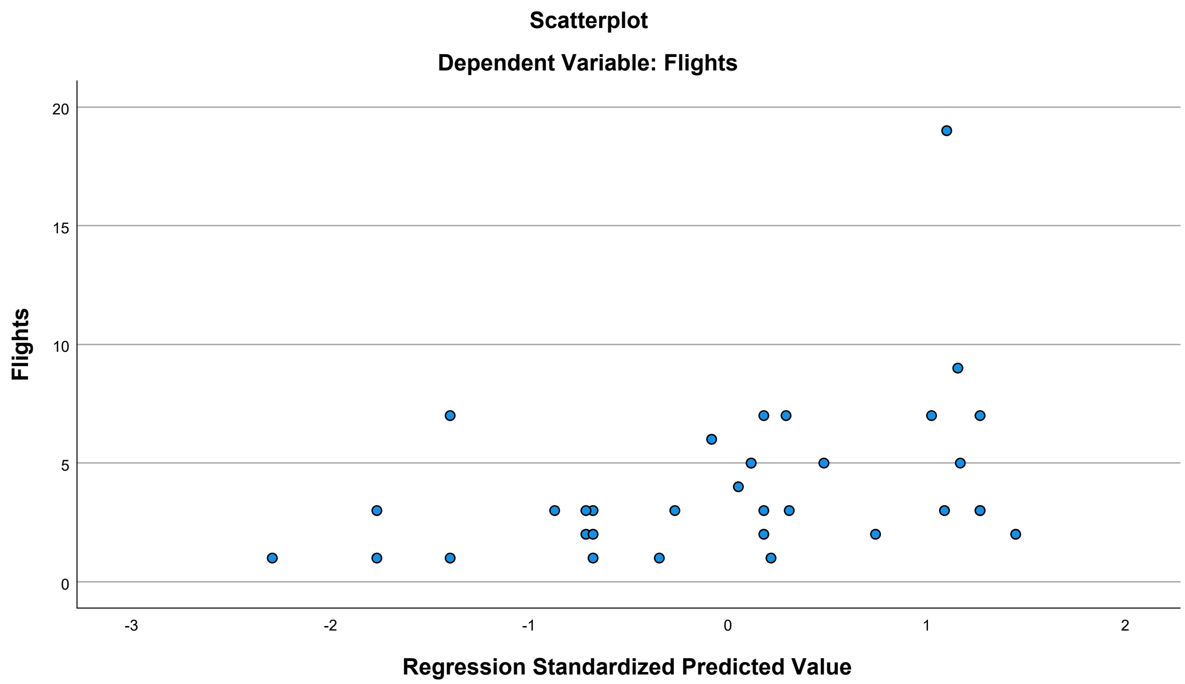
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.95	6.07	4.09	1.368	34
Residual	-4.069	13.406	.000	3.138	34
Std. Predicted Value	-2.294	1.448	.000	1.000	34
Std. Residual	-1.236	4.073	.000	.953	34

a. Dependent Variable: Flights

Charts







Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.09	3.423	34
GJFK	.50	.508	34
Seasonality	.64524844029	.21057360354	34

Correlations

		Flights	GJFK	Seasonality
Pearson Correlation	Flights	1.000	.235	-.250
	GJFK	.235	1.000	-.097
	Seasonality	-.250	-.097	1.000
Sig. (1-tailed)	Flights	.	.090	.077
	GJFK	.090	.	.292
	Seasonality	.077	.292	.
N	Flights	34	34	34
	GJFK	34	34	34
	Seasonality	34	34	34

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Seasonality, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.328[a]	.108	.050	3.337	.108	1.868

Model Summary[b]

	Change Statistics		
Model	df1	df2	Sig. F Change
1	2	31	.171

a. Predictors: (Constant), Seasonality, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	41.588	2	20.794	1.868	.171[b]
	Residual	345.147	31	11.134		
	Total	386.735	33			

a. Dependent Variable: Flights

b. Predictors: (Constant), Seasonality, GJFK

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	5.775	2.014		2.867	.007
	GJFK	1.438	1.150	.213	1.250	.221
	Seasonality	-3.728	2.772	-.229	-1.345	.188

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	GJFK	.991	1.010
	Seasonality	.991	1.010

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	GJFK	Seasonality
1	1	2.549	1.000	.01	.05	.01
	2	.407	2.504	.02	.87	.04
	3	.045	7.544	.97	.07	.94

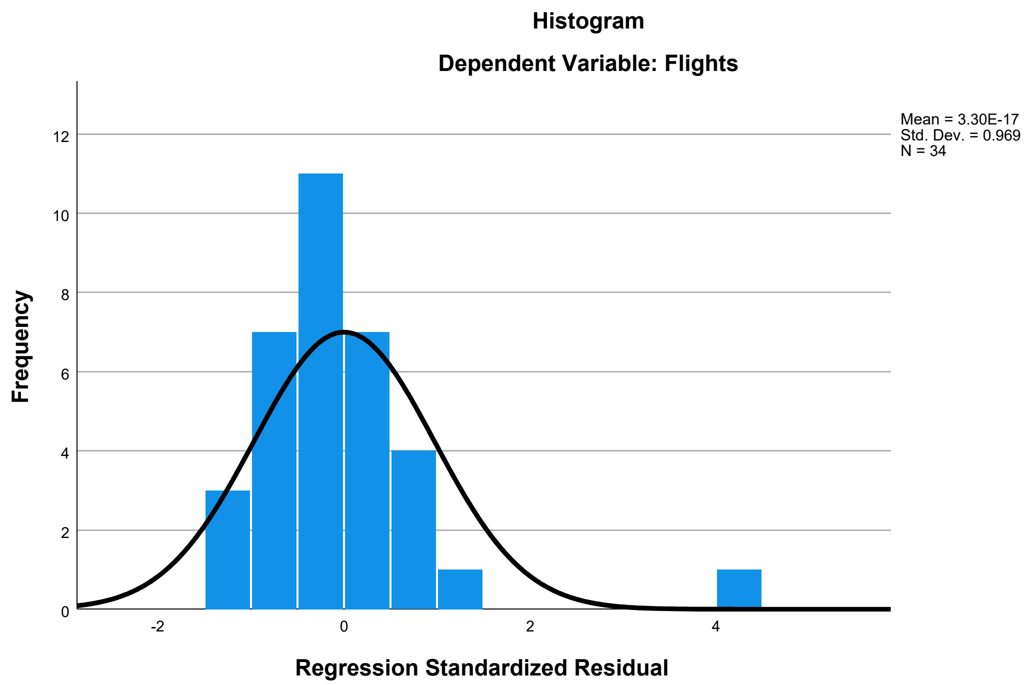
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.05	5.72	4.09	1.123	34
Residual	-4.349	14.001	.000	3.234	34
Std. Predicted Value	-1.818	1.455	.000	1.000	34
Std. Residual	-1.303	4.196	.000	.969	34

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 3.30E-17
Std. Dev. = 0.969
N = 34
Frequency
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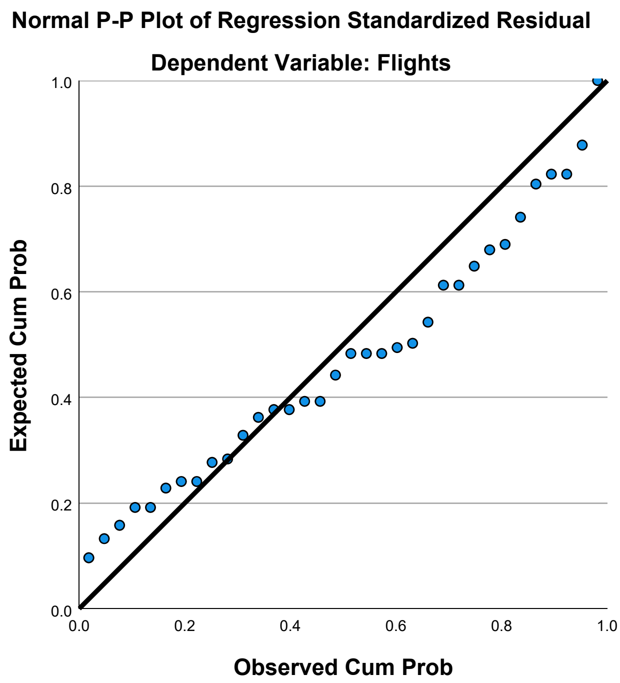
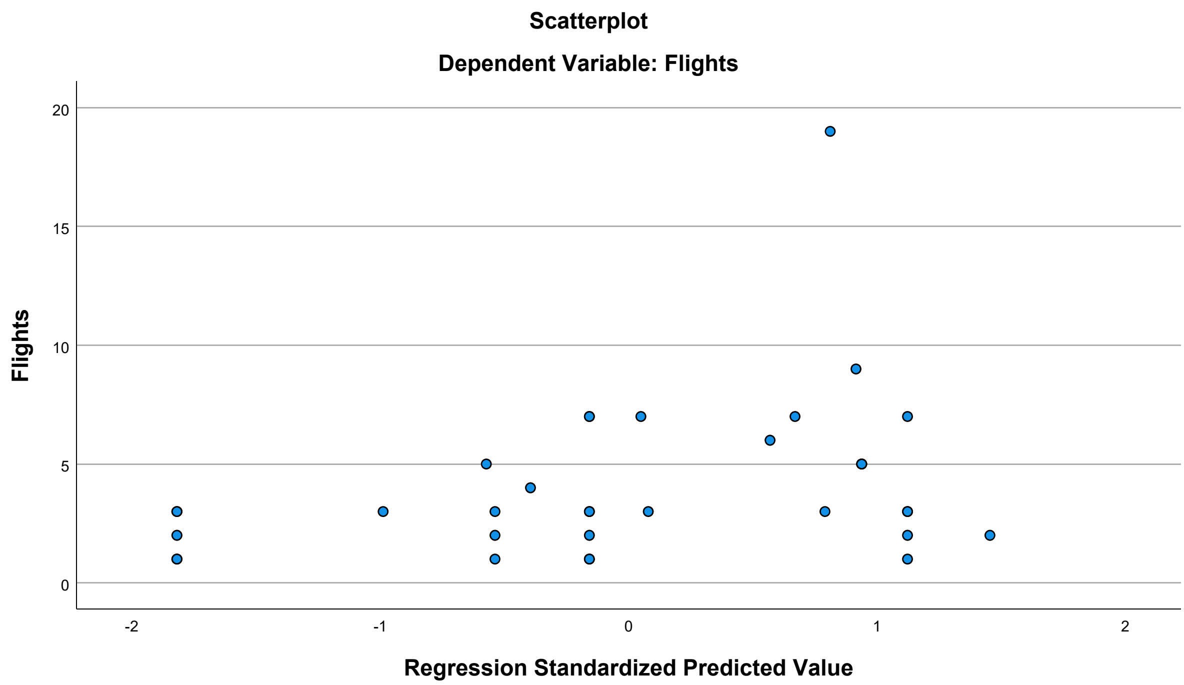
2
4
6
8
10
12
-2
0
2
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.09	3.423	34
GJFK	.50	.508	34

Correlations

		Flights	GJFK
Pearson Correlation	Flights	1.000	.235
	GJFK	.235	1.000
Sig. (1-tailed)	Flights	.	.090
	GJFK	.090	.
N	Flights	34	34
	GJFK	34	34

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.235[a]	.055	.026	3.379	.055	1.878

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	1	32	.180

a. Predictors: (Constant), GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.441	1	21.441	1.878	.180[b]
	Residual	365.294	32	11.415		
	Total	386.735	33			

a. Dependent Variable: Flights

b. Predictors: (Constant), GJFK

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance
1	(Constant)	3.294	.819		4.020	<.001	
	GJFK	1.588	1.159	.235	1.370	.180	1.000

Coefficients[a]

Model		Collinearity Statistics VIF
1	(Constant)	
	GJFK	1.000

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	GJFK
1	1	1.707	1.000	.15	.15
	2	.293	2.414	.85	.85

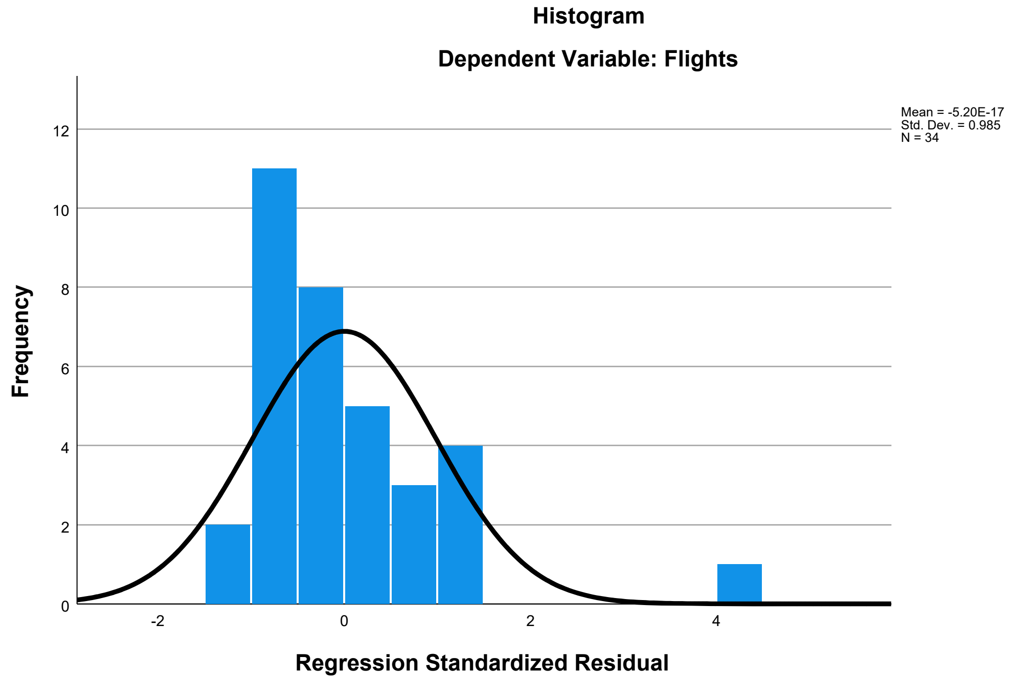
a. Dependent Variable: Flights

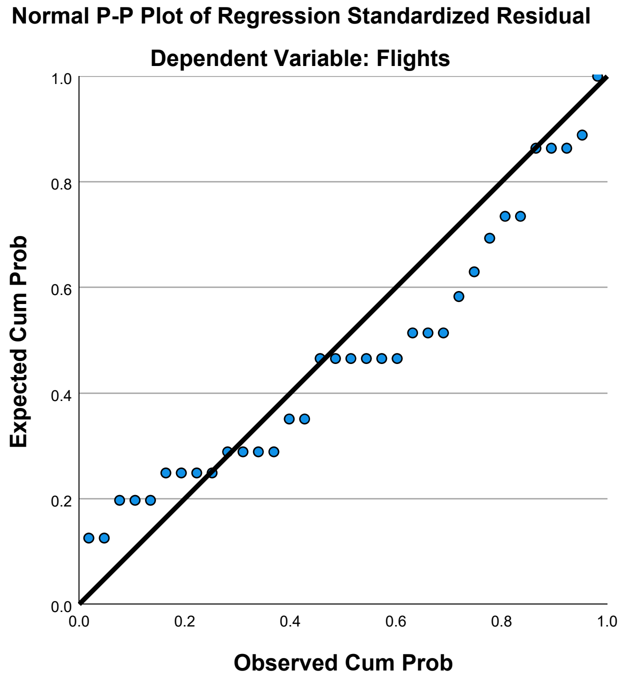
Residuals Statistics[a]

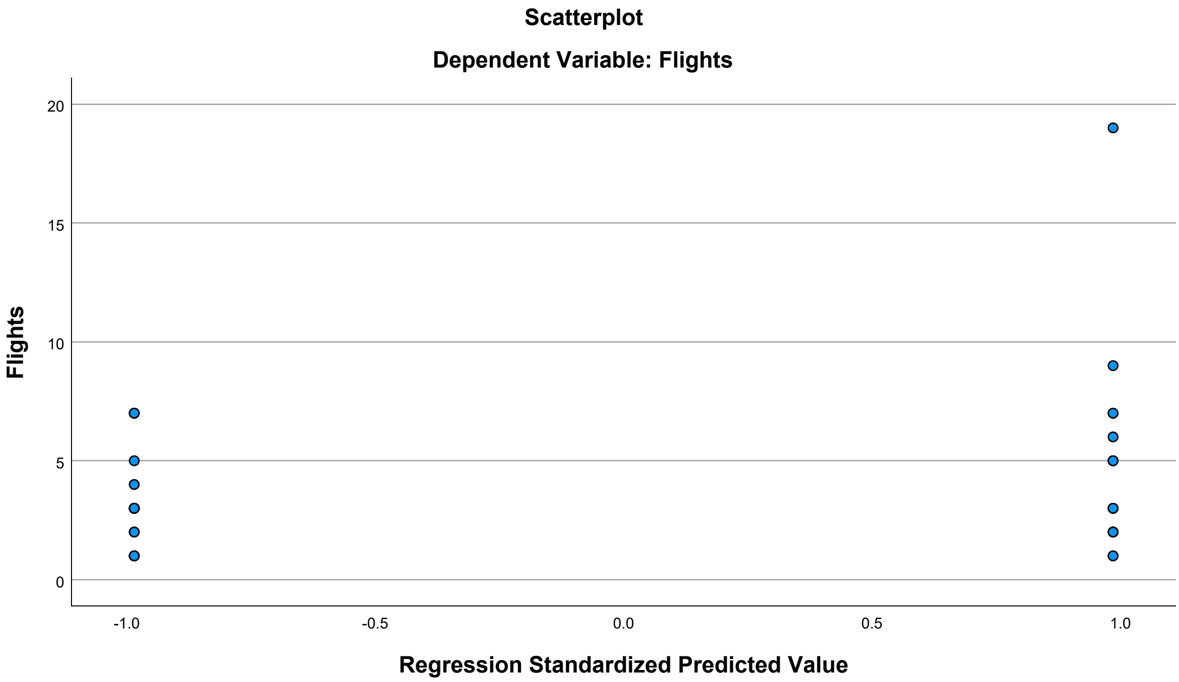
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.29	4.88	4.09	.806	34
Residual	-3.882	14.118	.000	3.327	34
Std. Predicted Value	-.985	.985	.000	1.000	34
Std. Residual	-1.149	4.178	.000	.985	34

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
-1.0
-0.5
0.0
0.5
1.0

Regression

```
[DataSet7] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airline R
egion\2007 - nonEuro Based.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	5.02	3.568	46
HomeConcentration	.39417652	.586621134	46
Congestion	4.57	1.186	46
GLHR	.09	.285	46
GJFK	.37	.488	46
PartnerConcentration	.26955743478	1.0876676060	46
Seasonality	.61052083922	.17958409650	46
Distance	5.00557	1.289764	46
Language	1.87076072	4.119075223	46
Ethnicity	.39928300	.724842632	46
Urban	15.24	4.963	46

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.289	.107	-.002
	HomeConcentration	.289	1.000	.029	-.185
	Congestion	.107	.029	1.000	.312
	GLHR	-.002	-.185	.312	1.000
	GJFK	.378	.097	.207	.083
	PartnerConcentration	.130	-.038	-.209	.041
	Seasonality	-.199	.101	-.402	-.192
	Distance	-.049	.293	-.080	-.225
	Language	-.131	-.273	.477	.620
	Ethnicity	.019	-.299	.416	.218
	Urban	.288	-.014	.720	.488
Sig. (1-tailed)	Flights	.	.026	.239	.495
	HomeConcentration	.026	.	.425	.109
	Congestion	.239	.425	.	.017
	GLHR	.495	.109	.017	.
	GJFK	.005	.261	.084	.291
	PartnerConcentration	.195	.401	.082	.393
	Seasonality	.092	.252	.003	.101
	Distance	.373	.024	.299	.066
	Language	.192	.033	.000	.000
	Ethnicity	.450	.022	.002	.073
	Urban	.026	.463	.000	.000
N	Flights	46	46	46	46
	HomeConcentration	46	46	46	46

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.378	.130	-.199	-.049
	HomeConcentration	.097	-.038	.101	.293
	Congestion	.207	-.209	-.402	-.080
	GLHR	.083	.041	-.192	-.225
	GJFK	1.000	-.154	-.318	-.114
	PartnerConcentration	-.154	1.000	-.089	.087
	Seasonality	-.318	-.089	1.000	-.103
	Distance	-.114	.087	-.103	1.000
	Language	.225	-.069	-.275	-.378
	Ethnicity	.096	-.097	-.329	-.386
	Urban	.275	-.159	-.497	-.069
Sig. (1-tailed)	Flights	.005	.195	.092	.373
	HomeConcentration	.261	.401	.252	.024
	Congestion	.084	.082	.003	.299
	GLHR	.291	.393	.101	.066
	GJFK	.	.154	.016	.226
	PartnerConcentration	.154	.	.278	.282
	Seasonality	.016	.278	.	.248
	Distance	.226	.282	.248	.
	Language	.066	.324	.032	.005
	Ethnicity	.262	.260	.013	.004
	Urban	.032	.145	.000	.324
N	Flights	46	46	46	46
	HomeConcentration	46	46	46	46

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	-.131	.019	.288
	HomeConcentration	-.273	-.299	-.014
	Congestion	.477	.416	.720
	GLHR	.620	.218	.488
	GJFK	.225	.096	.275
	PartnerConcentration	-.069	-.097	-.159
	Seasonality	-.275	-.329	-.497
	Distance	-.378	-.386	-.069
	Language	1.000	.388	.295
	Ethnicity	.388	1.000	.383
	Urban	.295	.383	1.000
Sig. (1-tailed)	Flights	.192	.450	.026
	HomeConcentration	.033	.022	.463
	Congestion	.000	.002	.000
	GLHR	.000	.073	.000
	GJFK	.066	.262	.032
	PartnerConcentration	.324	.260	.145
	Seasonality	.032	.013	.000
	Distance	.005	.004	.324
	Language	.	.004	.023
	Ethnicity	.004	.	.004
	Urban	.023	.004	.
N	Flights	46	46	46
	HomeConcentration	46	46	46

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	46	46	46	46
	GLHR	46	46	46	46
	GJFK	46	46	46	46
	PartnerConcentration	46	46	46	46
	Seasonality	46	46	46	46
	Distance	46	46	46	46
	Language	46	46	46	46
	Ethnicity	46	46	46	46
	Urban	46	46	46	46

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	46	46	46	46
GLHR	46	46	46	46
GJFK	46	46	46	46
PartnerConcentration	46	46	46	46
Seasonality	46	46	46	46
Distance	46	46	46	46
Language	46	46	46	46
Ethnicity	46	46	46	46
Urban	46	46	46	46

Correlations

	Language	Ethnicity	Urban
Congestion	46	46	46
GLHR	46	46	46
GJFK	46	46	46
PartnerConcentration	46	46	46
Seasonality	46	46	46
Distance	46	46	46
Language	46	46	46
Ethnicity	46	46	46
Urban	46	46	46

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, PartnerConcentration, GJFK, Distance, Language, Ethnicity, Seasonality, GLHR, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change
1	.611[a]	.373	.194	3.203	.373	2.085

Model Summary[b]

Model	Change Statistics: df1	Change Statistics: df2	Change Statistics: Sig. F Change
1	10	35	.053

a. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, GJFK, Distance, Language, Ethnicity, Seasonality, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	213.901	10	21.390	2.085	.053[b]
	Residual	359.077	35	10.259		
	Total	572.978	45			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, GJFK, Distance, Language, Ethnicity, Seasonality, GLHR, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.609	4.807		.959	.344
	HomeConcentration	1.582	.926	.260	1.709	.096
	Congestion	-.207	.723	-.069	-.287	.776
	GLHR	-.344	2.710	-.027	-.127	.900
	GJFK	2.401	1.119	.328	2.145	.039
	PartnerConcentration	.735	.473	.224	1.555	.129
	Seasonality	-1.232	3.548	-.062	-.347	.730
	Distance	-.558	.457	-.202	-1.222	.230
	Language	-.224	.204	-.259	-1.100	.279
	Ethnicity	-.020	.850	-.004	-.023	.982
	Urban	.240	.189	.334	1.268	.213

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.773	1.293
	Congestion	.310	3.221
	GLHR	.383	2.614
	GJFK	.764	1.308
	PartnerConcentration	.862	1.160
	Seasonality	.562	1.781
	Distance	.656	1.524
	Language	.323	3.097
	Ethnicity	.600	1.665
	Urban	.259	3.866

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.235	1.000	.00	.00	.00
	2	1.626	1.958	.00	.06	.00
	3	1.006	2.489	.00	.01	.00
	4	.706	2.971	.00	.15	.00
	5	.553	3.357	.00	.00	.00
	6	.420	3.854	.00	.69	.00
	7	.291	4.626	.00	.03	.00
	8	.097	8.014	.00	.01	.02
	9	.045	11.737	.00	.00	.05
	10	.013	22.302	.02	.03	.93
	11	.007	29.073	.97	.02	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.01	.00	.00	.00	.00
	2	.06	.00	.01	.00	.00	.05
	3	.01	.03	.69	.00	.00	.00
	4	.12	.03	.01	.00	.00	.01
	5	.05	.60	.16	.00	.00	.00
	6	.01	.06	.01	.01	.00	.00
	7	.33	.08	.00	.00	.00	.54
	8	.05	.09	.00	.25	.03	.00
	9	.06	.01	.05	.04	.55	.01
	10	.24	.05	.00	.00	.00	.31
	11	.06	.04	.07	.70	.41	.07

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.04	.00
	3	.01	.00
	4	.29	.00
	5	.01	.00
	6	.31	.00
	7	.04	.00
	8	.11	.05
	9	.16	.11
	10	.00	.66
	11	.04	.18

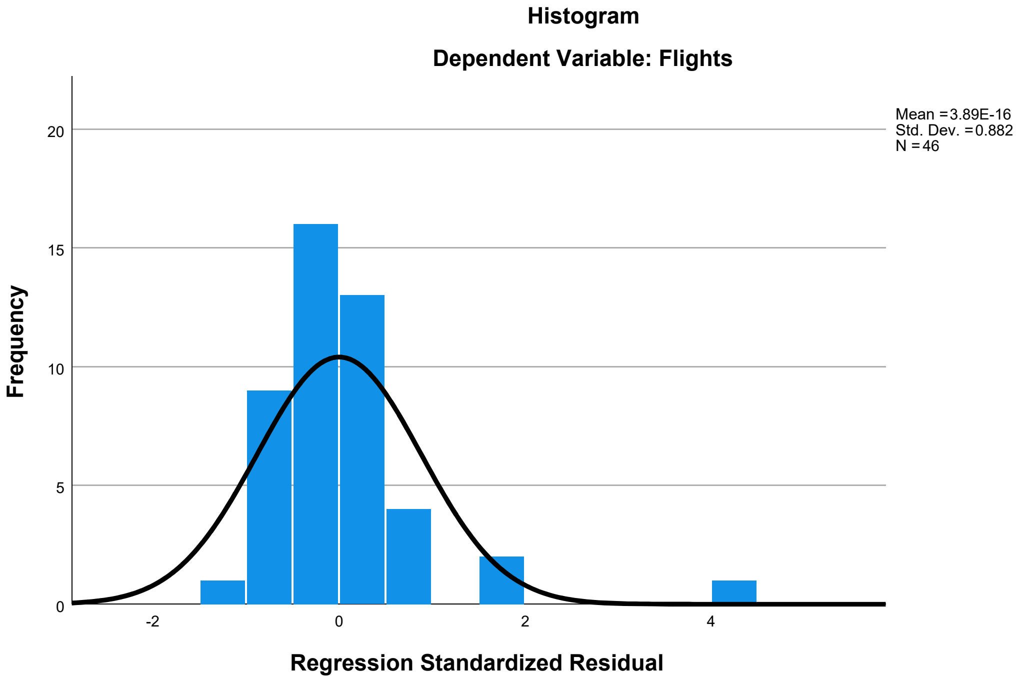
a. Dependent Variable: Flights

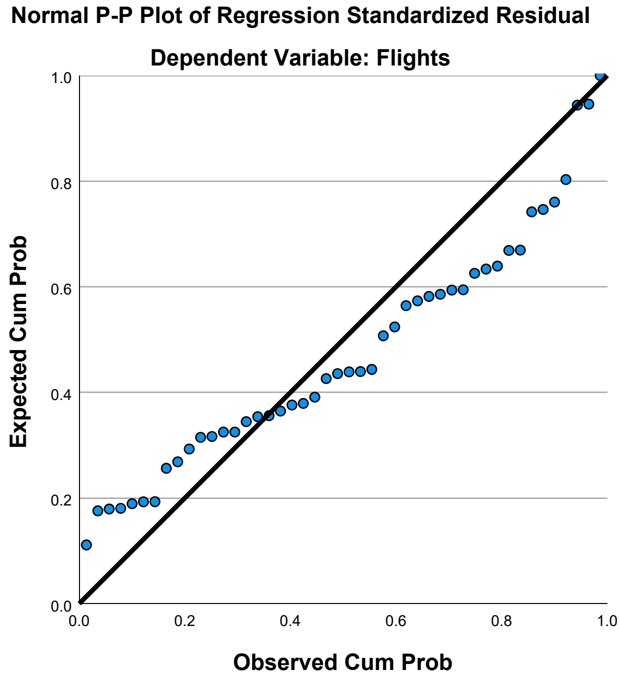
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.81	10.93	5.02	2.180	46
Residual	-3.910	13.420	.000	2.825	46
Std. Predicted Value	-1.474	2.708	.000	1.000	46
Std. Residual	-1.221	4.190	.000	.882	46

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean =3.89E-16
Std. Dev. =0.882
N =46
Frequency
Regression Standardized Residual
0
5
10
15
20
-2
0
2
4


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
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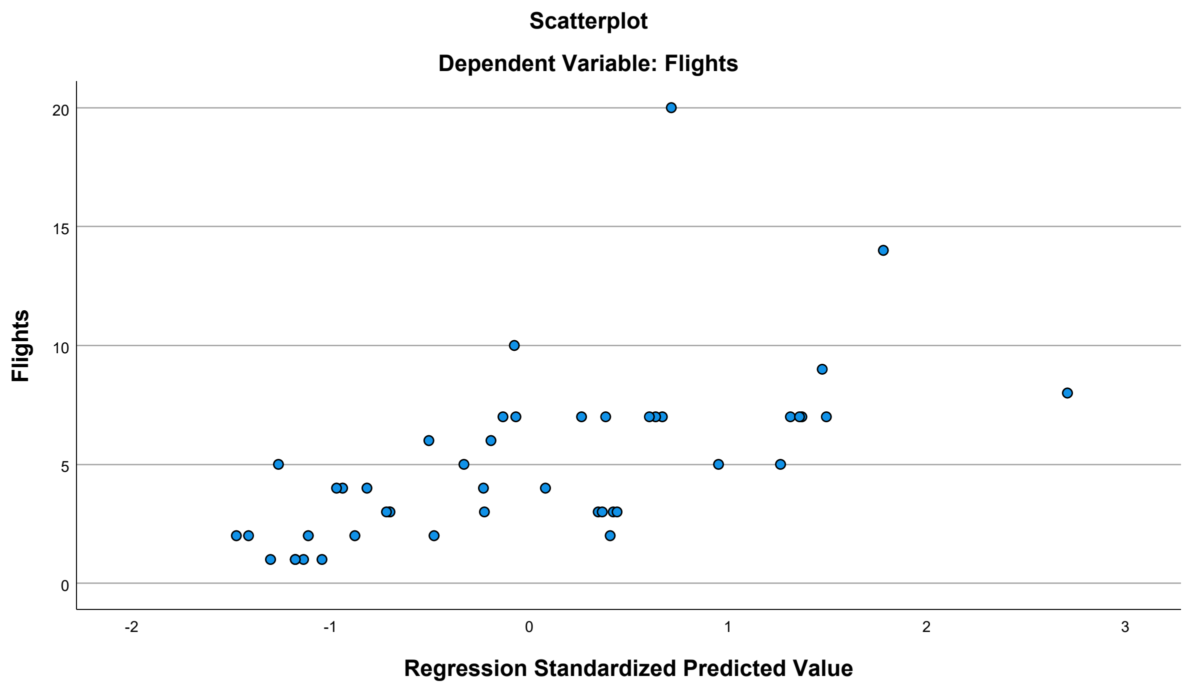
0.2
0.4
0.6
0.8
1.0



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	5.02	3.568	46
HomeConcentration	.39417652	.586621134	46
Congestion	4.57	1.186	46
GLHR	.09	.285	46
GJFK	.37	.488	46
PartnerConcentration	.26955743478	1.0876676060	46
Seasonality	.61052083922	.17958409650	46
Distance	5.00557	1.289764	46
Language	1.87076072	4.119075223	46
Urban	15.24	4.963	46

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.289	.107	-.002
	HomeConcentration	.289	1.000	.029	-.185
	Congestion	.107	.029	1.000	.312
	GLHR	-.002	-.185	.312	1.000
	GJFK	.378	.097	.207	.083
	PartnerConcentration	.130	-.038	-.209	.041
	Seasonality	-.199	.101	-.402	-.192
	Distance	-.049	.293	-.080	-.225
	Language	-.131	-.273	.477	.620
	Urban	.288	-.014	.720	.488
Sig. (1-tailed)	Flights	.	.026	.239	.495
	HomeConcentration	.026	.	.425	.109
	Congestion	.239	.425	.	.017
	GLHR	.495	.109	.017	.
	GJFK	.005	.261	.084	.291
	PartnerConcentration	.195	.401	.082	.393
	Seasonality	.092	.252	.003	.101
	Distance	.373	.024	.299	.066
	Language	.192	.033	.000	.000
	Urban	.026	.463	.000	.000
N	Flights	46	46	46	46
	HomeConcentration	46	46	46	46
	Congestion	46	46	46	46
	GLHR	46	46	46	46
	GJFK	46	46	46	46
	PartnerConcentration	46	46	46	46
	Seasonality	46	46	46	46
	Distance	46	46	46	46
	Language	46	46	46	46
	Urban	46	46	46	46

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.378	.130	-.199	-.049
	HomeConcentration	.097	-.038	.101	.293
	Congestion	.207	-.209	-.402	-.080
	GLHR	.083	.041	-.192	-.225
	GJFK	1.000	-.154	-.318	-.114
	PartnerConcentration	-.154	1.000	-.089	.087
	Seasonality	-.318	-.089	1.000	-.103
	Distance	-.114	.087	-.103	1.000
	Language	.225	-.069	-.275	-.378
	Urban	.275	-.159	-.497	-.069
Sig. (1-tailed)	Flights	.005	.195	.092	.373
	HomeConcentration	.261	.401	.252	.024
	Congestion	.084	.082	.003	.299
	GLHR	.291	.393	.101	.066
	GJFK	.	.154	.016	.226
	PartnerConcentration	.154	.	.278	.282
	Seasonality	.016	.278	.	.248
	Distance	.226	.282	.248	.
	Language	.066	.324	.032	.005
	Urban	.032	.145	.000	.324
N	Flights	46	46	46	46
	HomeConcentration	46	46	46	46
	Congestion	46	46	46	46
	GLHR	46	46	46	46
	GJFK	46	46	46	46
	PartnerConcentration	46	46	46	46
	Seasonality	46	46	46	46
	Distance	46	46	46	46
	Language	46	46	46	46
	Urban	46	46	46	46

Correlations

		Language	Urban
Pearson Correlation	Flights	-.131	.288
	HomeConcentration	-.273	-.014
	Congestion	.477	.720
	GLHR	.620	.488
	GJFK	.225	.275
	PartnerConcentration	-.069	-.159
	Seasonality	-.275	-.497
	Distance	-.378	-.069
	Language	1.000	.295
	Urban	.295	1.000
Sig. (1-tailed)	Flights	.192	.026
	HomeConcentration	.033	.463
	Congestion	.000	.000
	GLHR	.000	.000
	GJFK	.066	.032
	PartnerConcentration	.324	.145
	Seasonality	.032	.000
	Distance	.005	.324
	Language	.	.023
	Urban	.023	.
N	Flights	46	46
	HomeConcentration	46	46
	Congestion	46	46
	GLHR	46	46
	GJFK	46	46
	PartnerConcentration	46	46
	Seasonality	46	46
	Distance	46	46
	Language	46	46
	Urban	46	46

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, PartnerConcentration, GJFK, Distance, Language, Seasonality, GLHR, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change
1	.611[a]	.373	.217	3.158	.373	2.383

Model Summary[b]

Model	Change Statistics: df1	Change Statistics: df2	Change Statistics: Sig. F Change
1	9	36	.031

a. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, GJFK, Distance, Language, Seasonality, GLHR, C

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	213.895	9	23.766	2.383	.031[b]
	Residual	359.083	36	9.975		
	Total	572.978	45			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, GJFK, Distance, Language, Seasonality, GLHR, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.588	4.658		.985	.331
	HomeConcentration	1.586	.896	.261	1.770	.085
	Congestion	-.209	.707	-.070	-.296	.769
	GLHR	-.336	2.654	-.027	-.127	.900
	GJFK	2.404	1.096	.329	2.192	.035
	PartnerConcentration	.735	.466	.224	1.578	.123
	Seasonality	-1.216	3.427	-.061	-.355	.725
	Distance	-.555	.424	-.201	-1.307	.199
	Language	-.225	.200	-.260	-1.123	.269
	Urban	.239	.185	.333	1.292	.205

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.802	1.247
	Congestion	.315	3.170
	GLHR	.388	2.579
	GJFK	.774	1.292
	PartnerConcentration	.863	1.159
	Seasonality	.585	1.708
	Distance	.740	1.352
	Language	.326	3.066
	Urban	.262	3.811

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	5.945	1.000	.00	.01	.00
	2	1.488	1.999	.00	.05	.00
	3	1.000	2.438	.00	.01	.00
	4	.563	3.251	.00	.16	.00
	5	.522	3.376	.00	.59	.00
	6	.299	4.459	.00	.11	.00
	7	.111	7.328	.00	.00	.02
	8	.052	10.650	.00	.01	.02
	9	.013	21.777	.02	.03	.95
	10	.008	27.877	.97	.04	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.01	.00	.00	.00	.00
	2	.10	.00	.00	.00	.00	.07
	3	.01	.04	.71	.00	.00	.00
	4	.00	.49	.13	.01	.00	.00
	5	.15	.17	.01	.00	.00	.00
	6	.34	.11	.01	.00	.00	.49
	7	.05	.10	.00	.22	.00	.00
	8	.02	.00	.05	.08	.61	.03
	9	.24	.05	.00	.00	.00	.31
	10	.08	.03	.07	.69	.38	.09

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.06
	8	.06
	9	.66
	10	.22

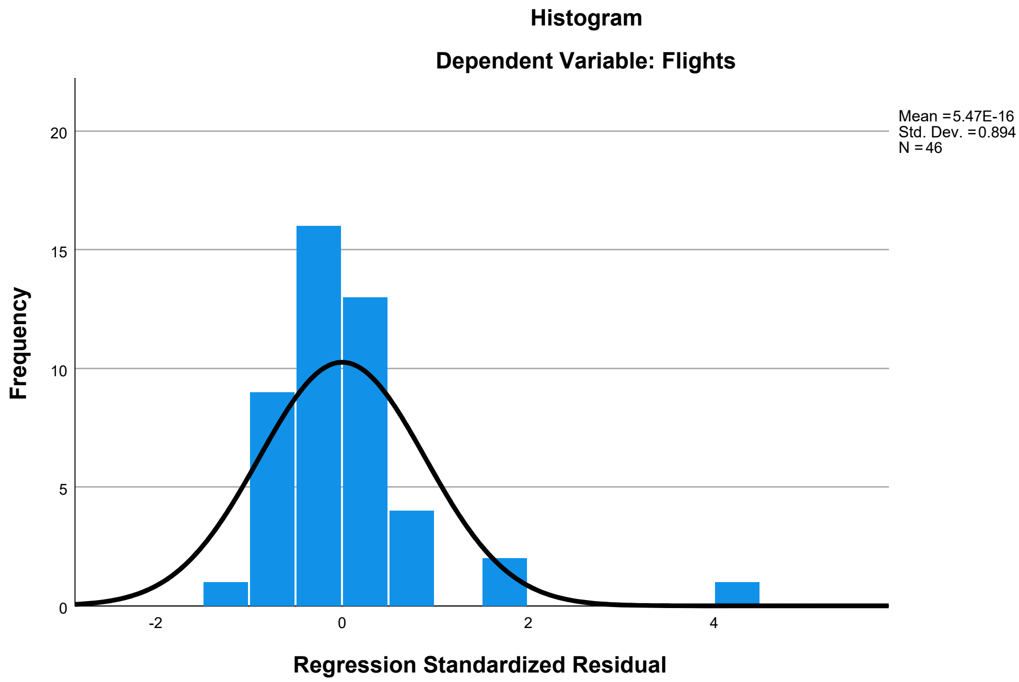
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.82	10.93	5.02	2.180	46
Residual	-3.903	13.426	.000	2.825	46
Std. Predicted Value	-1.467	2.708	.000	1.000	46
Std. Residual	-1.236	4.251	.000	.894	46

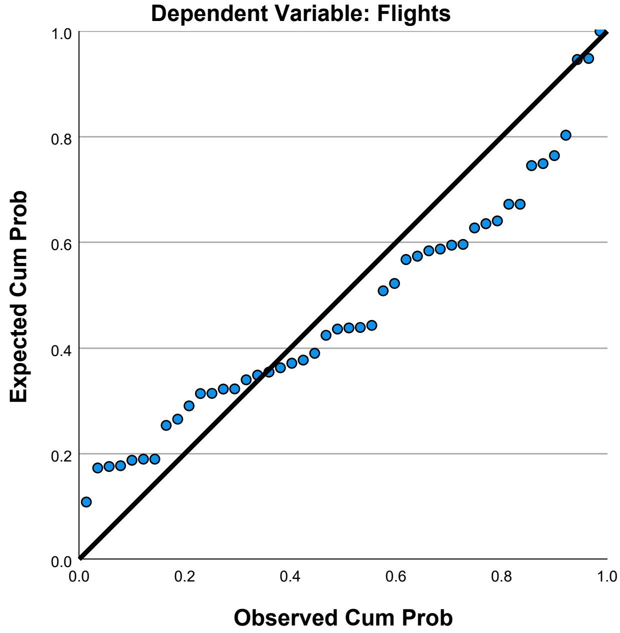
a. Dependent Variable: Flights

Charts



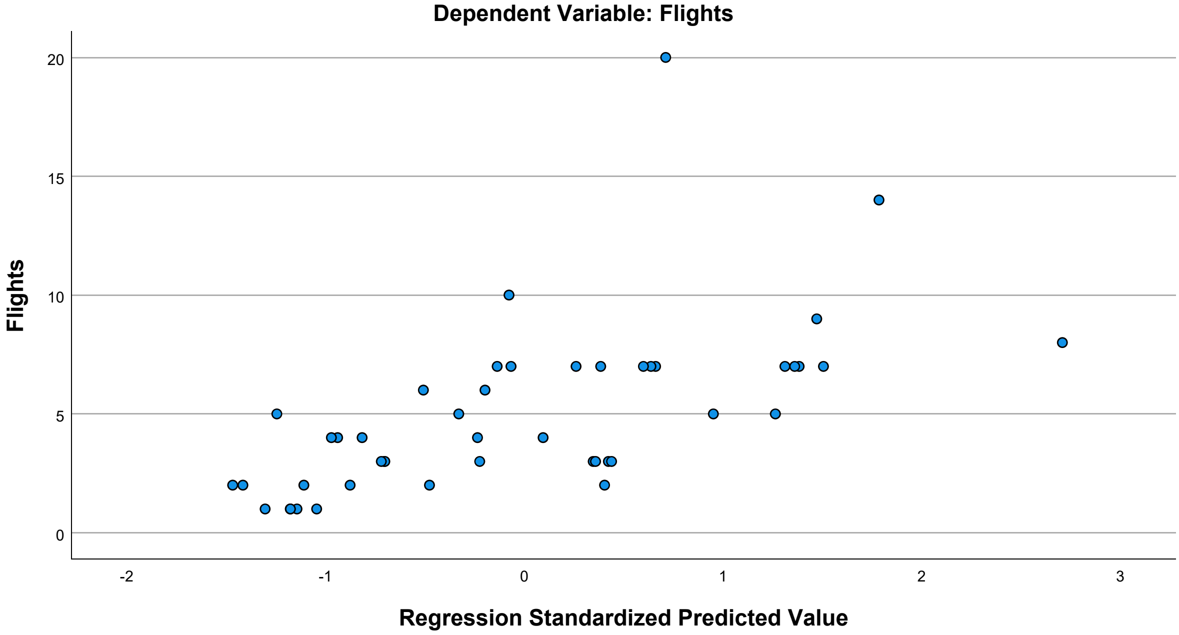
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	5.02	3.568	46
HomeConcentration	.39417652	.586621134	46
GLHR	.09	.285	46
GJFK	.37	.488	46
PartnerConcentration	.26955743478	1.0876676060	46
Seasonality	.61052083922	.17958409650	46
Distance	5.00557	1.289764	46
Language	1.87076072	4.119075223	46
Urban	15.24	4.963	46

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.289	-.002	.378
	HomeConcentration	.289	1.000	-.185	.097
	GLHR	-.002	-.185	1.000	.083
	GJFK	.378	.097	.083	1.000
	PartnerConcentration	.130	-.038	.041	-.154
	Seasonality	-.199	.101	-.192	-.318
	Distance	-.049	.293	-.225	-.114
	Language	-.131	-.273	.620	.225
	Urban	.288	-.014	.488	.275
Sig. (1-tailed)	Flights	.	.026	.495	.005
	HomeConcentration	.026	.	.109	.261
	GLHR	.495	.109	.	.291
	GJFK	.005	.261	.291	.
	PartnerConcentration	.195	.401	.393	.154
	Seasonality	.092	.252	.101	.016
	Distance	.373	.024	.066	.226
	Language	.192	.033	.000	.066
	Urban	.026	.463	.000	.032
N	Flights	46	46	46	46
	HomeConcentration	46	46	46	46
	GLHR	46	46	46	46
	GJFK	46	46	46	46
	PartnerConcentration	46	46	46	46
	Seasonality	46	46	46	46
	Distance	46	46	46	46
	Language	46	46	46	46
	Urban	46	46	46	46

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.130	-.199	-.049	-.131
	HomeConcentration	-.038	.101	.293	-.273
	GLHR	.041	-.192	-.225	.620
	GJFK	-.154	-.318	-.114	.225
	PartnerConcentration	1.000	-.089	.087	-.069
	Seasonality	-.089	1.000	-.103	-.275
	Distance	.087	-.103	1.000	-.378
	Language	-.069	-.275	-.378	1.000
	Urban	-.159	-.497	-.069	.295
Sig. (1-tailed)	Flights	.195	.092	.373	.192
	HomeConcentration	.401	.252	.024	.033
	GLHR	.393	.101	.066	.000
	GJFK	.154	.016	.226	.066
	PartnerConcentration	.	.278	.282	.324
	Seasonality	.278	.	.248	.032
	Distance	.282	.248	.	.005
	Language	.324	.032	.005	.
	Urban	.145	.000	.324	.023
N	Flights	46	46	46	46
	HomeConcentration	46	46	46	46
	GLHR	46	46	46	46
	GJFK	46	46	46	46
	PartnerConcentration	46	46	46	46
	Seasonality	46	46	46	46
	Distance	46	46	46	46
	Language	46	46	46	46
	Urban	46	46	46	46

Correlations

		Urban
Pearson Correlation	Flights	.288
	HomeConcentration	-.014
	GLHR	.488
	GJFK	.275
	PartnerConcentration	-.159
	Seasonality	-.497
	Distance	-.069
	Language	.295
	Urban	1.000
Sig. (1-tailed)	Flights	.026
	HomeConcentration	.463
	GLHR	.000
	GJFK	.032
	PartnerConcentration	.145
	Seasonality	.000
	Distance	.324
	Language	.023
	Urban	.
N	Flights	46
	HomeConcentration	46
	GLHR	46
	GJFK	46
	PartnerConcentration	46
	Seasonality	46
	Distance	46
	Language	46
	Urban	46

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, PartnerConcentration, GJFK, Distance, Language, Seasonality, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.610[a]	.372	.236	3.119	.372	2.737

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	37	.018

a. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, GJFK, Distance, Language, Seasonality, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	213.020	8	26.628	2.737	.018[b]
	Residual	359.958	37	9.729		
	Total	572.978	45			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, GJFK, Distance, Language, Seasonality, GLHR

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.328	4.518		.958	.344
	HomeConcentration	1.539	.871	.253	1.767	.085
	GLHR	-.026	2.408	-.002	-.011	.991
	GJFK	2.456	1.069	.336	2.299	.027
	PartnerConcentration	.746	.459	.228	1.628	.112
	Seasonality	-1.244	3.383	-.063	-.368	.715
	Distance	-.567	.417	-.205	-1.359	.182
	Language	-.258	.164	-.298	-1.578	.123
	Urban	.201	.130	.279	1.539	.132

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.828	1.207
	GLHR	.459	2.177
	GJFK	.795	1.258
	PartnerConcentration	.869	1.151
	Seasonality	.586	1.707
	Distance	.747	1.339
	Language	.476	2.099
	Urban	.515	1.940

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

				Variance Proportions		
Model	Dimension	Eigenvalue	Condition Index	(Constant)	HomeConcentration	GLHR
1	1	4.997	1.000	.00	.01	.00
	2	1.488	1.833	.00	.05	.11
	3	.999	2.237	.00	.01	.01
	4	.551	3.012	.00	.06	.01
	5	.517	3.108	.00	.71	.17
	6	.297	4.099	.00	.10	.41
	7	.095	7.240	.00	.00	.09
	8	.048	10.184	.00	.02	.09
	9	.008	25.551	1.00	.04	.11

Collinearity Diagnostics[a]

		Variance Proportions					
Model	Dimension	GJFK	PartnerConcentration	Seasonality	Distance	Language	Urban
1	1	.01	.00	.00	.00	.00	.00
	2	.00	.00	.00	.00	.10	.00
	3	.05	.71	.00	.00	.00	.00
	4	.58	.15	.01	.00	.00	.00
	5	.08	.00	.00	.00	.00	.00
	6	.11	.01	.00	.00	.74	.00
	7	.12	.00	.25	.03	.00	.18
	8	.02	.05	.05	.57	.01	.33
	9	.03	.07	.69	.39	.14	.48

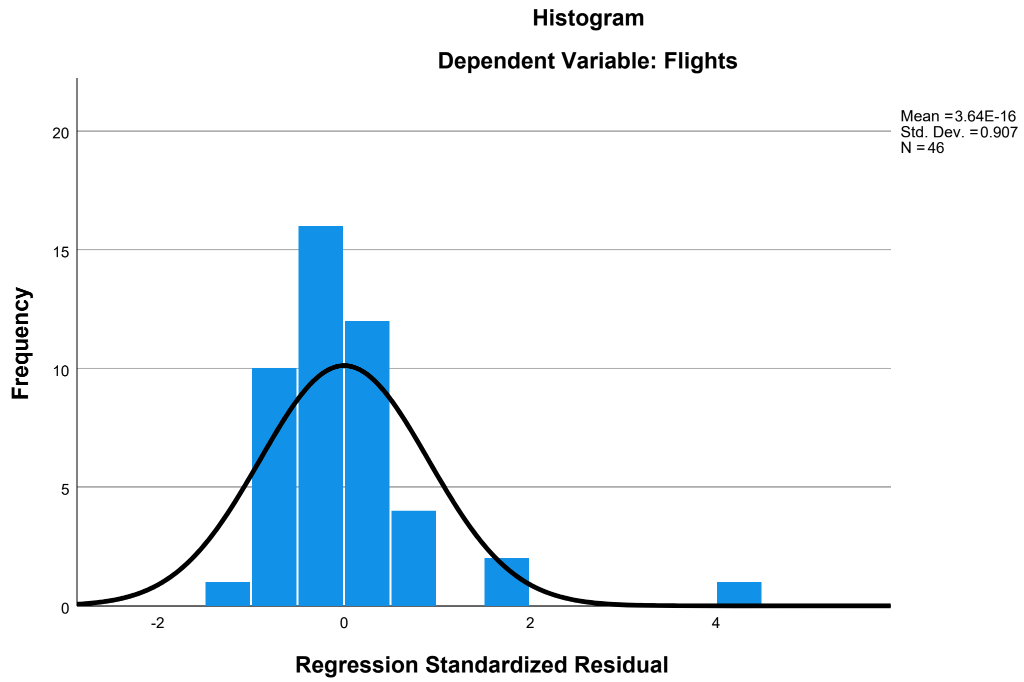
a. Dependent Variable: Flights

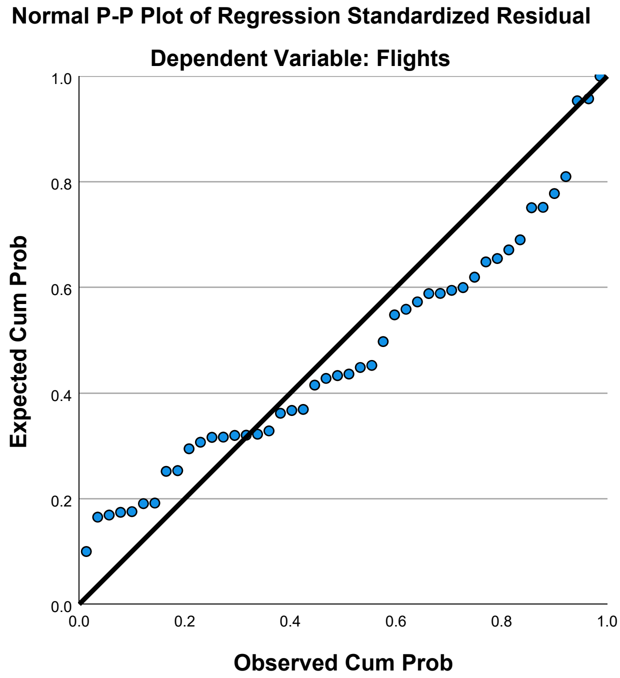
Residuals Statistics[a]

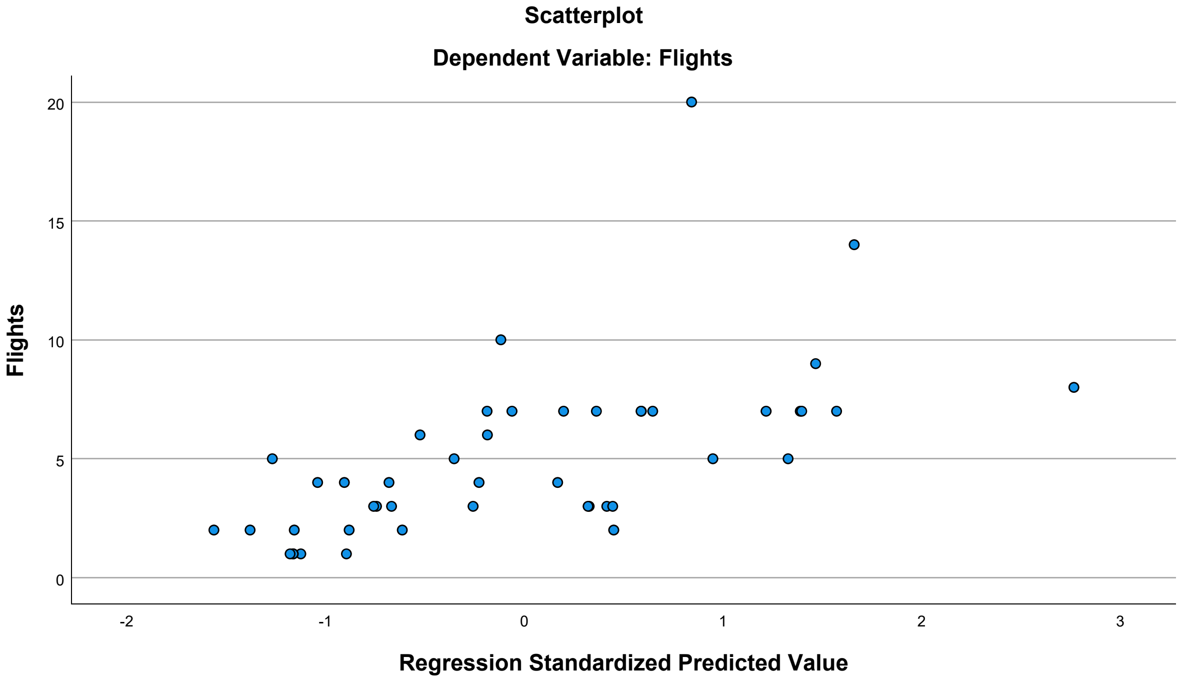
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.62	11.04	5.02	2.176	46
Residual	-4.001	13.147	.000	2.828	46
Std. Predicted Value	-1.562	2.766	.000	1.000	46
Std. Residual	-1.283	4.215	.000	.907	46

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
-2
-1
0
1
2
3

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	5.02	3.568	46
HomeConcentration	.39417652	.586621134	46
GJFK	.37	.488	46
PartnerConcentration	.26955743478	1.0876676060	46
Seasonality	.61052083922	.17958409650	46
Distance	5.00557	1.289764	46
Language	1.87076072	4.119075223	46
Urban	15.24	4.963	46

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.289	.378	.130
	HomeConcentration	.289	1.000	.097	-.038
	GJFK	.378	.097	1.000	-.154
	PartnerConcentration	.130	-.038	-.154	1.000
	Seasonality	-.199	.101	-.318	-.089
	Distance	-.049	.293	-.114	.087
	Language	-.131	-.273	.225	-.069
	Urban	.288	-.014	.275	-.159
Sig. (1-tailed)	Flights	.	.026	.005	.195
	HomeConcentration	.026	.	.261	.401
	GJFK	.005	.261	.	.154
	PartnerConcentration	.195	.401	.154	.
	Seasonality	.092	.252	.016	.278
	Distance	.373	.024	.226	.282
	Language	.192	.033	.066	.324
	Urban	.026	.463	.032	.145
N	Flights	46	46	46	46
	HomeConcentration	46	46	46	46
	GJFK	46	46	46	46
	PartnerConcentration	46	46	46	46
	Seasonality	46	46	46	46
	Distance	46	46	46	46
	Language	46	46	46	46
	Urban	46	46	46	46

Correlations

		Seasonality	Distance	Language	Urban
Pearson Correlation	Flights	-.199	-.049	-.131	.288
	HomeConcentration	.101	.293	-.273	-.014
	GJFK	-.318	-.114	.225	.275
	PartnerConcentration	-.089	.087	-.069	-.159
	Seasonality	1.000	-.103	-.275	-.497
	Distance	-.103	1.000	-.378	-.069
	Language	-.275	-.378	1.000	.295
	Urban	-.497	-.069	.295	1.000
Sig. (1-tailed)	Flights	.092	.373	.192	.026
	HomeConcentration	.252	.024	.033	.463
	GJFK	.016	.226	.066	.032
	PartnerConcentration	.278	.282	.324	.145
	Seasonality	.	.248	.032	.000
	Distance	.248	.	.005	.324
	Language	.032	.005	.	.023
	Urban	.000	.324	.023	.
N	Flights	46	46	46	46
	HomeConcentration	46	46	46	46
	GJFK	46	46	46	46
	PartnerConcentration	46	46	46	46
	Seasonality	46	46	46	46
	Distance	46	46	46	46
	Language	46	46	46	46
	Urban	46	46	46	46

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, PartnerConcentration, GJFK, Distance, Language, Seasonality[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.610[a]	.372	.256	3.078	.372	3.213

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	7	38	.009

a. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, GJFK, Distance, Language, Seasonality

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	213.019	7	30.431	3.213	.009[b]
	Residual	359.959	38	9.473		
	Total	572.978	45			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, GJFK, Distance, Language, Seasonality

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.344	4.230		1.027	.311
	HomeConcentration	1.539	.858	.253	1.794	.081
	GJFK	2.457	1.048	.336	2.344	.024
	PartnerConcentration	.745	.442	.227	1.686	.100
	Seasonality	-1.252	3.261	-.063	-.384	.703
	Distance	-.567	.411	-.205	-1.379	.176
	Language	-.259	.132	-.299	-1.963	.057
	Urban	.200	.112	.278	1.784	.082

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.831	1.204
	GJFK	.804	1.244
	PartnerConcentration	.910	1.099
	Seasonality	.614	1.630
	Distance	.748	1.337
	Language	.712	1.404
	Urban	.679	1.473

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	4.853	1.000	.00	.01	.01
	2	1.078	2.122	.00	.05	.05
	3	.939	2.274	.00	.13	.00
	4	.549	2.974	.00	.18	.47
	5	.416	3.417	.00	.57	.31
	6	.105	6.803	.00	.00	.10
	7	.053	9.611	.00	.02	.00
	8	.009	23.827	1.00	.03	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language	Urban
1	1	.00	.00	.00	.01	.00
	2	.28	.00	.00	.22	.00
	3	.50	.00	.00	.14	.00
	4	.14	.01	.00	.00	.00
	5	.00	.00	.00	.42	.00
	6	.00	.21	.01	.05	.29
	7	.04	.09	.55	.10	.31
	8	.05	.68	.43	.06	.40

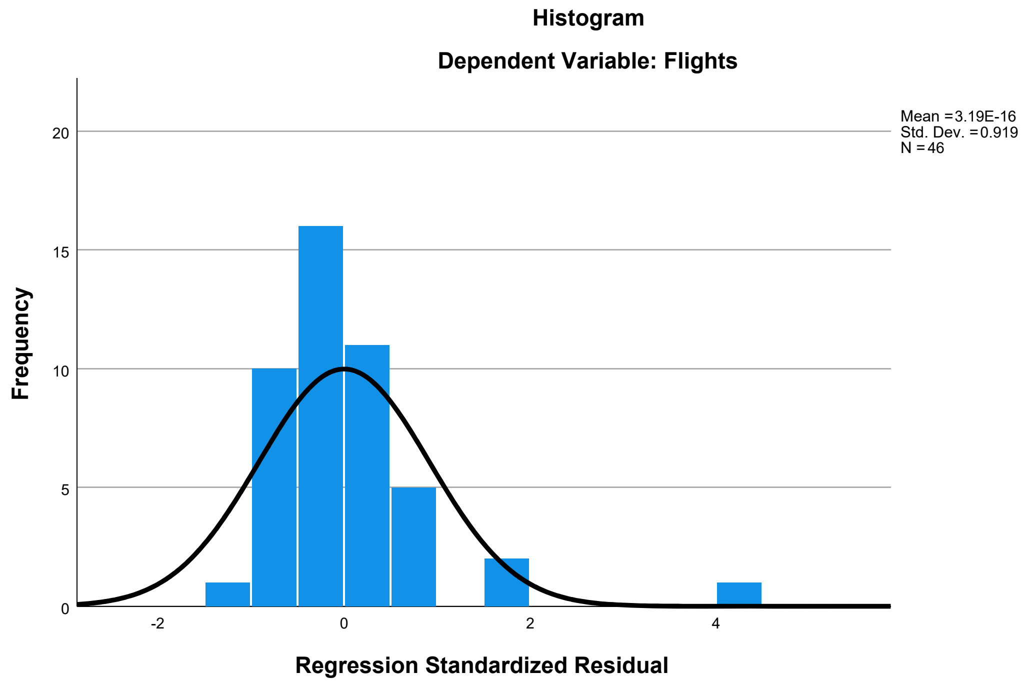
a. Dependent Variable: Flights

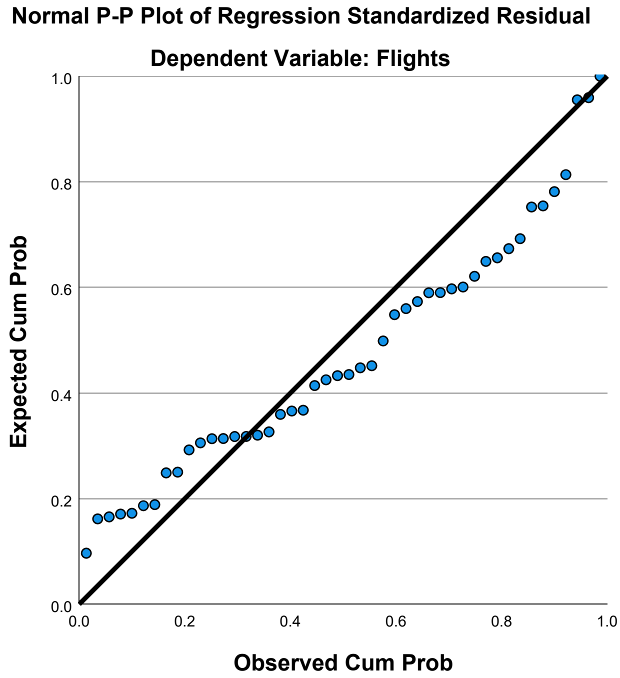
Residuals Statistics[a]

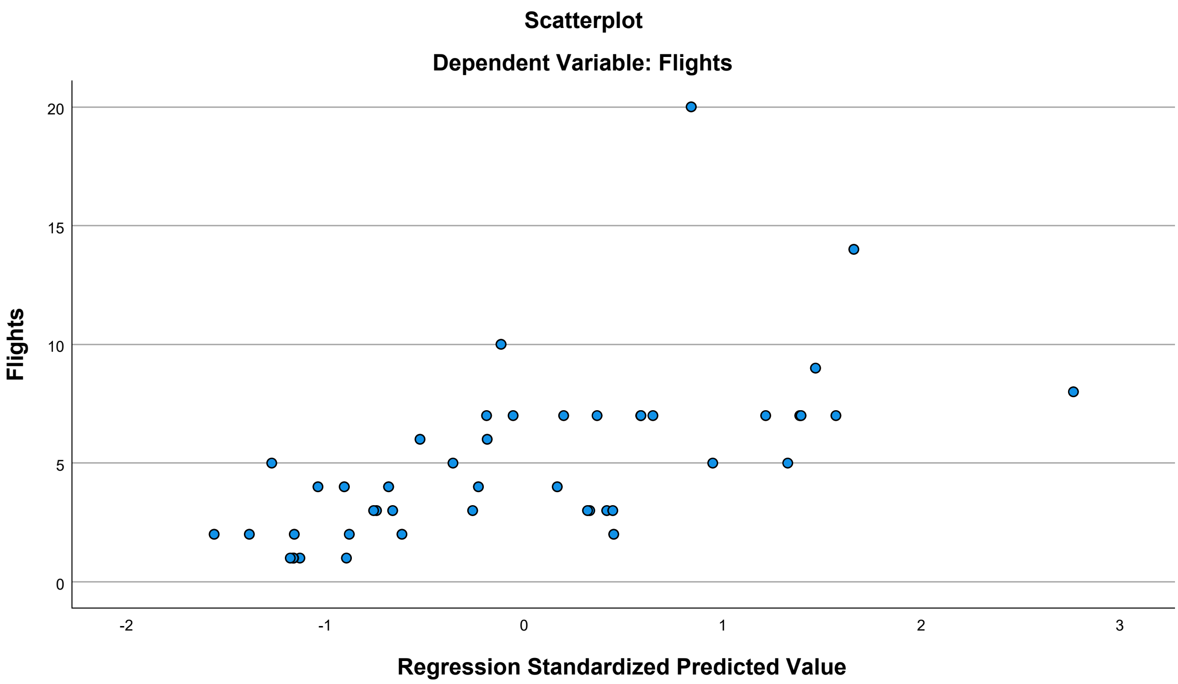
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.63	11.04	5.02	2.176	46
Residual	-4.004	13.148	.000	2.828	46
Std. Predicted Value	-1.561	2.766	.000	1.000	46
Std. Residual	-1.301	4.272	.000	.919	46

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
-2
-1
0
1
2
3

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	5.02	3.568	46
HomeConcentration	.39417652	.586621134	46
GJFK	.37	.488	46
PartnerConcentration	.26955743478	1.0876676060	46
Distance	5.00557	1.289764	46
Language	1.87076072	4.119075223	46
Urban	15.24	4.963	46

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.289	.378	.130
	HomeConcentration	.289	1.000	.097	-.038
	GJFK	.378	.097	1.000	-.154
	PartnerConcentration	.130	-.038	-.154	1.000
	Distance	-.049	.293	-.114	.087
	Language	-.131	-.273	.225	-.069
	Urban	.288	-.014	.275	-.159
Sig. (1-tailed)	Flights	.	.026	.005	.195
	HomeConcentration	.026	.	.261	.401
	GJFK	.005	.261	.	.154
	PartnerConcentration	.195	.401	.154	.
	Distance	.373	.024	.226	.282
	Language	.192	.033	.066	.324
	Urban	.026	.463	.032	.145
N	Flights	46	46	46	46
	HomeConcentration	46	46	46	46
	GJFK	46	46	46	46
	PartnerConcentration	46	46	46	46
	Distance	46	46	46	46
	Language	46	46	46	46
	Urban	46	46	46	46

Correlations

		Distance	Language	Urban
Pearson Correlation	Flights	-.049	-.131	.288
	HomeConcentration	.293	-.273	-.014
	GJFK	-.114	.225	.275
	PartnerConcentration	.087	-.069	-.159
	Distance	1.000	-.378	-.069
	Language	-.378	1.000	.295
	Urban	-.069	.295	1.000
Sig. (1-tailed)	Flights	.373	.192	.026
	HomeConcentration	.024	.033	.463
	GJFK	.226	.066	.032
	PartnerConcentration	.282	.324	.145
	Distance	.	.005	.324
	Language	.005	.	.023
	Urban	.324	.023	.
N	Flights	46	46	46
	HomeConcentration	46	46	46
	GJFK	46	46	46
	PartnerConcentration	46	46	46
	Distance	46	46	46
	Language	46	46	46
	Urban	46	46	46

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, PartnerConcentration, GJFK, Distance, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.608[a]	.369	.272	3.044	.369	3.807

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	39	.004

a. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, GJFK, Distance, Language
b. Dependent Variable: Flights

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	211.623	6	35.270	3.807	.004[b]
	Residual	361.355	39	9.266		
	Total	572.978	45			

a. Dependent Variable: Flights
b. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, GJFK, Distance, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.024	2.439		1.240	.222
	HomeConcentration	1.487	.838	.244	1.774	.084
	GJFK	2.564	1.000	.351	2.565	.014
	PartnerConcentration	.782	.427	.238	1.832	.075
	Distance	-.524	.392	-.190	-1.339	.188
	Language	-.250	.128	-.289	-1.947	.059
	Urban	.220	.099	.305	2.216	.033

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.852	1.173
	GJFK	.865	1.156
	PartnerConcentration	.955	1.048
	Distance	.807	1.239
	Language	.735	1.360
	Urban	.852	1.174

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	4.015	1.000	.00	.02	.02
	2	1.067	1.940	.00	.06	.04
	3	.936	2.071	.00	.16	.00
	4	.484	2.881	.01	.07	.70
	5	.412	3.121	.00	.66	.19
	6	.064	7.949	.02	.01	.04
	7	.022	13.614	.97	.02	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Distance	Language	Urban
1	1	.00	.00	.01	.00
	2	.34	.00	.21	.00
	3	.48	.00	.16	.00
	4	.15	.01	.00	.01
	5	.00	.00	.46	.00
	6	.03	.23	.12	.81
	7	.00	.75	.05	.17

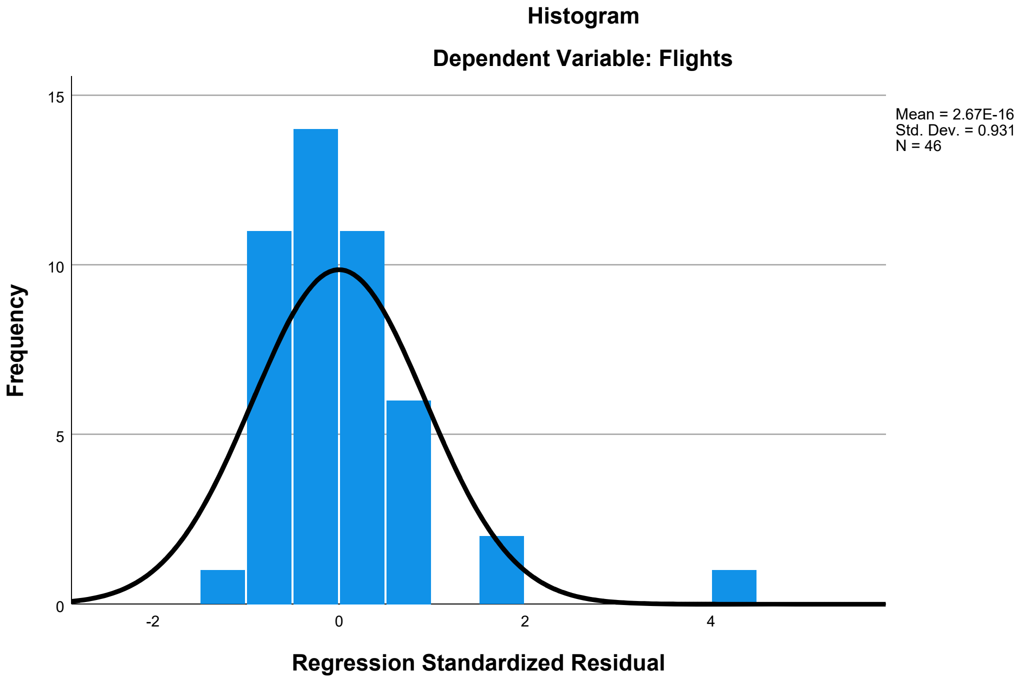
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.83	11.04	5.02	2.169	46
Residual	-4.037	13.003	.000	2.834	46
Std. Predicted Value	-1.470	2.776	.000	1.000	46
Std. Residual	-1.326	4.272	.000	.931	46

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Frequency
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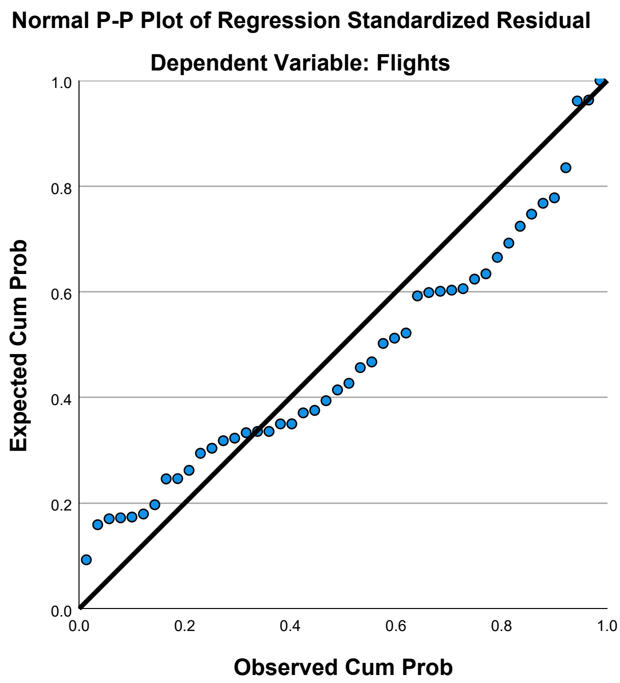
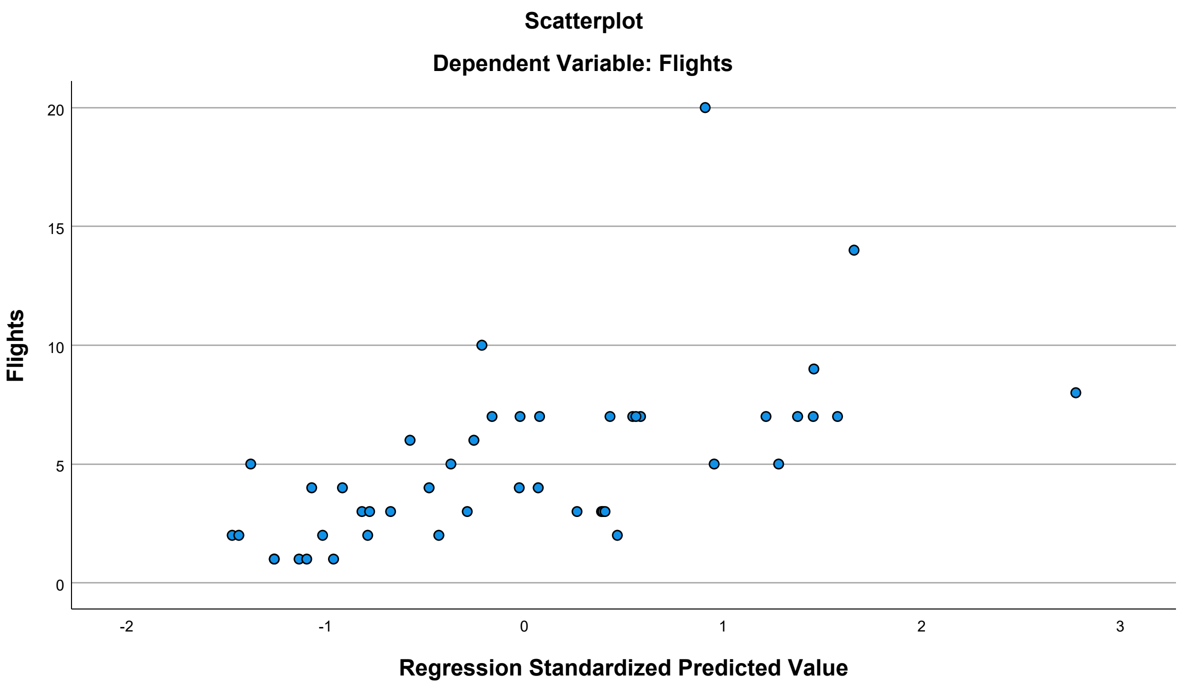
10
5
0
-2
0
2
4
Regression Standardized Residual
Mean = 2.67E-16
Std. Dev. = 0.931
N = 46


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
20
15
10
5
0
-2
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

```
[DataSet8] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airline R
egion\2012 - nonEuro Based.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.26	3.943	53
HomeConcentration	1.3023433962	1.4782924029	53
Congestion	4.68	1.283	53
GLHR	.04	.192	53
GJFK	.32	.471	53
PartnerConcentration	.74607098113	1.6686794714	53
Seasonality	.59805926080	.20377459332	53
Distance	5.62553	1.559685	53
Language	.66468030	2.547749108	53
Ethnicity	.22055502	.495570490	53
Urban	18.15	3.165	53

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.382	.086	-.064
	HomeConcentration	.382	1.000	.023	-.174
	Congestion	.086	.023	1.000	.128
	GLHR	-.064	-.174	.128	1.000
	GJFK	.233	-.132	.301	.076
	PartnerConcentration	-.076	.190	-.205	.005
	Seasonality	-.132	.151	-.022	-.280
	Distance	.176	.442	-.064	-.150
	Language	-.156	-.214	.213	.669
	Ethnicity	-.069	-.310	.259	.254
	Urban	.348	.107	.713	.306
Sig. (1-tailed)	Flights	.	.002	.271	.324
	HomeConcentration	.002	.	.435	.107
	Congestion	.271	.435	.	.181
	GLHR	.324	.107	.181	.
	GJFK	.047	.174	.014	.294
	PartnerConcentration	.294	.086	.070	.487
	Seasonality	.174	.139	.437	.021
	Distance	.104	.000	.325	.141
	Language	.132	.062	.062	.000
	Ethnicity	.312	.012	.030	.033
	Urban	.005	.222	.000	.013
N	Flights	53	53	53	53
	HomeConcentration	53	53	53	53

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.233	-.076	-.132	.176
	HomeConcentration	-.132	.190	.151	.442
	Congestion	.301	-.205	-.022	-.064
	GLHR	.076	.005	-.280	-.150
	GJFK	1.000	-.264	-.148	-.209
	PartnerConcentration	-.264	1.000	.119	-.081
	Seasonality	-.148	.119	1.000	-.075
	Distance	-.209	-.081	-.075	1.000
	Language	.250	-.071	-.245	-.291
	Ethnicity	.157	-.050	-.119	-.333
	Urban	.444	-.062	-.129	.006
Sig. (1-tailed)	Flights	.047	.294	.174	.104
	HomeConcentration	.174	.086	.139	.000
	Congestion	.014	.070	.437	.325
	GLHR	.294	.487	.021	.141
	GJFK	.	.028	.145	.066
	PartnerConcentration	.028	.	.199	.282
	Seasonality	.145	.199	.	.297
	Distance	.066	.282	.297	.
	Language	.036	.306	.039	.017
	Ethnicity	.131	.361	.198	.007
	Urban	.000	.331	.179	.483
N	Flights	53	53	53	53
	HomeConcentration	53	53	53	53

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	-.156	-.069	.348
	HomeConcentration	-.214	-.310	.107
	Congestion	.213	.259	.713
	GLHR	.669	.254	.306
	GJFK	.250	.157	.444
	PartnerConcentration	-.071	-.050	-.062
	Seasonality	-.245	-.119	-.129
	Distance	-.291	-.333	.006
	Language	1.000	.380	.251
	Ethnicity	.380	1.000	.286
	Urban	.251	.286	1.000
Sig. (1-tailed)	Flights	.132	.312	.005
	HomeConcentration	.062	.012	.222
	Congestion	.062	.030	.000
	GLHR	.000	.033	.013
	GJFK	.036	.131	.000
	PartnerConcentration	.306	.361	.331
	Seasonality	.039	.198	.179
	Distance	.017	.007	.483
	Language	.	.002	.035
	Ethnicity	.002	.	.019
	Urban	.035	.019	.
N	Flights	53	53	53
	HomeConcentration	53	53	53

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	53	53	53	53
	GLHR	53	53	53	53
	GJFK	53	53	53	53
	PartnerConcentration	53	53	53	53
	Seasonality	53	53	53	53
	Distance	53	53	53	53
	Language	53	53	53	53
	Ethnicity	53	53	53	53
	Urban	53	53	53	53

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	53	53	53	53
GLHR	53	53	53	53
GJFK	53	53	53	53
PartnerConcentration	53	53	53	53
Seasonality	53	53	53	53
Distance	53	53	53	53
Language	53	53	53	53
Ethnicity	53	53	53	53
Urban	53	53	53	53

Correlations

	Language	Ethnicity	Urban
Congestion	53	53	53
GLHR	53	53	53
GJFK	53	53	53
PartnerConcentration	53	53	53
Seasonality	53	53	53
Distance	53	53	53
Language	53	53	53
Ethnicity	53	53	53
Urban	53	53	53

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, Seasonality, GLHR, Ethnicity, GJFK, HomeConcentration, Language, ...[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.620[a]	.384	.237	3.443	.384	2.619

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	42	.014

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, Seasonality, GLHR, Ethnicity, GJFK, HomeConcentration, La
Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	310.417	10	31.042	2.619	.014[b]
	Residual	497.885	42	11.854		
	Total	808.302	52			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, Seasonality, GLHR, Ethnicity, GJFK, HomeConcentration, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.251	4.100		.305	.762
	HomeConcentration	1.048	.397	.393	2.641	.012
	Congestion	-.967	.573	-.315	-1.687	.099
	GLHR	-.681	3.680	-.033	-.185	.854
	GJFK	1.072	1.286	.128	.834	.409
	PartnerConcentration	-.361	.322	-.153	-1.122	.268
	Seasonality	-3.188	2.552	-.165	-1.249	.219
	Distance	-.216	.383	-.086	-.565	.575
	Language	-.340	.281	-.220	-1.212	.232
	Ethnicity	.047	1.148	.006	.041	.968
	Urban	.632	.267	.507	2.370	.022

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.663	1.509
	Congestion	.422	2.369
	GLHR	.455	2.199
	GJFK	.621	1.610
	PartnerConcentration	.790	1.266
	Seasonality	.843	1.186
	Distance	.638	1.568
	Language	.445	2.248
	Ethnicity	.705	1.419
	Urban	.320	3.121

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

				Variance Proportions		
Model	Dimension	Eigenvalue	Condition Index	(Constant)	HomeConcentration	Congestion
1	1	6.163	1.000	.00	.00	.00
	2	1.860	1.820	.00	.02	.00
	3	.978	2.511	.00	.01	.00
	4	.706	2.954	.00	.05	.00
	5	.498	3.517	.00	.01	.00
	6	.358	4.149	.00	.67	.00
	7	.274	4.741	.00	.05	.00
	8	.088	8.380	.00	.04	.01
	9	.053	10.806	.00	.01	.29
	10	.016	19.902	.41	.08	.29
	11	.006	31.224	.58	.06	.40

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.07	.01	.01	.00	.00	.08
	3	.06	.11	.37	.00	.00	.01
	4	.08	.01	.10	.00	.00	.02
	5	.02	.48	.36	.00	.00	.01
	6	.06	.00	.01	.01	.00	.08
	7	.52	.10	.00	.01	.00	.73
	8	.06	.01	.03	.67	.11	.01
	9	.00	.09	.00	.04	.30	.01
	10	.01	.05	.10	.21	.58	.00
	11	.11	.14	.02	.06	.01	.05

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.04	.00
	3	.01	.00
	4	.50	.00
	5	.06	.00
	6	.17	.00
	7	.10	.00
	8	.00	.00
	9	.08	.01
	10	.01	.07
	11	.02	.92

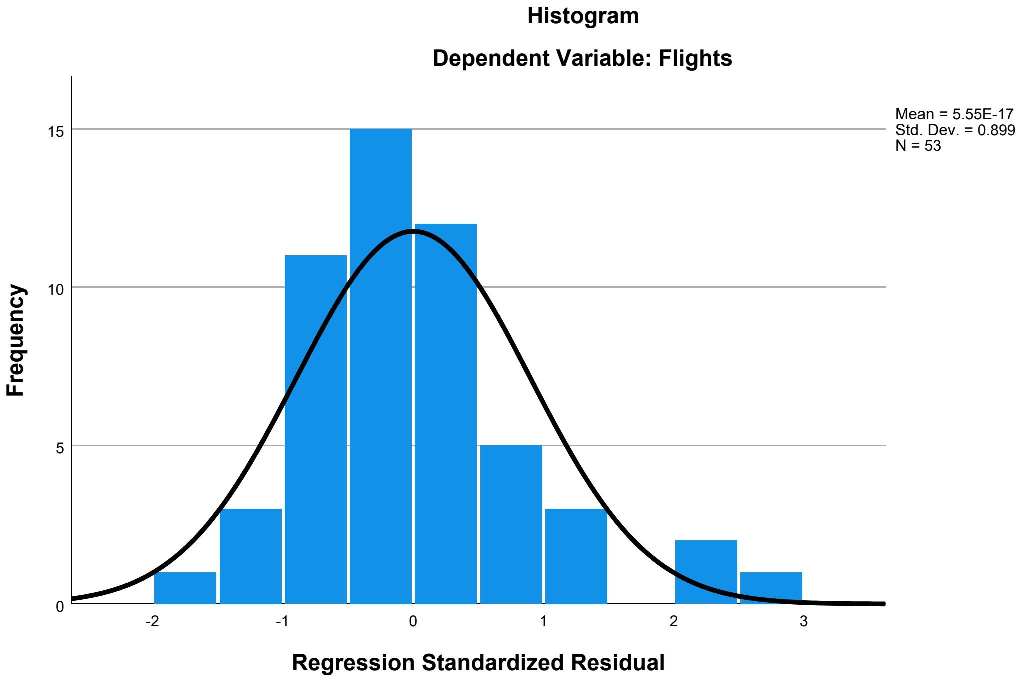
a. Dependent Variable: Flights

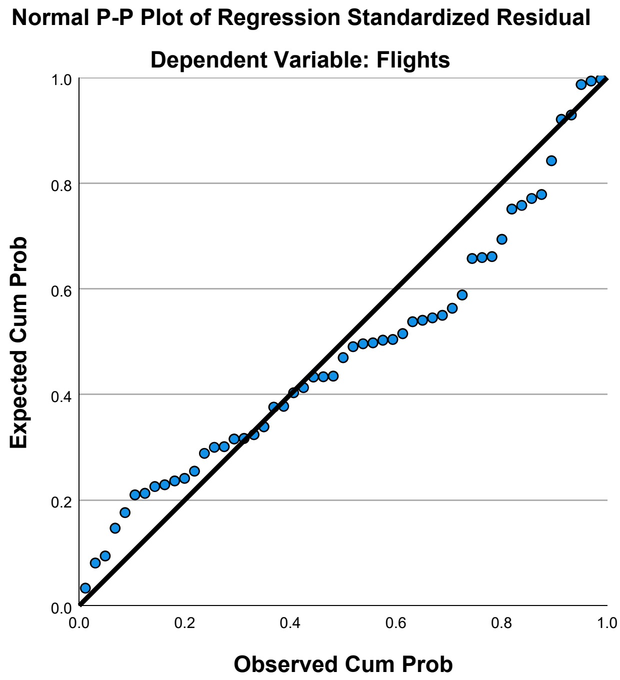
Residuals Statistics[a]

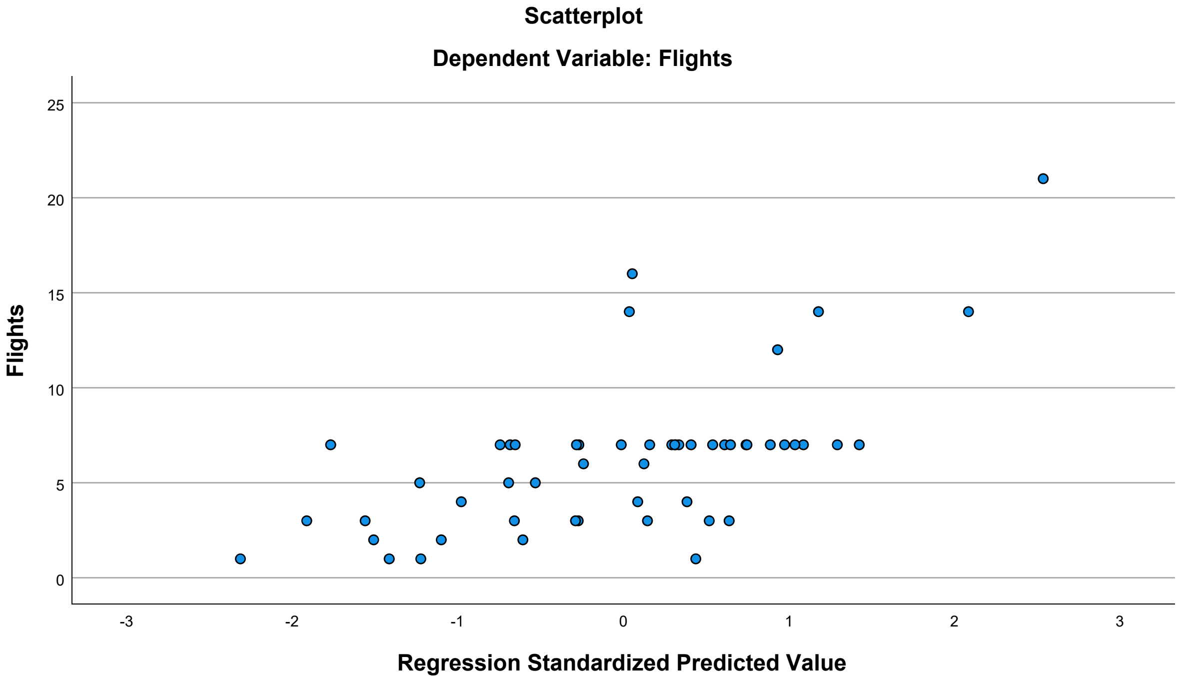
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.61	12.46	6.26	2.443	53
Residual	-6.332	9.606	.000	3.094	53
Std. Predicted Value	-2.314	2.536	.000	1.000	53
Std. Residual	-1.839	2.790	.000	.899	53

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 5.55E-17
Std. Dev. = 0.899
N = 53
Frequency
15
10
5
0
-2
-1
0
1
2
3
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
25
20
15
10
5
0
-3
-2
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

```
[DataSet9] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airline R
egion\2017 - nonEuro Based.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.28	3.646	82
HomeConcentration	2.3738420976	2.2211576221	82
Congestion	4.39	1.119	82
GLHR	.02	.155	82
GJFK	.17	.379	82
PartnerConcentration	1.1734087073	1.9708803304	82
Seasonality	.58700445896	.17996387971	82
Distance	6.01383	1.525470	82
Language	.64793479	2.106350743	82
Ethnicity	.17867232	.428946714	82
Urban	17.24	3.927	82

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.303	.263	-.056
	HomeConcentration	.303	1.000	.017	-.167
	Congestion	.263	.017	1.000	.087
	GLHR	-.056	-.167	.087	1.000
	GJFK	.511	-.130	.423	-.072
	PartnerConcentration	-.069	.114	-.171	.153
	Seasonality	-.086	-.310	-.277	-.077
	Distance	.124	.369	-.160	-.163
	Language	-.179	-.310	.222	.380
	Ethnicity	-.038	-.335	.347	.110
	Urban	.386	.198	.652	.233
Sig. (1-tailed)	Flights	.	.003	.008	.309
	HomeConcentration	.003	.	.439	.066
	Congestion	.008	.439	.	.219
	GLHR	.309	.066	.219	.
	GJFK	.000	.122	.000	.261
	PartnerConcentration	.268	.154	.062	.085
	Seasonality	.221	.002	.006	.246
	Distance	.133	.000	.076	.072
	Language	.054	.002	.022	.000
	Ethnicity	.366	.001	.001	.163
	Urban	.000	.037	.000	.018
N	Flights	82	82	82	82
	HomeConcentration	82	82	82	82

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.511	-.069	-.086	.124
	HomeConcentration	-.130	.114	-.310	.369
	Congestion	.423	-.171	-.277	-.160
	GLHR	-.072	.153	-.077	-.163
	GJFK	1.000	-.234	.054	-.162
	PartnerConcentration	-.234	1.000	-.113	-.019
	Seasonality	.054	-.113	1.000	-.141
	Distance	-.162	-.019	-.141	1.000
	Language	.075	.168	-.013	-.391
	Ethnicity	.301	.004	-.017	-.414
	Urban	.345	.003	-.251	.131
Sig. (1-tailed)	Flights	<.001	.268	.221	.133
	HomeConcentration	.122	.154	.002	.000
	Congestion	.000	.062	.006	.076
	GLHR	.261	.085	.246	.072
	GJFK	.	.017	.314	.073
	PartnerConcentration	.017	.	.157	.432
	Seasonality	.314	.157	.	.103
	Distance	.073	.432	.103	.
	Language	.252	.065	.454	.000
	Ethnicity	.003	.487	.440	.000
	Urban	.001	.488	.011	.121
N	Flights	82	82	82	82
	HomeConcentration	82	82	82	82

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	-.179	-.038	.386
	HomeConcentration	-.310	-.335	.198
	Congestion	.222	.347	.652
	GLHR	.380	.110	.233
	GJFK	.075	.301	.345
	PartnerConcentration	.168	.004	.003
	Seasonality	-.013	-.017	-.251
	Distance	-.391	-.414	.131
	Language	1.000	.515	.137
	Ethnicity	.515	1.000	.244
	Urban	.137	.244	1.000
Sig. (1-tailed)	Flights	.054	.366	<.001
	HomeConcentration	.002	.001	.037
	Congestion	.022	.001	.000
	GLHR	.000	.163	.018
	GJFK	.252	.003	.001
	PartnerConcentration	.065	.487	.488
	Seasonality	.454	.440	.011
	Distance	.000	.000	.121
	Language	.	.000	.109
	Ethnicity	.000	.	.013
	Urban	.109	.013	.
N	Flights	82	82	82
	HomeConcentration	82	82	82

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	82	82	82	82
	GLHR	82	82	82	82
	GJFK	82	82	82	82
	PartnerConcentration	82	82	82	82
	Seasonality	82	82	82	82
	Distance	82	82	82	82
	Language	82	82	82	82
	Ethnicity	82	82	82	82
	Urban	82	82	82	82

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	82	82	82	82
	GLHR	82	82	82	82
	GJFK	82	82	82	82
	PartnerConcentration	82	82	82	82
	Seasonality	82	82	82	82
	Distance	82	82	82	82
	Language	82	82	82	82
	Ethnicity	82	82	82	82
	Urban	82	82	82	82

Correlations

		Language	Ethnicity	Urban
	Congestion	82	82	82
	GLHR	82	82	82
	GJFK	82	82	82
	PartnerConcentration	82	82	82
	Seasonality	82	82	82
	Distance	82	82	82
	Language	82	82	82
	Ethnicity	82	82	82
	Urban	82	82	82

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, Seasonality, GLHR, HomeConcentration, GJFK, Language, Ethnicity, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.668[a]	.446	.368	2.898	.446	5.714

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	10	71	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, Seasonality, GLHR, HomeConcentration, GJFK, Language, E
Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	480.068	10	48.007	5.714	<.001[b]
	Residual	596.481	71	8.401		
	Total	1076.549	81			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, Seasonality, GLHR, HomeConcentration, GJFK, Language, Ethnicity, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.579	2.871		.550	.584
	HomeConcentration	.445	.179	.271	2.481	.015
	Congestion	-.114	.444	-.035	-.257	.798
	GLHR	.928	2.447	.040	.379	.706
	GJFK	5.165	1.019	.536	5.068	<.001
	PartnerConcentration	.069	.179	.037	.386	.701
	Seasonality	.288	2.026	.014	.142	.887
	Distance	.006	.265	.003	.023	.982
	Language	-.232	.202	-.134	-1.151	.254
	Ethnicity	-.683	1.005	-.080	-.680	.499
	Urban	.187	.129	.202	1.452	.151

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.655	1.527
	Congestion	.419	2.385
	GLHR	.719	1.390
	GJFK	.697	1.435
	PartnerConcentration	.832	1.202
	Seasonality	.780	1.282
	Distance	.636	1.573
	Language	.576	1.737
	Ethnicity	.559	1.790
	Urban	.405	2.471

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.191	1.000	.00	.00	.00
	2	1.627	1.951	.00	.02	.00
	3	1.162	2.308	.00	.00	.00
	4	.703	2.968	.00	.00	.00
	5	.494	3.541	.00	.00	.00
	6	.350	4.207	.00	.05	.00
	7	.326	4.361	.00	.59	.00
	8	.081	8.725	.00	.28	.07
	9	.044	11.929	.00	.01	.17
	10	.015	20.379	.14	.02	.24
	11	.009	26.190	.86	.01	.53

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.01	.00	.00	.00
	2	.08	.01	.00	.00	.00	.12
	3	.14	.20	.13	.00	.00	.00
	4	.48	.06	.23	.00	.00	.03
	5	.02	.49	.51	.00	.00	.05
	6	.10	.07	.02	.00	.00	.74
	7	.03	.00	.04	.03	.00	.00
	8	.04	.03	.00	.45	.02	.00
	9	.01	.08	.01	.05	.56	.04
	10	.08	.04	.01	.06	.02	.01
	11	.02	.02	.06	.41	.39	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.07	.00
	3	.04	.00
	4	.08	.00
	5	.02	.00
	6	.45	.00
	7	.18	.00
	8	.05	.03
	9	.08	.01
	10	.01	.88
	11	.01	.08

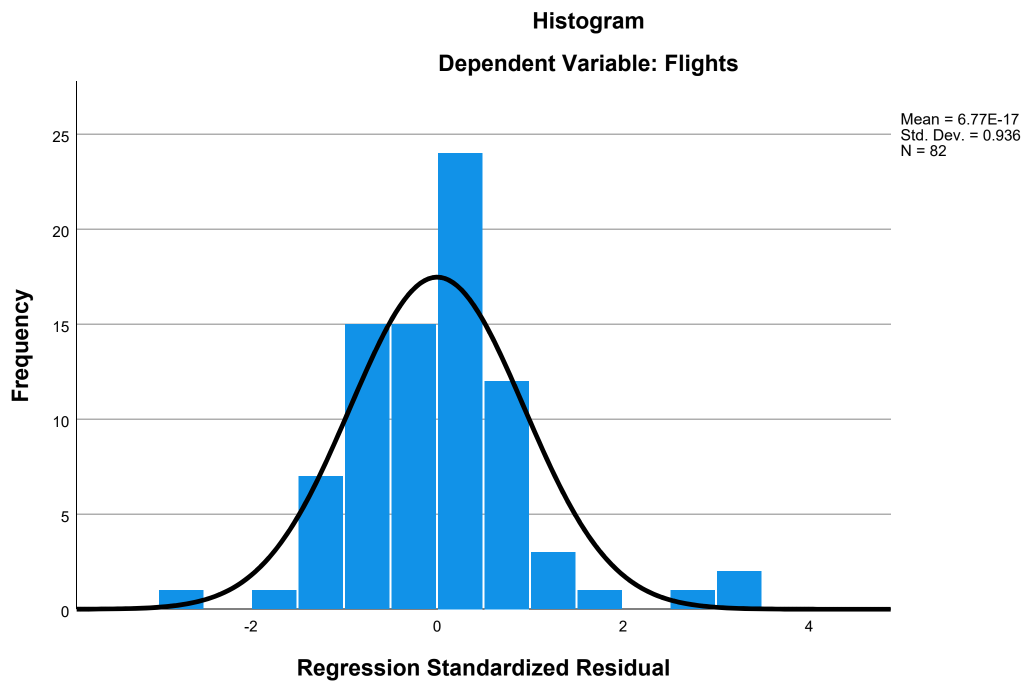
a. Dependent Variable: Flights

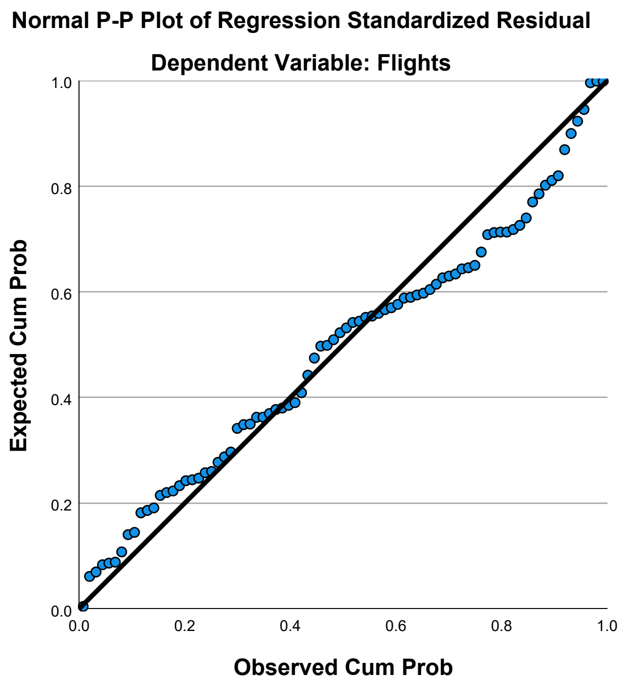
Residuals Statistics[a]

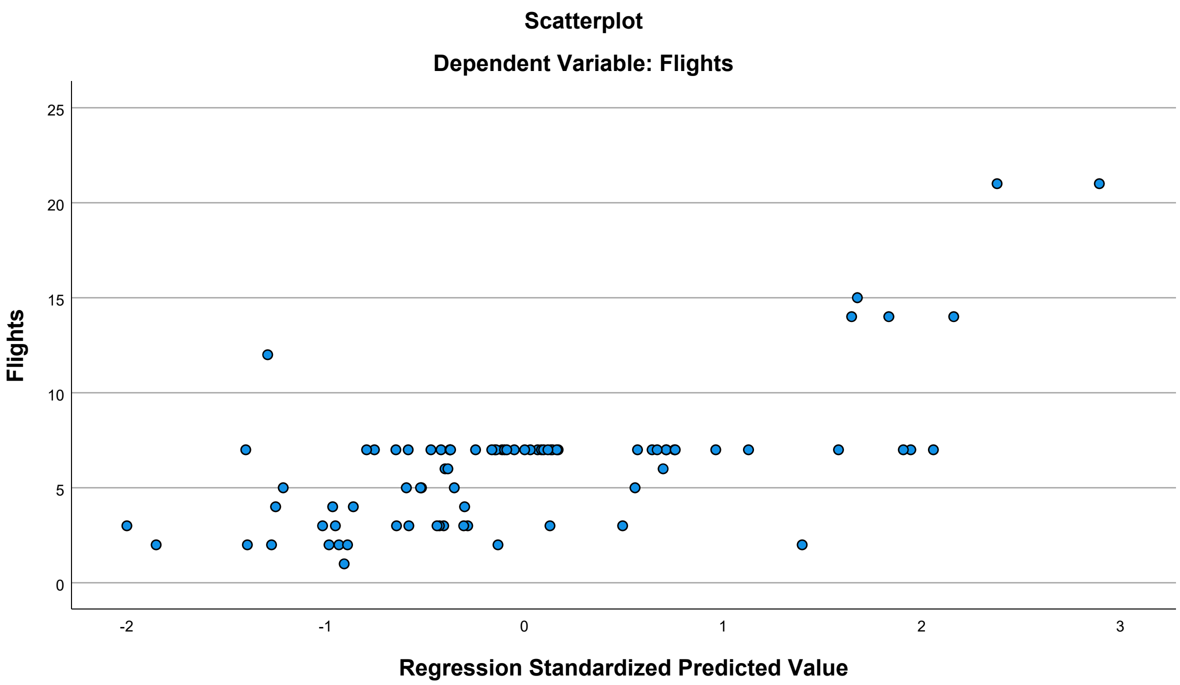
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.41	13.33	6.28	2.434	82
Residual	-7.686	8.927	.000	2.714	82
Std. Predicted Value	-2.000	2.894	.000	1.000	82
Std. Residual	-2.652	3.080	.000	.936	82

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 6.77E-17
Std. Dev. = 0.936
N = 82
Frequency
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob



Scatterplot
Dependent Variable: Flights
Flights
25
20
15
10
5
0
-2
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

```
[DataSet1] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Airline Region\1997 - Euro Based.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.39	5.636	182
NAFlights	.70124748945	.30771990795	182
Congestion	4.56	.966	182
GLHR	.11	.314	182
GJFK	.18	.386	182
PartnerConcentration	.47593494505	1.5991996088	182
Seasonality	.62530100198	.18728276529	182
Distance	4311.69	813.664	182
Language	110550.01747	543554.65666	182
Ethnicity	477007.90	658193.222	182
Urban	16.52	5.078	182

Correlations

		Flights	NAFlights	Congestion	GLHR
Pearson Correlation	Flights	1.000	.037	.268	.410
	NAFlights	.037	1.000	.080	-.016
	Congestion	.268	.080	1.000	.051
	GLHR	.410	-.016	.051	1.000
	GJFK	.229	-.110	.437	-.074
	PartnerConcentration	.069	.024	.104	-.105
	Seasonality	-.138	.055	-.027	-.049
	Distance	-.179	.150	.002	-.083
	Language	.119	.151	.005	-.072
	Ethnicity	.267	-.243	.210	.157
	Urban	.441	.144	.515	.301
Sig. (1-tailed)	Flights	.	.310	<.001	<.001
	NAFlights	.310	.	.140	.416
	Congestion	.000	.140	.	.247
	GLHR	.000	.416	.247	.
	GJFK	.001	.070	.000	.160
	PartnerConcentration	.177	.373	.082	.079
	Seasonality	.032	.232	.361	.254
	Distance	.008	.022	.492	.132
	Language	.055	.021	.473	.168
	Ethnicity	.000	.000	.002	.017
	Urban	.000	.026	.000	.000
N	Flights	182	182	182	182
	NAFlights	182	182	182	182

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.229	.069	-.138	-.179
	NAFlights	-.110	.024	.055	.150
	Congestion	.437	.104	-.027	.002
	GLHR	-.074	-.105	-.049	-.083
	GJFK	1.000	-.106	-.092	-.255
	PartnerConcentration	-.106	1.000	.031	.065
	Seasonality	-.092	.031	1.000	.172
	Distance	-.255	.065	.172	1.000
	Language	.022	-.036	.007	-.073
	Ethnicity	.223	.105	.021	-.253
	Urban	.211	.053	-.014	.064
Sig. (1-tailed)	Flights	<.001	.177	.032	.008
	NAFlights	.070	.373	.232	.022
	Congestion	.000	.082	.361	.492
	GLHR	.160	.079	.254	.132
	GJFK	.	.077	.109	.000
	PartnerConcentration	.077	.	.339	.193
	Seasonality	.109	.339	.	.010
	Distance	.000	.193	.010	.
	Language	.382	.316	.465	.163
	Ethnicity	.001	.079	.391	.000
	Urban	.002	.237	.427	.196
N	Flights	182	182	182	182
	NAFlights	182	182	182	182

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.119	.267	.441
	NAFlights	.151	-.243	.144
	Congestion	.005	.210	.515
	GLHR	-.072	.157	.301
	GJFK	.022	.223	.211
	PartnerConcentration	-.036	.105	.053
	Seasonality	.007	.021	-.014
	Distance	-.073	-.253	.064
	Language	1.000	.178	.097
	Ethnicity	.178	1.000	.170
	Urban	.097	.170	1.000
Sig. (1-tailed)	Flights	.055	<.001	<.001
	NAFlights	.021	.000	.026
	Congestion	.473	.002	.000
	GLHR	.168	.017	.000
	GJFK	.382	.001	.002
	PartnerConcentration	.316	.079	.237
	Seasonality	.465	.391	.427
	Distance	.163	.000	.196
	Language	.	.008	.097
	Ethnicity	.008	.	.011
	Urban	.097	.011	.
N	Flights	182	182	182
	NAFlights	182	182	182

Correlations

		Flights	NAFlights	Congestion	GLHR
	Congestion	182	182	182	182
	GLHR	182	182	182	182
	GJFK	182	182	182	182
	PartnerConcentration	182	182	182	182
	Seasonality	182	182	182	182
	Distance	182	182	182	182
	Language	182	182	182	182
	Ethnicity	182	182	182	182
	Urban	182	182	182	182

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	182	182	182	182
GLHR	182	182	182	182
GJFK	182	182	182	182
PartnerConcentration	182	182	182	182
Seasonality	182	182	182	182
Distance	182	182	182	182
Language	182	182	182	182
Ethnicity	182	182	182	182
Urban	182	182	182	182

Correlations

	Language	Ethnicity	Urban
Congestion	182	182	182
GLHR	182	182	182
GJFK	182	182	182
PartnerConcentration	182	182	182
Seasonality	182	182	182
Distance	182	182	182
Language	182	182	182
Ethnicity	182	182	182
Urban	182	182	182

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, PartnerConcentration, Language, Distance, NAFlights, GLHR, GJFK, Ethnicity, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.606[a]	.368	.331	4.611	.368	9.940

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	171	<.001

a. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, Language, Distance, NAFlights, GLHR, GJFK, Ethnicity, C

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2113.429	10	211.343	9.940	<.001[b]
	Residual	3635.873	171	21.262		
	Total	5749.302	181			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, Language, Distance, NAFlights, GLHR, GJFK, Ethnicity, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.603	2.686		1.341	.182
	NAFlights	.848	1.209	.046	.701	.484
	Congestion	.035	.462	.006	.076	.940
	GLHR	5.902	1.215	.328	4.858	<.001
	GJFK	2.214	1.073	.152	2.064	.041
	PartnerConcentration	.372	.224	.106	1.665	.098
	Seasonality	-2.871	1.871	-.095	-1.535	.127
	Distance	-.001	.000	-.098	-1.464	.145
	Language	8.869E-7	.000	.086	1.329	.186
	Ethnicity	8.159E-7	.000	.095	1.357	.176
	Urban	.305	.085	.275	3.576	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	NAFlights	.848	1.179
	Congestion	.590	1.695
	GLHR	.809	1.236
	GJFK	.684	1.462
	PartnerConcentration	.918	1.090
	Seasonality	.957	1.045
	Distance	.825	1.213
	Language	.893	1.120
	Ethnicity	.751	1.332
	Urban	.625	1.600

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	Congestion	GLHR
1	1	6.576	1.000	.00	.00	.00	.00
	2	1.028	2.529	.00	.00	.00	.05
	3	1.013	2.548	.00	.00	.00	.29
	4	.878	2.736	.00	.00	.00	.20
	5	.802	2.863	.00	.01	.00	.10
	6	.439	3.871	.00	.00	.00	.20
	7	.113	7.631	.00	.89	.00	.00
	8	.076	9.310	.00	.07	.03	.07
	9	.041	12.644	.05	.00	.01	.06
	10	.023	16.980	.01	.00	.66	.00
	11	.012	23.807	.94	.01	.30	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.01
	2	.07	.09	.00	.00	.51	.02
	3	.02	.43	.00	.00	.03	.00
	4	.28	.02	.00	.00	.27	.00
	5	.10	.25	.00	.00	.01	.21
	6	.25	.18	.00	.00	.10	.56
	7	.00	.00	.10	.01	.06	.13
	8	.10	.01	.50	.00	.00	.00
	9	.02	.00	.34	.20	.02	.01
	10	.16	.00	.00	.36	.00	.04
	11	.00	.01	.04	.42	.00	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.00
	8	.26
	9	.50
	10	.21
	11	.03

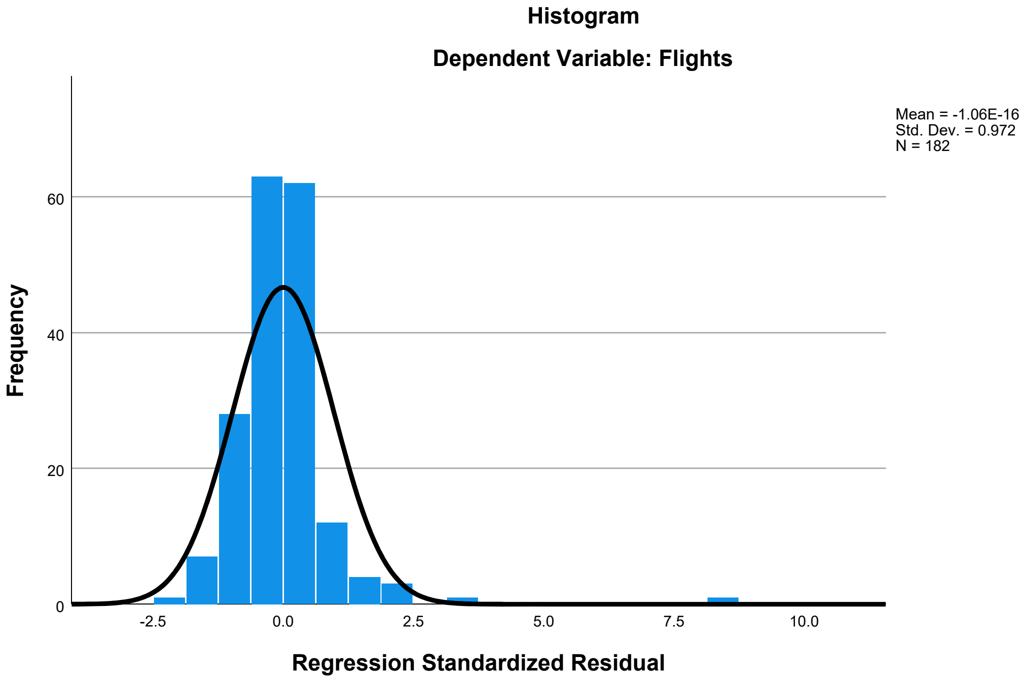
a. Dependent Variable: Flights

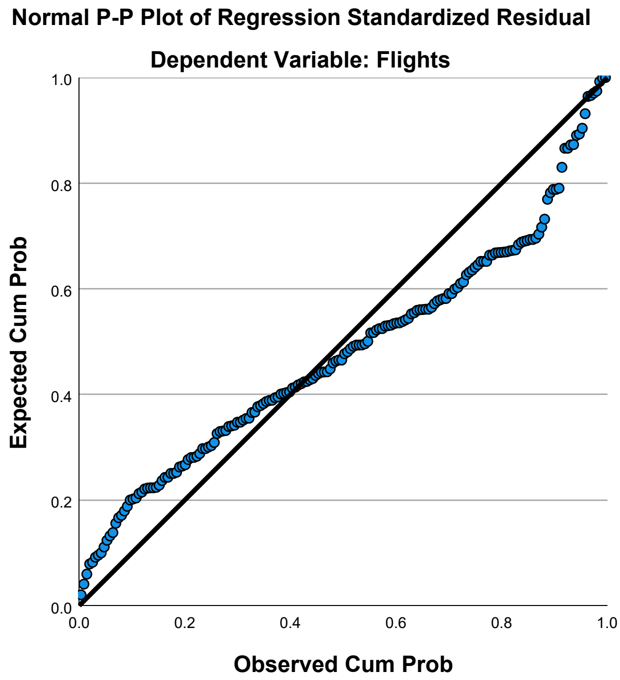
Residuals Statistics[a]

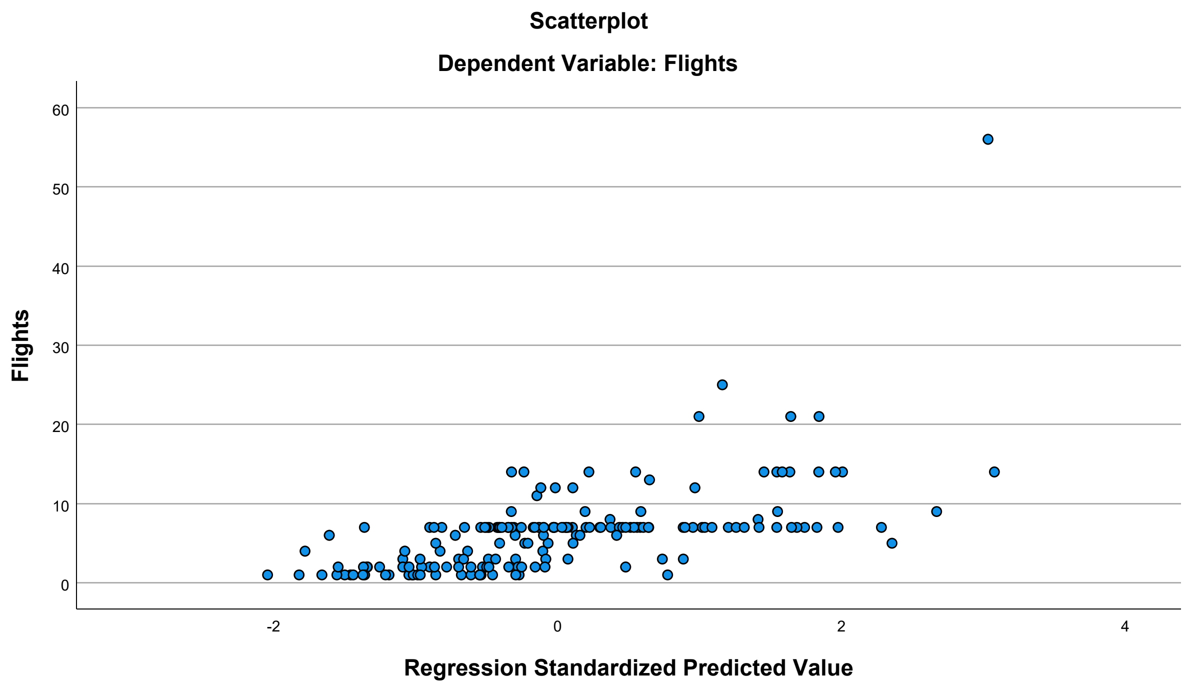
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.59	16.91	6.39	3.417	182
Residual	-9.440	39.248	.000	4.482	182
Std. Predicted Value	-2.044	3.077	.000	1.000	182
Std. Residual	-2.047	8.512	.000	.972	182

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -1.06E-16
Std. Dev. = 0.972
N = 182
Frequency
60
40
20
0
-2.5
0.0
2.5
5.0
7.5
10.0
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet2] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Airline Region\2002 - Euro Based.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.39	5.511	171
HomeConcentration	2.2824247251	1.7922147145	171
Congestion	4.70	.846	171
GLHR	.12	.329	171
GJFK	.16	.371	171
PartnerConcentration	1.0981210643	2.2491655510	171
Seasonality	.63450450784	.19703849071	171
Distance	4.30815	.724045	171
Language	1.40188667	2.925721369	171
Ethnicity	.52576427	.639309418	171
Urban	17.08	4.188	171

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.462	.106	.408
	HomeConcentration	.462	1.000	.019	.064
	Congestion	.106	.019	1.000	.006
	GLHR	.408	.064	.006	1.000
	GJFK	.155	-.156	.475	-.069
	PartnerConcentration	.169	.264	-.068	-.033
	Seasonality	-.307	-.313	.069	-.238
	Distance	-.234	.054	.003	-.138
	Language	.381	-.106	-.018	.553
	Ethnicity	.225	.149	.131	.138
	Urban	.424	.352	.453	.300
Sig. (1-tailed)	Flights	.	<.001	.084	<.001
	HomeConcentration	.000	.	.402	.201
	Congestion	.084	.402	.	.471
	GLHR	.000	.201	.471	.
	GJFK	.021	.021	.000	.184
	PartnerConcentration	.014	.000	.190	.333
	Seasonality	.000	.000	.185	.001
	Distance	.001	.240	.485	.036
	Language	.000	.084	.410	.000
	Ethnicity	.002	.025	.044	.036
	Urban	.000	.000	.000	.000
N	Flights	171	171	171	171
	HomeConcentration	171	171	171	171

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.155	.169	-.307	-.234
	HomeConcentration	-.156	.264	-.313	.054
	Congestion	.475	-.068	.069	.003
	GLHR	-.069	-.033	-.238	-.138
	GJFK	1.000	-.126	-.073	-.259
	PartnerConcentration	-.126	1.000	-.092	.001
	Seasonality	-.073	-.092	1.000	.090
	Distance	-.259	.001	.090	1.000
	Language	.145	.143	-.269	-.289
	Ethnicity	.181	.139	-.105	-.197
	Urban	.193	.072	-.275	.043
Sig. (1-tailed)	Flights	.021	.014	<.001	.001
	HomeConcentration	.021	.000	.000	.240
	Congestion	.000	.190	.185	.485
	GLHR	.184	.333	.001	.036
	GJFK	.	.051	.171	.000
	PartnerConcentration	.051	.	.116	.495
	Seasonality	.171	.116	.	.120
	Distance	.000	.495	.120	.
	Language	.029	.031	.000	.000
	Ethnicity	.009	.035	.086	.005
	Urban	.006	.174	.000	.289
N	Flights	171	171	171	171
	HomeConcentration	171	171	171	171

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.381	.225	.424
	HomeConcentration	-.106	.149	.352
	Congestion	-.018	.131	.453
	GLHR	.553	.138	.300
	GJFK	.145	.181	.193
	PartnerConcentration	.143	.139	.072
	Seasonality	-.269	-.105	-.275
	Distance	-.289	-.197	.043
	Language	1.000	.423	.174
	Ethnicity	.423	1.000	.179
	Urban	.174	.179	1.000
Sig. (1-tailed)	Flights	<.001	.002	<.001
	HomeConcentration	.084	.025	.000
	Congestion	.410	.044	.000
	GLHR	.000	.036	.000
	GJFK	.029	.009	.006
	PartnerConcentration	.031	.035	.174
	Seasonality	.000	.086	.000
	Distance	.000	.005	.289
	Language	.	.000	.011
	Ethnicity	.000	.	.010
	Urban	.011	.010	.
N	Flights	171	171	171
	HomeConcentration	171	171	171

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	171	171	171	171
	GLHR	171	171	171	171
	GJFK	171	171	171	171
	PartnerConcentration	171	171	171	171
	Seasonality	171	171	171	171
	Distance	171	171	171	171
	Language	171	171	171	171
	Ethnicity	171	171	171	171
	Urban	171	171	171	171

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	171	171	171	171
	GLHR	171	171	171	171
	GJFK	171	171	171	171
	PartnerConcentration	171	171	171	171
	Seasonality	171	171	171	171
	Distance	171	171	171	171
	Language	171	171	171	171
	Ethnicity	171	171	171	171
	Urban	171	171	171	171

Correlations

		Language	Ethnicity	Urban
	Congestion	171	171	171
	GLHR	171	171	171
	GJFK	171	171	171
	PartnerConcentration	171	171	171
	Seasonality	171	171	171
	Distance	171	171	171
	Language	171	171	171
	Ethnicity	171	171	171
	Urban	171	171	171

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, Ethnicity, Seasonality, GJFK, GLHR, HomeConcentration, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.707[a]	.499	.468	4.019	.499	15.964

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	10	160	<.001

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, Ethnicity, Seasonality, GJFK, GLHR, HomeConcentration, Co
Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2578.441	10	257.844	15.964	<.001[b]
	Residual	2584.307	160	16.152		
	Total	5162.749	170			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, Ethnicity, Seasonality, GJFK, GLHR, HomeConcentration, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.546	2.912		1.561	.120
	HomeConcentration	1.419	.215	.461	6.600	<.001
	Congestion	-.334	.479	-.051	-.698	.486
	GLHR	3.292	1.236	.197	2.663	.009
	GJFK	2.657	1.055	.179	2.518	.013
	PartnerConcentration	.086	.149	.035	.579	.564
	Seasonality	.698	1.807	.025	.386	.700
	Distance	-1.013	.466	-.133	-2.173	.031
	Language	.480	.157	.255	3.061	.003
	Ethnicity	-.542	.565	-.063	-.960	.339
	Urban	.221	.098	.168	2.262	.025

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.640	1.562
	Congestion	.579	1.727
	GLHR	.574	1.742
	GJFK	.620	1.613
	PartnerConcentration	.848	1.179
	Seasonality	.750	1.334
	Distance	.834	1.198
	Language	.451	2.220
	Ethnicity	.728	1.373
	Urban	.566	1.765

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Congestion
1	1	6.801	1.000	.00	.00	.00
	2	1.298	2.289	.00	.00	.00
	3	.980	2.634	.00	.01	.00
	4	.775	2.963	.00	.00	.00
	5	.458	3.855	.00	.00	.00
	6	.368	4.301	.00	.32	.00
	7	.210	5.692	.00	.30	.00
	8	.058	10.809	.00	.32	.01
	9	.028	15.658	.02	.01	.02
	10	.016	20.812	.02	.00	.74
	11	.008	28.599	.96	.03	.23

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.16	.00	.00	.00	.00	.12
	3	.01	.32	.22	.00	.00	.00
	4	.12	.09	.40	.00	.00	.01
	5	.10	.17	.22	.00	.00	.00
	6	.12	.09	.00	.02	.00	.16
	7	.42	.01	.15	.01	.00	.58
	8	.02	.06	.00	.63	.02	.04
	9	.05	.11	.00	.13	.38	.00
	10	.00	.15	.00	.13	.14	.00
	11	.00	.00	.00	.08	.45	.08

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.01	.00
	3	.00	.00
	4	.06	.00
	5	.56	.00
	6	.03	.00
	7	.30	.00
	8	.01	.13
	9	.01	.44
	10	.00	.42
	11	.00	.00

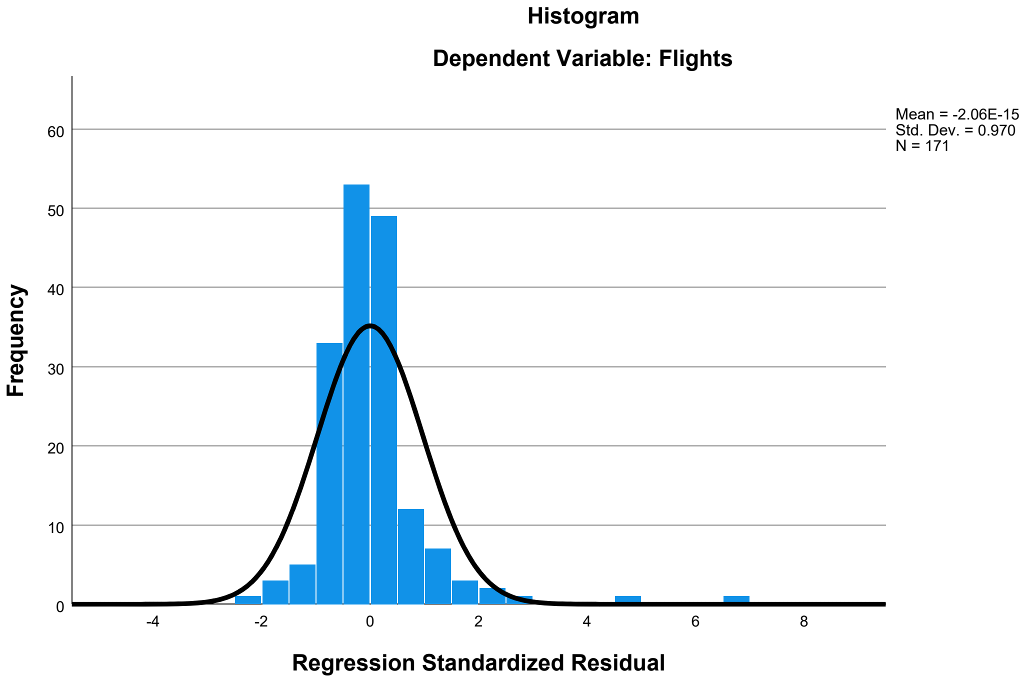
a. Dependent Variable: Flights

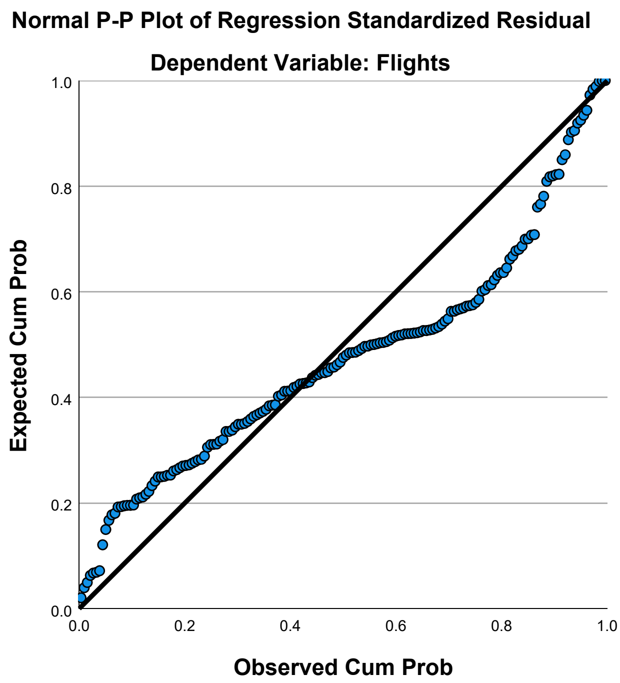
Residuals Statistics[a]

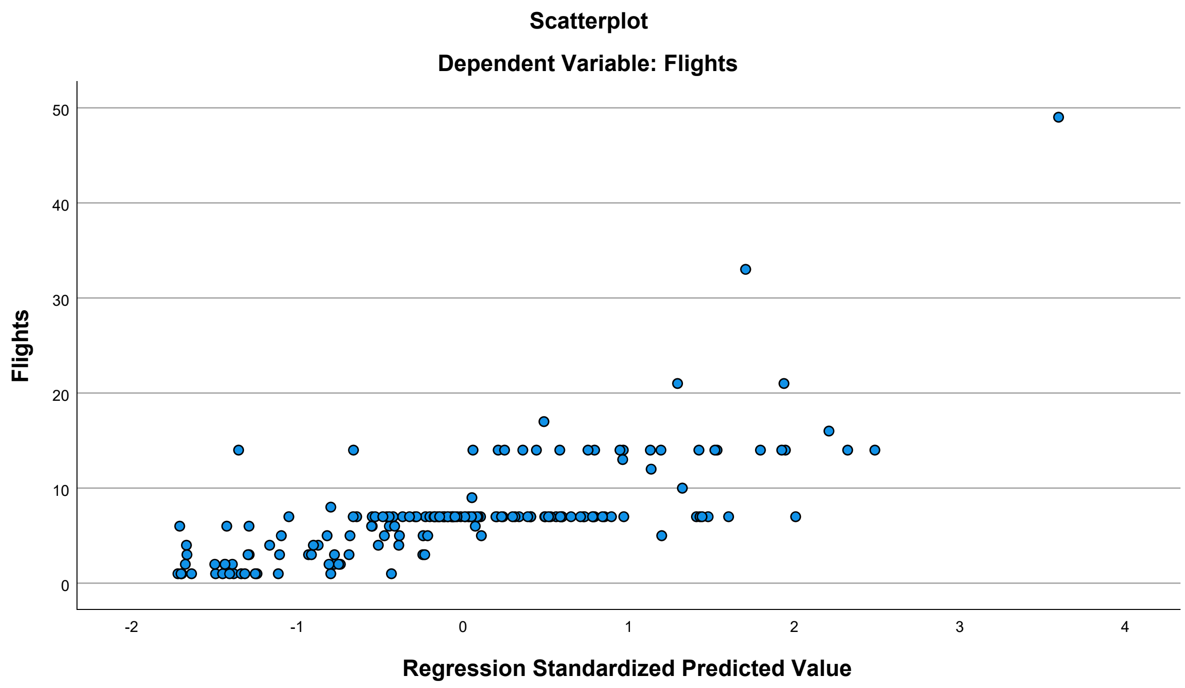
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.68	21.40	7.39	3.895	171
Residual	-8.215	27.603	.000	3.899	171
Std. Predicted Value	-1.722	3.596	.000	1.000	171
Std. Residual	-2.044	6.868	.000	.970	171

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -2.06E-15
Std. Dev. = 0.970
N = 171
Frequency
0
10
20
30
40
50
60
-4
-2
0
2
4
6
8
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
50
40
30
20
10
0
-2
-1
0
1
2
3
4
Regression Standardized Predicted Value

Regression

```
[DataSet3] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Airline Region\2007 - Euro Based.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.68	5.990	257
HomeConcentration	1.8967769027	1.9742944511	257
Congestion	4.59	1.075	257
GLHR	.11	.307	257
GJFK	.14	.344	257
PartnerConcentration	.98516898833	2.1655807942	257
Seasonality	.71790898870	.22613721583	257
Distance	4.16681	.822095	257
Language	1.84416860	3.220093388	257
Ethnicity	.68559900	.819868300	257
Urban	15.27	5.419	257

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.518	.270	.428
	HomeConcentration	.518	1.000	.205	.171
	Congestion	.270	.205	1.000	.048
	GLHR	.428	.171	.048	1.000
	GJFK	.230	-.076	.363	-.062
	PartnerConcentration	.168	.417	.071	-.071
	Seasonality	-.469	-.532	-.273	-.239
	Distance	-.051	.223	.171	-.026
	Language	.222	-.223	-.118	.381
	Ethnicity	.063	-.033	.043	.033
	Urban	.499	.468	.548	.271
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.000	.003
	Congestion	.000	.000	.	.223
	GLHR	.000	.003	.223	.
	GJFK	.000	.114	.000	.161
	PartnerConcentration	.003	.000	.130	.128
	Seasonality	.000	.000	.000	.000
	Distance	.206	.000	.003	.337
	Language	.000	.000	.029	.000
	Ethnicity	.158	.299	.248	.301
	Urban	.000	.000	.000	.000
N	Flights	257	257	257	257
	HomeConcentration	257	257	257	257

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.230	.168	-.469	-.051
	HomeConcentration	-.076	.417	-.532	.223
	Congestion	.363	.071	-.273	.171
	GLHR	-.062	-.071	-.239	-.026
	GJFK	1.000	-.125	-.092	-.060
	PartnerConcentration	-.125	1.000	-.303	.165
	Seasonality	-.092	-.303	1.000	-.164
	Distance	-.060	.165	-.164	1.000
	Language	.145	-.144	.065	-.314
	Ethnicity	.235	-.037	.126	-.197
	Urban	.209	.210	-.453	.162
Sig. (1-tailed)	Flights	<.001	.003	<.001	.206
	HomeConcentration	.114	.000	.000	.000
	Congestion	.000	.130	.000	.003
	GLHR	.161	.128	.000	.337
	GJFK	.	.022	.071	.169
	PartnerConcentration	.022	.	.000	.004
	Seasonality	.071	.000	.	.004
	Distance	.169	.004	.004	.
	Language	.010	.011	.151	.000
	Ethnicity	.000	.275	.022	.001
	Urban	.000	.000	.000	.005
N	Flights	257	257	257	257
	HomeConcentration	257	257	257	257

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.222	.063	.499
	HomeConcentration	-.223	-.033	.468
	Congestion	-.118	.043	.548
	GLHR	.381	.033	.271
	GJFK	.145	.235	.209
	PartnerConcentration	-.144	-.037	.210
	Seasonality	.065	.126	-.453
	Distance	-.314	-.197	.162
	Language	1.000	.502	.085
	Ethnicity	.502	1.000	.133
	Urban	.085	.133	1.000
Sig. (1-tailed)	Flights	<.001	.158	<.001
	HomeConcentration	.000	.299	.000
	Congestion	.029	.248	.000
	GLHR	.000	.301	.000
	GJFK	.010	.000	.000
	PartnerConcentration	.011	.275	.000
	Seasonality	.151	.022	.000
	Distance	.000	.001	.005
	Language	.	.000	.087
	Ethnicity	.000	.	.016
	Urban	.087	.016	.
N	Flights	257	257	257
	HomeConcentration	257	257	257

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	257	257	257	257
	GLHR	257	257	257	257
	GJFK	257	257	257	257
	PartnerConcentration	257	257	257	257
	Seasonality	257	257	257	257
	Distance	257	257	257	257
	Language	257	257	257	257
	Ethnicity	257	257	257	257
	Urban	257	257	257	257

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	257	257	257	257
GLHR	257	257	257	257
GJFK	257	257	257	257
PartnerConcentration	257	257	257	257
Seasonality	257	257	257	257
Distance	257	257	257	257
Language	257	257	257	257
Ethnicity	257	257	257	257
Urban	257	257	257	257

Correlations

	Language	Ethnicity	Urban
Congestion	257	257	257
GLHR	257	257	257
GJFK	257	257	257
PartnerConcentration	257	257	257
Seasonality	257	257	257
Distance	257	257	257
Language	257	257	257
Ethnicity	257	257	257
Urban	257	257	257

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, GJFK, PartnerConcentration, Distance, GLHR, Seasonality, Ethnicity, Congestion, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.742[a]	.550	.532	4.098	.550	30.111

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	10	246	<.001

a. Predictors: (Constant), Urban, Language, GJFK, PartnerConcentration, Distance, GLHR, Seasonality, Ethnicity, Congestion, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5055.584	10	505.558	30.111	<.001[b]
	Residual	4130.253	246	16.790		
	Total	9185.837	256			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, GJFK, PartnerConcentration, Distance, GLHR, Seasonality, Ethnicity, Congestion, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.692	2.280		2.497	.013
	HomeConcentration	1.335	.182	.440	7.348	<.001
	Congestion	.248	.311	.045	.798	.426
	GLHR	4.187	1.013	.215	4.133	<.001
	GJFK	3.705	.859	.213	4.316	<.001
	PartnerConcentration	.037	.135	.014	.278	.781
	Seasonality	-2.854	1.461	-.108	-1.954	.052
	Distance	-.965	.339	-.132	-2.851	.005
	Language	.433	.114	.233	3.793	<.001
	Ethnicity	-.936	.389	-.128	-2.404	.017
	Urban	.147	.068	.133	2.167	.031

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.510	1.961
	Congestion	.586	1.707
	GLHR	.677	1.477
	GJFK	.753	1.328
	PartnerConcentration	.767	1.303
	Seasonality	.601	1.664
	Distance	.847	1.181
	Language	.486	2.057
	Ethnicity	.644	1.553
	Urban	.483	2.072

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.596	1.000	.00	.00	.00
	2	1.308	2.245	.00	.02	.00
	3	1.023	2.539	.00	.01	.00
	4	.701	3.068	.00	.02	.00
	5	.656	3.172	.00	.02	.00
	6	.353	4.322	.00	.27	.00
	7	.210	5.600	.00	.26	.00
	8	.081	9.019	.00	.32	.04
	9	.037	13.424	.01	.02	.00
	10	.026	16.058	.00	.02	.76
	11	.010	26.185	.99	.04	.20

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.04	.05	.14	.00	.00	.08
	3	.33	.19	.01	.00	.00	.02
	4	.01	.30	.29	.01	.00	.01
	5	.15	.22	.13	.00	.00	.09
	6	.01	.04	.30	.01	.00	.06
	7	.41	.00	.10	.01	.00	.62
	8	.04	.15	.01	.21	.00	.00
	9	.00	.00	.01	.38	.46	.02
	10	.00	.05	.00	.02	.16	.02
	11	.00	.00	.00	.36	.37	.08

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.03	.00
	3	.01	.00
	4	.01	.00
	5	.13	.00
	6	.34	.00
	7	.42	.00
	8	.01	.29
	9	.04	.26
	10	.00	.44
	11	.01	.00

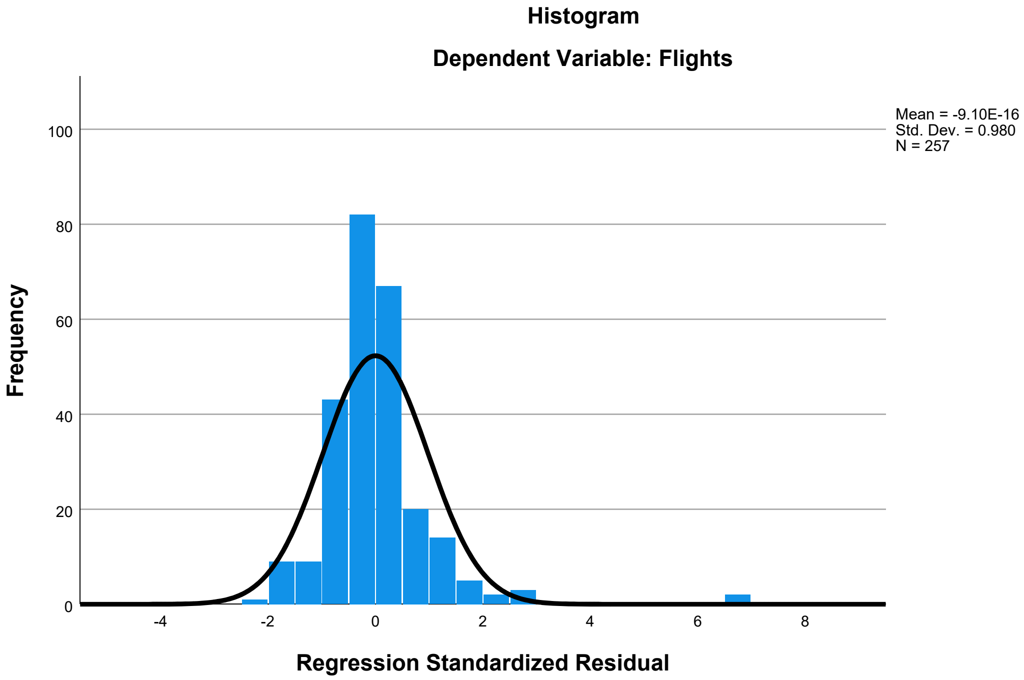
a. Dependent Variable: Flights

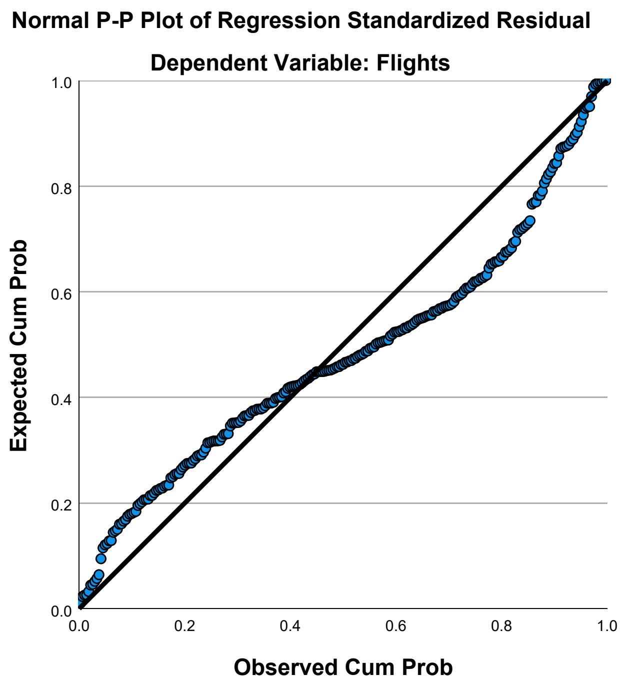
Residuals Statistics[a]

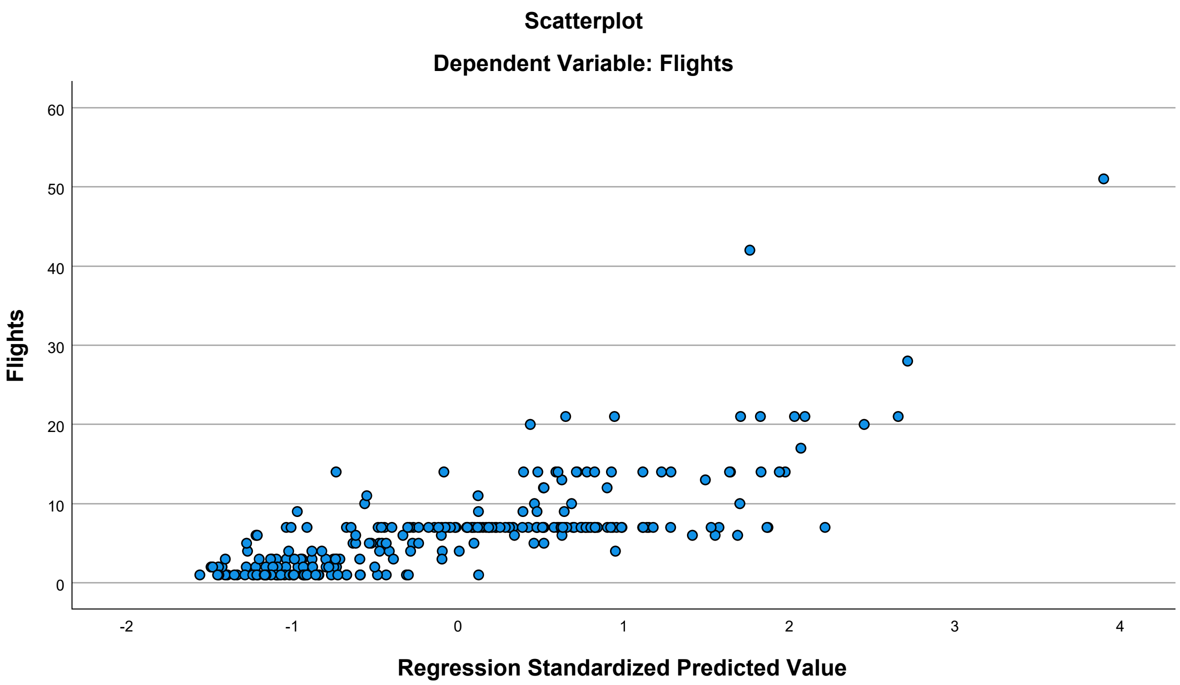
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.25	24.01	6.68	4.444	257
Residual	-9.528	27.489	.000	4.017	257
Std. Predicted Value	-1.560	3.899	.000	1.000	257
Std. Residual	-2.325	6.709	.000	.980	257

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -9.10E-16
Std. Dev. = 0.980
N = 257
Frequency
100
80
60
40
20
0
-4
-2
0
2
4
6
8
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
-1
0
1
2
3
4
Regression Standardized Predicted Value

Regression

```
[DataSet4] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Airline Region\2012 - Euro Based.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.32	5.990	222
HomeConcentration	2.1806500090	1.9749509540	222
Congestion	4.68	1.007	222
GLHR	.14	.347	222
GJFK	.14	.347	222
PartnerConcentration	1.1553819459	2.0482738364	222
Seasonality	.68673083518	.22600336219	222
Distance	4.33638	.880567	222
Language	1.21154384	2.624193303	222
Ethnicity	.53499768	.683989240	222
Urban	16.93	4.665	222

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.441	.273	.387
	HomeConcentration	.441	1.000	.101	.190
	Congestion	.273	.101	1.000	.012
	GLHR	.387	.190	.012	1.000
	GJFK	.272	-.102	.400	-.087
	PartnerConcentration	.097	.300	.067	-.086
	Seasonality	-.210	-.364	-.057	-.211
	Distance	-.148	.154	-.055	-.021
	Language	.412	-.020	.000	.609
	Ethnicity	.175	.132	.224	.098
	Urban	.494	.459	.513	.299
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.067	.002
	Congestion	.000	.067	.	.430
	GLHR	.000	.002	.430	.
	GJFK	.000	.065	.000	.097
	PartnerConcentration	.075	.000	.162	.101
	Seasonality	.001	.000	.199	.001
	Distance	.014	.011	.207	.377
	Language	.000	.383	.500	.000
	Ethnicity	.005	.024	.000	.073
	Urban	.000	.000	.000	.000
N	Flights	222	222	222	222
	HomeConcentration	222	222	222	222

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.272	.097	-.210	-.148
	HomeConcentration	-.102	.300	-.364	.154
	Congestion	.400	.067	-.057	-.055
	GLHR	-.087	-.086	-.211	-.021
	GJFK	1.000	-.129	.071	-.122
	PartnerConcentration	-.129	1.000	-.219	.020
	Seasonality	.071	-.219	1.000	-.092
	Distance	-.122	.020	-.092	1.000
	Language	.145	-.143	-.054	-.233
	Ethnicity	.313	.054	.034	-.166
	Urban	.240	.252	-.370	.164
Sig. (1-tailed)	Flights	<.001	.075	<.001	.014
	HomeConcentration	.065	.000	.000	.011
	Congestion	.000	.162	.199	.207
	GLHR	.097	.101	.001	.377
	GJFK	.	.027	.146	.034
	PartnerConcentration	.027	.	.001	.383
	Seasonality	.146	.001	.	.087
	Distance	.034	.383	.087	.
	Language	.015	.017	.211	.000
	Ethnicity	.000	.212	.305	.007
	Urban	.000	.000	.000	.007
N	Flights	222	222	222	222
	HomeConcentration	222	222	222	222

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.412	.175	.494
	HomeConcentration	-.020	.132	.459
	Congestion	.000	.224	.513
	GLHR	.609	.098	.299
	GJFK	.145	.313	.240
	PartnerConcentration	-.143	.054	.252
	Seasonality	-.054	.034	-.370
	Distance	-.233	-.166	.164
	Language	1.000	.399	.155
	Ethnicity	.399	1.000	.214
	Urban	.155	.214	1.000
Sig. (1-tailed)	Flights	<.001	.005	<.001
	HomeConcentration	.383	.024	.000
	Congestion	.500	.000	.000
	GLHR	.000	.073	.000
	GJFK	.015	.000	.000
	PartnerConcentration	.017	.212	.000
	Seasonality	.211	.305	.000
	Distance	.000	.007	.007
	Language	.	.000	.010
	Ethnicity	.000	.	.001
	Urban	.010	.001	.
N	Flights	222	222	222
	HomeConcentration	222	222	222

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	222	222	222	222
	GLHR	222	222	222	222
	GJFK	222	222	222	222
	PartnerConcentration	222	222	222	222
	Seasonality	222	222	222	222
	Distance	222	222	222	222
	Language	222	222	222	222
	Ethnicity	222	222	222	222
	Urban	222	222	222	222

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	222	222	222	222
	GLHR	222	222	222	222
	GJFK	222	222	222	222
	PartnerConcentration	222	222	222	222
	Seasonality	222	222	222	222
	Distance	222	222	222	222
	Language	222	222	222	222
	Ethnicity	222	222	222	222
	Urban	222	222	222	222

Correlations

		Language	Ethnicity	Urban
	Congestion	222	222	222
	GLHR	222	222	222
	GJFK	222	222	222
	PartnerConcentration	222	222	222
	Seasonality	222	222	222
	Distance	222	222	222
	Language	222	222	222
	Ethnicity	222	222	222
	Urban	222	222	222

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, GJFK, Distance, PartnerConcentration, Seasonality, Ethnicity, HomeConcentration, Congestion, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.725[a]	.526	.503	4.222	.526	23.380

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	211	<.001

a. Predictors: (Constant), Urban, Language, GJFK, Distance, PartnerConcentration, Seasonality, Ethnicity, HomeConcentration, Congestion, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4167.315	10	416.732	23.380	<.001[b]
	Residual	3760.977	211	17.825		
	Total	7928.293	221			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, GJFK, Distance, PartnerConcentration, Seasonality, Ethnicity, HomeConcentration, Congestion, GLHR

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.337	2.462		.543	.588
	HomeConcentration	1.236	.178	.407	6.948	<.001
	Congestion	.364	.362	.061	1.004	.316
	GLHR	1.325	1.165	.077	1.137	.257
	GJFK	4.014	.985	.233	4.075	<.001
	PartnerConcentration	.070	.155	.024	.455	.649
	Seasonality	.982	1.430	.037	.687	.493
	Distance	-1.084	.351	-.159	-3.092	.002
	Language	.798	.163	.350	4.905	<.001
	Ethnicity	-1.648	.501	-.188	-3.288	.001
	Urban	.277	.093	.216	2.992	.003

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.654	1.530
	Congestion	.605	1.653
	GLHR	.492	2.032
	GJFK	.688	1.452
	PartnerConcentration	.804	1.244
	Seasonality	.772	1.295
	Distance	.846	1.181
	Language	.443	2.260
	Ethnicity	.686	1.458
	Urban	.431	2.322

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.750	1.000	.00	.00	.00
	2	1.361	2.227	.00	.00	.00
	3	1.039	2.549	.00	.02	.00
	4	.681	3.148	.00	.01	.00
	5	.447	3.885	.00	.03	.00
	6	.371	4.267	.00	.42	.00
	7	.206	5.722	.00	.25	.00
	8	.077	9.359	.00	.22	.03
	9	.038	13.241	.00	.00	.20
	10	.020	18.518	.04	.05	.43
	11	.010	26.059	.95	.01	.34

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.11	.00	.05	.00	.00	.11
	3	.07	.34	.06	.00	.00	.00
	4	.00	.04	.46	.01	.00	.01
	5	.15	.41	.03	.01	.00	.03
	6	.00	.00	.31	.01	.00	.09
	7	.57	.00	.01	.00	.00	.67
	8	.06	.07	.05	.56	.02	.01
	9	.00	.10	.01	.05	.52	.00
	10	.02	.01	.01	.20	.01	.00
	11	.00	.03	.01	.16	.45	.07

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.01	.00
	3	.03	.00
	4	.11	.00
	5	.36	.00
	6	.13	.00
	7	.33	.00
	8	.01	.08
	9	.02	.05
	10	.00	.86
	11	.00	.00

a. Dependent Variable: Flights

Residuals Statistics[a]

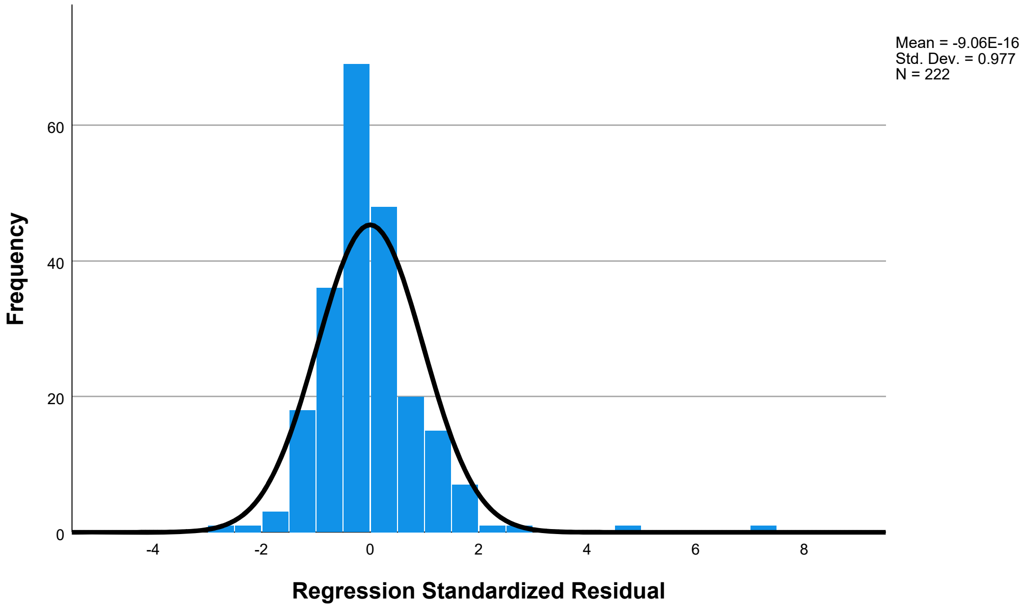
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.23	26.25	7.32	4.342	222
Residual	-11.015	29.750	.000	4.125	222
Std. Predicted Value	-1.738	4.359	.000	1.000	222
Std. Residual	-2.609	7.047	.000	.977	222

a. Dependent Variable: Flights

Charts

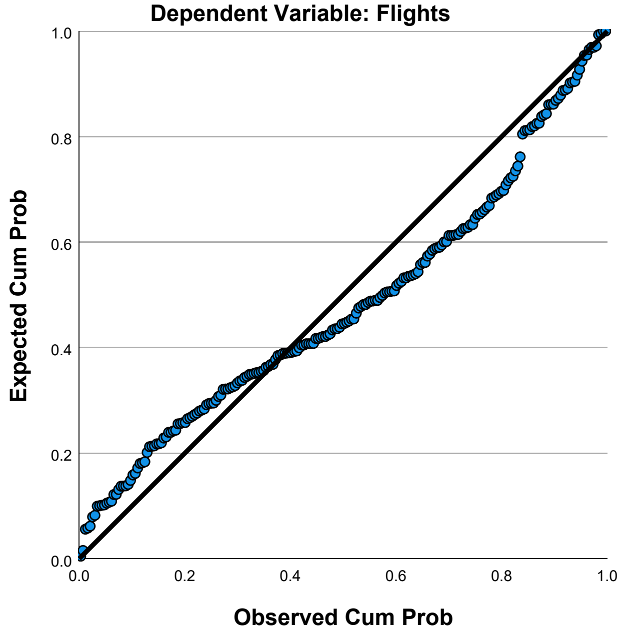
Histogram

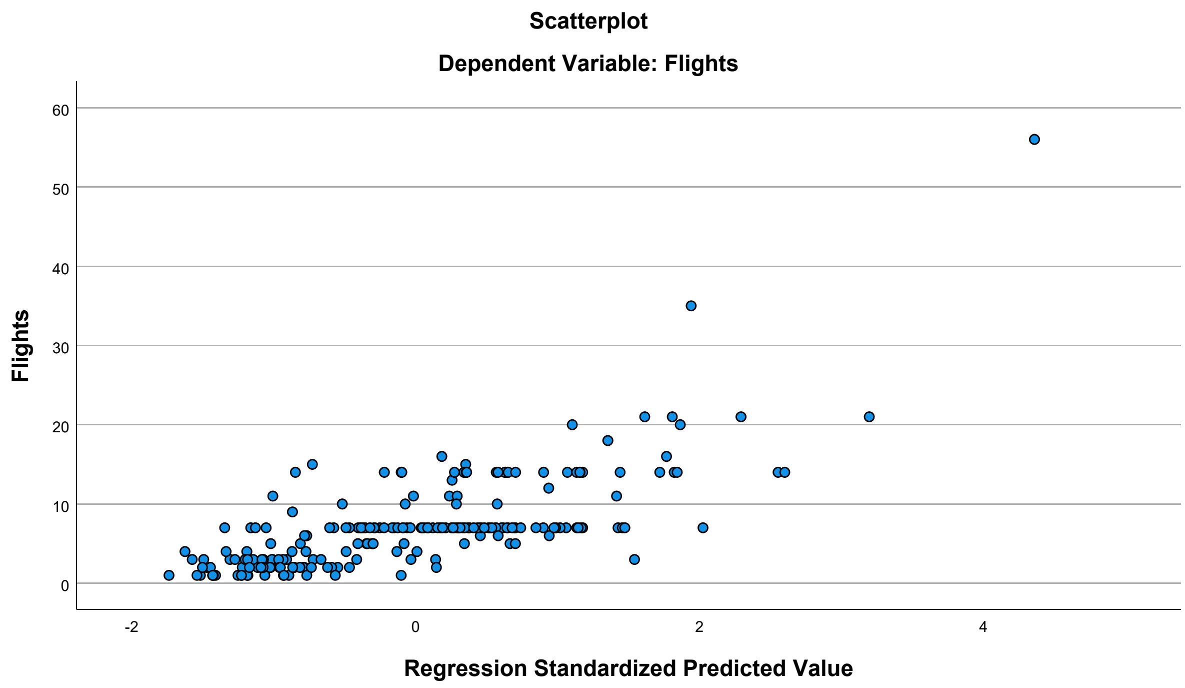
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights




Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet5] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Airline Region\2017 - Euro Based.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.64	5.244	346
HomeConcentration	1.9973403064	2.0210283406	346
Congestion	4.60	.893	346
GLHR	.10	.298	346
GJFK	.12	.327	346
PartnerConcentration	.92380286127	1.7577670146	346
Seasonality	.71689446375	.22094322752	346
Distance	4.30449	.967603	346
Language	1.36689915	2.942632740	346
Ethnicity	.41341236416	.57775620107	346
Urban	15.70	5.150	346

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.395	.311	.349
	HomeConcentration	.395	1.000	.140	.293
	Congestion	.311	.140	1.000	-.015
	GLHR	.349	.293	-.015	1.000
	GJFK	.276	-.073	.495	-.063
	PartnerConcentration	.181	.244	.105	.079
	Seasonality	-.218	-.318	-.138	-.267
	Distance	-.136	.191	.062	.019
	Language	.295	-.080	-.017	.393
	Ethnicity	.238	.140	.215	.098
	Urban	.410	.416	.555	.252
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.005	.000
	Congestion	.000	.005	.	.393
	GLHR	.000	.000	.393	.
	GJFK	.000	.087	.000	.120
	PartnerConcentration	.000	.000	.025	.071
	Seasonality	.000	.000	.005	.000
	Distance	.006	.000	.124	.363
	Language	.000	.068	.379	.000
	Ethnicity	.000	.005	.000	.034
	Urban	.000	.000	.000	.000
N	Flights	346	346	346	346
	HomeConcentration	346	346	346	346

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.276	.181	-.218	-.136
	HomeConcentration	-.073	.244	-.318	.191
	Congestion	.495	.105	-.138	.062
	GLHR	-.063	.079	-.267	.019
	GJFK	1.000	-.012	-.090	-.132
	PartnerConcentration	-.012	1.000	-.144	.063
	Seasonality	-.090	-.144	1.000	-.107
	Distance	-.132	.063	-.107	1.000
	Language	.183	.019	-.016	-.234
	Ethnicity	.269	.082	-.010	-.110
	Urban	.313	.304	-.352	.202
Sig. (1-tailed)	Flights	<.001	<.001	<.001	.006
	HomeConcentration	.087	.000	.000	.000
	Congestion	.000	.025	.005	.124
	GLHR	.120	.071	.000	.363
	GJFK	.	.409	.048	.007
	PartnerConcentration	.409	.	.004	.120
	Seasonality	.048	.004	.	.023
	Distance	.007	.120	.023	.
	Language	.000	.359	.385	.000
	Ethnicity	.000	.065	.423	.020
	Urban	.000	.000	.000	.000
N	Flights	346	346	346	346
	HomeConcentration	346	346	346	346

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.295	.238	.410
	HomeConcentration	-.080	.140	.416
	Congestion	-.017	.215	.555
	GLHR	.393	.098	.252
	GJFK	.183	.269	.313
	PartnerConcentration	.019	.082	.304
	Seasonality	-.016	-.010	-.352
	Distance	-.234	-.110	.202
	Language	1.000	.429	.184
	Ethnicity	.429	1.000	.244
	Urban	.184	.244	1.000
Sig. (1-tailed)	Flights	<.001	<.001	<.001
	HomeConcentration	.068	.005	.000
	Congestion	.379	.000	.000
	GLHR	.000	.034	.000
	GJFK	.000	.000	.000
	PartnerConcentration	.359	.065	.000
	Seasonality	.385	.423	.000
	Distance	.000	.020	.000
	Language	.	.000	.000
	Ethnicity	.000	.	.000
	Urban	.000	.000	.
N	Flights	346	346	346
	HomeConcentration	346	346	346

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	346	346	346	346
	GLHR	346	346	346	346
	GJFK	346	346	346	346
	PartnerConcentration	346	346	346	346
	Seasonality	346	346	346	346
	Distance	346	346	346	346
	Language	346	346	346	346
	Ethnicity	346	346	346	346
	Urban	346	346	346	346

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	346	346	346	346
	GLHR	346	346	346	346
	GJFK	346	346	346	346
	PartnerConcentration	346	346	346	346
	Seasonality	346	346	346	346
	Distance	346	346	346	346
	Language	346	346	346	346
	Ethnicity	346	346	346	346
	Urban	346	346	346	346

Correlations

		Language	Ethnicity	Urban
	Congestion	346	346	346
	GLHR	346	346	346
	GJFK	346	346	346
	PartnerConcentration	346	346	346
	Seasonality	346	346	346
	Distance	346	346	346
	Language	346	346	346
	Ethnicity	346	346	346
	Urban	346	346	346

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, PartnerConcentration, Distance, Seasonality, GJFK, Ethnicity, GLHR, HomeConcentration, ...[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.633[a]	.401	.383	4.119	.401	22.402

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	10	335	<.001

a. Predictors: (Constant), Urban, Language, PartnerConcentration, Distance, Seasonality, GJFK, Ethnicity, GLHR, HomeConce
Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3801.318	10	380.132	22.402	<.001[b]
	Residual	5684.523	335	16.969		
	Total	9485.841	345			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, PartnerConcentration, Distance, Seasonality, GJFK, Ethnicity, GLHR, HomeConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.529	1.881		1.344	.180
	HomeConcentration	.875	.136	.337	6.443	<.001
	Congestion	.909	.339	.155	2.681	.008
	GLHR	2.987	.904	.170	3.305	.001
	GJFK	2.563	.839	.160	3.056	.002
	PartnerConcentration	.163	.135	.055	1.208	.228
	Seasonality	-.232	1.122	-.010	-.207	.836
	Distance	-.934	.249	-.172	-3.757	<.001
	Language	.326	.101	.183	3.235	.001
	Ethnicity	-.214	.455	-.024	-.470	.639
	Urban	.080	.065	.079	1.238	.216

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.653	1.531
	Congestion	.536	1.866
	GLHR	.678	1.475
	GJFK	.654	1.530
	PartnerConcentration	.879	1.138
	Seasonality	.800	1.249
	Distance	.850	1.177
	Language	.560	1.787
	Ethnicity	.712	1.405
	Urban	.445	2.247

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

				Variance Proportions		
Model	Dimension	Eigenvalue	Condition Index	(Constant)	HomeConcentration	Congestion
1	1	6.590	1.000	.00	.00	.00
	2	1.188	2.355	.00	.00	.00
	3	1.046	2.510	.00	.03	.00
	4	.732	3.000	.00	.01	.00
	5	.581	3.367	.00	.05	.00
	6	.463	3.771	.00	.22	.00
	7	.247	5.168	.00	.47	.00
	8	.081	8.994	.00	.19	.01
	9	.039	13.024	.00	.01	.03
	10	.023	17.060	.10	.01	.35
	11	.010	26.249	.90	.01	.61

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions					
		GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.15	.02	.01	.00	.00	.16
	3	.17	.26	.05	.00	.00	.00
	4	.01	.07	.69	.01	.00	.00
	5	.21	.33	.05	.00	.00	.13
	6	.01	.02	.12	.00	.00	.09
	7	.40	.00	.02	.00	.00	.50
	8	.04	.11	.03	.45	.03	.00
	9	.00	.10	.02	.09	.65	.04
	10	.00	.03	.01	.31	.12	.01
	11	.00	.06	.00	.13	.20	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions	
		Ethnicity	Urban
1	1	.01	.00
	2	.04	.00
	3	.02	.00
	4	.01	.00
	5	.12	.00
	6	.44	.00
	7	.34	.00
	8	.00	.17
	9	.01	.28
	10	.00	.50
	11	.01	.05

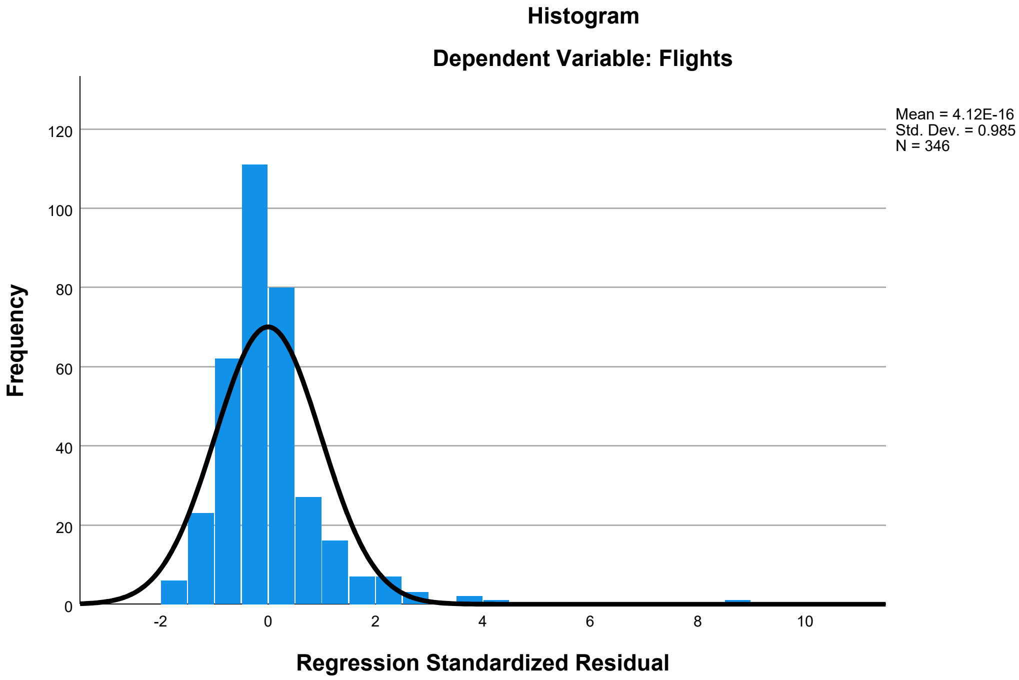
a. Dependent Variable: Flights

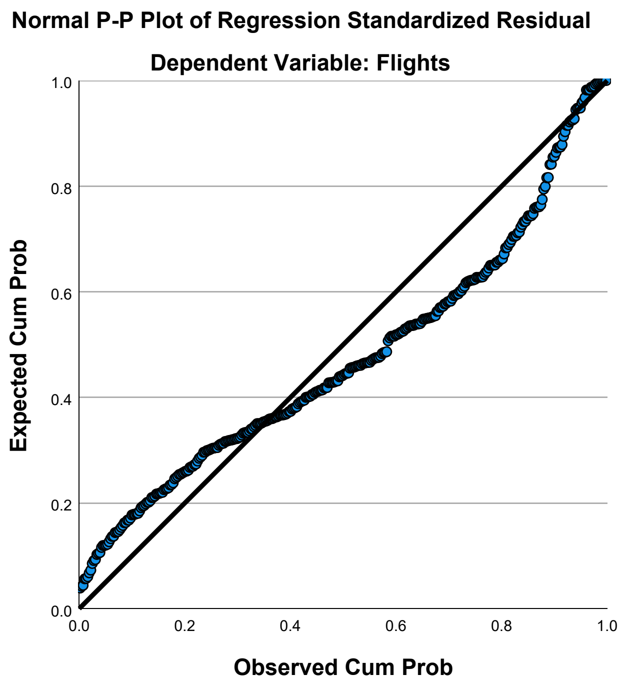
Residuals Statistics[a]

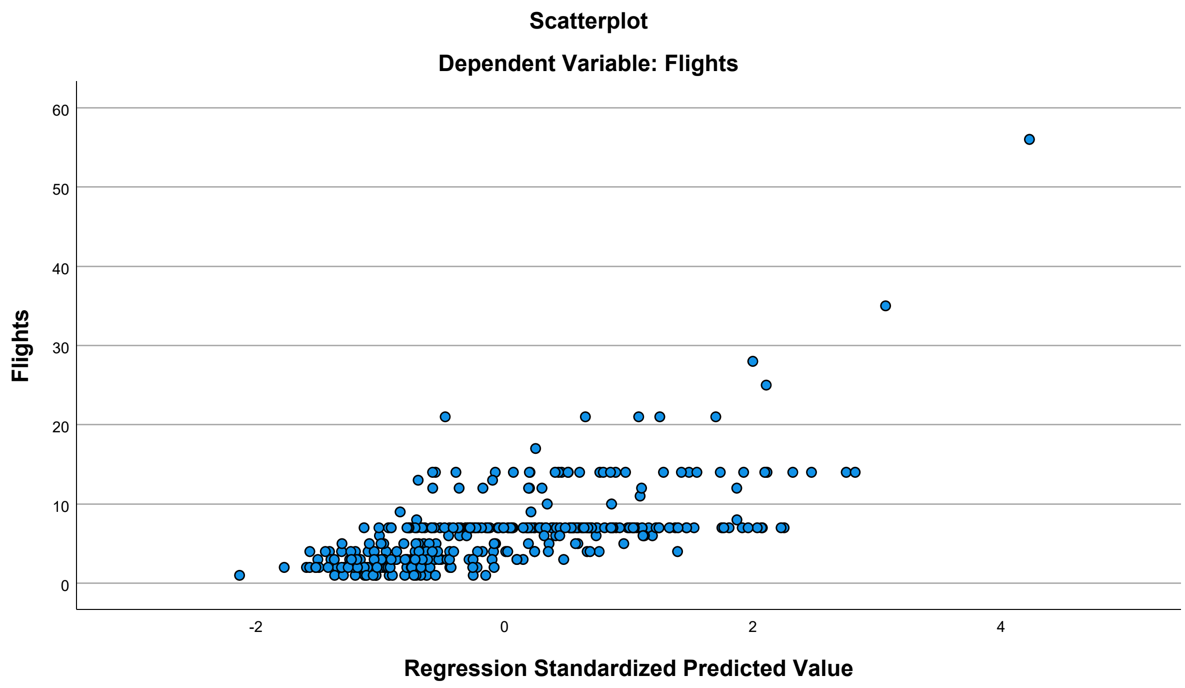
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.44	20.67	6.64	3.319	346
Residual	-7.266	35.328	.000	4.059	346
Std. Predicted Value	-2.133	4.228	.000	1.000	346
Std. Residual	-1.764	8.576	.000	.985	346

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 4.12E-16
Std. Dev. = 0.985
N = 346
Frequency
120
100
80
60
40
20
0
-2
0
2
4
6
8
10
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet5] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Airline Region\1997 - NA Based.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.31	4.723	135
NAFlights	.37909726185	.23551170591	135
Congestion	4.85	.974	135
GLHR	.16	.371	135
GJFK	.22	.417	135
PartnerConcentration	.38757985185	.97535490408	135
Seasonality	.61623988716	.17765362772	135
Distance	4099.34	603.755	135
Language	184257.35622	647830.78437	135
Ethnicity	748375.87	854123.044	135
Urban	17.90	3.571	135

Correlations

		Flights	NAFlights	Congestion	GLHR
Pearson Correlation	Flights	1.000	.096	.125	.325
	NAFlights	.096	1.000	.240	-.389
	Congestion	.125	.240	1.000	-.015
	GLHR	.325	-.389	-.015	1.000
	GJFK	.010	.238	.522	-.139
	PartnerConcentration	-.059	-.228	-.078	-.081
	Seasonality	-.156	-.027	.062	-.045
	Distance	-.118	-.211	-.028	-.104
	Language	-.065	.032	.058	-.126
	Ethnicity	.268	.121	.215	.141
	Urban	.340	.182	.539	.154
Sig. (1-tailed)	Flights	.	.133	.074	<.001
	NAFlights	.133	.	.003	.000
	Congestion	.074	.003	.	.430
	GLHR	.000	.000	.430	.
	GJFK	.454	.003	.000	.053
	PartnerConcentration	.248	.004	.183	.174
	Seasonality	.036	.378	.236	.303
	Distance	.086	.007	.374	.116
	Language	.227	.355	.253	.073
	Ethnicity	.001	.081	.006	.051
	Urban	.000	.017	.000	.037
N	Flights	135	135	135	135
	NAFlights	135	135	135	135

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.010	-.059	-.156	-.118
	NAFlights	.238	-.228	-.027	-.211
	Congestion	.522	-.078	.062	-.028
	GLHR	-.139	-.081	-.045	-.104
	GJFK	1.000	-.170	.076	-.084
	PartnerConcentration	-.170	1.000	.111	-.003
	Seasonality	.076	.111	1.000	.023
	Distance	-.084	-.003	.023	1.000
	Language	.147	-.086	-.040	-.117
	Ethnicity	.090	-.074	-.037	-.188
	Urban	.346	-.115	-.125	.005
Sig. (1-tailed)	Flights	.454	.248	.036	.086
	NAFlights	.003	.004	.378	.007
	Congestion	.000	.183	.236	.374
	GLHR	.053	.174	.303	.116
	GJFK	.	.024	.189	.167
	PartnerConcentration	.024	.	.099	.484
	Seasonality	.189	.099	.	.397
	Distance	.167	.484	.397	.
	Language	.044	.161	.322	.088
	Ethnicity	.149	.197	.336	.015
	Urban	.000	.092	.074	.477
N	Flights	135	135	135	135
	NAFlights	135	135	135	135

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	-.065	.268	.340
	NAFlights	.032	.121	.182
	Congestion	.058	.215	.539
	GLHR	-.126	.141	.154
	GJFK	.147	.090	.346
	PartnerConcentration	-.086	-.074	-.115
	Seasonality	-.040	-.037	-.125
	Distance	-.117	-.188	.005
	Language	1.000	.074	.136
	Ethnicity	.074	1.000	-.024
	Urban	.136	-.024	1.000
Sig. (1-tailed)	Flights	.227	<.001	<.001
	NAFlights	.355	.081	.017
	Congestion	.253	.006	.000
	GLHR	.073	.051	.037
	GJFK	.044	.149	.000
	PartnerConcentration	.161	.197	.092
	Seasonality	.322	.336	.074
	Distance	.088	.015	.477
	Language	.	.197	.057
	Ethnicity	.197	.	.390
	Urban	.057	.390	.
N	Flights	135	135	135
	NAFlights	135	135	135

Correlations

		Flights	NAFlights	Congestion	GLHR
	Congestion	135	135	135	135
	GLHR	135	135	135	135
	GJFK	135	135	135	135
	PartnerConcentration	135	135	135	135
	Seasonality	135	135	135	135
	Distance	135	135	135	135
	Language	135	135	135	135
	Ethnicity	135	135	135	135
	Urban	135	135	135	135

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	135	135	135	135
GLHR	135	135	135	135
GJFK	135	135	135	135
PartnerConcentration	135	135	135	135
Seasonality	135	135	135	135
Distance	135	135	135	135
Language	135	135	135	135
Ethnicity	135	135	135	135
Urban	135	135	135	135

Correlations

	Language	Ethnicity	Urban
Congestion	135	135	135
GLHR	135	135	135
GJFK	135	135	135
PartnerConcentration	135	135	135
Seasonality	135	135	135
Distance	135	135	135
Language	135	135	135
Ethnicity	135	135	135
Urban	135	135	135

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, Seasonality, Language, Ethnicity, GLHR, GJFK, NAFlights, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.545[a]	.297	.241	4.116	.297	5.243

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	124	<.001

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, Seasonality, Language, Ethnicity, GLHR, GJFK, NAFlights, C

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	888.258	10	88.826	5.243	<.001[b]
	Residual	2100.675	124	16.941		
	Total	2988.933	134			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, Seasonality, Language, Ethnicity, GLHR, GJFK, NAFlights, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.198	3.734		.589	.557
	NAFlights	2.923	1.903	.146	1.535	.127
	Congestion	-.572	.505	-.118	-1.134	.259
	GLHR	3.370	1.199	.265	2.811	.006
	GJFK	-.588	1.046	-.052	-.562	.575
	PartnerConcentration	.191	.393	.039	.485	.628
	Seasonality	-2.148	2.069	-.081	-1.039	.301
	Distance	.000	.001	-.031	-.384	.701
	Language	-6.885E-7	.000	-.094	-1.189	.237
	Ethnicity	1.398E-6	.000	.253	3.068	.003
	Urban	.486	.131	.367	3.704	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	NAFlights	.629	1.590
	Congestion	.523	1.910
	GLHR	.640	1.562
	GJFK	.663	1.508
	PartnerConcentration	.861	1.161
	Seasonality	.936	1.068
	Distance	.852	1.174
	Language	.898	1.113
	Ethnicity	.835	1.198
	Urban	.576	1.737

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	Congestion	GLHR
1	1	6.785	1.000	.00	.00	.00	.00
	2	1.143	2.437	.00	.00	.00	.10
	3	.951	2.671	.00	.00	.00	.23
	4	.794	2.923	.00	.01	.00	.08
	5	.560	3.480	.00	.03	.00	.10
	6	.493	3.711	.00	.00	.00	.03
	7	.162	6.478	.00	.74	.00	.25
	8	.068	10.019	.00	.04	.02	.03
	9	.024	16.867	.02	.09	.22	.08
	10	.014	21.975	.00	.01	.73	.05
	11	.007	31.815	.97	.07	.03	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.01
	2	.10	.12	.00	.00	.25	.00
	3	.00	.41	.00	.00	.00	.02
	4	.08	.06	.00	.00	.65	.01
	5	.55	.21	.00	.00	.00	.00
	6	.00	.03	.00	.00	.01	.81
	7	.00	.14	.04	.01	.01	.04
	8	.01	.00	.74	.01	.01	.00
	9	.21	.02	.08	.33	.01	.00
	10	.02	.00	.06	.00	.03	.10
	11	.03	.02	.08	.64	.02	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.00
	8	.05
	9	.18
	10	.73
	11	.04

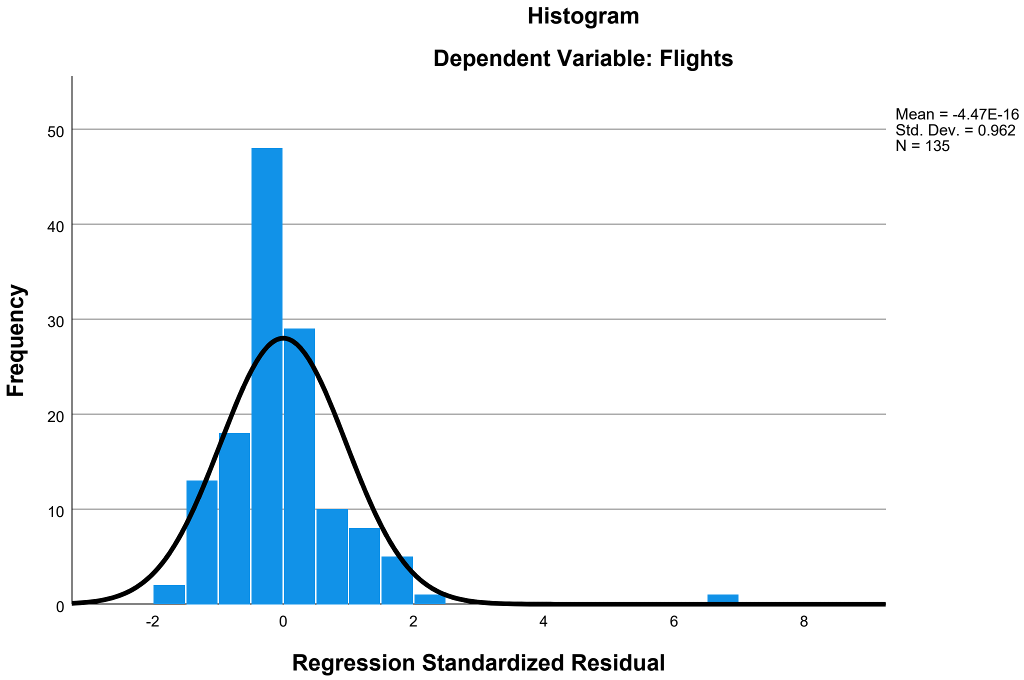
a. Dependent Variable: Flights

Residuals Statistics[a]

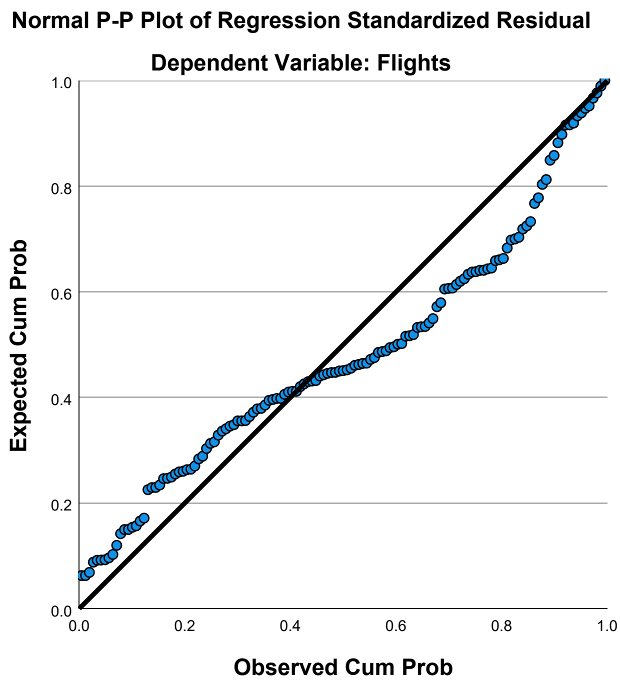
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.73	16.82	8.31	2.575	135
Residual	-6.312	28.391	.000	3.959	135
Std. Predicted Value	-2.168	3.304	.000	1.000	135
Std. Residual	-1.534	6.898	.000	.962	135

a. Dependent Variable: Flights

Charts



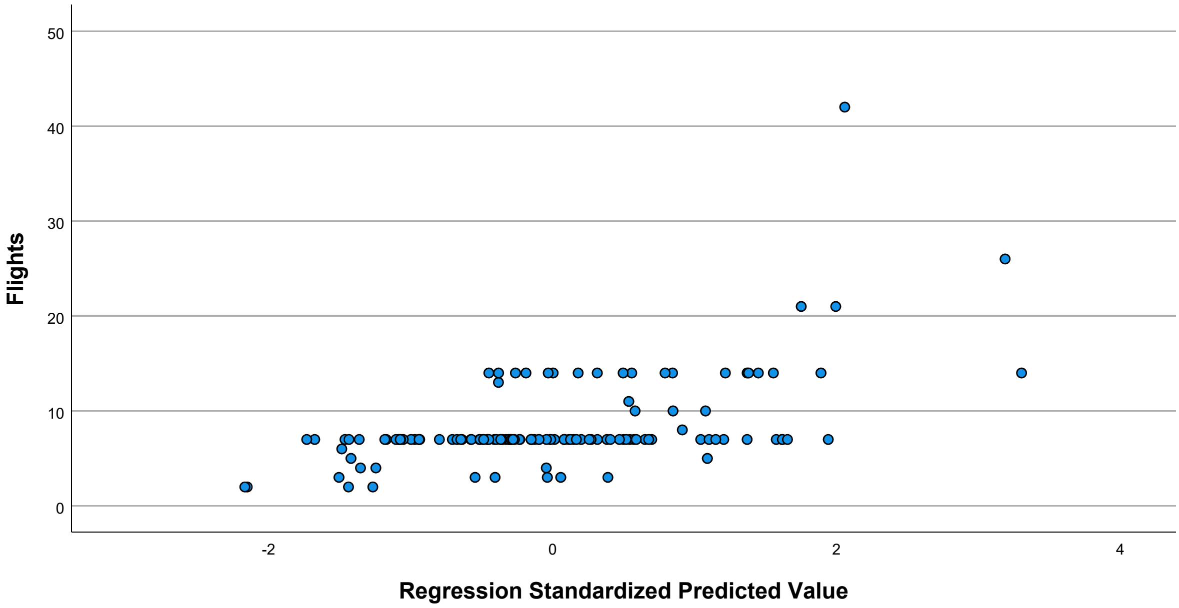
Histogram
Dependent Variable: Flights
Mean = -4.47E-16
Std. Dev. = 0.962
N = 135
Frequency
0
10
20
30
40
50
-2
0
2
4
6
8
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob

Scatterplot

Dependent Variable: Flights



Regression

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[DataSet6] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Airline Region\2002 - NA Based.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.75	6.027	171
HomeConcentration	4.0895841170	3.7189259187	171
Congestion	4.50	.910	171
GLHR	.12	.322	171
GJFK	.11	.308	171
PartnerConcentration	.94680447368	1.5628056127	171
Seasonality	.67894685724	.22210023648	171
Distance	4.01150	.605304	171
Language	2.46482178	3.368188160	171
Ethnicity	.74239195	.800651051	171
Urban	16.78	4.244	171

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.231	.215	.442
	HomeConcentration	.231	1.000	-.231	-.172
	Congestion	.215	-.231	1.000	.099
	GLHR	.442	-.172	.099	1.000
	GJFK	.135	-.299	.503	-.006
	PartnerConcentration	.344	-.076	.085	.279
	Seasonality	-.334	-.315	-.060	-.196
	Distance	.013	.363	.056	-.099
	Language	.217	-.100	-.099	.328
	Ethnicity	.037	-.195	.054	.044
	Urban	.436	.044	.584	.286
Sig. (1-tailed)	Flights	.	.001	.002	<.001
	HomeConcentration	.001	.	.001	.012
	Congestion	.002	.001	.	.099
	GLHR	.000	.012	.099	.
	GJFK	.040	.000	.000	.468
	PartnerConcentration	.000	.161	.135	.000
	Seasonality	.000	.000	.219	.005
	Distance	.432	.000	.235	.099
	Language	.002	.096	.100	.000
	Ethnicity	.317	.005	.243	.283
	Urban	.000	.285	.000	.000
N	Flights	171	171	171	171
	HomeConcentration	171	171	171	171

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.135	.344	-.334	.013
	HomeConcentration	-.299	-.076	-.315	.363
	Congestion	.503	.085	-.060	.056
	GLHR	-.006	.279	-.196	-.099
	GJFK	1.000	.027	-.106	-.029
	PartnerConcentration	.027	1.000	-.253	.105
	Seasonality	-.106	-.253	1.000	-.199
	Distance	-.029	.105	-.199	1.000
	Language	-.095	-.114	.153	-.400
	Ethnicity	.042	-.080	.173	-.227
	Urban	.306	.260	-.401	.108
Sig. (1-tailed)	Flights	.040	<.001	<.001	.432
	HomeConcentration	.000	.161	.000	.000
	Congestion	.000	.135	.219	.235
	GLHR	.468	.000	.005	.099
	GJFK	.	.365	.084	.351
	PartnerConcentration	.365	.	.000	.086
	Seasonality	.084	.000	.	.004
	Distance	.351	.086	.004	.
	Language	.109	.068	.023	.000
	Ethnicity	.293	.150	.012	.001
	Urban	.000	.000	.000	.080
N	Flights	171	171	171	171
	HomeConcentration	171	171	171	171

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.217	.037	.436
	HomeConcentration	-.100	-.195	.044
	Congestion	-.099	.054	.584
	GLHR	.328	.044	.286
	GJFK	-.095	.042	.306
	PartnerConcentration	-.114	-.080	.260
	Seasonality	.153	.173	-.401
	Distance	-.400	-.227	.108
	Language	1.000	.417	-.154
	Ethnicity	.417	1.000	-.201
	Urban	-.154	-.201	1.000
Sig. (1-tailed)	Flights	.002	.317	<.001
	HomeConcentration	.096	.005	.285
	Congestion	.100	.243	.000
	GLHR	.000	.283	.000
	GJFK	.109	.293	.000
	PartnerConcentration	.068	.150	.000
	Seasonality	.023	.012	.000
	Distance	.000	.001	.080
	Language	.	.000	.022
	Ethnicity	.000	.	.004
	Urban	.022	.004	.
N	Flights	171	171	171
	HomeConcentration	171	171	171

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	171	171	171	171
	GLHR	171	171	171	171
	GJFK	171	171	171	171
	PartnerConcentration	171	171	171	171
	Seasonality	171	171	171	171
	Distance	171	171	171	171
	Language	171	171	171	171
	Ethnicity	171	171	171	171
	Urban	171	171	171	171

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	171	171	171	171
	GLHR	171	171	171	171
	GJFK	171	171	171	171
	PartnerConcentration	171	171	171	171
	Seasonality	171	171	171	171
	Distance	171	171	171	171
	Language	171	171	171	171
	Ethnicity	171	171	171	171
	Urban	171	171	171	171

Correlations

		Language	Ethnicity	Urban
	Congestion	171	171	171
	GLHR	171	171	171
	GJFK	171	171	171
	PartnerConcentration	171	171	171
	Seasonality	171	171	171
	Distance	171	171	171
	Language	171	171	171
	Ethnicity	171	171	171
	Urban	171	171	171

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, Language, PartnerConcentration, GJFK, Ethnicity, Distance, Seasonality, GLHR, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.704[a]	.495	.463	4.415	.495	15.679

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	10	160	<.001

a. Predictors: (Constant), Urban, HomeConcentration, Language, PartnerConcentration, GJFK, Ethnicity, Distance, Seasonality, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3056.528	10	305.653	15.679	<.001[b]
	Residual	3119.157	160	19.495		
	Total	6175.684	170			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, Language, PartnerConcentration, GJFK, Ethnicity, Distance, Seasonality, GLHR, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-2.032	3.659		-.555	.580
	HomeConcentration	.647	.117	.399	5.521	<.001
	Congestion	.432	.541	.065	.800	.425
	GLHR	5.438	1.298	.291	4.190	<.001
	GJFK	3.115	1.345	.159	2.316	.022
	PartnerConcentration	.975	.239	.253	4.075	<.001
	Seasonality	-.879	1.875	-.032	-.469	.640
	Distance	-.647	.664	-.065	-.974	.332
	Language	.354	.131	.198	2.702	.008
	Ethnicity	.485	.489	.064	.992	.323
	Urban	.314	.120	.221	2.623	.010

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.604	1.657
	Congestion	.474	2.110
	GLHR	.655	1.526
	GJFK	.669	1.495
	PartnerConcentration	.819	1.221
	Seasonality	.661	1.512
	Distance	.710	1.409
	Language	.588	1.699
	Ethnicity	.749	1.336
	Urban	.445	2.246

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.840	1.000	.00	.00	.00
	2	1.075	2.523	.00	.03	.00
	3	.997	2.619	.00	.02	.00
	4	.893	2.767	.00	.02	.00
	5	.498	3.707	.00	.06	.00
	6	.315	4.663	.00	.31	.00
	7	.271	5.027	.00	.13	.00
	8	.067	10.104	.00	.20	.03
	9	.026	16.354	.03	.17	.02
	10	.013	22.674	.01	.05	.94
	11	.006	33.190	.96	.01	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.33	.00	.05	.00	.00	.04
	3	.00	.44	.03	.00	.00	.04
	4	.01	.07	.24	.00	.00	.09
	5	.23	.04	.43	.00	.00	.00
	6	.06	.16	.13	.03	.00	.28
	7	.17	.00	.04	.02	.00	.37
	8	.16	.21	.05	.46	.00	.04
	9	.00	.01	.01	.30	.33	.03
	10	.02	.06	.01	.03	.01	.00
	11	.01	.01	.00	.15	.66	.10

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.00	.00
	3	.01	.00
	4	.09	.00
	5	.22	.00
	6	.00	.00
	7	.62	.00
	8	.00	.12
	9	.01	.20
	10	.04	.56
	11	.01	.11

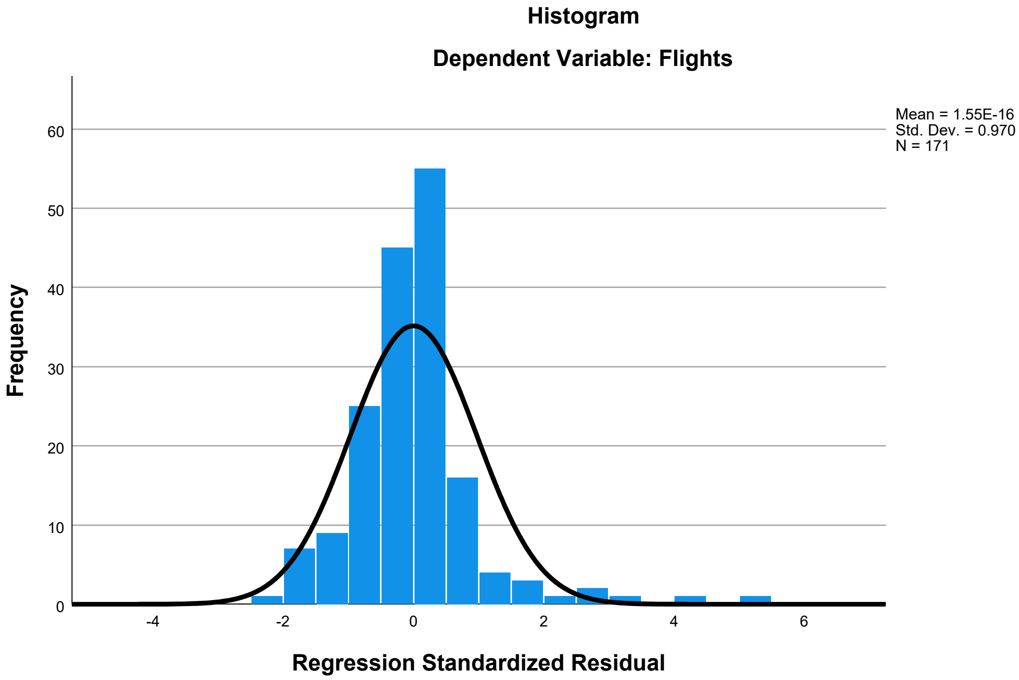
a. Dependent Variable: Flights

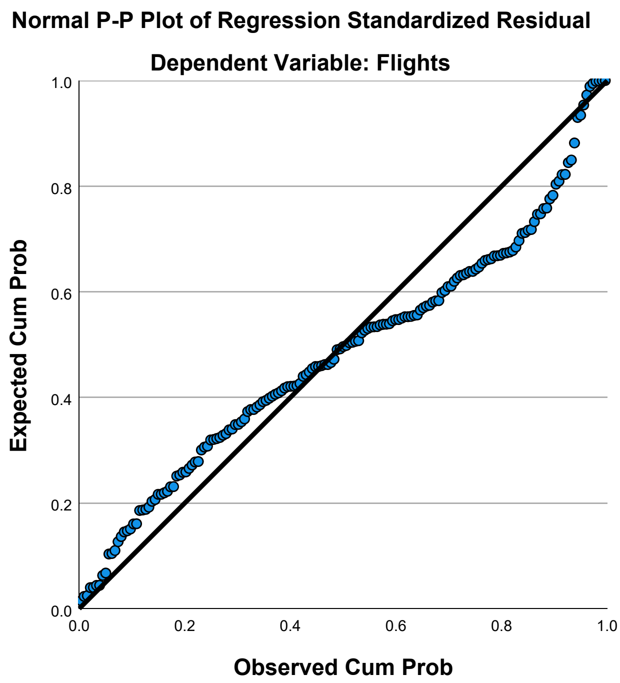
Residuals Statistics[a]

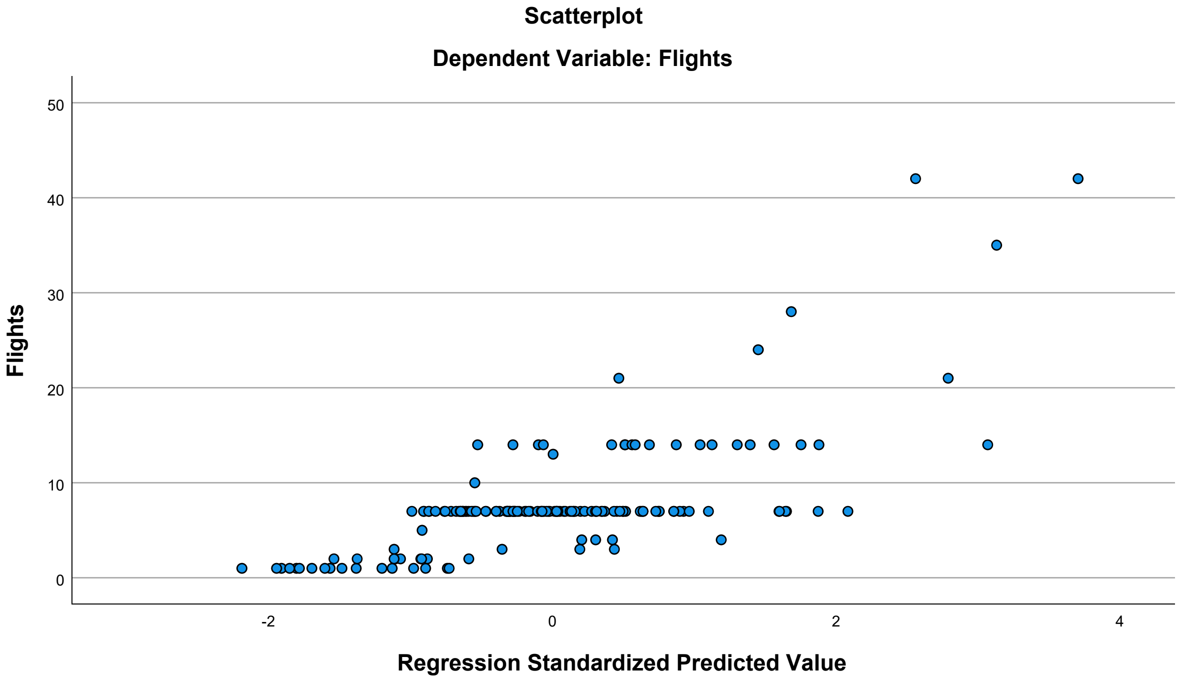
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-1.53	23.47	7.75	4.240	171
Residual	-9.585	23.392	.000	4.283	171
Std. Predicted Value	-2.189	3.705	.000	1.000	171
Std. Residual	-2.171	5.298	.000	.970	171

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 1.55E-16
Std. Dev. = 0.970
N = 171
Frequency
60
50
40
30
20
10
0
-4
-2
0
2
4
6
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Scatterplot
Dependent Variable: Flights
Flights
50
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet7] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Airline Region\2007 - NA Based.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.31	5.862	254
HomeConcentration	3.5977770709	3.7107501198	254
Congestion	4.64	.979	254
GLHR	.07	.257	254
GJFK	.12	.323	254
PartnerConcentration	.87249851181	1.6817106779	254
Seasonality	.72392155867	.22086303100	254
Distance	4.07933	.788033	254
Language	2.40950530	3.490182698	254
Ethnicity	.84080392	.936067514	254
Urban	15.57	4.468	254

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.305	.080	.413
	HomeConcentration	.305	1.000	-.299	-.102
	Congestion	.080	-.299	1.000	.087
	GLHR	.413	-.102	.087	1.000
	GJFK	.087	-.261	.410	-.054
	PartnerConcentration	.441	.061	.007	.206
	Seasonality	-.421	-.400	-.126	-.148
	Distance	-.013	.338	.022	-.046
	Language	.138	-.162	.058	.215
	Ethnicity	-.012	-.276	.178	.058
	Urban	.398	.096	.615	.199
Sig. (1-tailed)	Flights	.	<.001	.101	<.001
	HomeConcentration	.000	.	.000	.052
	Congestion	.101	.000	.	.084
	GLHR	.000	.052	.084	.
	GJFK	.084	.000	.000	.198
	PartnerConcentration	.000	.167	.457	.000
	Seasonality	.000	.000	.022	.009
	Distance	.418	.000	.366	.234
	Language	.014	.005	.179	.000
	Ethnicity	.424	.000	.002	.181
	Urban	.000	.063	.000	.001
N	Flights	254	254	254	254
	HomeConcentration	254	254	254	254

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.087	.441	-.421	-.013
	HomeConcentration	-.261	.061	-.400	.338
	Congestion	.410	.007	-.126	.022
	GLHR	-.054	.206	-.148	-.046
	GJFK	1.000	-.041	-.165	.015
	PartnerConcentration	-.041	1.000	-.295	.075
	Seasonality	-.165	-.295	1.000	-.191
	Distance	.015	.075	-.191	1.000
	Language	.071	-.199	.043	-.372
	Ethnicity	.063	-.058	.169	-.283
	Urban	.306	.181	-.409	.096
Sig. (1-tailed)	Flights	.084	<.001	<.001	.418
	HomeConcentration	.000	.167	.000	.000
	Congestion	.000	.457	.022	.366
	GLHR	.198	.000	.009	.234
	GJFK	.	.256	.004	.405
	PartnerConcentration	.256	.	.000	.118
	Seasonality	.004	.000	.	.001
	Distance	.405	.118	.001	.
	Language	.129	.001	.250	.000
	Ethnicity	.158	.178	.004	.000
	Urban	.000	.002	.000	.063
N	Flights	254	254	254	254
	HomeConcentration	254	254	254	254

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.138	-.012	.398
	HomeConcentration	-.162	-.276	.096
	Congestion	.058	.178	.615
	GLHR	.215	.058	.199
	GJFK	.071	.063	.306
	PartnerConcentration	-.199	-.058	.181
	Seasonality	.043	.169	-.409
	Distance	-.372	-.283	.096
	Language	1.000	.460	-.062
	Ethnicity	.460	1.000	-.079
	Urban	-.062	-.079	1.000
Sig. (1-tailed)	Flights	.014	.424	<.001
	HomeConcentration	.005	.000	.063
	Congestion	.179	.002	.000
	GLHR	.000	.181	.001
	GJFK	.129	.158	.000
	PartnerConcentration	.001	.178	.002
	Seasonality	.250	.004	.000
	Distance	.000	.000	.063
	Language	.	.000	.164
	Ethnicity	.000	.	.106
	Urban	.164	.106	.
N	Flights	254	254	254
	HomeConcentration	254	254	254

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	254	254	254	254
	GLHR	254	254	254	254
	GJFK	254	254	254	254
	PartnerConcentration	254	254	254	254
	Seasonality	254	254	254	254
	Distance	254	254	254	254
	Language	254	254	254	254
	Ethnicity	254	254	254	254
	Urban	254	254	254	254

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	254	254	254	254
	GLHR	254	254	254	254
	GJFK	254	254	254	254
	PartnerConcentration	254	254	254	254
	Seasonality	254	254	254	254
	Distance	254	254	254	254
	Language	254	254	254	254
	Ethnicity	254	254	254	254
	Urban	254	254	254	254

Correlations

		Language	Ethnicity	Urban
	Congestion	254	254	254
	GLHR	254	254	254
	GJFK	254	254	254
	PartnerConcentration	254	254	254
	Seasonality	254	254	254
	Distance	254	254	254
	Language	254	254	254
	Ethnicity	254	254	254
	Urban	254	254	254

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, HomeConcentration, PartnerConcentration, GLHR, GJFK, Distance, Ethnicity, Seasonality, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.730[a]	.532	.513	4.090	.532	27.656

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	243	<.001

a. Predictors: (Constant), Urban, Language, HomeConcentration, PartnerConcentration, GLHR, GJFK, Distance, Ethnicity, Seas
Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4626.966	10	462.697	27.656	<.001[b]
	Residual	4065.463	243	16.730		
	Total	8692.429	253			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, HomeConcentration, PartnerConcentration, GLHR, GJFK, Distance, Ethnicity, Seasonality, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.980	2.584		1.540	.125
	HomeConcentration	.571	.095	.362	5.995	<.001
	Congestion	-.350	.397	-.058	-.881	.379
	GLHR	6.744	1.116	.296	6.043	<.001
	GJFK	2.628	.937	.145	2.805	.005
	PartnerConcentration	1.219	.170	.350	7.152	<.001
	Seasonality	-1.282	1.496	-.048	-.857	.392
	Distance	-.867	.379	-.117	-2.288	.023
	Language	.275	.093	.164	2.975	.003
	Ethnicity	.065	.328	.010	.199	.842
	Urban	.308	.087	.235	3.540	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.529	1.890
	Congestion	.437	2.288
	GLHR	.803	1.245
	GJFK	.720	1.388
	PartnerConcentration	.805	1.242
	Seasonality	.606	1.650
	Distance	.742	1.348
	Language	.633	1.579
	Ethnicity	.700	1.429
	Urban	.438	2.283

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.614	1.000	.00	.00	.00
	2	1.108	2.444	.00	.04	.00
	3	1.045	2.516	.00	.01	.00
	4	.872	2.754	.00	.01	.00
	5	.567	3.415	.00	.05	.00
	6	.400	4.066	.00	.25	.00
	7	.261	5.037	.00	.15	.00
	8	.079	9.150	.00	.09	.03
	9	.033	14.252	.00	.17	.00
	10	.014	21.877	.00	.15	.82
	11	.008	29.150	.99	.06	.14

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.00	.12	.12	.00	.00	.09
	3	.51	.04	.06	.00	.00	.02
	4	.01	.42	.14	.00	.00	.05
	5	.26	.04	.41	.00	.00	.00
	6	.03	.07	.08	.02	.00	.32
	7	.09	.04	.06	.01	.00	.39
	8	.07	.25	.05	.25	.00	.00
	9	.00	.02	.01	.34	.49	.02
	10	.02	.00	.01	.02	.17	.01
	11	.00	.00	.05	.36	.33	.09

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.05	.00
	3	.00	.00
	4	.02	.00
	5	.18	.00
	6	.01	.00
	7	.70	.00
	8	.00	.17
	9	.00	.14
	10	.04	.68
	11	.00	.01

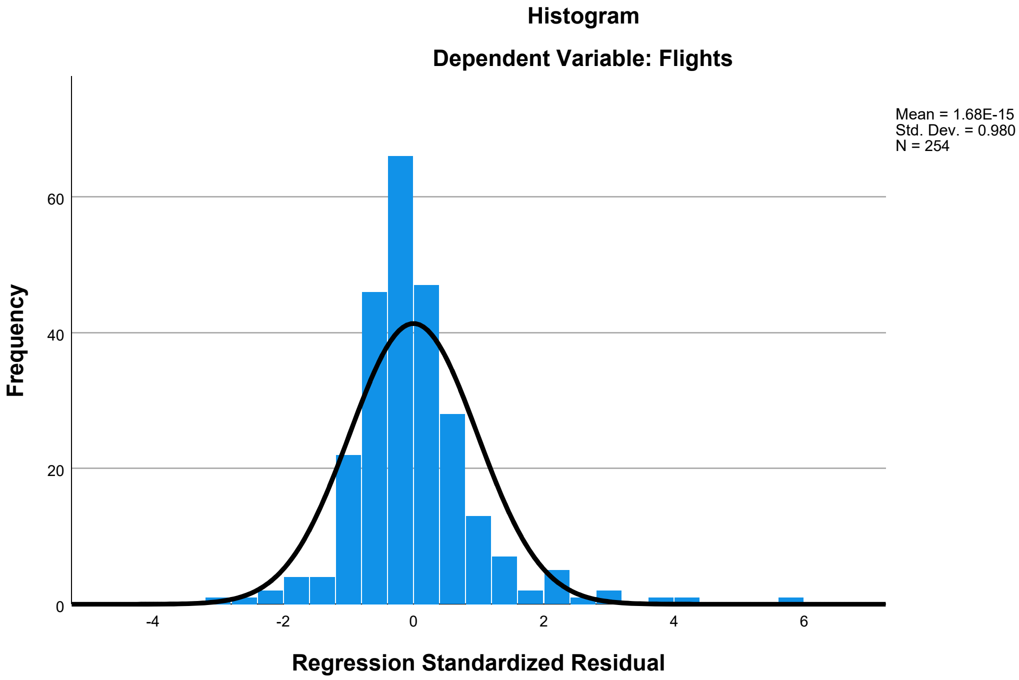
a. Dependent Variable: Flights

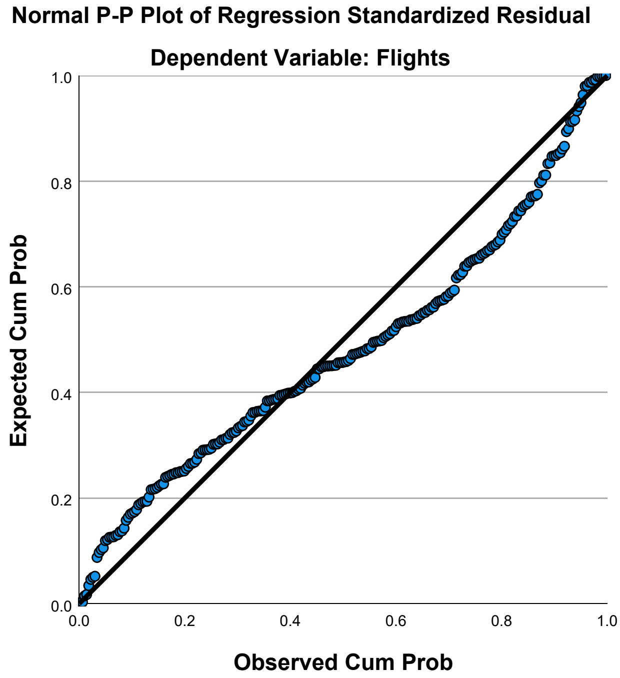
Residuals Statistics[a]

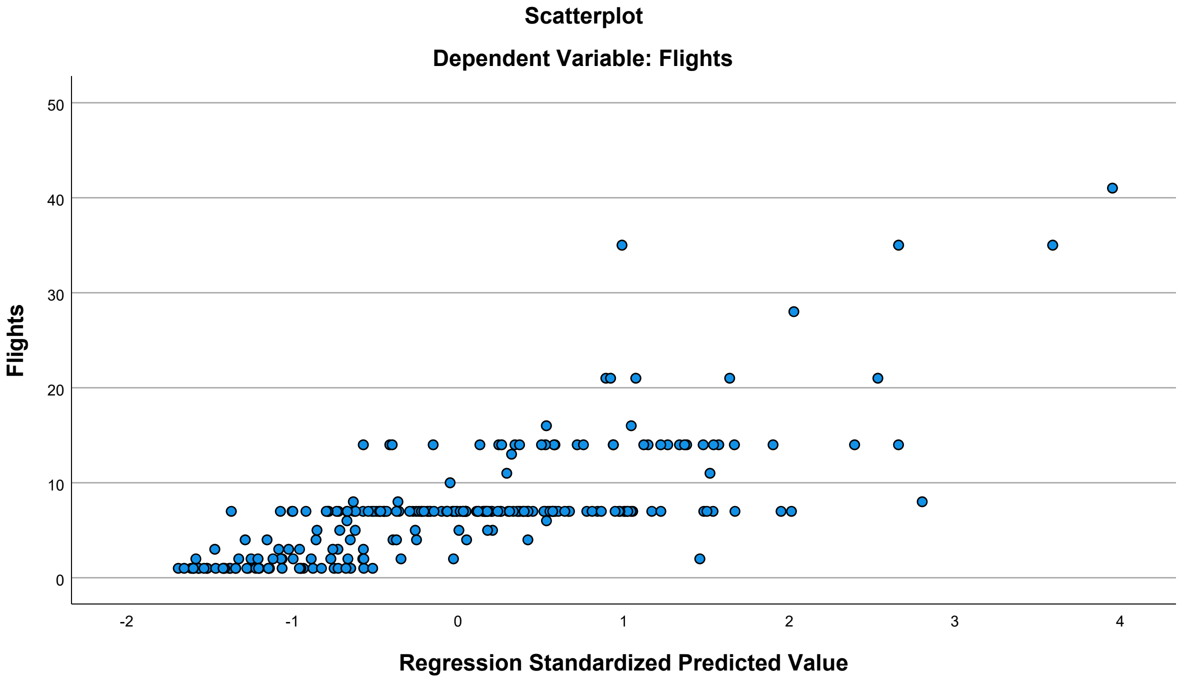
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.09	24.21	7.31	4.276	254
Residual	-11.556	23.456	.000	4.009	254
Std. Predicted Value	-1.689	3.952	.000	1.000	254
Std. Residual	-2.825	5.735	.000	.980	254

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 1.68E-15
Std. Dev. = 0.980
N = 254
Frequency
60
40
20
0
-4
-2
0
2
4
6
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
50
40
30
20
10
0
-2
-1
0
1
2
3
4
Regression Standardized Predicted Value

Regression

```
[DataSet8] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Airline Region\2012 - NA Based.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.31	5.471	263
HomeConcentration	3.1931465703	2.8993411480	263
Congestion	4.86	.993	263
GLHR	.10	.304	263
GJFK	.14	.344	263
PartnerConcentration	1.0306343498	1.7635411155	263
Seasonality	.69879819693	.23912622419	263
Distance	4.13452	.814703	263
Language	1.89109508	3.240836994	263
Ethnicity	.64439043	.804971952	263
Urban	17.58	3.552	263

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.309	.003	.476
	HomeConcentration	.309	1.000	-.295	.003
	Congestion	.003	-.295	1.000	-.077
	GLHR	.476	.003	-.077	1.000
	GJFK	.059	-.281	.393	-.062
	PartnerConcentration	.390	.081	-.105	.137
	Seasonality	-.276	-.327	.000	-.192
	Distance	-.024	.337	-.147	-.076
	Language	.242	-.145	-.029	.363
	Ethnicity	.054	-.250	.094	.064
	Urban	.412	.184	.489	.196
Sig. (1-tailed)	Flights	.	<.001	.479	<.001
	HomeConcentration	.000	.	.000	.478
	Congestion	.479	.000	.	.106
	GLHR	.000	.478	.106	.
	GJFK	.172	.000	.000	.159
	PartnerConcentration	.000	.094	.044	.013
	Seasonality	.000	.000	.497	.001
	Distance	.352	.000	.009	.109
	Language	.000	.009	.317	.000
	Ethnicity	.193	.000	.064	.152
	Urban	.000	.001	.000	.001
N	Flights	263	263	263	263
	HomeConcentration	263	263	263	263

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.059	.390	-.276	-.024
	HomeConcentration	-.281	.081	-.327	.337
	Congestion	.393	-.105	.000	-.147
	GLHR	-.062	.137	-.192	-.076
	GJFK	1.000	-.080	-.072	-.106
	PartnerConcentration	-.080	1.000	-.197	.040
	Seasonality	-.072	-.197	1.000	-.203
	Distance	-.106	.040	-.203	1.000
	Language	.040	-.166	.037	-.328
	Ethnicity	.086	-.071	.094	-.263
	Urban	.203	.128	-.408	.074
Sig. (1-tailed)	Flights	.172	<.001	<.001	.352
	HomeConcentration	.000	.094	.000	.000
	Congestion	.000	.044	.497	.009
	GLHR	.159	.013	.001	.109
	GJFK	.	.098	.121	.044
	PartnerConcentration	.098	.	.001	.261
	Seasonality	.121	.001	.	.000
	Distance	.044	.261	.000	.
	Language	.260	.003	.277	.000
	Ethnicity	.083	.124	.064	.000
	Urban	.000	.019	.000	.115
N	Flights	263	263	263	263
	HomeConcentration	263	263	263	263

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.242	.054	.412
	HomeConcentration	-.145	-.250	.184
	Congestion	-.029	.094	.489
	GLHR	.363	.064	.196
	GJFK	.040	.086	.203
	PartnerConcentration	-.166	-.071	.128
	Seasonality	.037	.094	-.408
	Distance	-.328	-.263	.074
	Language	1.000	.514	-.074
	Ethnicity	.514	1.000	-.124
	Urban	-.074	-.124	1.000
Sig. (1-tailed)	Flights	<.001	.193	<.001
	HomeConcentration	.009	.000	.001
	Congestion	.317	.064	.000
	GLHR	.000	.152	.001
	GJFK	.260	.083	.000
	PartnerConcentration	.003	.124	.019
	Seasonality	.277	.064	.000
	Distance	.000	.000	.115
	Language	.	.000	.117
	Ethnicity	.000	.	.023
	Urban	.117	.023	.
N	Flights	263	263	263
	HomeConcentration	263	263	263

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	263	263	263	263
	GLHR	263	263	263	263
	GJFK	263	263	263	263
	PartnerConcentration	263	263	263	263
	Seasonality	263	263	263	263
	Distance	263	263	263	263
	Language	263	263	263	263
	Ethnicity	263	263	263	263
	Urban	263	263	263	263

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	263	263	263	263
	GLHR	263	263	263	263
	GJFK	263	263	263	263
	PartnerConcentration	263	263	263	263
	Seasonality	263	263	263	263
	Distance	263	263	263	263
	Language	263	263	263	263
	Ethnicity	263	263	263	263
	Urban	263	263	263	263

Correlations

		Language	Ethnicity	Urban
	Congestion	263	263	263
	GLHR	263	263	263
	GJFK	263	263	263
	PartnerConcentration	263	263	263
	Seasonality	263	263	263
	Distance	263	263	263
	Language	263	263	263
	Ethnicity	263	263	263
	Urban	263	263	263

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, PartnerConcentration, HomeConcentration, GJFK, Distance, GLHR, Seasonality, Ethnicity, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.740[a]	.547	.529	3.754	.547	30.447

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	252	<.001

a. Predictors: (Constant), Urban, Language, PartnerConcentration, HomeConcentration, GJFK, Distance, GLHR, Seasonality, E
Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4290.726	10	429.073	30.447	<.001[b]
	Residual	3551.327	252	14.093		
	Total	7842.053	262			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, PartnerConcentration, HomeConcentration, GJFK, Distance, GLHR, Seasonality, Ethnicity, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-4.159	2.462		-1.689	.092
	HomeConcentration	.630	.100	.334	6.286	<.001
	Congestion	-.223	.325	-.040	-.685	.494
	GLHR	5.530	.893	.307	6.195	<.001
	GJFK	2.285	.761	.144	3.004	.003
	PartnerConcentration	1.067	.141	.344	7.581	<.001
	Seasonality	1.551	1.154	.068	1.344	.180
	Distance	-.296	.322	-.044	-.919	.359
	Language	.358	.096	.212	3.720	<.001
	Ethnicity	.290	.351	.043	.827	.409
	Urban	.446	.093	.289	4.801	<.001

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.638	1.568
	Congestion	.515	1.940
	GLHR	.730	1.369
	GJFK	.784	1.276
	PartnerConcentration	.873	1.145
	Seasonality	.706	1.416
	Distance	.784	1.276
	Language	.554	1.804
	Ethnicity	.675	1.481
	Urban	.495	2.022

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Congestion
1	1	6.659	1.000	.00	.00	.00
	2	1.197	2.359	.00	.02	.00
	3	1.043	2.526	.00	.01	.00
	4	.776	2.930	.00	.02	.00
	5	.593	3.352	.00	.04	.00
	6	.340	4.424	.00	.43	.00
	7	.255	5.110	.00	.07	.00
	8	.080	9.105	.00	.17	.03
	9	.037	13.377	.00	.11	.10
	10	.012	23.194	.00	.11	.80
	11	.007	30.760	.99	.01	.07

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.11	.01	.04	.00	.00	.14
	3	.21	.29	.08	.00	.00	.00
	4	.15	.35	.22	.00	.00	.02
	5	.17	.03	.48	.00	.00	.01
	6	.09	.13	.04	.03	.00	.16
	7	.16	.01	.07	.01	.00	.59
	8	.06	.15	.02	.54	.01	.01
	9	.00	.02	.00	.05	.53	.01
	10	.05	.01	.02	.06	.02	.00
	11	.00	.00	.02	.31	.45	.05

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.05	.00
	3	.01	.00
	4	.03	.00
	5	.18	.00
	6	.00	.00
	7	.70	.00
	8	.00	.05
	9	.00	.05
	10	.01	.77
	11	.01	.13

a. Dependent Variable: Flights

Residuals Statistics[a]

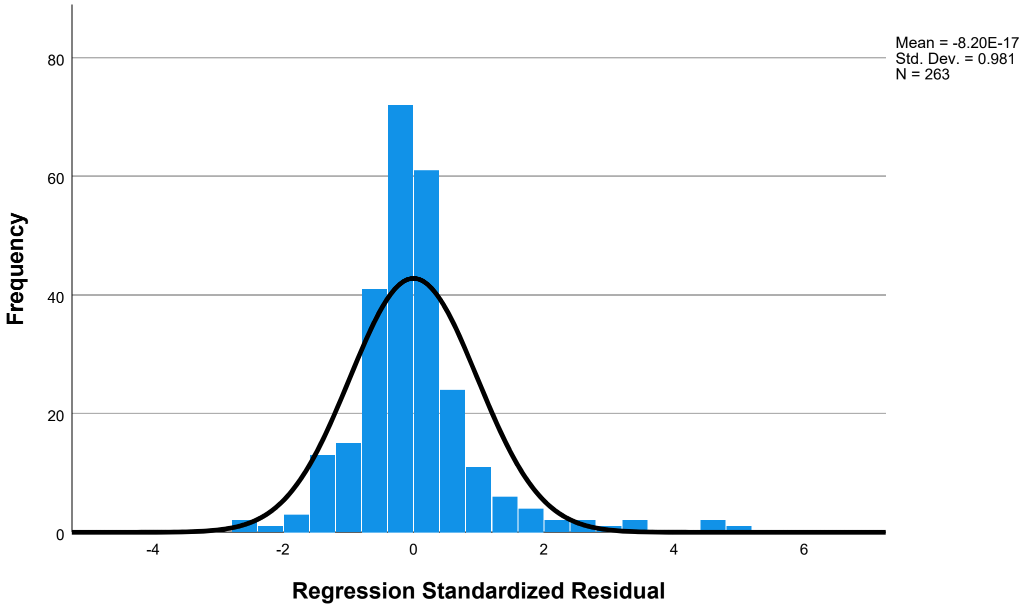
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-1.12	22.79	7.31	4.047	263
Residual	-10.183	18.157	.000	3.682	263
Std. Predicted Value	-2.083	3.826	.000	1.000	263
Std. Residual	-2.713	4.837	.000	.981	263

a. Dependent Variable: Flights

Charts

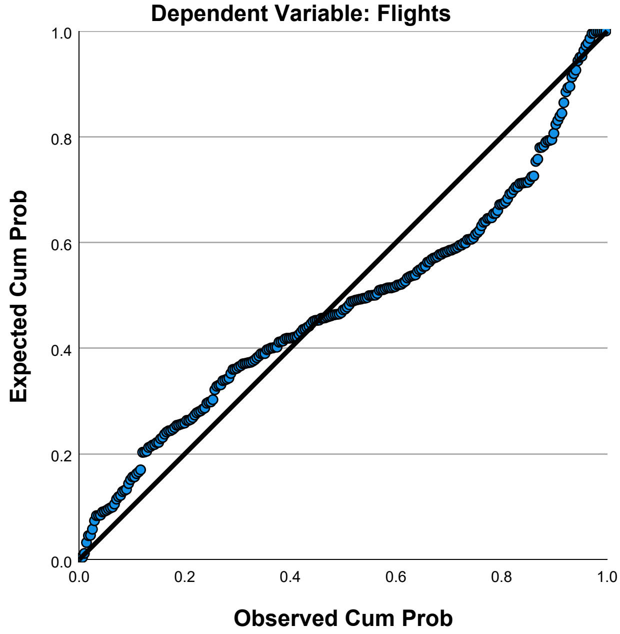
Histogram

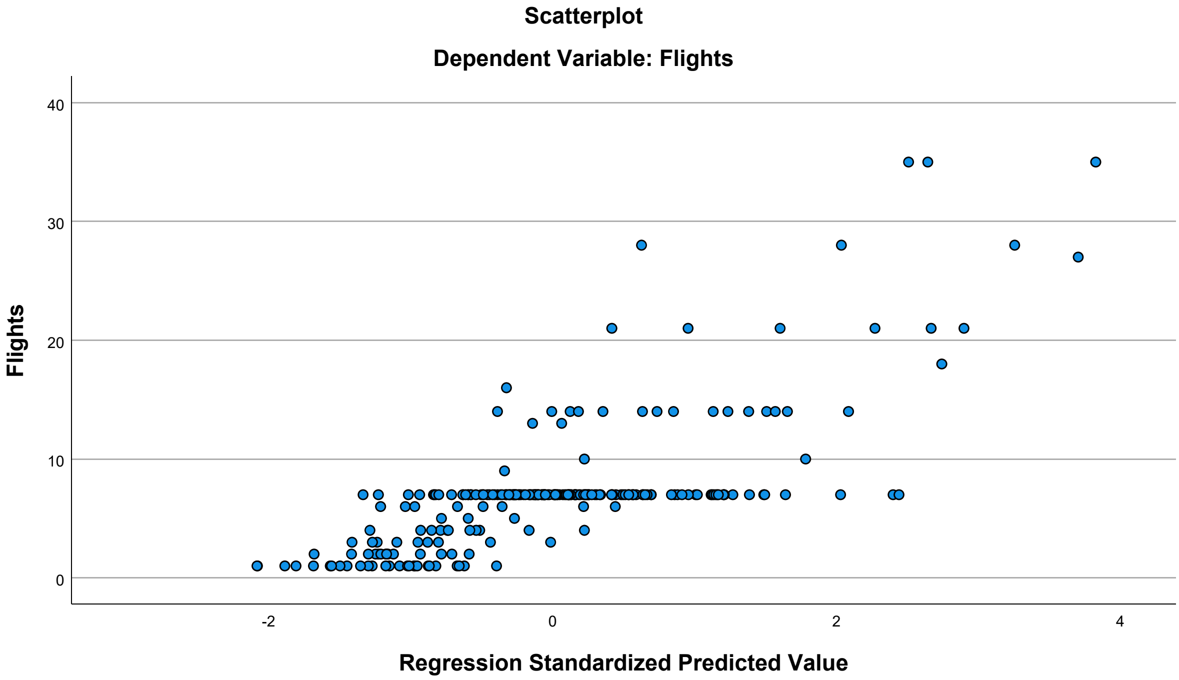
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights




Scatterplot
Dependent Variable: Flights
Flights
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet9] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\Airline Region\2017 - NA Based.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.46	4.769	289
HomeConcentration	3.5089357647	2.9455045446	289
Congestion	4.77	.930	289
GLHR	.10	.301	289
GJFK	.13	.339	289
PartnerConcentration	1.0485475779	1.9259389577	289
Seasonality	.78276337858	.21923214105	289
Distance	4.09934	.844595	289
Language	2.00920092	3.453581667	289
Ethnicity	.62348392042	.74912998265	289
Urban	17.01	3.887	289

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.264	-.043	.493
	HomeConcentration	.264	1.000	-.371	.002
	Congestion	-.043	-.371	1.000	-.079
	GLHR	.493	.002	-.079	1.000
	GJFK	.057	-.139	.416	-.062
	PartnerConcentration	.334	.067	-.073	.087
	Seasonality	-.361	-.137	-.018	-.317
	Distance	-.008	.300	-.017	-.033
	Language	.211	-.153	.019	.298
	Ethnicity	.002	-.195	.227	.034
	Urban	.376	.040	.441	.169
Sig. (1-tailed)	Flights	.	<.001	.234	<.001
	HomeConcentration	.000	.	.000	.488
	Congestion	.234	.000	.	.090
	GLHR	.000	.488	.090	.
	GJFK	.167	.009	.000	.148
	PartnerConcentration	.000	.128	.109	.070
	Seasonality	.000	.010	.379	.000
	Distance	.445	.000	.387	.291
	Language	.000	.005	.374	.000
	Ethnicity	.485	.000	.000	.282
	Urban	.000	.248	.000	.002
N	Flights	289	289	289	289
	HomeConcentration	289	289	289	289

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.057	.334	-.361	-.008
	HomeConcentration	-.139	.067	-.137	.300
	Congestion	.416	-.073	-.018	-.017
	GLHR	-.062	.087	-.317	-.033
	GJFK	1.000	-.084	-.042	-.134
	PartnerConcentration	-.084	1.000	-.198	.125
	Seasonality	-.042	-.198	1.000	-.131
	Distance	-.134	.125	-.131	1.000
	Language	.127	-.182	-.046	-.345
	Ethnicity	.073	-.130	.046	-.187
	Urban	.253	.137	-.396	.171
Sig. (1-tailed)	Flights	.167	<.001	<.001	.445
	HomeConcentration	.009	.128	.010	.000
	Congestion	.000	.109	.379	.387
	GLHR	.148	.070	.000	.291
	GJFK	.	.077	.237	.011
	PartnerConcentration	.077	.	.000	.017
	Seasonality	.237	.000	.	.013
	Distance	.011	.017	.013	.
	Language	.016	.001	.219	.000
	Ethnicity	.108	.013	.218	.001
	Urban	.000	.010	.000	.002
N	Flights	289	289	289	289
	HomeConcentration	289	289	289	289

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.211	.002	.376
	HomeConcentration	-.153	-.195	.040
	Congestion	.019	.227	.441
	GLHR	.298	.034	.169
	GJFK	.127	.073	.253
	PartnerConcentration	-.182	-.130	.137
	Seasonality	-.046	.046	-.396
	Distance	-.345	-.187	.171
	Language	1.000	.509	.003
	Ethnicity	.509	1.000	-.031
	Urban	.003	-.031	1.000
Sig. (1-tailed)	Flights	<.001	.485	<.001
	HomeConcentration	.005	.000	.248
	Congestion	.374	.000	.000
	GLHR	.000	.282	.002
	GJFK	.016	.108	.000
	PartnerConcentration	.001	.013	.010
	Seasonality	.219	.218	.000
	Distance	.000	.001	.002
	Language	.	.000	.483
	Ethnicity	.000	.	.299
	Urban	.483	.299	.
N	Flights	289	289	289
	HomeConcentration	289	289	289

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	289	289	289	289
	GLHR	289	289	289	289
	GJFK	289	289	289	289
	PartnerConcentration	289	289	289	289
	Seasonality	289	289	289	289
	Distance	289	289	289	289
	Language	289	289	289	289
	Ethnicity	289	289	289	289
	Urban	289	289	289	289

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	289	289	289	289
GLHR	289	289	289	289
GJFK	289	289	289	289
PartnerConcentration	289	289	289	289
Seasonality	289	289	289	289
Distance	289	289	289	289
Language	289	289	289	289
Ethnicity	289	289	289	289
Urban	289	289	289	289

Correlations

	Language	Ethnicity	Urban
Congestion	289	289	289
GLHR	289	289	289
GJFK	289	289	289
PartnerConcentration	289	289	289
Seasonality	289	289	289
Distance	289	289	289
Language	289	289	289
Ethnicity	289	289	289
Urban	289	289	289

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, HomeConcentration, PartnerConcentration, GJFK, GLHR, Distance, Seasonality, Ethnicity, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.707[a]	.500	.482	3.434	.500	27.746

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	278	<.001

a. Predictors: (Constant), Urban, Language, HomeConcentration, PartnerConcentration, GJFK, GLHR, Distance, Seasonality, E
Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3271.733	10	327.173	27.746	<.001[b]
	Residual	3278.059	278	11.792		
	Total	6549.792	288			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, HomeConcentration, PartnerConcentration, GJFK, GLHR, Distance, Seasonality, Ethnicity, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.879	2.033		1.416	.158
	HomeConcentration	.446	.080	.276	5.570	<.001
	Congestion	-.186	.303	-.036	-.615	.539
	GLHR	5.657	.763	.357	7.419	<.001
	GJFK	.747	.679	.053	1.100	.272
	PartnerConcentration	.694	.111	.280	6.260	<.001
	Seasonality	-1.197	1.072	-.055	-1.116	.265
	Distance	-.610	.272	-.108	-2.241	.026
	Language	.211	.078	.153	2.707	.007
	Ethnicity	-.016	.332	-.002	-.047	.962
	Urban	.325	.068	.265	4.792	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.735	1.360
	Congestion	.517	1.935
	GLHR	.777	1.287
	GJFK	.776	1.289
	PartnerConcentration	.899	1.113
	Seasonality	.741	1.349
	Distance	.775	1.290
	Language	.564	1.772
	Ethnicity	.660	1.515
	Urban	.588	1.701

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.716	1.000	.00	.00	.00
	2	1.186	2.380	.00	.02	.00
	3	1.008	2.582	.00	.00	.00
	4	.759	2.974	.00	.01	.00
	5	.596	3.356	.00	.06	.00
	6	.342	4.431	.00	.50	.00
	7	.266	5.026	.00	.14	.00
	8	.074	9.500	.00	.02	.01
	9	.030	15.053	.00	.10	.05
	10	.015	21.007	.01	.10	.69
	11	.008	29.227	.99	.06	.25

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.06	.03	.10	.00	.00	.14
	3	.37	.22	.07	.00	.00	.00
	4	.12	.49	.15	.00	.00	.01
	5	.15	.01	.57	.00	.00	.03
	6	.08	.02	.04	.01	.00	.25
	7	.09	.04	.01	.01	.00	.44
	8	.11	.06	.04	.44	.01	.01
	9	.00	.07	.00	.05	.76	.03
	10	.00	.03	.01	.18	.02	.01
	11	.01	.03	.01	.31	.21	.07

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.05	.00
	3	.00	.00
	4	.05	.00
	5	.12	.00
	6	.02	.00
	7	.69	.00
	8	.00	.11
	9	.00	.17
	10	.06	.69
	11	.01	.03

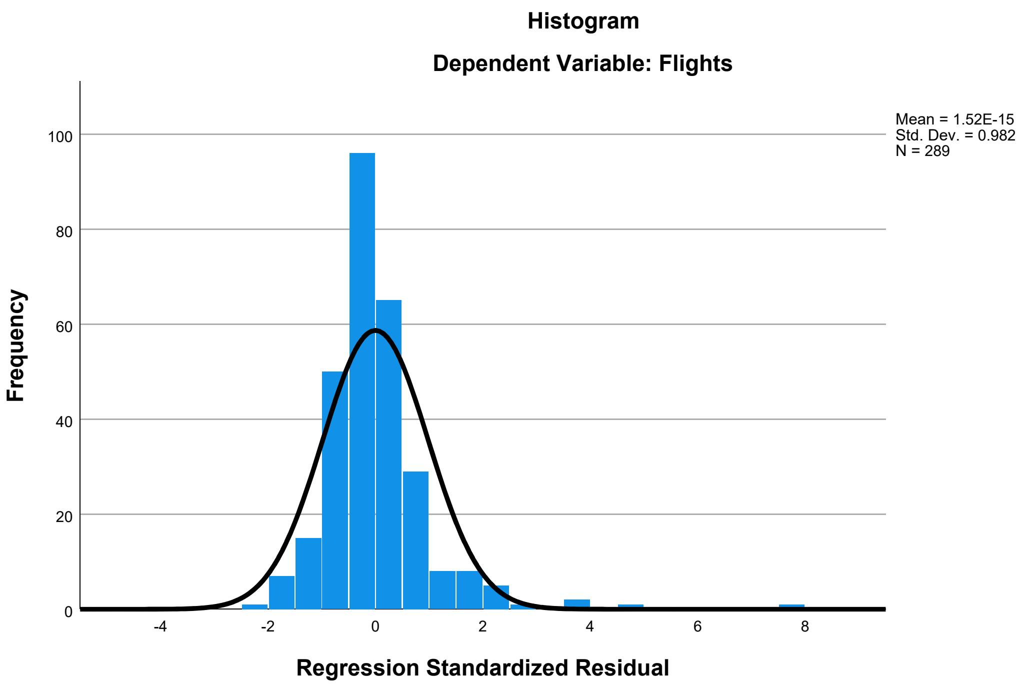
a. Dependent Variable: Flights

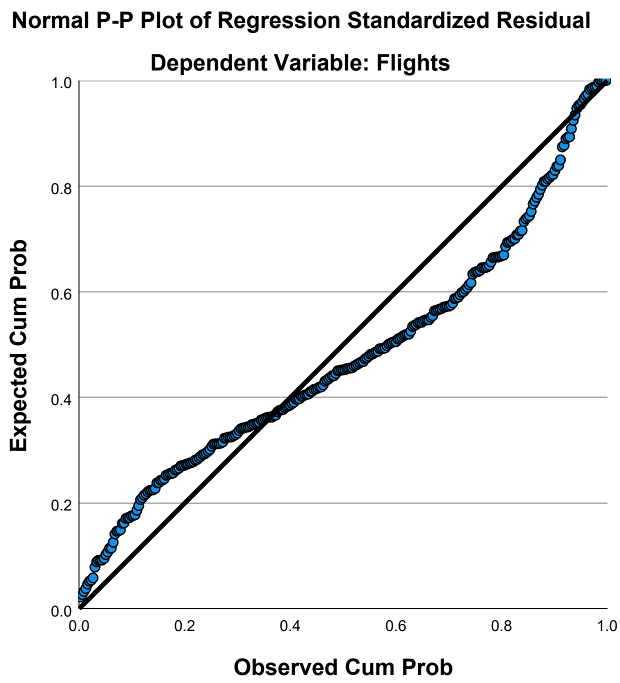
Residuals Statistics[a]

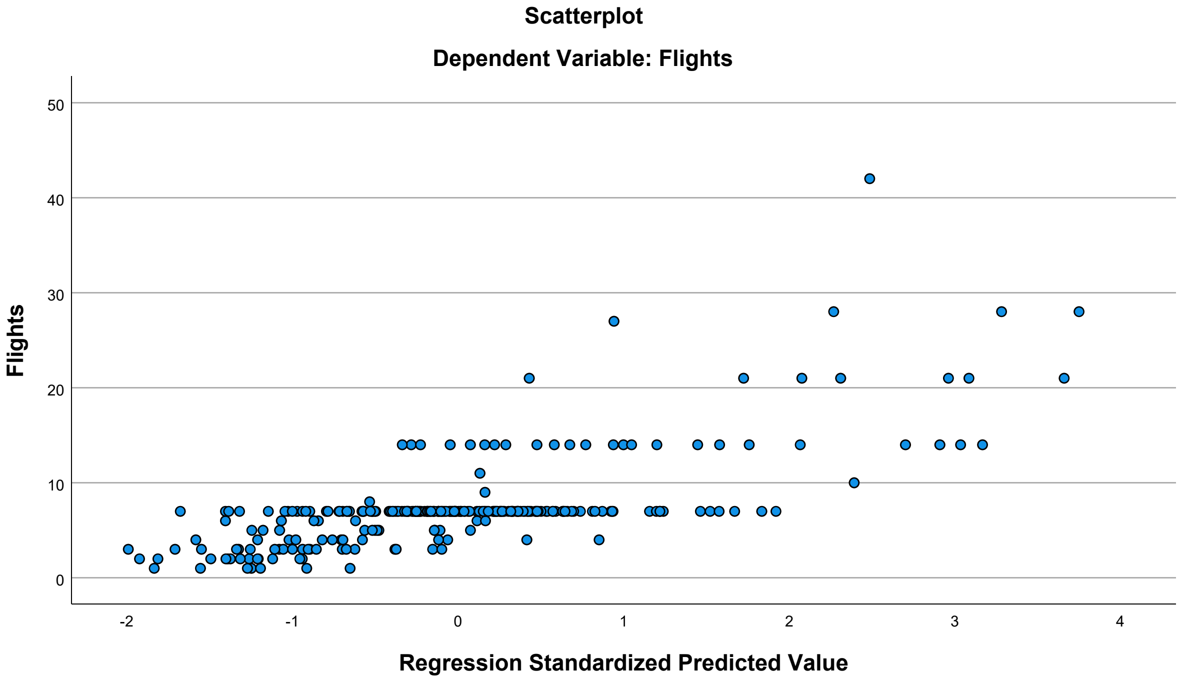
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.75	20.10	7.46	3.370	289
Residual	-6.932	26.161	.000	3.374	289
Std. Predicted Value	-1.991	3.750	.000	1.000	289
Std. Residual	-2.019	7.618	.000	.982	289

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 1.52E-15
Std. Dev. = 0.982
N = 289
Frequency
100
80
60
40
20
0
-4
-2
0
2
4
6
8
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Scatterplot
Dependent Variable: Flights
Flights
50
40
30
20
10
0
-2
-1
0
1
2
3
4
Regression Standardized Predicted Value

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.64	4.635	110
NAFlights	.40696471216	.22955724110	110
Congestion	4.82	.969	110
GLHR	.10	.301	110
GJFK	.27	.447	110
PartnerConcentration	.31830745455	.86638710745	110
Seasonality	.60268502887	.16589217681	110
Distance	4122.51	554.455	110
Language	160252.18264	479788.08137	110
Ethnicity	666013.07	776203.013	110
Urban	18.36	3.445	110

Correlations

		Flights	NAFlights	Congestion	GLHR
Pearson Correlation	Flights	1.000	-.057	.063	.479
	NAFlights	-.057	1.000	.165	-.350
	Congestion	.063	.165	1.000	.031
	GLHR	.479	-.350	.031	1.000
	GJFK	-.031	.206	.623	-.068
	PartnerConcentration	-.021	-.218	-.110	-.054
	Seasonality	-.089	.110	.055	-.140
	Distance	-.130	-.337	-.145	.028
	Language	-.098	.139	.180	-.112
	Ethnicity	.215	.133	.202	.009
	Urban	.219	.035	.572	.353
Sig. (1-tailed)	Flights	.	.276	.257	<.001
	NAFlights	.276	.	.042	.000
	Congestion	.257	.042	.	.372
	GLHR	.000	.000	.372	.
	GJFK	.372	.016	.000	.240
	PartnerConcentration	.415	.011	.127	.288
	Seasonality	.178	.127	.284	.072
	Distance	.088	.000	.065	.385
	Language	.154	.073	.030	.122
	Ethnicity	.012	.083	.017	.462
	Urban	.011	.357	.000	.000
N	Flights	110	110	110	110
	NAFlights	110	110	110	110
	Congestion	110	110	110	110
	GLHR	110	110	110	110

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	-.031	-.021	-.089	-.130
	NAFlights	.206	-.218	.110	-.337
	Congestion	.623	-.110	.055	-.145
	GLHR	-.068	-.054	-.140	.028
	GJFK	1.000	-.170	.144	-.130
	PartnerConcentration	-.170	1.000	.041	-.027
	Seasonality	.144	.041	1.000	-.008
	Distance	-.130	-.027	-.008	1.000
	Language	.259	-.098	.028	-.096
	Ethnicity	.179	-.047	-.068	-.103
	Urban	.328	-.054	-.035	-.048
Sig. (1-tailed)	Flights	.372	.415	.178	.088
	NAFlights	.016	.011	.127	.000
	Congestion	.000	.127	.284	.065
	GLHR	.240	.288	.072	.385
	GJFK	.	.038	.067	.088
	PartnerConcentration	.038	.	.335	.389
	Seasonality	.067	.335	.	.467
	Distance	.088	.389	.467	.
	Language	.003	.154	.384	.159
	Ethnicity	.031	.314	.239	.143
	Urban	.000	.288	.360	.308
N	Flights	110	110	110	110
	NAFlights	110	110	110	110
	Congestion	110	110	110	110
	GLHR	110	110	110	110

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	-.098	.215	.219
	NAFlights	.139	.133	.035
	Congestion	.180	.202	.572
	GLHR	-.112	.009	.353
	GJFK	.259	.179	.328
	PartnerConcentration	-.098	-.047	-.054
	Seasonality	.028	-.068	-.035
	Distance	-.096	-.103	-.048
	Language	1.000	-.127	.185
	Ethnicity	-.127	1.000	-.066
	Urban	.185	-.066	1.000
Sig. (1-tailed)	Flights	.154	.012	.011
	NAFlights	.073	.083	.357
	Congestion	.030	.017	.000
	GLHR	.122	.462	.000
	GJFK	.003	.031	.000
	PartnerConcentration	.154	.314	.288
	Seasonality	.384	.239	.360
	Distance	.159	.143	.308
	Language	.	.093	.026
	Ethnicity	.093	.	.247
	Urban	.026	.247	.
N	Flights	110	110	110
	NAFlights	110	110	110
	Congestion	110	110	110
	GLHR	110	110	110

Correlations

		Flights	NAFlights	Congestion	GLHR
	GJFK	110	110	110	110
	PartnerConcentration	110	110	110	110
	Seasonality	110	110	110	110
	Distance	110	110	110	110
	Language	110	110	110	110
	Ethnicity	110	110	110	110
	Urban	110	110	110	110

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	GJFK	110	110	110	110
	PartnerConcentration	110	110	110	110
	Seasonality	110	110	110	110
	Distance	110	110	110	110
	Language	110	110	110	110
	Ethnicity	110	110	110	110
	Urban	110	110	110	110

Correlations

		Language	Ethnicity	Urban
	GJFK	110	110	110
	PartnerConcentration	110	110	110
	Seasonality	110	110	110
	Distance	110	110	110
	Language	110	110	110
	Ethnicity	110	110	110
	Urban	110	110	110

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, Distance, PartnerConcentration, Ethnicity, Language, GLHR, GJFK, NAFlights, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.551[a]	.303	.233	4.059	.303	4.309

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	99	<.001

a. Predictors: (Constant), Urban, Seasonality, Distance, PartnerConcentration, Ethnicity, Language, GLHR, GJFK, NAFlights, C

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	710.023	10	71.002	4.309	<.001[b]
	Residual	1631.432	99	16.479		
	Total	2341.455	109			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, Distance, PartnerConcentration, Ethnicity, Language, GLHR, GJFK, NAFlights, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	8.700	4.675		1.861	.066
	NAFlights	1.174	2.064	.058	.569	.571
	Congestion	-.172	.615	-.036	-.280	.780
	GLHR	6.960	1.587	.453	4.386	<.001
	GJFK	-.729	1.165	-.070	-.626	.533
	PartnerConcentration	.055	.477	.010	.115	.908
	Seasonality	-.043	2.418	-.002	-.018	.986
	Distance	-.001	.001	-.113	-1.234	.220
	Language	-3.366E-7	.000	-.035	-.386	.700
	Ethnicity	1.282E-6	.000	.215	2.354	.021
	Urban	.157	.159	.117	.986	.327

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	NAFlights	.673	1.486
	Congestion	.425	2.351
	GLHR	.661	1.513
	GJFK	.557	1.797
	PartnerConcentration	.885	1.129
	Seasonality	.940	1.064
	Distance	.845	1.184
	Language	.864	1.157
	Ethnicity	.845	1.183
	Urban	.503	1.988

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	Congestion	GLHR
1	1	6.839	1.000	.00	.00	.00	.00
	2	1.154	2.435	.00	.00	.00	.10
	3	.957	2.673	.00	.00	.00	.32
	4	.790	2.942	.00	.01	.00	.15
	5	.570	3.463	.00	.01	.00	.02
	6	.435	3.967	.00	.00	.00	.00
	7	.157	6.600	.00	.78	.00	.17
	8	.059	10.766	.00	.00	.02	.05
	9	.024	17.044	.02	.07	.17	.06
	10	.011	25.058	.01	.01	.68	.12
	11	.005	36.828	.98	.12	.11	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.01
	2	.06	.14	.00	.00	.26	.00
	3	.01	.36	.00	.00	.00	.00
	4	.01	.14	.00	.00	.42	.11
	5	.35	.22	.00	.00	.00	.13
	6	.22	.00	.00	.00	.29	.63
	7	.00	.09	.01	.01	.00	.01
	8	.00	.00	.83	.01	.01	.01
	9	.23	.01	.09	.29	.01	.00
	10	.06	.00	.01	.00	.01	.08
	11	.07	.02	.05	.69	.00	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.00
	8	.03
	9	.12
	10	.82
	11	.02

a. Dependent Variable: Flights

Residuals Statistics[a]

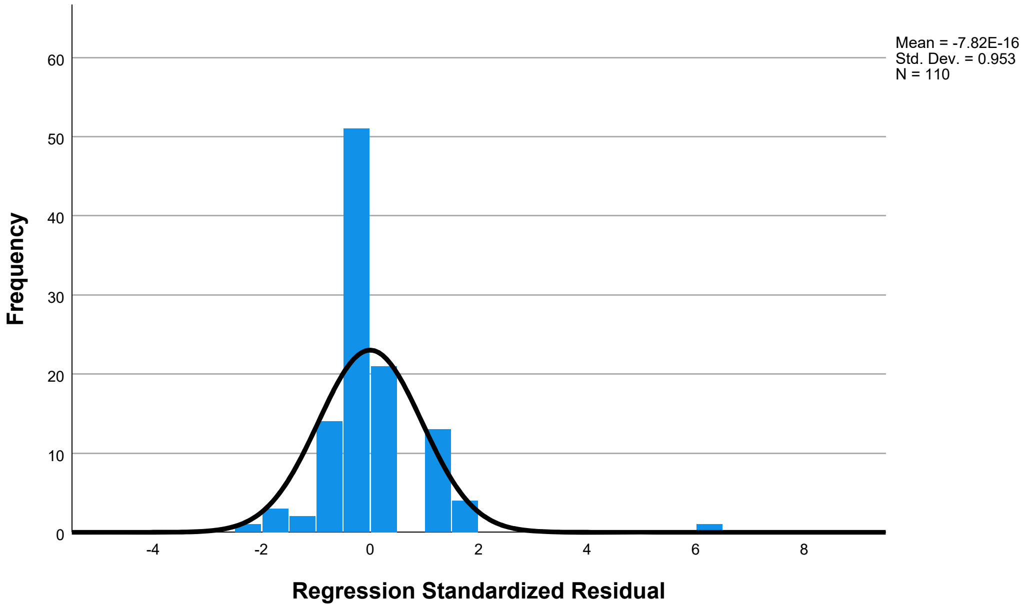
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.54	16.34	8.64	2.552	110
Residual	-8.971	25.874	.000	3.869	110
Std. Predicted Value	-1.604	3.018	.000	1.000	110
Std. Residual	-2.210	6.374	.000	.953	110

a. Dependent Variable: Flights

Charts

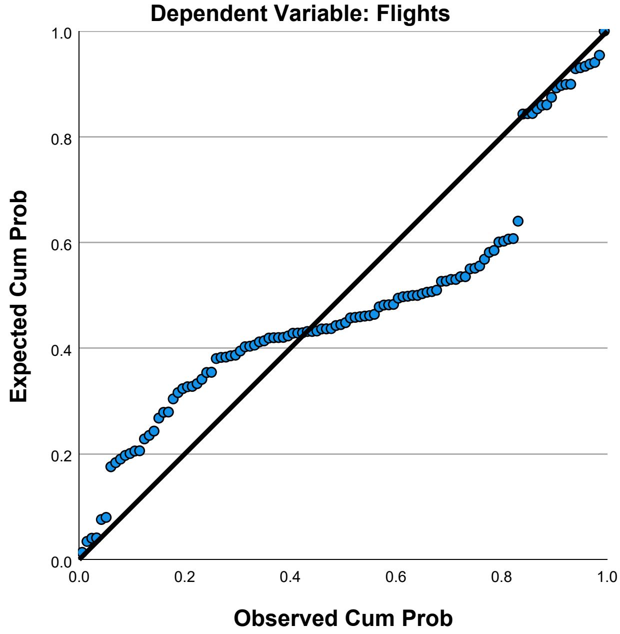
Histogram

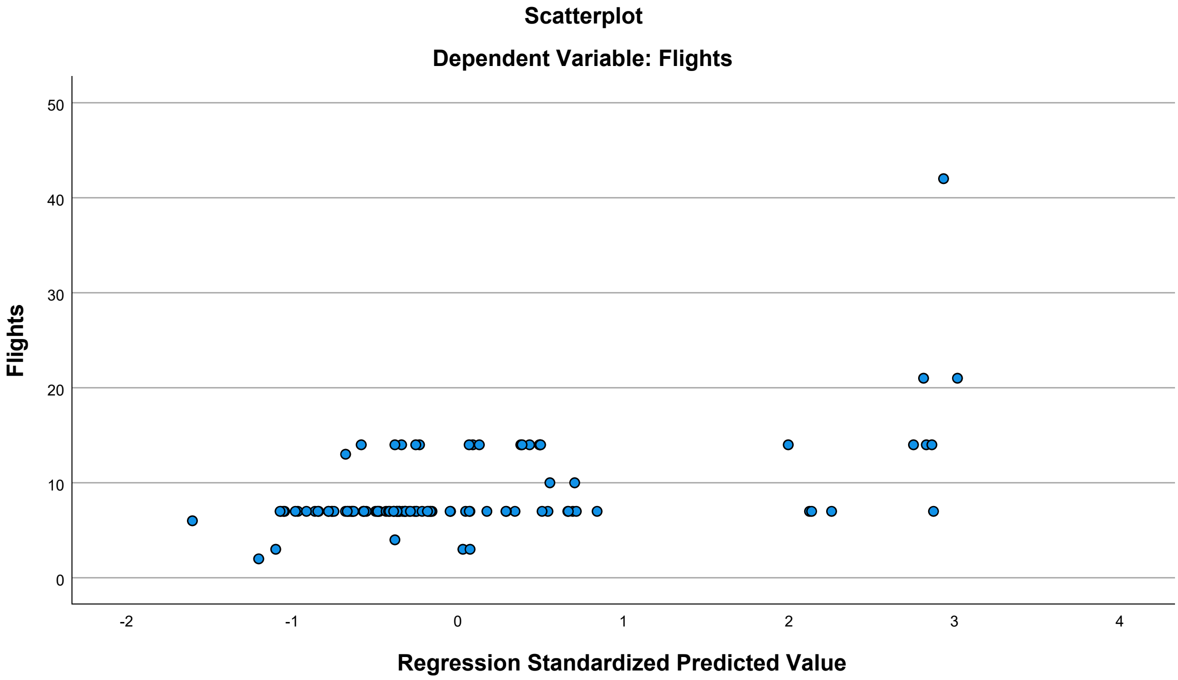
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights




Scatterplot
Dependent Variable: Flights
Flights
50
40
30
20
10
0
-2
-1
0
1
2
3
4
Regression Standardized Predicted Value

Regression

```
[DataSet16] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.90	5.400	121
HomeConcentration	5.2891463802	3.6452826041	121
Congestion	4.49	.776	121
GLHR	.11	.311	121
GJFK	.15	.357	121
PartnerConcentration	1.0793997355	1.6299720182	121
Seasonality	.59926048469	.17549894186	121
Distance	4.12488	.578963	121
Language	2.03908974	3.291711410	121
Ethnicity	.57121345	.658402122	121
Urban	17.83	3.685	121

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	-.003	.161	.468
	HomeConcentration	-.003	1.000	-.538	-.241
	Congestion	.161	-.538	1.000	.161
	GLHR	.468	-.241	.161	1.000
	GJFK	.094	-.510	.728	.005
	PartnerConcentration	.305	-.245	.083	.297
	Seasonality	-.055	.017	.001	-.137
	Distance	-.131	.296	-.031	-.048
	Language	.391	.021	-.087	.491
	Ethnicity	.101	-.047	.068	.056
	Urban	.306	-.324	.662	.387
Sig. (1-tailed)	Flights	.	.485	.039	<.001
	HomeConcentration	.485	.	.000	.004
	Congestion	.039	.000	.	.039
	GLHR	.000	.004	.039	.
	GJFK	.152	.000	.000	.478
	PartnerConcentration	.000	.003	.183	.000
	Seasonality	.273	.428	.496	.067
	Distance	.076	.000	.367	.299
	Language	.000	.409	.171	.000
	Ethnicity	.136	.304	.230	.273
	Urban	.000	.000	.000	.000
N	Flights	121	121	121	121
	HomeConcentration	121	121	121	121

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.094	.305	-.055	-.131
	HomeConcentration	-.510	-.245	.017	.296
	Congestion	.728	.083	.001	-.031
	GLHR	.005	.297	-.137	-.048
	GJFK	1.000	-.003	.027	-.120
	PartnerConcentration	-.003	1.000	-.087	.062
	Seasonality	.027	-.087	1.000	-.016
	Distance	-.120	.062	-.016	1.000
	Language	-.064	-.020	-.014	-.336
	Ethnicity	.171	.016	-.071	-.080
	Urban	.311	.216	-.138	-.057
Sig. (1-tailed)	Flights	.152	<.001	.273	.076
	HomeConcentration	.000	.003	.428	.000
	Congestion	.000	.183	.496	.367
	GLHR	.478	.000	.067	.299
	GJFK	.	.487	.385	.095
	PartnerConcentration	.487	.	.171	.249
	Seasonality	.385	.171	.	.432
	Distance	.095	.249	.432	.
	Language	.244	.413	.438	.000
	Ethnicity	.030	.430	.218	.192
	Urban	.000	.009	.066	.267
N	Flights	121	121	121	121
	HomeConcentration	121	121	121	121

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.391	.101	.306
	HomeConcentration	.021	-.047	-.324
	Congestion	-.087	.068	.662
	GLHR	.491	.056	.387
	GJFK	-.064	.171	.311
	PartnerConcentration	-.020	.016	.216
	Seasonality	-.014	-.071	-.138
	Distance	-.336	-.080	-.057
	Language	1.000	.155	-.007
	Ethnicity	.155	1.000	-.095
	Urban	-.007	-.095	1.000
Sig. (1-tailed)	Flights	<.001	.136	<.001
	HomeConcentration	.409	.304	.000
	Congestion	.171	.230	.000
	GLHR	.000	.273	.000
	GJFK	.244	.030	.000
	PartnerConcentration	.413	.430	.009
	Seasonality	.438	.218	.066
	Distance	.000	.192	.267
	Language	.	.045	.470
	Ethnicity	.045	.	.149
	Urban	.470	.149	.
N	Flights	121	121	121
	HomeConcentration	121	121	121

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	121	121	121	121
	GLHR	121	121	121	121
	GJFK	121	121	121	121
	PartnerConcentration	121	121	121	121
	Seasonality	121	121	121	121
	Distance	121	121	121	121
	Language	121	121	121	121
	Ethnicity	121	121	121	121
	Urban	121	121	121	121

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	121	121	121	121
GLHR	121	121	121	121
GJFK	121	121	121	121
PartnerConcentration	121	121	121	121
Seasonality	121	121	121	121
Distance	121	121	121	121
Language	121	121	121	121
Ethnicity	121	121	121	121
Urban	121	121	121	121

Correlations

	Language	Ethnicity	Urban
Congestion	121	121	121
GLHR	121	121	121
GJFK	121	121	121
PartnerConcentration	121	121	121
Seasonality	121	121	121
Distance	121	121	121
Language	121	121	121
Ethnicity	121	121	121
Urban	121	121	121

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, Seasonality, Ethnicity, PartnerConcentration, Distance, GJFK, HomeConcentration, GLHR, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.627[a]	.393	.338	4.394	.393	7.125

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	110	<.001

a. Predictors: (Constant), Urban, Language, Seasonality, Ethnicity, PartnerConcentration, Distance, GJFK, HomeConcentration, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1375.344	10	137.534	7.125	<.001[b]
	Residual	2123.466	110	19.304		
	Total	3498.810	120			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, Seasonality, Ethnicity, PartnerConcentration, Distance, GJFK, HomeConcentration, GLHR, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.883	4.961		.379	.705
	HomeConcentration	.496	.155	.335	3.211	.002
	Congestion	.500	1.081	.072	.462	.645
	GLHR	4.915	1.847	.283	2.661	.009
	GJFK	2.387	1.809	.158	1.319	.190
	PartnerConcentration	.925	.272	.279	3.395	<.001
	Seasonality	.675	2.350	.022	.287	.774
	Distance	-1.191	.831	-.128	-1.433	.155
	Language	.360	.164	.220	2.199	.030
	Ethnicity	.294	.643	.036	.458	.648
	Urban	.217	.176	.148	1.237	.219

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.507	1.974
	Congestion	.229	4.371
	GLHR	.488	2.050
	GJFK	.385	2.598
	PartnerConcentration	.817	1.225
	Seasonality	.946	1.057
	Distance	.695	1.440
	Language	.554	1.806
	Ethnicity	.897	1.115
	Urban	.384	2.606

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.995	1.000	.00	.00	.00
	2	1.198	2.416	.00	.01	.00
	3	1.005	2.639	.00	.03	.00
	4	.740	3.075	.00	.00	.00
	5	.502	3.732	.00	.00	.00
	6	.315	4.713	.00	.00	.00
	7	.148	6.868	.00	.68	.00
	8	.065	10.337	.00	.03	.01
	9	.022	17.953	.02	.12	.00
	10	.006	34.777	.30	.09	.28
	11	.004	39.855	.68	.04	.71

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.21	.00	.03	.00	.00	.08
	3	.00	.24	.01	.00	.00	.01
	4	.00	.02	.47	.00	.00	.13
	5	.02	.03	.10	.00	.00	.00
	6	.46	.02	.30	.00	.00	.53
	7	.06	.29	.07	.06	.00	.01
	8	.10	.04	.01	.77	.00	.03
	9	.01	.02	.00	.09	.31	.01
	10	.13	.05	.01	.07	.62	.15
	11	.01	.31	.01	.01	.07	.04

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.00	.00
	3	.01	.00
	4	.06	.00
	5	.78	.00
	6	.08	.00
	7	.01	.00
	8	.00	.04
	9	.03	.28
	10	.03	.54
	11	.00	.13

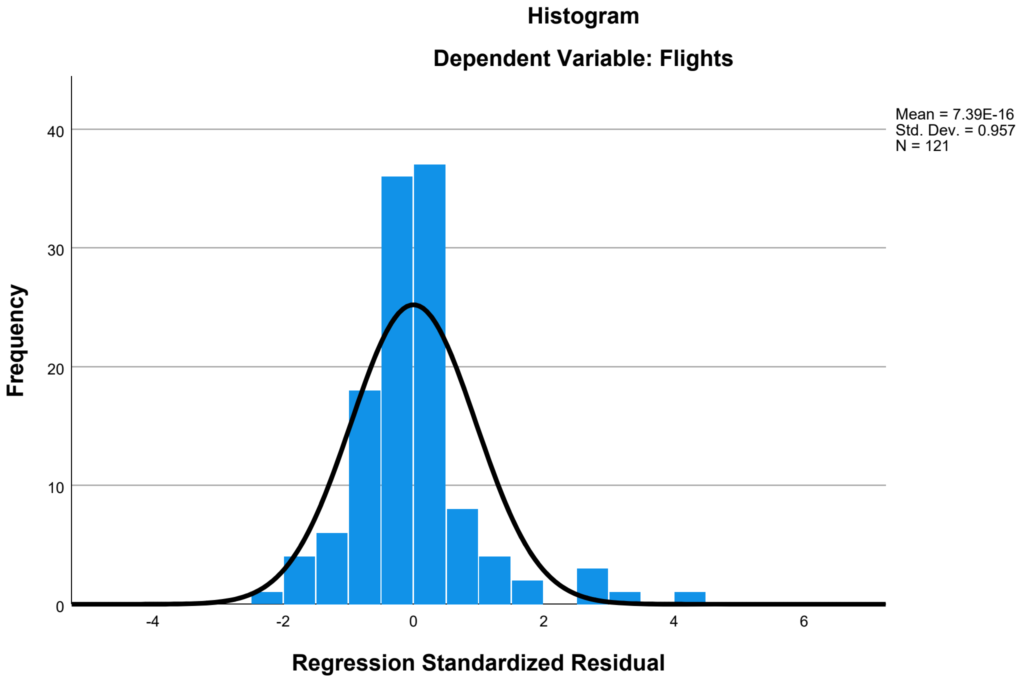
a. Dependent Variable: Flights

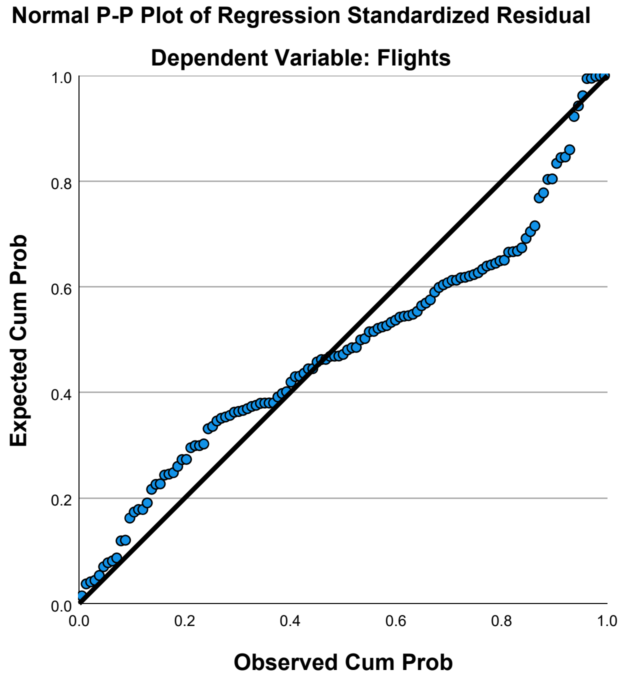
Residuals Statistics[a]

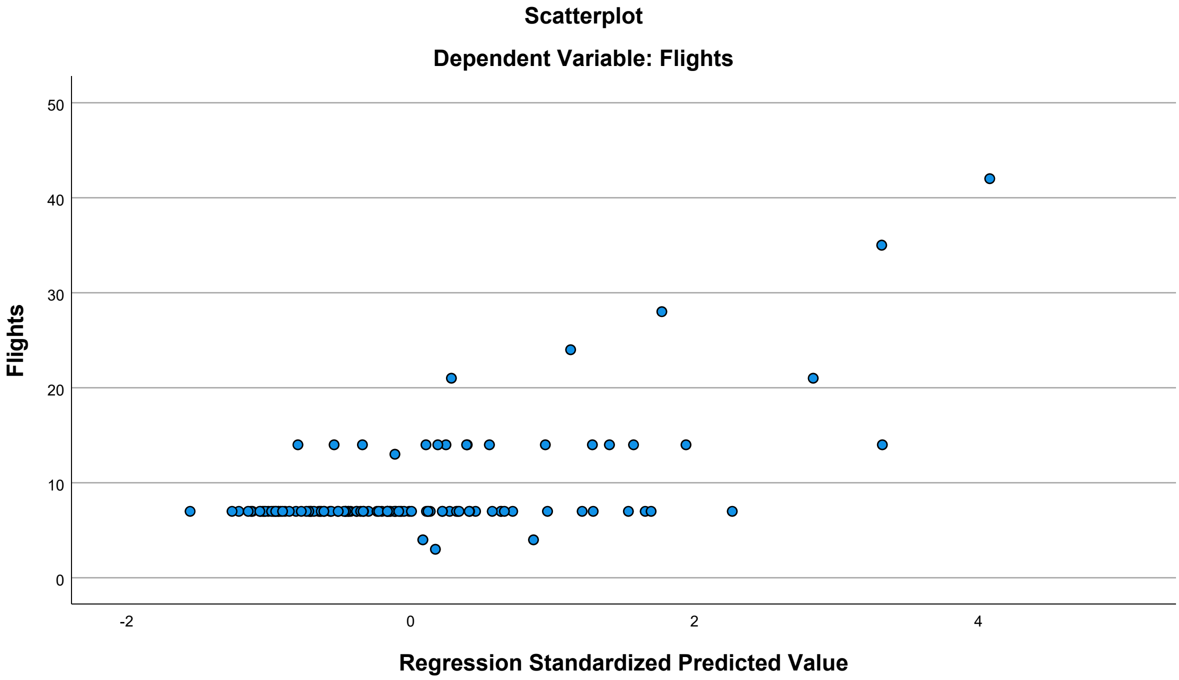
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.64	22.71	8.90	3.385	121
Residual	-9.570	19.288	.000	4.207	121
Std. Predicted Value	-1.554	4.080	.000	1.000	121
Std. Residual	-2.178	4.390	.000	.957	121

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 7.39E-16
Std. Dev. = 0.957
N = 121
Frequency
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
50
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet17] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airline Region\2007 - US Based.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.17	5.470	165
HomeConcentration	5.1549035273	3.6096740045	165
Congestion	4.52	.979	165
GLHR	.05	.228	165
GJFK	.18	.387	165
PartnerConcentration	1.1299983152	1.8507248285	165
Seasonality	.63975568449	.18707740717	165
Distance	4.22344	.827105	165
Language	2.02317277	3.562725138	165
Ethnicity	.66198346	.855930211	165
Urban	16.47	4.148	165

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	-.029	.122	.487
	HomeConcentration	-.029	1.000	-.402	-.148
	Congestion	.122	-.402	1.000	.118
	GLHR	.487	-.148	.118	1.000
	GJFK	-.041	-.550	.585	-.044
	PartnerConcentration	.370	-.153	.008	.239
	Seasonality	-.140	-.083	-.246	-.163
	Distance	-.165	.274	-.062	.030
	Language	.270	-.106	.076	.296
	Ethnicity	.068	-.234	.163	.001
	Urban	.281	-.186	.682	.276
Sig. (1-tailed)	Flights	.	.354	.059	<.001
	HomeConcentration	.354	.	.000	.029
	Congestion	.059	.000	.	.066
	GLHR	.000	.029	.066	.
	GJFK	.302	.000	.000	.287
	PartnerConcentration	.000	.025	.459	.001
	Seasonality	.036	.144	.001	.018
	Distance	.017	.000	.214	.349
	Language	.000	.088	.166	.000
	Ethnicity	.194	.001	.018	.494
	Urban	.000	.008	.000	.000
N	Flights	165	165	165	165
	HomeConcentration	165	165	165	165

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	-.041	.370	-.140	-.165
	HomeConcentration	-.550	-.153	-.083	.274
	Congestion	.585	.008	-.246	-.062
	GLHR	-.044	.239	-.163	.030
	GJFK	1.000	-.114	-.039	-.064
	PartnerConcentration	-.114	1.000	-.145	.016
	Seasonality	-.039	-.145	1.000	-.063
	Distance	-.064	.016	-.063	1.000
	Language	.141	-.165	-.023	-.343
	Ethnicity	.188	.037	.124	-.227
	Urban	.322	.099	-.349	-.045
Sig. (1-tailed)	Flights	.302	<.001	.036	.017
	HomeConcentration	.000	.025	.144	.000
	Congestion	.000	.459	.001	.214
	GLHR	.287	.001	.018	.349
	GJFK	.	.072	.310	.208
	PartnerConcentration	.072	.	.032	.419
	Seasonality	.310	.032	.	.212
	Distance	.208	.419	.212	.
	Language	.035	.017	.385	.000
	Ethnicity	.008	.317	.056	.002
	Urban	.000	.102	.000	.283
N	Flights	165	165	165	165
	HomeConcentration	165	165	165	165

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.270	.068	.281
	HomeConcentration	-.106	-.234	-.186
	Congestion	.076	.163	.682
	GLHR	.296	.001	.276
	GJFK	.141	.188	.322
	PartnerConcentration	-.165	.037	.099
	Seasonality	-.023	.124	-.349
	Distance	-.343	-.227	-.045
	Language	1.000	.208	.002
	Ethnicity	.208	1.000	-.082
	Urban	.002	-.082	1.000
Sig. (1-tailed)	Flights	<.001	.194	<.001
	HomeConcentration	.088	.001	.008
	Congestion	.166	.018	.000
	GLHR	.000	.494	.000
	GJFK	.035	.008	.000
	PartnerConcentration	.017	.317	.102
	Seasonality	.385	.056	.000
	Distance	.000	.002	.283
	Language	.	.004	.490
	Ethnicity	.004	.	.148
	Urban	.490	.148	.
N	Flights	165	165	165
	HomeConcentration	165	165	165

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	165	165	165	165
	GLHR	165	165	165	165
	GJFK	165	165	165	165
	PartnerConcentration	165	165	165	165
	Seasonality	165	165	165	165
	Distance	165	165	165	165
	Language	165	165	165	165
	Ethnicity	165	165	165	165
	Urban	165	165	165	165

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	165	165	165	165
	GLHR	165	165	165	165
	GJFK	165	165	165	165
	PartnerConcentration	165	165	165	165
	Seasonality	165	165	165	165
	Distance	165	165	165	165
	Language	165	165	165	165
	Ethnicity	165	165	165	165
	Urban	165	165	165	165

Correlations

		Language	Ethnicity	Urban
	Congestion	165	165	165
	GLHR	165	165	165
	GJFK	165	165	165
	PartnerConcentration	165	165	165
	Seasonality	165	165	165
	Distance	165	165	165
	Language	165	165	165
	Ethnicity	165	165	165
	Urban	165	165	165

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, PartnerConcentration, Ethnicity, HomeConcentration, Seasonality, Distance, GLHR, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change
1	.640[a]	.409	.371	4.338	.409	10.677	10	154	<.001

a. Predictors: (Constant), Urban, Language, PartnerConcentration, Ethnicity, HomeConcentration, Seasonality, Distance, GLHR Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2009.244	10	200.924	10.677	<.001[b]
	Residual	2898.004	154	18.818		
	Total	4907.248	164			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, PartnerConcentration, Ethnicity, HomeConcentration, Seasonality, Distance, GLHR, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.742	3.604		1.316	.190
	HomeConcentration	.279	.129	.184	2.162	.032
	Congestion	-.075	.582	-.013	-.129	.898
	GLHR	8.036	1.808	.335	4.444	<.001
	GJFK	.211	1.276	.015	.165	.869
	PartnerConcentration	.997	.204	.337	4.886	<.001
	Seasonality	1.072	2.008	.037	.534	.594
	Distance	-.972	.477	-.147	-2.035	.044
	Language	.288	.116	.188	2.489	.014
	Ethnicity	.234	.437	.037	.534	.594
	Urban	.268	.126	.203	2.124	.035

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.530	1.888
	Congestion	.353	2.834
	GLHR	.676	1.479
	GJFK	.471	2.124
	PartnerConcentration	.805	1.243
	Seasonality	.813	1.230
	Distance	.736	1.359
	Language	.675	1.483
	Ethnicity	.818	1.222
	Urban	.420	2.379

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

				Variance Proportions		
Model	Dimension	Eigenvalue	Condition Index	(Constant)	HomeConcentration	Congestion
1	1	6.753	1.000	.00	.00	.00
	2	1.126	2.449	.00	.02	.00
	3	1.079	2.502	.00	.01	.00
	4	.796	2.913	.00	.03	.00
	5	.582	3.406	.00	.00	.00
	6	.381	4.210	.00	.00	.00
	7	.149	6.737	.00	.62	.00
	8	.082	9.059	.00	.09	.03
	9	.034	14.096	.00	.18	.00
	10	.012	24.069	.01	.04	.76
	11	.007	31.211	.98	.01	.21

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.27	.03	.00	.00	.00	.11
	3	.15	.15	.11	.00	.00	.01
	4	.00	.08	.30	.00	.00	.19
	5	.07	.09	.07	.00	.00	.03
	6	.32	.00	.39	.00	.00	.48
	7	.01	.30	.05	.11	.00	.00
	8	.08	.25	.04	.31	.00	.00
	9	.01	.01	.01	.26	.53	.04
	10	.06	.02	.00	.01	.13	.03
	11	.03	.07	.03	.31	.34	.10

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.01	.00
	3	.03	.00
	4	.00	.00
	5	.56	.00
	6	.25	.00
	7	.06	.00
	8	.01	.09
	9	.00	.10
	10	.07	.78
	11	.00	.03

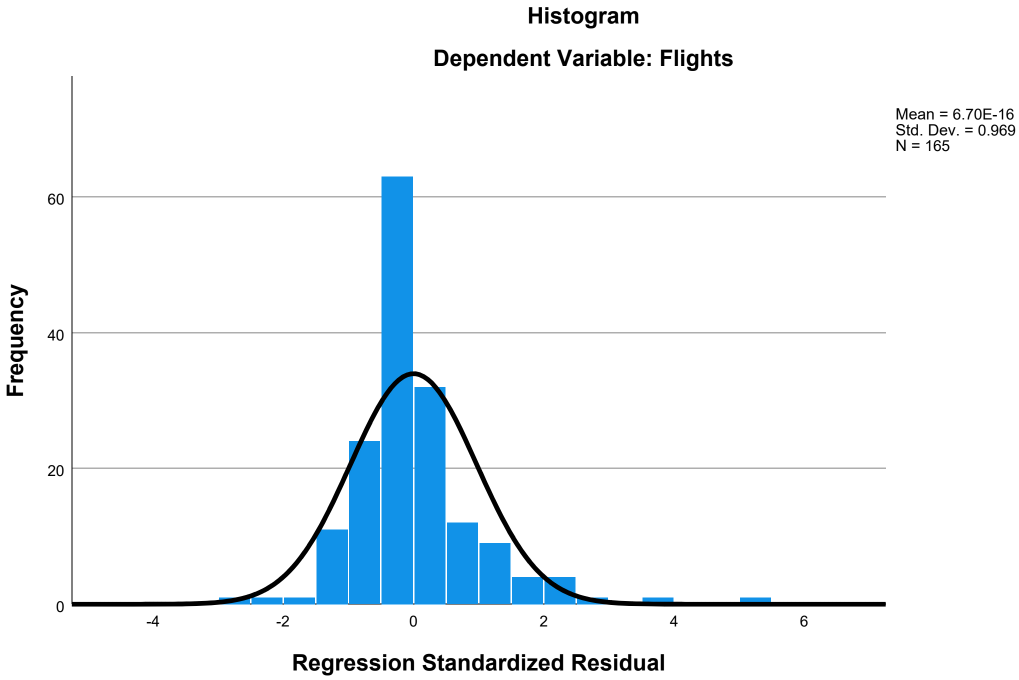
a. Dependent Variable: Flights

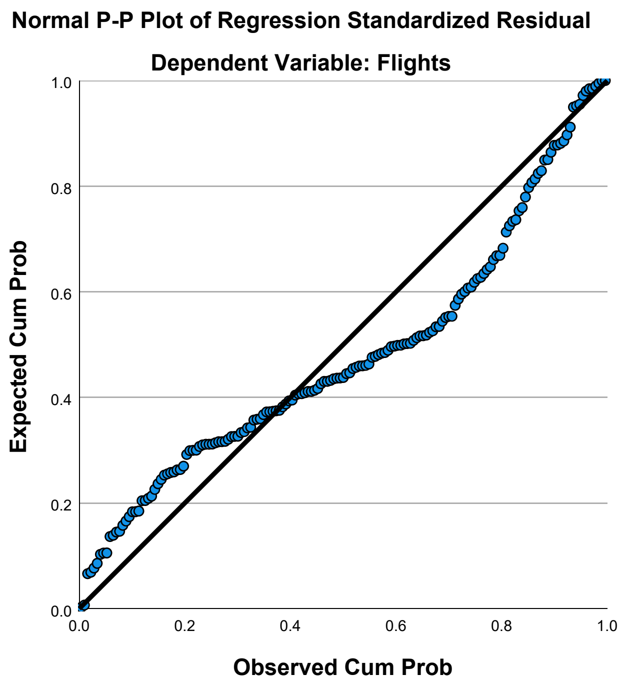
Residuals Statistics[a]

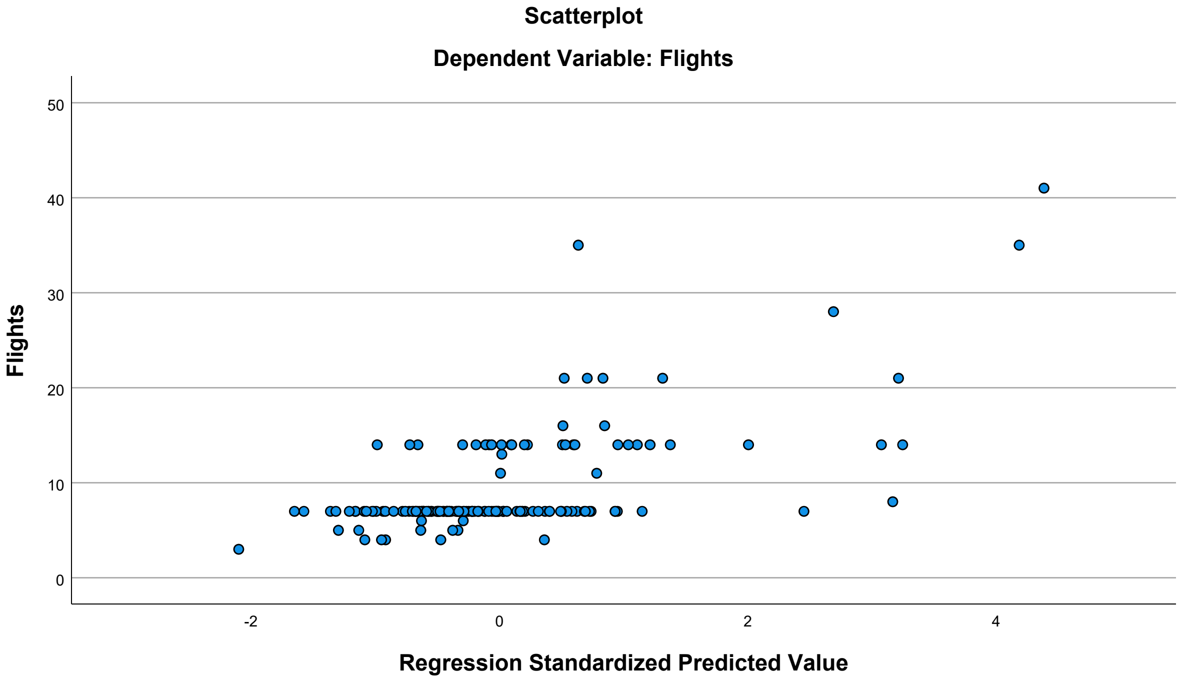
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.82	24.52	9.17	3.500	165
Residual	-12.256	23.608	.000	4.204	165
Std. Predicted Value	-2.099	4.385	.000	1.000	165
Std. Residual	-2.825	5.442	.000	.969	165

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 6.70E-16
Std. Dev. = 0.969
N = 165
Frequency
60
40
20
0
-4
-2
0
2
4
6
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
50
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet18] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airline Region\2012 - US Based.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.82	5.296	175
HomeConcentration	4.2971943886	2.7741040996	175
Congestion	4.73	.995	175
GLHR	.11	.312	175
GJFK	.21	.405	175
PartnerConcentration	1.2998028229	1.8932446608	175
Seasonality	.62160391722	.20928625785	175
Distance	4.25403	.882844	175
Language	1.59626690	3.232621164	175
Ethnicity	.48472136	.684230026	175
Urban	18.40	3.068	175

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.026	.019	.533
	HomeConcentration	.026	1.000	-.397	-.056
	Congestion	.019	-.397	1.000	-.054
	GLHR	.533	-.056	-.054	1.000
	GJFK	-.069	-.578	.565	-.087
	PartnerConcentration	.336	-.131	-.096	.129
	Seasonality	-.008	-.067	-.064	-.127
	Distance	-.122	.298	-.236	-.057
	Language	.357	-.085	.062	.493
	Ethnicity	.137	-.142	.192	.073
	Urban	.297	-.126	.515	.291
Sig. (1-tailed)	Flights	.	.365	.400	<.001
	HomeConcentration	.365	.	.000	.229
	Congestion	.400	.000	.	.240
	GLHR	.000	.229	.240	.
	GJFK	.184	.000	.000	.127
	PartnerConcentration	.000	.041	.103	.044
	Seasonality	.460	.188	.201	.046
	Distance	.053	.000	.001	.227
	Language	.000	.130	.206	.000
	Ethnicity	.036	.031	.005	.169
	Urban	.000	.049	.000	.000
N	Flights	175	175	175	175
	HomeConcentration	175	175	175	175

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	-.069	.336	-.008	-.122
	HomeConcentration	-.578	-.131	-.067	.298
	Congestion	.565	-.096	-.064	-.236
	GLHR	-.087	.129	-.127	-.057
	GJFK	1.000	-.168	.083	-.194
	PartnerConcentration	-.168	1.000	-.098	-.011
	Seasonality	.083	-.098	1.000	-.206
	Distance	-.194	-.011	-.206	1.000
	Language	.098	-.133	.039	-.287
	Ethnicity	.248	.017	.023	-.201
	Urban	.164	.048	-.348	-.059
Sig. (1-tailed)	Flights	.184	<.001	.460	.053
	HomeConcentration	.000	.041	.188	.000
	Congestion	.000	.103	.201	.001
	GLHR	.127	.044	.046	.227
	GJFK	.	.013	.138	.005
	PartnerConcentration	.013	.	.098	.444
	Seasonality	.138	.098	.	.003
	Distance	.005	.444	.003	.
	Language	.099	.040	.304	.000
	Ethnicity	.000	.410	.383	.004
	Urban	.015	.262	.000	.221
N	Flights	175	175	175	175
	HomeConcentration	175	175	175	175

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.357	.137	.297
	HomeConcentration	-.085	-.142	-.126
	Congestion	.062	.192	.515
	GLHR	.493	.073	.291
	GJFK	.098	.248	.164
	PartnerConcentration	-.133	.017	.048
	Seasonality	.039	.023	-.348
	Distance	-.287	-.201	-.059
	Language	1.000	.303	.074
	Ethnicity	.303	1.000	.040
	Urban	.074	.040	1.000
Sig. (1-tailed)	Flights	<.001	.036	<.001
	HomeConcentration	.130	.031	.049
	Congestion	.206	.005	.000
	GLHR	.000	.169	.000
	GJFK	.099	.000	.015
	PartnerConcentration	.040	.410	.262
	Seasonality	.304	.383	.000
	Distance	.000	.004	.221
	Language	.	.000	.165
	Ethnicity	.000	.	.300
	Urban	.165	.300	.
N	Flights	175	175	175
	HomeConcentration	175	175	175

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	175	175	175	175
	GLHR	175	175	175	175
	GJFK	175	175	175	175
	PartnerConcentration	175	175	175	175
	Seasonality	175	175	175	175
	Distance	175	175	175	175
	Language	175	175	175	175
	Ethnicity	175	175	175	175
	Urban	175	175	175	175

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	175	175	175	175
	GLHR	175	175	175	175
	GJFK	175	175	175	175
	PartnerConcentration	175	175	175	175
	Seasonality	175	175	175	175
	Distance	175	175	175	175
	Language	175	175	175	175
	Ethnicity	175	175	175	175
	Urban	175	175	175	175

Correlations

		Language	Ethnicity	Urban
	Congestion	175	175	175
	GLHR	175	175	175
	GJFK	175	175	175
	PartnerConcentration	175	175	175
	Seasonality	175	175	175
	Distance	175	175	175
	Language	175	175	175
	Ethnicity	175	175	175
	Urban	175	175	175

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, PartnerConcentration, Distance, GLHR, HomeConcentration, Seasonality, Language, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.675[a]	.455	.422	4.026	.455	13.706

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	164	<.001

a. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, Distance, GLHR, HomeConcentration, Seasonality, Language Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2221.448	10	222.145	13.706	<.001[b]
	Residual	2658.060	164	16.208		
	Total	4879.509	174			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, Distance, GLHR, HomeConcentration, Seasonality, Language, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-3.470	3.537		-.981	.328
	HomeConcentration	.359	.146	.188	2.450	.015
	Congestion	-.169	.457	-.032	-.370	.712
	GLHR	5.918	1.270	.349	4.661	<.001
	GJFK	.750	1.099	.057	.682	.496
	PartnerConcentration	.978	.177	.350	5.526	<.001
	Seasonality	3.630	1.619	.143	2.242	.026
	Distance	-.256	.393	-.043	-.653	.515
	Language	.320	.123	.195	2.604	.010
	Ethnicity	.334	.489	.043	.683	.495
	Urban	.416	.136	.241	3.056	.003

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.565	1.770
	Congestion	.451	2.219
	GLHR	.594	1.685
	GJFK	.469	2.131
	PartnerConcentration	.829	1.206
	Seasonality	.811	1.232
	Distance	.775	1.290
	Language	.592	1.690
	Ethnicity	.833	1.201
	Urban	.535	1.868

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.853	1.000	.00	.00	.00
	2	1.243	2.348	.00	.01	.00
	3	1.067	2.534	.00	.01	.00
	4	.693	3.145	.00	.04	.00
	5	.546	3.542	.00	.01	.00
	6	.323	4.607	.00	.00	.00
	7	.128	7.314	.00	.59	.00
	8	.091	8.681	.00	.23	.03
	9	.039	13.292	.00	.10	.10
	10	.011	25.093	.02	.01	.85
	11	.006	34.365	.97	.01	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.17	.00	.01	.00	.00	.16
	3	.07	.20	.06	.00	.00	.00
	4	.02	.03	.55	.00	.00	.04
	5	.12	.11	.01	.00	.00	.01
	6	.44	.00	.19	.00	.00	.67
	7	.00	.38	.11	.23	.00	.02
	8	.06	.19	.05	.41	.02	.02
	9	.00	.02	.00	.00	.55	.03
	10	.08	.07	.01	.00	.07	.00
	11	.03	.01	.02	.35	.35	.04

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.02	.00
	3	.05	.00
	4	.01	.00
	5	.64	.00
	6	.25	.00
	7	.01	.00
	8	.00	.02
	9	.01	.03
	10	.00	.60
	11	.00	.34

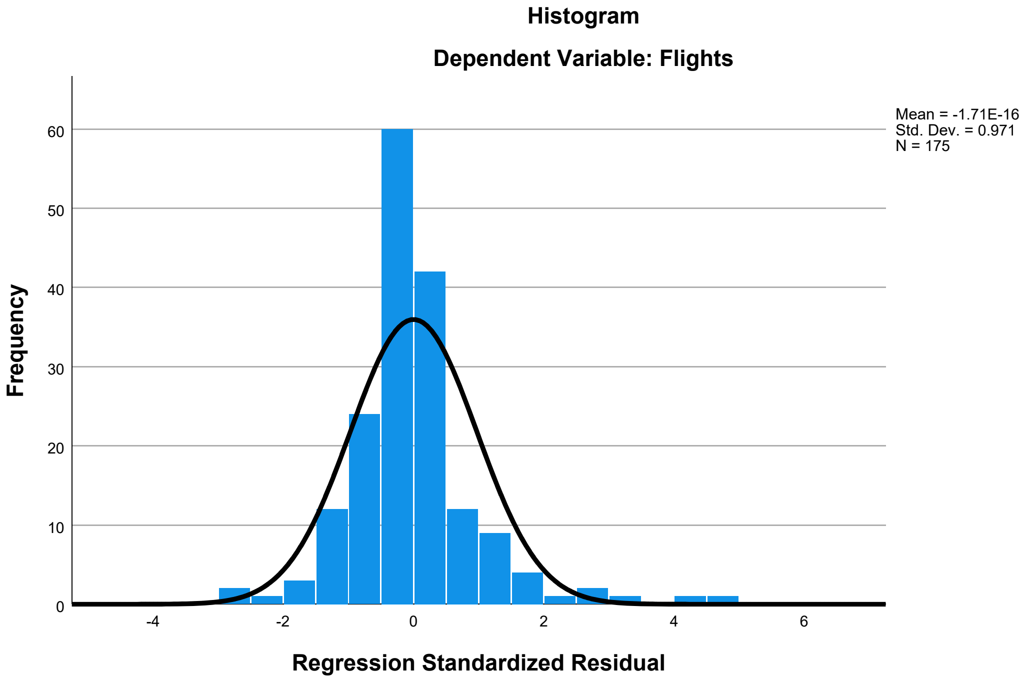
a. Dependent Variable: Flights

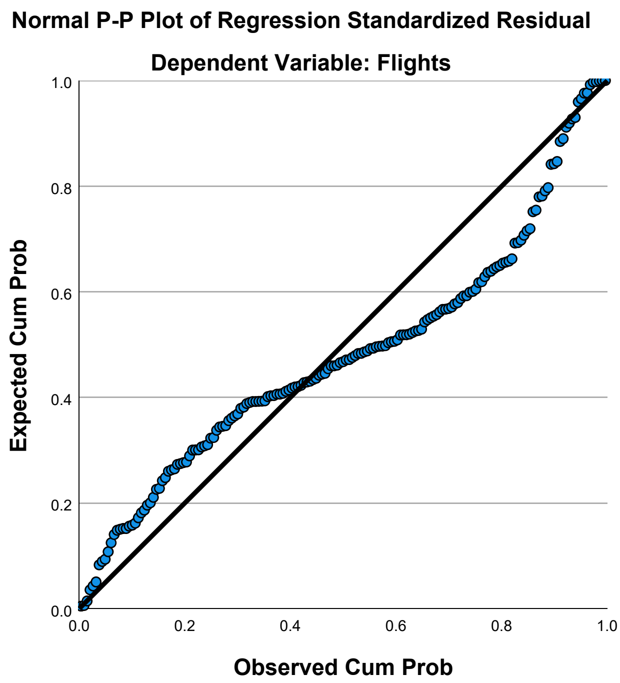
Residuals Statistics[a]

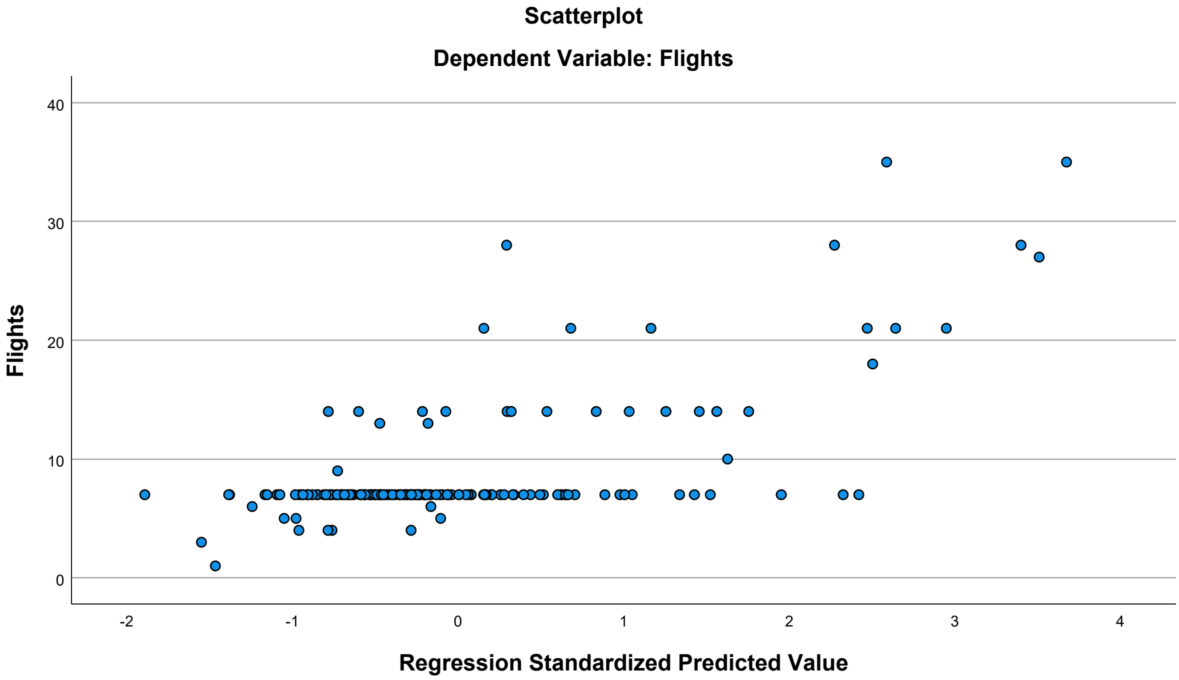
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.06	21.95	8.82	3.573	175
Residual	-10.472	18.129	.000	3.908	175
Std. Predicted Value	-1.892	3.674	.000	1.000	175
Std. Residual	-2.601	4.503	.000	.971	175

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -1.71E-16
Std. Dev. = 0.971
N = 175
Frequency
60
50
40
30
20
10
0
-4
-2
0
2
4
6
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Scatterplot
Dependent Variable: Flights
Flights
40
30
20
10
0
-2
-1
0
1
2
3
4
Regression Standardized Predicted Value

Regression

```
[DataSet19] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final
Try\Airline Region\2017 - US Based.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.78	4.880	185
HomeConcentration	4.6373828432	3.0037068514	185
Congestion	4.57	.858	185
GLHR	.12	.325	185
GJFK	.21	.405	185
PartnerConcentration	1.3704769946	2.0695812321	185
Seasonality	.73343687633	.21470715356	185
Distance	4.19157	.834802	185
Language	1.84556308	3.545571439	185
Ethnicity	.48795631351	.63962625344	185
Urban	17.88	3.447	185

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.041	.028	.538
	HomeConcentration	.041	1.000	-.458	-.063
	Congestion	.028	-.458	1.000	-.049
	GLHR	.538	-.063	-.049	1.000
	GJFK	-.065	-.369	.711	-.104
	PartnerConcentration	.289	-.109	-.058	.119
	Seasonality	-.248	.056	-.087	-.262
	Distance	-.062	.299	-.106	-.002
	Language	.285	-.170	.062	.393
	Ethnicity	.026	-.134	.215	.030
	Urban	.275	-.292	.535	.198
Sig. (1-tailed)	Flights	.	.290	.355	<.001
	HomeConcentration	.290	.	.000	.197
	Congestion	.355	.000	.	.256
	GLHR	.000	.197	.256	.
	GJFK	.190	.000	.000	.079
	PartnerConcentration	.000	.069	.218	.053
	Seasonality	.000	.224	.118	.000
	Distance	.201	.000	.076	.491
	Language	.000	.010	.200	.000
	Ethnicity	.365	.035	.002	.342
	Urban	.000	.000	.000	.003
N	Flights	185	185	185	185
	HomeConcentration	185	185	185	185

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	-.065	.289	-.248	-.062
	HomeConcentration	-.369	-.109	.056	.299
	Congestion	.711	-.058	-.087	-.106
	GLHR	-.104	.119	-.262	-.002
	GJFK	1.000	-.182	.061	-.234
	PartnerConcentration	-.182	1.000	-.196	.083
	Seasonality	.061	-.196	1.000	-.085
	Distance	-.234	.083	-.085	1.000
	Language	.185	-.167	.018	-.361
	Ethnicity	.220	-.093	.041	-.182
	Urban	.244	.057	-.354	.013
Sig. (1-tailed)	Flights	.190	<.001	<.001	.201
	HomeConcentration	.000	.069	.224	.000
	Congestion	.000	.218	.118	.076
	GLHR	.079	.053	.000	.491
	GJFK	.	.007	.206	.001
	PartnerConcentration	.007	.	.004	.129
	Seasonality	.206	.004	.	.125
	Distance	.001	.129	.125	.
	Language	.006	.012	.406	.000
	Ethnicity	.001	.104	.288	.007
	Urban	.000	.222	.000	.432
N	Flights	185	185	185	185
	HomeConcentration	185	185	185	185

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.285	.026	.275
	HomeConcentration	-.170	-.134	-.292
	Congestion	.062	.215	.535
	GLHR	.393	.030	.198
	GJFK	.185	.220	.244
	PartnerConcentration	-.167	-.093	.057
	Seasonality	.018	.041	-.354
	Distance	-.361	-.182	.013
	Language	1.000	.308	.057
	Ethnicity	.308	1.000	.003
	Urban	.057	.003	1.000
Sig. (1-tailed)	Flights	<.001	.365	<.001
	HomeConcentration	.010	.035	.000
	Congestion	.200	.002	.000
	GLHR	.000	.342	.003
	GJFK	.006	.001	.000
	PartnerConcentration	.012	.104	.222
	Seasonality	.406	.288	.000
	Distance	.000	.007	.432
	Language	.	.000	.222
	Ethnicity	.000	.	.483
	Urban	.222	.483	.
N	Flights	185	185	185
	HomeConcentration	185	185	185

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	185	185	185	185
	GLHR	185	185	185	185
	GJFK	185	185	185	185
	PartnerConcentration	185	185	185	185
	Seasonality	185	185	185	185
	Distance	185	185	185	185
	Language	185	185	185	185
	Ethnicity	185	185	185	185
	Urban	185	185	185	185

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	185	185	185	185
	GLHR	185	185	185	185
	GJFK	185	185	185	185
	PartnerConcentration	185	185	185	185
	Seasonality	185	185	185	185
	Distance	185	185	185	185
	Language	185	185	185	185
	Ethnicity	185	185	185	185
	Urban	185	185	185	185

Correlations

		Language	Ethnicity	Urban
	Congestion	185	185	185
	GLHR	185	185	185
	GJFK	185	185	185
	PartnerConcentration	185	185	185
	Seasonality	185	185	185
	Distance	185	185	185
	Language	185	185	185
	Ethnicity	185	185	185
	Urban	185	185	185

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, PartnerConcentration, Distance, GLHR, Seasonality, HomeConcentration, GJFK, Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.656[a]	.430	.397	3.789	.430	13.127

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	174	<.001

a. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, Distance, GLHR, Seasonality, HomeConcentration, GJFK, Lar
Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1884.268	10	188.427	13.127	<.001[b]
	Residual	2497.646	174	14.354		
	Total	4381.914	184			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, Distance, GLHR, Seasonality, HomeConcentration, GJFK, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.396	3.205		.436	.664
	HomeConcentration	.378	.112	.233	3.382	<.001
	Congestion	.338	.578	.059	.585	.559
	GLHR	6.082	1.028	.405	5.919	<.001
	GJFK	-.340	1.062	-.028	-.320	.749
	PartnerConcentration	.667	.145	.283	4.593	<.001
	Seasonality	-.733	1.457	-.032	-.503	.615
	Distance	-.588	.382	-.101	-1.539	.126
	Language	.232	.101	.168	2.301	.023
	Ethnicity	-.039	.476	-.005	-.082	.935
	Urban	.286	.108	.202	2.656	.009

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.691	1.448
	Congestion	.318	3.148
	GLHR	.701	1.426
	GJFK	.422	2.372
	PartnerConcentration	.864	1.158
	Seasonality	.797	1.255
	Distance	.769	1.301
	Language	.613	1.631
	Ethnicity	.843	1.186
	Urban	.567	1.763

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.916	1.000	.00	.00	.00
	2	1.189	2.411	.00	.01	.00
	3	1.059	2.555	.00	.00	.00
	4	.648	3.266	.00	.06	.00
	5	.527	3.622	.00	.00	.00
	6	.366	4.350	.00	.00	.00
	7	.178	6.226	.00	.71	.00
	8	.073	9.711	.00	.00	.01
	9	.026	16.182	.00	.12	.02
	10	.010	26.278	.09	.00	.47
	11	.006	34.794	.91	.09	.51

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.09	.03	.05	.00	.00	.17
	3	.27	.11	.07	.00	.00	.01
	4	.01	.12	.48	.00	.00	.02
	5	.10	.09	.10	.00	.00	.01
	6	.40	.01	.12	.00	.00	.64
	7	.00	.21	.13	.02	.00	.01
	8	.12	.02	.02	.61	.01	.03
	9	.00	.04	.00	.03	.79	.06
	10	.01	.15	.01	.16	.09	.00
	11	.00	.22	.01	.17	.09	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.04	.00
	3	.02	.00
	4	.00	.00
	5	.63	.00
	6	.27	.00
	7	.00	.01
	8	.00	.05
	9	.00	.16
	10	.03	.78
	11	.00	.00

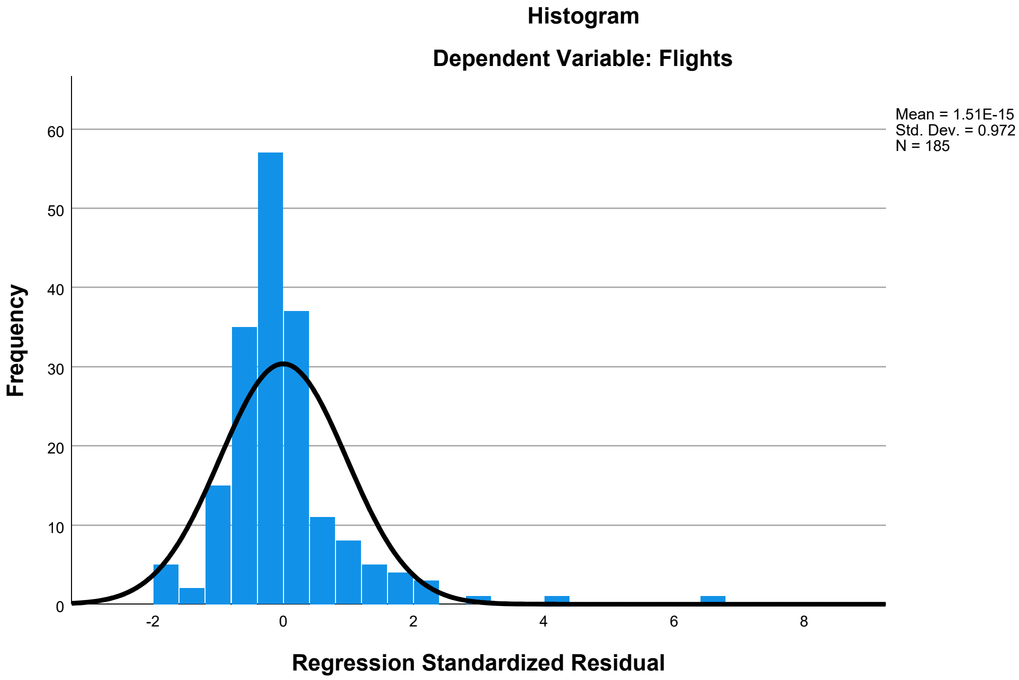
a. Dependent Variable: Flights

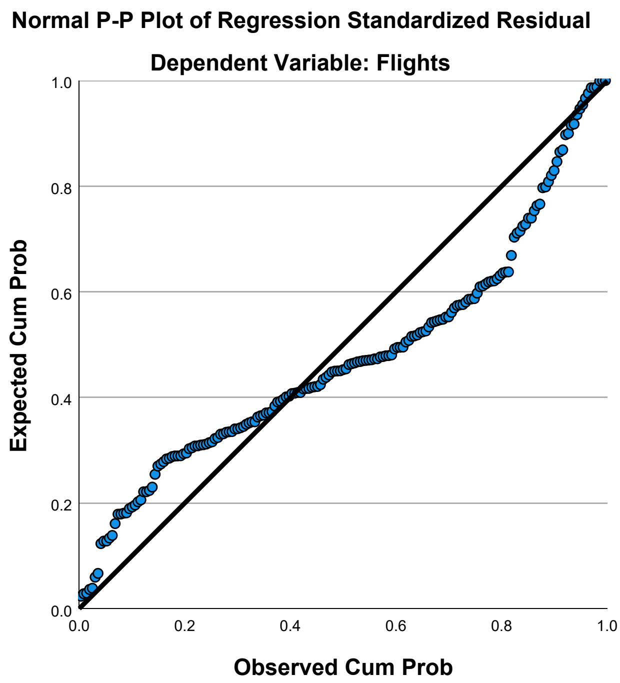
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.39	20.52	8.78	3.200	185
Residual	-7.523	25.408	.000	3.684	185
Std. Predicted Value	-1.683	3.668	.000	1.000	185
Std. Residual	-1.986	6.706	.000	.972	185

a. Dependent Variable: Flights

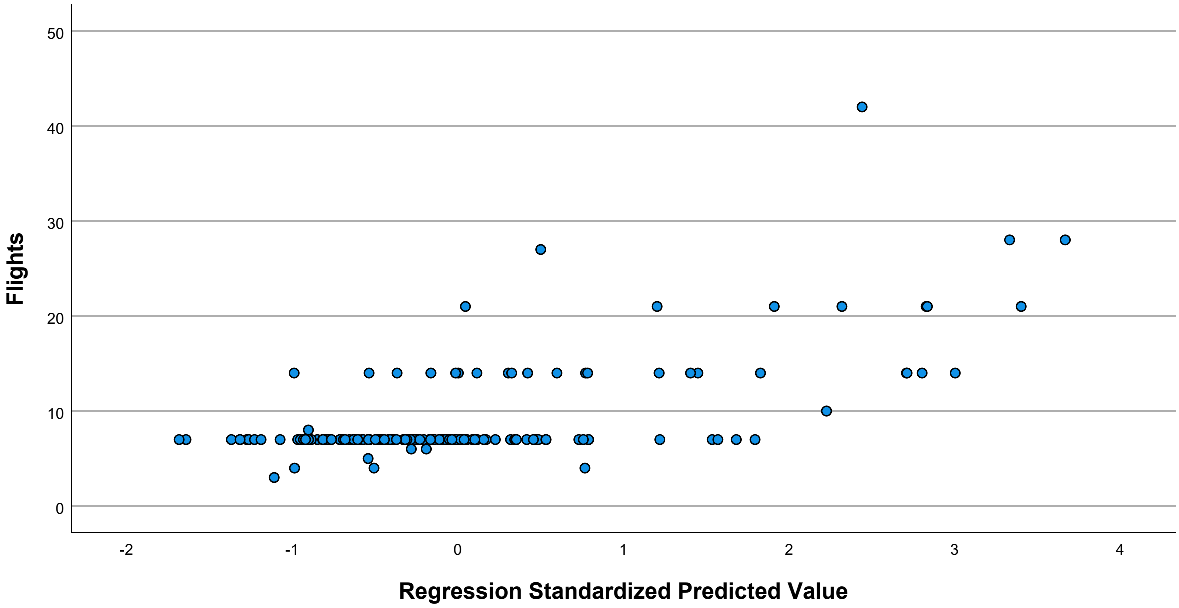
Charts


Histogram
Dependent Variable: Flights
Mean = 1.51E-15
Std. Dev. = 0.972
N = 185
Frequency
60
50
40
30
20
10
0
-2
0
2
4
6
8
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob

Scatterplot

Dependent Variable: Flights



Regression

```
[DataSet10] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airline Region\1997 - CAN Based.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GJFK. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.88	4.936	25
NAFlights	.25648048048	.22612621711	25
Congestion	5.00	1.000	25
GLHR	.44	.507	25
GJFK	.00	.000	25
PartnerConcentration	.69237840000	1.3355366386	25
Seasonality	.67588126362	.21605432060	25
Distance	3997.40	791.045	25
Language	289880.12	1132917.177	25
Ethnicity	1110772.20	1081193.376	25
Urban	15.84	3.448	25

Correlations

		Flights	NAFlights	Congestion	GLHR
Pearson Correlation	Flights	1.000	.583	.447	.255
	NAFlights	.583	1.000	.725	-.318
	Congestion	.447	.725	1.000	-.247
	GLHR	.255	-.318	-.247	1.000
	GJFK	.	.	.	.
	PartnerConcentration	-.088	-.158	-.041	-.308
	Seasonality	-.290	-.327	.040	-.053
	Distance	-.143	.060	.356	-.287
	Language	.013	-.100	-.174	-.231
	Ethnicity	.597	.348	.221	.204
	Urban	.724	.520	.628	.114
Sig. (1-tailed)	Flights	.	.001	.012	.109
	NAFlights	.001	.	.000	.060
	Congestion	.012	.000	.	.117
	GLHR	.109	.060	.117	.
	GJFK	.000	.000	.000	.000
	PartnerConcentration	.337	.225	.423	.067
	Seasonality	.080	.056	.424	.401
	Distance	.248	.388	.040	.082
	Language	.476	.318	.203	.133
	Ethnicity	.001	.044	.144	.164
	Urban	.000	.004	.000	.294
N	Flights	25	25	25	25
	NAFlights	25	25	25	25
	Congestion	25	25	25	25
	GLHR	25	25	25	25
	GJFK	25	25	25	25
	PartnerConcentration	25	25	25	25
	Seasonality	25	25	25	25
	Distance	25	25	25	25
	Language	25	25	25	25
	Ethnicity	25	25	25	25
	Urban	25	25	25	25

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.	-.088	-.290	-.143
	NAFlights	.	-.158	-.327	.060
	Congestion	.	-.041	.040	.356
	GLHR	.	-.308	-.053	-.287
	GJFK	1.000	.	.	.
	PartnerConcentration	.	1.000	.199	.083
	Seasonality	.	.199	1.000	.144
	Distance	.	.083	.144	1.000
	Language	.	-.105	-.180	-.141
	Ethnicity	.	-.238	-.081	-.341
	Urban	.	-.153	-.263	.078
Sig. (1-tailed)	Flights	.000	.337	.080	.248
	NAFlights	.000	.225	.056	.388
	Congestion	.000	.423	.424	.040
	GLHR	.000	.067	.401	.082
	GJFK	.	.000	.000	.000
	PartnerConcentration	.000	.	.170	.346
	Seasonality	.000	.170	.	.245
	Distance	.000	.346	.245	.
	Language	.000	.308	.194	.251
	Ethnicity	.000	.126	.350	.048
	Urban	.000	.233	.102	.355
N	Flights	25	25	25	25
	NAFlights	25	25	25	25
	Congestion	25	25	25	25
	GLHR	25	25	25	25
	GJFK	25	25	25	25
	PartnerConcentration	25	25	25	25
	Seasonality	25	25	25	25
	Distance	25	25	25	25
	Language	25	25	25	25
	Ethnicity	25	25	25	25
	Urban	25	25	25	25

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.013	.597	.724
	NAFlights	-.100	.348	.520
	Congestion	-.174	.221	.628
	GLHR	-.231	.204	.114
	GJFK	.	.	.
	PartnerConcentration	-.105	-.238	-.153
	Seasonality	-.180	-.081	-.263
	Distance	-.141	-.341	.078
	Language	1.000	.322	.166
	Ethnicity	.322	1.000	.359
	Urban	.166	.359	1.000
Sig. (1-tailed)	Flights	.476	<.001	<.001
	NAFlights	.318	.044	.004
	Congestion	.203	.144	.000
	GLHR	.133	.164	.294
	GJFK	.000	.000	.000
	PartnerConcentration	.308	.126	.233
	Seasonality	.194	.350	.102
	Distance	.251	.048	.355
	Language	.	.058	.214
	Ethnicity	.058	.	.039
	Urban	.214	.039	.
N	Flights	25	25	25
	NAFlights	25	25	25
	Congestion	25	25	25
	GLHR	25	25	25
	GJFK	25	25	25
	PartnerConcentration	25	25	25
	Seasonality	25	25	25
	Distance	25	25	25
	Language	25	25	25
	Ethnicity	25	25	25
	Urban	25	25	25

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, Language, Seasonality, GLHR, Ethnicity, Congestion, NAFlights[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.891[a]	.794	.671	2.831	.794	6.440	9	15	<.001

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, Language, Seasonality, GLHR, Ethnicity, Congestion, NAFligl

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	464.435	9	51.604	6.440	<.001[b]
	Residual	120.205	15	8.014		
	Total	584.640	24			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, Language, Seasonality, GLHR, Ethnicity, Congestion, NAFlights

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-5.588	4.738		-1.180	.257
	NAFlights	11.145	5.779	.511	1.928	.073
	Congestion	-1.389	1.269	-.281	-1.094	.291
	GLHR	2.739	2.054	.281	1.333	.202
	PartnerConcentration	.786	.505	.213	1.555	.141
	Seasonality	.090	3.544	.004	.025	.980
	Distance	.000	.001	.048	.324	.750
	Language	-3.672E-7	.000	-.084	-.445	.663
	Ethnicity	1.501E-6	.000	.329	1.869	.081
	Urban	.757	.294	.529	2.574	.021

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	NAFlights	.196	5.115
	Congestion	.207	4.826
	GLHR	.308	3.244
	PartnerConcentration	.733	1.365
	Seasonality	.570	1.756
	Distance	.626	1.598
	Language	.382	2.619
	Ethnicity	.443	2.260
	Urban	.325	3.077

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	NAFlights	Congestion	GLHR
1	1	6.791	1.000	.00	.00	.00	.00
	2	1.089	2.497	.00	.00	.00	.00
	3	.942	2.685	.00	.00	.00	.06
	4	.617	3.318	.00	.07	.00	.09
	5	.350	4.408	.00	.00	.00	.02
	6	.144	6.860	.00	.09	.00	.21
	7	.034	14.134	.01	.31	.00	.17
	8	.017	19.878	.02	.39	.03	.29
	9	.011	24.515	.97	.00	.01	.10
	10	.006	34.214	.00	.12	.95	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions					
		PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.11	.00	.00	.21	.02	.00
	3	.29	.00	.00	.07	.00	.00
	4	.06	.00	.00	.04	.00	.00
	5	.31	.01	.01	.02	.30	.00
	6	.13	.12	.00	.11	.29	.00
	7	.01	.60	.22	.21	.35	.00
	8	.06	.01	.28	.18	.01	.47
	9	.03	.08	.35	.06	.00	.01
	10	.00	.17	.15	.10	.02	.51

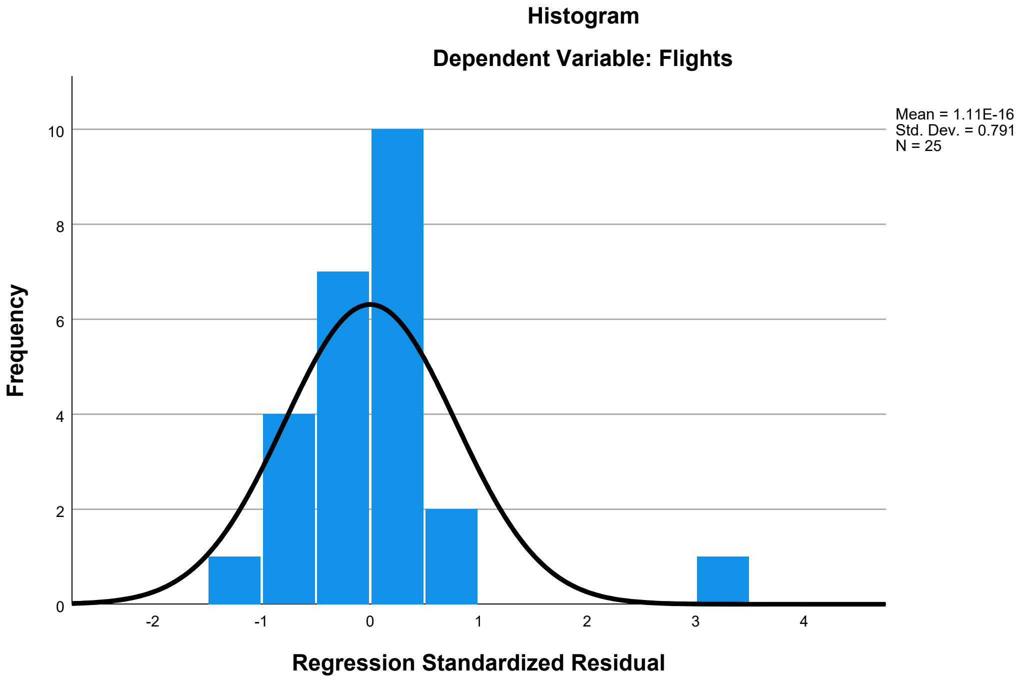
a. Dependent Variable: Flights

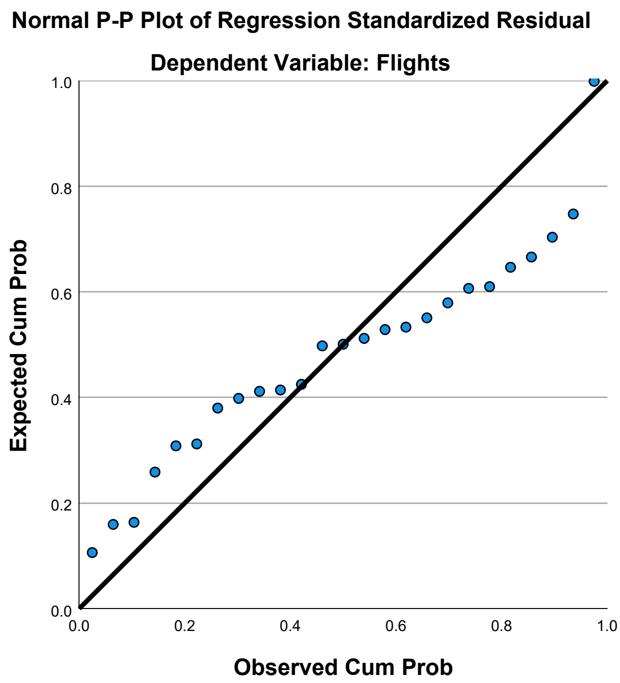
Residuals Statistics[a]

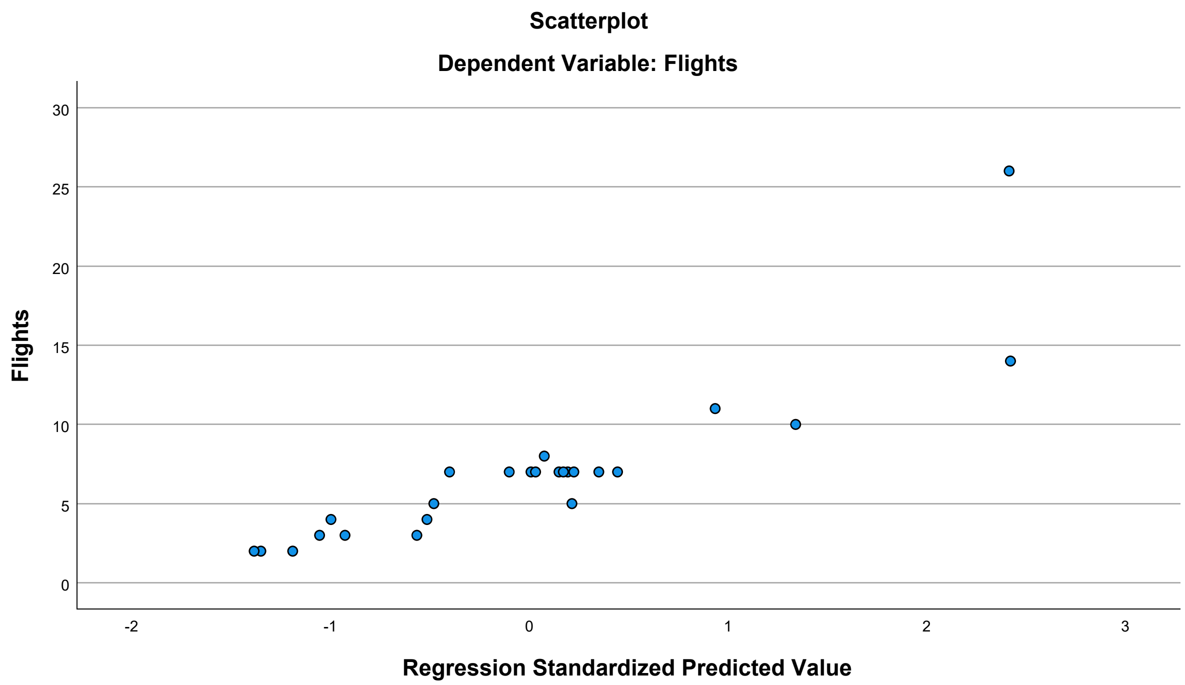
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.79	17.53	6.88	4.399	25
Residual	-3.533	8.497	.000	2.238	25
Std. Predicted Value	-1.385	2.422	.000	1.000	25
Std. Residual	-1.248	3.002	.000	.791	25

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 1.11E-16
Std. Dev. = 0.791
N = 25
Frequency
0
2
4
6
8
10
-2
-1
0
1
2
3
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GJFK. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.88	4.936	25
Congestion	5.00	1.000	25
GLHR	.44	.507	25
GJFK	.00	.000	25
PartnerConcentration	.69237840000	1.3355366386	25
Seasonality	.67588126362	.21605432060	25
Distance	3997.40	791.045	25
Language	289880.12	1132917.177	25
Ethnicity	1110772.20	1081193.376	25
Urban	15.84	3.448	25

Correlations

		Flights	Congestion	GLHR	GJFK
Pearson Correlation	Flights	1.000	.447	.255	.
	Congestion	.447	1.000	-.247	.
	GLHR	.255	-.247	1.000	.
	GJFK	.	.	.	1.000
	PartnerConcentration	-.088	-.041	-.308	.
	Seasonality	-.290	.040	-.053	.
	Distance	-.143	.356	-.287	.
	Language	.013	-.174	-.231	.
	Ethnicity	.597	.221	.204	.
	Urban	.724	.628	.114	.
Sig. (1-tailed)	Flights	.	.012	.109	.000
	Congestion	.012	.	.117	.000
	GLHR	.109	.117	.	.000
	GJFK	.000	.000	.000	.
	PartnerConcentration	.337	.423	.067	.000
	Seasonality	.080	.424	.401	.000
	Distance	.248	.040	.082	.000
	Language	.476	.203	.133	.000
	Ethnicity	.001	.144	.164	.000
	Urban	.000	.000	.294	.000
N	Flights	25	25	25	25
	Congestion	25	25	25	25
	GLHR	25	25	25	25
	GJFK	25	25	25	25
	PartnerConcentration	25	25	25	25
	Seasonality	25	25	25	25
	Distance	25	25	25	25
	Language	25	25	25	25
	Ethnicity	25	25	25	25
	Urban	25	25	25	25

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	-.088	-.290	-.143	.013
	Congestion	-.041	.040	.356	-.174
	GLHR	-.308	-.053	-.287	-.231
	GJFK	.	.	.	.
	PartnerConcentration	1.000	.199	.083	-.105
	Seasonality	.199	1.000	.144	-.180
	Distance	.083	.144	1.000	-.141
	Language	-.105	-.180	-.141	1.000
	Ethnicity	-.238	-.081	-.341	.322
	Urban	-.153	-.263	.078	.166
Sig. (1-tailed)	Flights	.337	.080	.248	.476
	Congestion	.423	.424	.040	.203
	GLHR	.067	.401	.082	.133
	GJFK	.000	.000	.000	.000
	PartnerConcentration	.	.170	.346	.308
	Seasonality	.170	.	.245	.194
	Distance	.346	.245	.	.251
	Language	.308	.194	.251	.
	Ethnicity	.126	.350	.048	.058
	Urban	.233	.102	.355	.214
N	Flights	25	25	25	25
	Congestion	25	25	25	25
	GLHR	25	25	25	25
	GJFK	25	25	25	25
	PartnerConcentration	25	25	25	25
	Seasonality	25	25	25	25
	Distance	25	25	25	25
	Language	25	25	25	25
	Ethnicity	25	25	25	25
	Urban	25	25	25	25

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.597	.724
	Congestion	.221	.628
	GLHR	.204	.114
	GJFK	.	.
	PartnerConcentration	-.238	-.153
	Seasonality	-.081	-.263
	Distance	-.341	.078
	Language	.322	.166
	Ethnicity	1.000	.359
	Urban	.359	1.000
Sig. (1-tailed)	Flights	<.001	<.001
	Congestion	.144	.000
	GLHR	.164	.294
	GJFK	.000	.000
	PartnerConcentration	.126	.233
	Seasonality	.350	.102
	Distance	.048	.355
	Language	.058	.214
	Ethnicity	.	.039
	Urban	.039	.
N	Flights	25	25
	Congestion	25	25
	GLHR	25	25
	GJFK	25	25
	PartnerConcentration	25	25
	Seasonality	25	25
	Distance	25	25
	Language	25	25
	Ethnicity	25	25
	Urban	25	25

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, Language, Seasonality, GLHR, Ethnicity, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.862[a]	.743	.615	3.062	.743	5.795	8	16	.001

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, Language, Seasonality, GLHR, Ethnicity, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	434.633	8	54.329	5.795	.001[b]
	Residual	150.007	16	9.375		
	Total	584.640	24			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, Language, Seasonality, GLHR, Ethnicity, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-5.179	5.119		-1.012	.327
	Congestion	-.254	1.216	-.051	-.209	.837
	GLHR	.432	1.807	.044	.239	.814
	PartnerConcentration	.499	.523	.135	.956	.353
	Seasonality	-3.631	3.215	-.159	-1.130	.275
	Distance	.000	.001	-.020	-.130	.898
	Language	-1.122E-6	.000	-.258	-1.427	.173
	Ethnicity	2.184E-6	.000	.478	2.800	.013
	Urban	.862	.312	.602	2.758	.014

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	Congestion	.264	3.788
	GLHR	.466	2.144
	PartnerConcentration	.802	1.247
	Seasonality	.810	1.235
	Distance	.664	1.507
	Language	.493	2.030
	Ethnicity	.549	1.821
	Urban	.337	2.971

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions Congestion	Variance Proportions GLHR
1	1	6.177	1.000	.00	.00	.00
	2	1.088	2.383	.00	.00	.00
	3	.941	2.562	.00	.00	.09
	4	.376	4.054	.00	.00	.23
	5	.292	4.599	.00	.00	.22
	6	.085	8.538	.00	.01	.00
	7	.023	16.303	.02	.03	.00
	8	.011	23.348	.98	.02	.10
	9	.006	31.055	.00	.94	.36

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.12	.00	.00	.28	.03	.00
	3	.31	.00	.00	.08	.01	.00
	4	.48	.01	.01	.01	.11	.00
	5	.00	.00	.00	.23	.52	.00
	6	.03	.61	.00	.00	.02	.03
	7	.00	.20	.56	.00	.22	.17
	8	.02	.10	.35	.04	.00	.03
	9	.03	.08	.08	.35	.10	.76

a. Dependent Variable: Flights

Residuals Statistics[a]

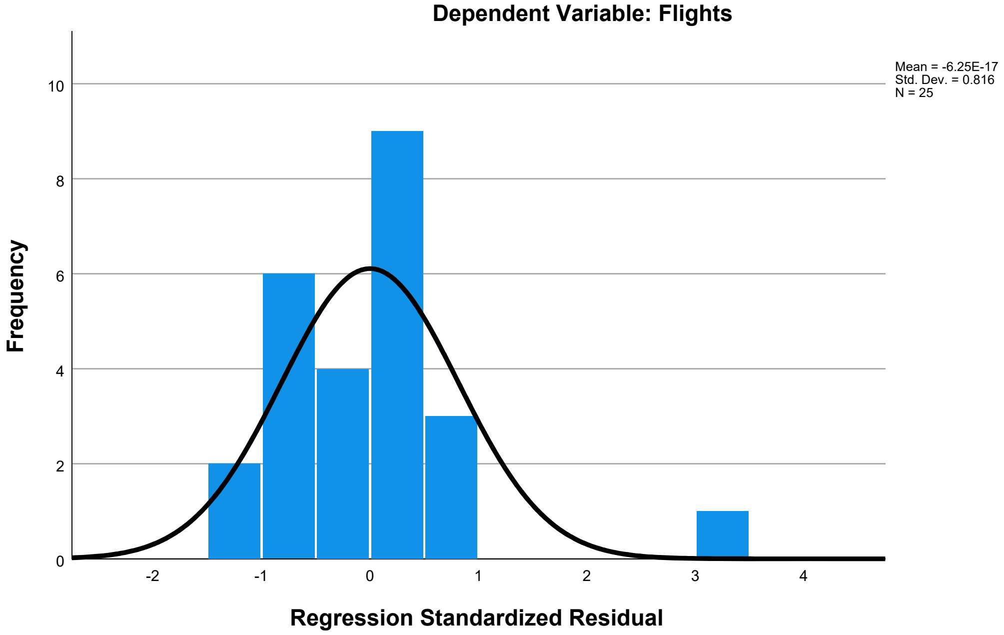
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.14	17.10	6.88	4.256	25
Residual	-3.292	9.215	.000	2.500	25
Std. Predicted Value	-1.650	2.401	.000	1.000	25
Std. Residual	-1.075	3.010	.000	.816	25

a. Dependent Variable: Flights

Charts

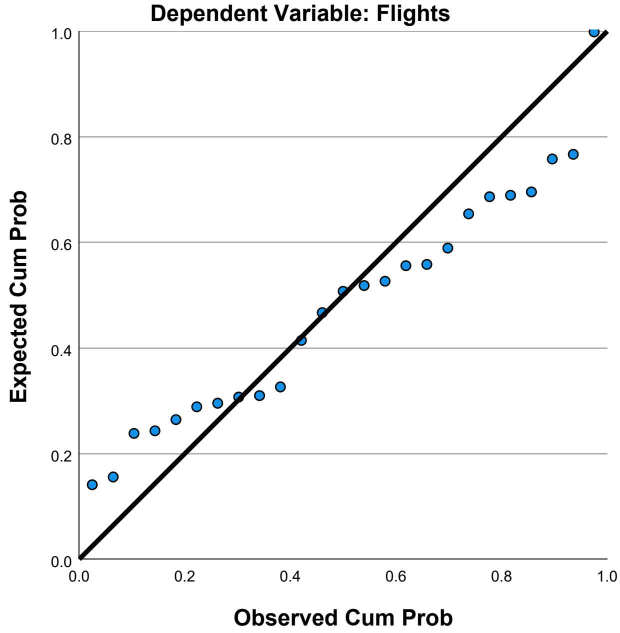
Histogram

Dependent Variable: Flights



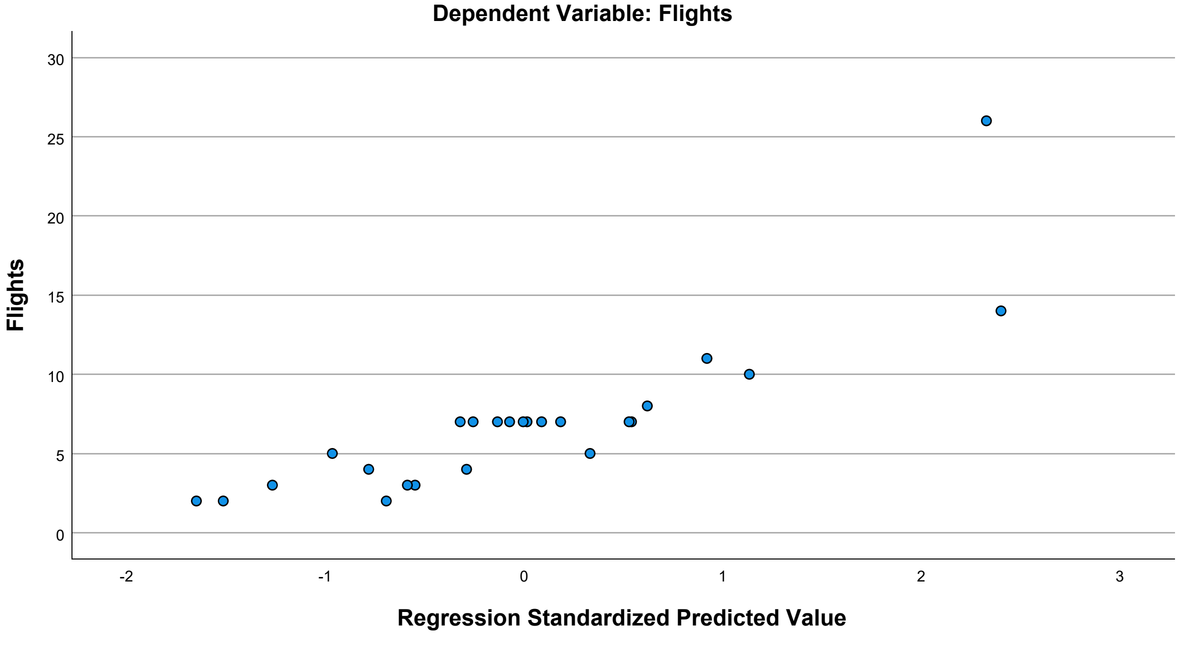
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

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[DataSet11] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airline Region\2002 - CAN Based.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.98	6.598	50
HomeConcentration	1.18664344	1.813404360	50
Congestion	4.54	1.182	50
GLHR	.14	.351	50
PartnerConcentration	.62592394000	1.3485351368	50
Seasonality	.87178787879	.20514499962	50
Distance	3.73712	.584554	50
Language	3.49509332	3.360484414	50
Ethnicity	1.15664390	.956526136	50
Urban	14.24	4.466	50

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.546	.331	.495
	HomeConcentration	.546	1.000	.548	.078
	Congestion	.331	.548	1.000	.011
	GLHR	.495	.078	.011	1.000
	PartnerConcentration	.383	.284	.113	.275
	Seasonality	-.481	-.325	-.216	-.512
	Distance	.020	.148	.225	-.178
	Language	.107	-.111	-.141	-.025
	Ethnicity	.221	-.004	.025	-.006
	Urban	.464	.298	.629	.226
Sig. (1-tailed)	Flights	.	<.001	.009	<.001
	HomeConcentration	.000	.	.000	.296
	Congestion	.009	.000	.	.470
	GLHR	.000	.296	.470	.
	PartnerConcentration	.003	.023	.218	.027
	Seasonality	.000	.011	.066	.000
	Distance	.446	.153	.058	.108
	Language	.230	.222	.165	.432
	Ethnicity	.062	.489	.431	.482
	Urban	.000	.018	.000	.057
N	Flights	50	50	50	50
	HomeConcentration	50	50	50	50
	Congestion	50	50	50	50
	GLHR	50	50	50	50
	PartnerConcentration	50	50	50	50

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.383	-.481	.020	.107
	HomeConcentration	.284	-.325	.148	-.111
	Congestion	.113	-.216	.225	-.141
	GLHR	.275	-.512	-.178	-.025
	PartnerConcentration	1.000	-.557	.094	-.297
	Seasonality	-.557	1.000	-.106	.191
	Distance	.094	-.106	1.000	-.436
	Language	-.297	.191	-.436	1.000
	Ethnicity	-.152	.061	-.257	.767
	Urban	.270	-.422	.098	-.245
Sig. (1-tailed)	Flights	.003	<.001	.446	.230
	HomeConcentration	.023	.011	.153	.222
	Congestion	.218	.066	.058	.165
	GLHR	.027	.000	.108	.432
	PartnerConcentration	.	.000	.257	.018
	Seasonality	.000	.	.231	.092
	Distance	.257	.231	.	.001
	Language	.018	.092	.001	.
	Ethnicity	.145	.338	.036	.000
	Urban	.029	.001	.250	.043
N	Flights	50	50	50	50
	HomeConcentration	50	50	50	50
	Congestion	50	50	50	50
	GLHR	50	50	50	50
	PartnerConcentration	50	50	50	50

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.221	.464
	HomeConcentration	-.004	.298
	Congestion	.025	.629
	GLHR	-.006	.226
	PartnerConcentration	-.152	.270
	Seasonality	.061	-.422
	Distance	-.257	.098
	Language	.767	-.245
	Ethnicity	1.000	-.067
	Urban	-.067	1.000
Sig. (1-tailed)	Flights	.062	<.001
	HomeConcentration	.489	.018
	Congestion	.431	.000
	GLHR	.482	.057
	PartnerConcentration	.145	.029
	Seasonality	.338	.001
	Distance	.036	.250
	Language	.000	.043
	Ethnicity	.	.322
	Urban	.322	.
N	Flights	50	50
	HomeConcentration	50	50
	Congestion	50	50
	GLHR	50	50
	PartnerConcentration	50	50

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Seasonality	50	50	50	50
	Distance	50	50	50	50
	Language	50	50	50	50
	Ethnicity	50	50	50	50
	Urban	50	50	50	50

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	Seasonality	50	50	50	50
	Distance	50	50	50	50
	Language	50	50	50	50
	Ethnicity	50	50	50	50
	Urban	50	50	50	50

Correlations

		Ethnicity	Urban
	Seasonality	50	50
	Distance	50	50
	Language	50	50
	Ethnicity	50	50
	Urban	50	50

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, GLHR, HomeConcentration, Distance, PartnerConcentration, Seasonality, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.815[a]	.665	.589	4.228	.665	8.814

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	40	<.001

a. Predictors: (Constant), Urban, Ethnicity, GLHR, HomeConcentration, Distance, PartnerConcentration, Seasonality, Congestic
Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1417.967	9	157.552	8.814	<.001[b]
	Residual	715.013	40	17.875		
	Total	2132.980	49			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, GLHR, HomeConcentration, Distance, PartnerConcentration, Seasonality, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-12.168	7.546		-1.613	.115
	HomeConcentration	1.735	.426	.477	4.078	<.001
	Congestion	-1.025	.798	-.184	-1.284	.206
	GLHR	7.283	2.101	.387	3.467	.001
	PartnerConcentration	.789	.566	.161	1.393	.171
	Seasonality	1.417	4.297	.044	.330	.743
	Distance	1.699	1.227	.150	1.385	.174
	Language	.472	.326	.241	1.448	.155
	Ethnicity	.904	1.023	.131	.884	.382
	Urban	.558	.197	.378	2.829	.007

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.613	1.632
	Congestion	.410	2.440
	GLHR	.673	1.486
	PartnerConcentration	.626	1.597
	Seasonality	.470	2.130
	Distance	.709	1.410
	Language	.304	3.293
	Ethnicity	.381	2.624
	Urban	.470	2.130

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.768	1.000	.00	.00	.00
	2	1.240	2.336	.00	.04	.00
	3	.780	2.946	.00	.09	.00
	4	.529	3.577	.00	.44	.00
	5	.467	3.805	.00	.09	.00
	6	.103	8.087	.00	.04	.01
	7	.066	10.144	.00	.07	.03
	8	.023	17.139	.00	.03	.01
	9	.019	18.975	.01	.20	.95
	10	.005	38.236	.99	.00	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.10	.17	.00	.00	.02	.01
	3	.47	.01	.00	.00	.02	.01
	4	.00	.02	.00	.00	.03	.03
	5	.14	.55	.00	.00	.03	.04
	6	.01	.05	.02	.00	.45	.65
	7	.07	.00	.06	.02	.26	.23
	8	.02	.06	.44	.36	.07	.02
	9	.02	.04	.00	.04	.00	.00
	10	.17	.10	.48	.58	.12	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.04
	7	.27
	8	.09
	9	.49
	10	.12

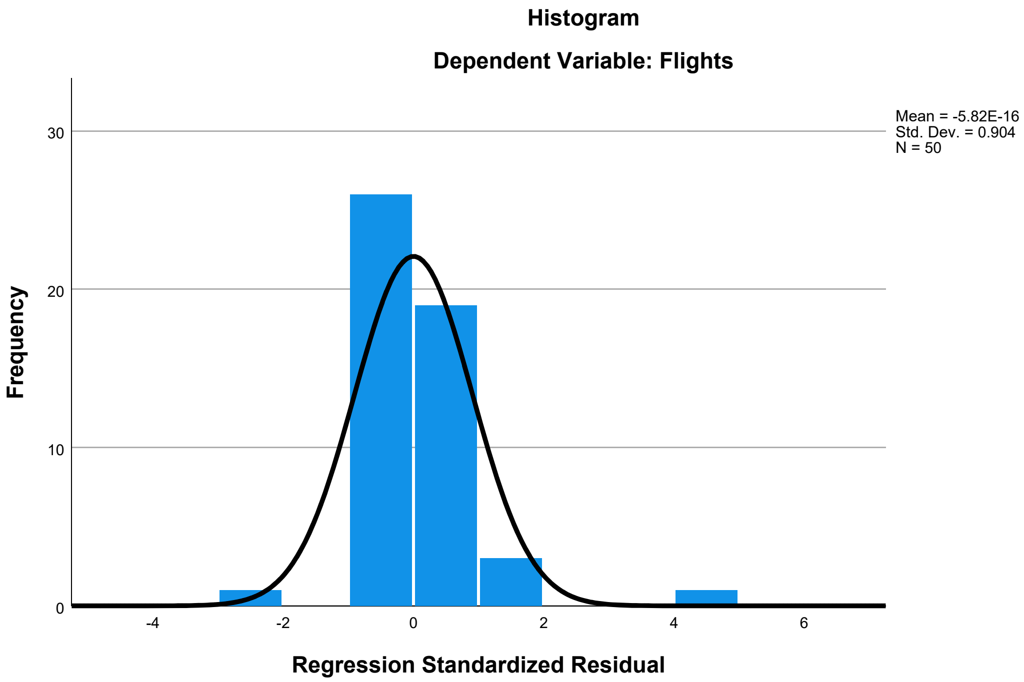
a. Dependent Variable: Flights

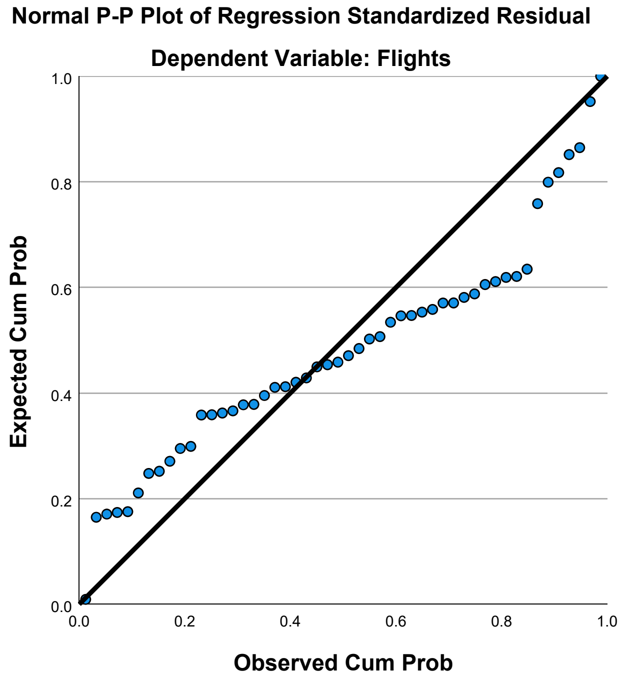
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-3.66	23.30	4.98	5.379	50
Residual	-9.978	18.697	.000	3.820	50
Std. Predicted Value	-1.606	3.406	.000	1.000	50
Std. Residual	-2.360	4.422	.000	.904	50

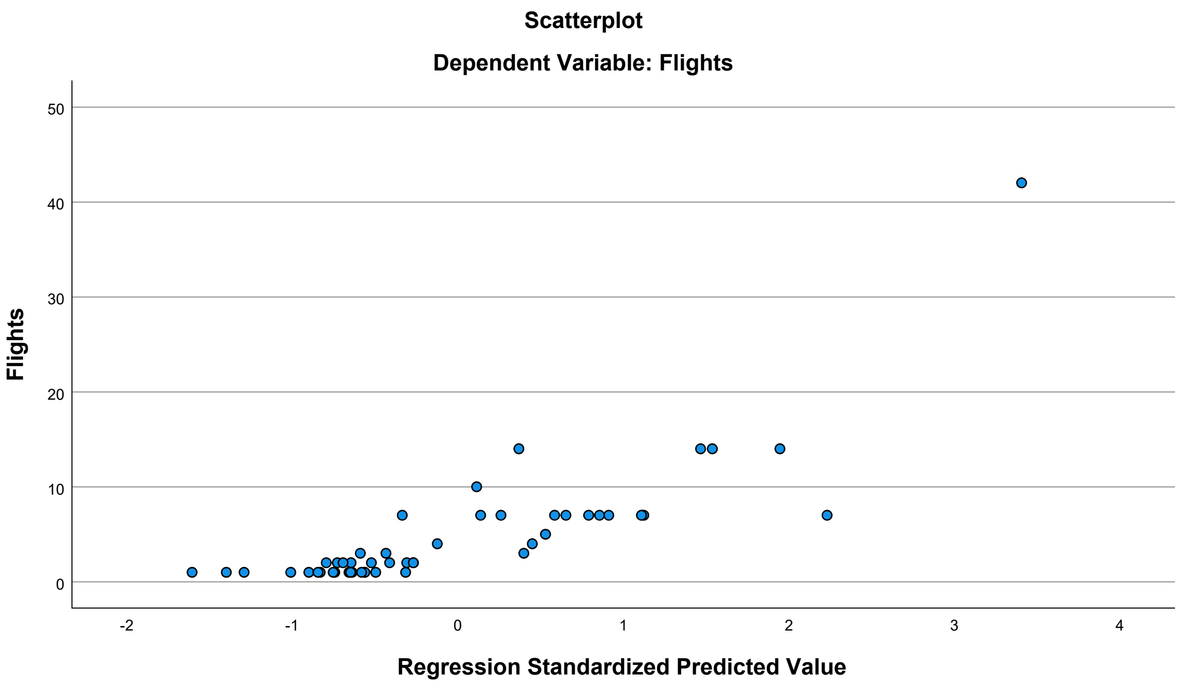
a. Dependent Variable: Flights

Charts





Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0



Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-2
-1
0
1
2
3
4

Regression

```
[DataSet12] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final
Try\Airline Region\2007 - CAN Based.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	3.87	4.952	89
HomeConcentration	.71096959551	1.5266035862	89
Congestion	4.85	.948	89
GLHR	.10	.303	89
PartnerConcentration	.39511123596	1.1801807951	89
Seasonality	.87995941528	.19264894827	89
Distance	3.81217	.631916	89
Language	3.12573976	3.250788800	89
Ethnicity	1.17232500	.991310747	89
Urban	13.89	4.576	89

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.620	.269	.546
	HomeConcentration	.620	1.000	.342	.176
	Congestion	.269	.342	1.000	.012
	GLHR	.546	.176	.012	1.000
	PartnerConcentration	.505	.473	.148	.253
	Seasonality	-.485	-.464	-.258	-.319
	Distance	-.068	.121	.387	-.129
	Language	.134	-.056	-.054	.075
	Ethnicity	.203	.053	.110	.079
	Urban	.399	.321	.724	.180
Sig. (1-tailed)	Flights	.	<.001	.005	<.001
	HomeConcentration	.000	.	.001	.050
	Congestion	.005	.001	.	.454
	GLHR	.000	.050	.454	.
	PartnerConcentration	.000	.000	.083	.008
	Seasonality	.000	.000	.007	.001
	Distance	.264	.130	.000	.114
	Language	.106	.301	.308	.243
	Ethnicity	.028	.311	.152	.231
	Urban	.000	.001	.000	.045
N	Flights	89	89	89	89
	HomeConcentration	89	89	89	89
	Congestion	89	89	89	89
	GLHR	89	89	89	89
	PartnerConcentration	89	89	89	89

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.505	-.485	-.068	.134
	HomeConcentration	.473	-.464	.121	-.056
	Congestion	.148	-.258	.387	-.054
	GLHR	.253	-.319	-.129	.075
	PartnerConcentration	1.000	-.464	.054	-.205
	Seasonality	-.464	1.000	-.105	-.082
	Distance	.054	-.105	1.000	-.369
	Language	-.205	-.082	-.369	1.000
	Ethnicity	-.109	-.090	-.260	.860
	Urban	.230	-.282	.195	-.064
Sig. (1-tailed)	Flights	<.001	<.001	.264	.106
	HomeConcentration	.000	.000	.130	.301
	Congestion	.083	.007	.000	.308
	GLHR	.008	.001	.114	.243
	PartnerConcentration	.	.000	.306	.027
	Seasonality	.000	.	.164	.223
	Distance	.306	.164	.	.000
	Language	.027	.223	.000	.
	Ethnicity	.155	.200	.007	.000
	Urban	.015	.004	.034	.276
N	Flights	89	89	89	89
	HomeConcentration	89	89	89	89
	Congestion	89	89	89	89
	GLHR	89	89	89	89
	PartnerConcentration	89	89	89	89

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.203	.399
	HomeConcentration	.053	.321
	Congestion	.110	.724
	GLHR	.079	.180
	PartnerConcentration	-.109	.230
	Seasonality	-.090	-.282
	Distance	-.260	.195
	Language	.860	-.064
	Ethnicity	1.000	.102
	Urban	.102	1.000
Sig. (1-tailed)	Flights	.028	<.001
	HomeConcentration	.311	.001
	Congestion	.152	.000
	GLHR	.231	.045
	PartnerConcentration	.155	.015
	Seasonality	.200	.004
	Distance	.007	.034
	Language	.000	.276
	Ethnicity	.	.171
	Urban	.171	.
N	Flights	89	89
	HomeConcentration	89	89
	Congestion	89	89
	GLHR	89	89
	PartnerConcentration	89	89

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Seasonality	89	89	89	89
	Distance	89	89	89	89
	Language	89	89	89	89
	Ethnicity	89	89	89	89
	Urban	89	89	89	89

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	Seasonality	89	89	89	89
	Distance	89	89	89	89
	Language	89	89	89	89
	Ethnicity	89	89	89	89
	Urban	89	89	89	89

Correlations

	Ethnicity	Urban
Seasonality	89	89
Distance	89	89
Language	89	89
Ethnicity	89	89
Urban	89	89

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, GLHR, HomeConcentration, Distance, PartnerConcentration, Seasonality, Congestion, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.813[a]	.661	.623	3.042	.661	17.143

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	79	<.001

a. Predictors: (Constant), Urban, Language, GLHR, HomeConcentration, Distance, PartnerConcentration, Seasonality, Congest
Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1427.457	9	158.606	17.143	<.001[b]
	Residual	730.925	79	9.252		
	Total	2158.382	88			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, GLHR, HomeConcentration, Distance, PartnerConcentration, Seasonality, Congestion, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.394	3.625		.385	.702
	HomeConcentration	1.319	.264	.407	4.986	<.001
	Congestion	-.060	.555	-.011	-.108	.914
	GLHR	5.921	1.176	.363	5.033	<.001
	PartnerConcentration	.844	.347	.201	2.429	.017
	Seasonality	-.901	2.151	-.035	-.419	.677
	Distance	-.448	.618	-.057	-.724	.471
	Language	.212	.221	.139	.963	.338
	Ethnicity	.104	.689	.021	.151	.881
	Urban	.188	.109	.173	1.723	.089

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.645	1.550
	Congestion	.379	2.637
	GLHR	.826	1.210
	PartnerConcentration	.625	1.599
	Seasonality	.613	1.633
	Distance	.689	1.451
	Language	.204	4.893
	Ethnicity	.226	4.433
	Urban	.424	2.359

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.529	1.000	.00	.00	.00
	2	1.395	2.164	.00	.10	.00
	3	.833	2.799	.00	.02	.00
	4	.640	3.194	.00	.20	.00
	5	.422	3.933	.00	.50	.00
	6	.082	8.929	.01	.11	.01
	7	.054	11.025	.00	.01	.01
	8	.028	15.158	.00	.05	.02
	9	.010	25.176	.00	.01	.92
	10	.006	33.350	.99	.01	.05

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.07	.18	.00	.00	.01	.00
	3	.55	.02	.00	.00	.02	.01
	4	.22	.00	.00	.00	.04	.03
	5	.05	.67	.00	.00	.01	.01
	6	.01	.02	.06	.00	.12	.14
	7	.02	.00	.05	.00	.64	.76
	8	.00	.02	.35	.29	.01	.02
	9	.01	.00	.00	.33	.01	.00
	10	.06	.09	.53	.37	.15	.04

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.23
	7	.09
	8	.18
	9	.50
	10	.00

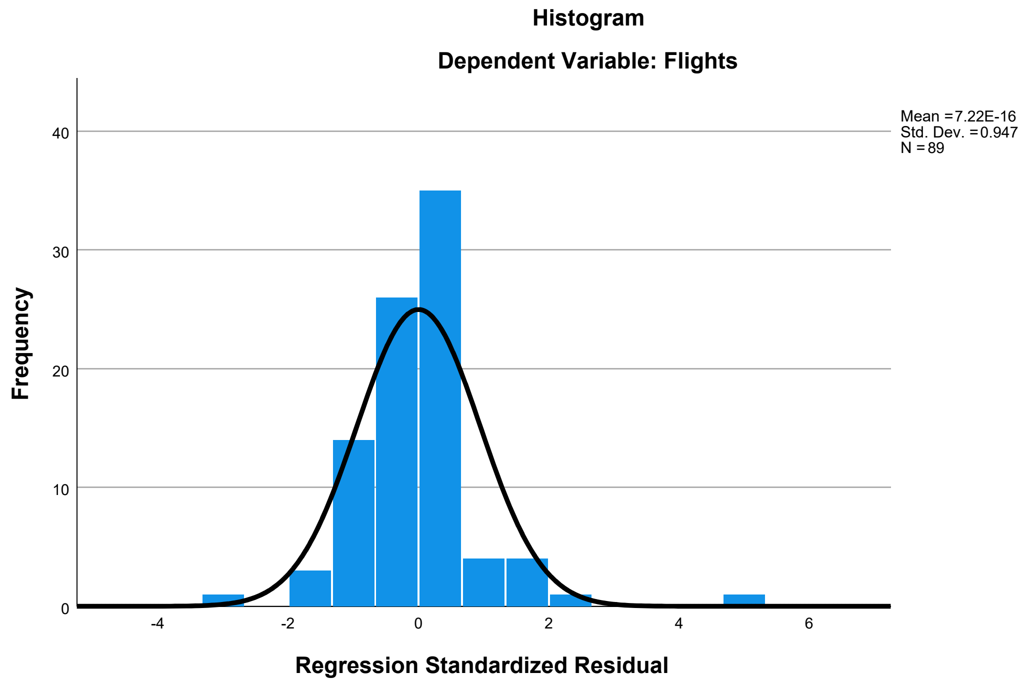
a. Dependent Variable: Flights

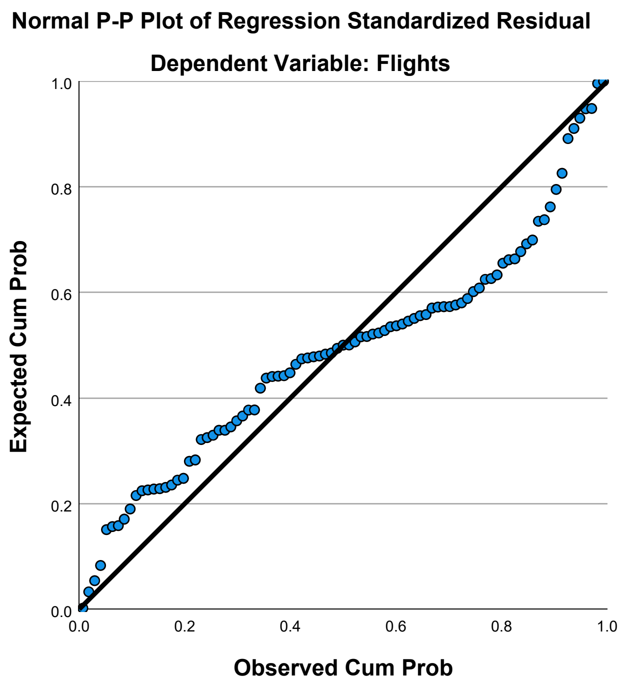
Residuals Statistics[a]

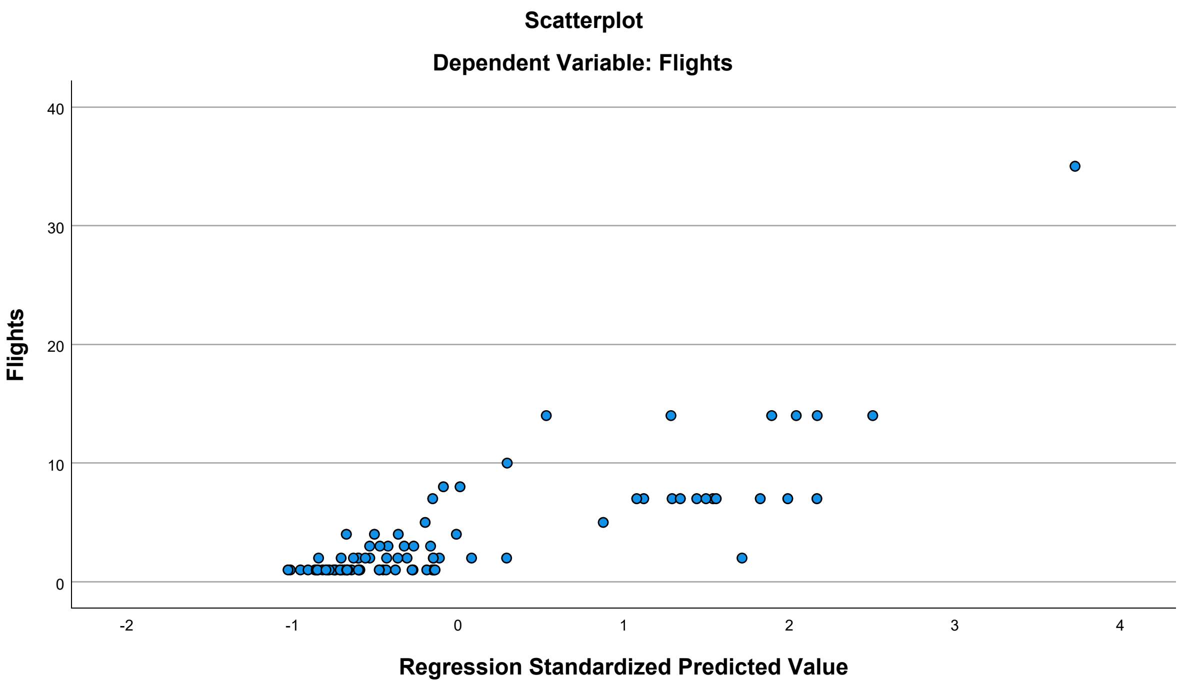
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.27	18.87	3.87	4.028	89
Residual	-8.773	16.127	.000	2.882	89
Std. Predicted Value	-1.027	3.726	.000	1.000	89
Std. Residual	-2.884	5.302	.000	.947	89

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
-2
-1
0
1
2
3
4

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	3.87	4.952	89
HomeConcentration	.71096959551	1.5266035862	89
Congestion	4.85	.948	89
GLHR	.10	.303	89
PartnerConcentration	.39511123596	1.1801807951	89
Seasonality	.87995941528	.19264894827	89
Distance	3.81217	.631916	89
Ethnicity	1.17232500	.991310747	89
Urban	13.89	4.576	89

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.620	.269	.546
	HomeConcentration	.620	1.000	.342	.176
	Congestion	.269	.342	1.000	.012
	GLHR	.546	.176	.012	1.000
	PartnerConcentration	.505	.473	.148	.253
	Seasonality	-.485	-.464	-.258	-.319
	Distance	-.068	.121	.387	-.129
	Ethnicity	.203	.053	.110	.079
	Urban	.399	.321	.724	.180
Sig. (1-tailed)	Flights	.	<.001	.005	<.001
	HomeConcentration	.000	.	.001	.050
	Congestion	.005	.001	.	.454
	GLHR	.000	.050	.454	.
	PartnerConcentration	.000	.000	.083	.008
	Seasonality	.000	.000	.007	.001
	Distance	.264	.130	.000	.114
	Ethnicity	.028	.311	.152	.231
	Urban	.000	.001	.000	.045
N	Flights	89	89	89	89
	HomeConcentration	89	89	89	89
	Congestion	89	89	89	89
	GLHR	89	89	89	89
	PartnerConcentration	89	89	89	89
	Seasonality	89	89	89	89
	Distance	89	89	89	89
	Ethnicity	89	89	89	89
	Urban	89	89	89	89

Correlations

		PartnerConcentration	Seasonality	Distance	Ethnicity
Pearson Correlation	Flights	.505	-.485	-.068	.203
	HomeConcentration	.473	-.464	.121	.053
	Congestion	.148	-.258	.387	.110
	GLHR	.253	-.319	-.129	.079
	PartnerConcentration	1.000	-.464	.054	-.109
	Seasonality	-.464	1.000	-.105	-.090
	Distance	.054	-.105	1.000	-.260
	Ethnicity	-.109	-.090	-.260	1.000
	Urban	.230	-.282	.195	.102
Sig. (1-tailed)	Flights	<.001	<.001	.264	.028
	HomeConcentration	.000	.000	.130	.311
	Congestion	.083	.007	.000	.152
	GLHR	.008	.001	.114	.231
	PartnerConcentration	.	.000	.306	.155
	Seasonality	.000	.	.164	.200
	Distance	.306	.164	.	.007
	Ethnicity	.155	.200	.007	.
	Urban	.015	.004	.034	.171
N	Flights	89	89	89	89
	HomeConcentration	89	89	89	89
	Congestion	89	89	89	89
	GLHR	89	89	89	89
	PartnerConcentration	89	89	89	89
	Seasonality	89	89	89	89
	Distance	89	89	89	89
	Ethnicity	89	89	89	89
	Urban	89	89	89	89

Correlations

		Urban
Pearson Correlation	Flights	.399
	HomeConcentration	.321
	Congestion	.724
	GLHR	.180
	PartnerConcentration	.230
	Seasonality	-.282
	Distance	.195
	Ethnicity	.102
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.001
	Congestion	.000
	GLHR	.045
	PartnerConcentration	.015
	Seasonality	.004
	Distance	.034
	Ethnicity	.171
	Urban	.
N	Flights	89
	HomeConcentration	89
	Congestion	89
	GLHR	89
	PartnerConcentration	89
	Seasonality	89
	Distance	89
	Ethnicity	89
	Urban	89

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, GLHR, HomeConcentration, Distance, PartnerConcentration, Seasonality, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.811[a]	.657	.623	3.040	.657	19.187

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	80	<.001

a. Predictors: (Constant), Urban, Ethnicity, GLHR, HomeConcentration, Distance, PartnerConcentration, Seasonality, Congestic

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1418.876	8	177.359	19.187	<.001[b]
	Residual	739.506	80	9.244		
	Total	2158.382	88			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, GLHR, HomeConcentration, Distance, PartnerConcentration, Seasonality, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.673	3.372		.793	.430
	HomeConcentration	1.297	.263	.400	4.924	<.001
	Congestion	-.072	.555	-.014	-.129	.897
	GLHR	5.945	1.176	.364	5.057	<.001
	PartnerConcentration	.771	.339	.184	2.275	.026
	Seasonality	-1.375	2.092	-.053	-.657	.513
	Distance	-.590	.600	-.075	-.984	.328
	Ethnicity	.671	.356	.134	1.884	.063
	Urban	.172	.108	.159	1.597	.114

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.650	1.539
	Congestion	.379	2.636
	GLHR	.827	1.210
	PartnerConcentration	.656	1.524
	Seasonality	.646	1.547
	Distance	.731	1.368
	Ethnicity	.842	1.188
	Urban	.434	2.306

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

				Variance Proportions		
Model	Dimension	Eigenvalue	Condition Index	(Constant)	HomeConcentration	Congestion
1	1	5.978	1.000	.00	.00	.00
	2	1.321	2.127	.00	.11	.00
	3	.769	2.788	.00	.10	.00
	4	.472	3.558	.00	.50	.00
	5	.338	4.205	.00	.12	.00
	6	.075	8.908	.01	.10	.01
	7	.029	14.474	.00	.05	.02
	8	.010	24.002	.00	.01	.89
	9	.007	29.690	.99	.00	.08

Collinearity Diagnostics[a]

		Variance Proportions					
Model	Dimension	GLHR	PartnerConcentration	Seasonality	Distance	Ethnicity	Urban
1	1	.00	.00	.00	.00	.01	.00
	2	.10	.19	.00	.00	.01	.00
	3	.74	.06	.00	.00	.01	.00
	4	.00	.41	.00	.00	.13	.00
	5	.04	.24	.00	.00	.70	.00
	6	.02	.02	.10	.00	.01	.33
	7	.00	.02	.39	.30	.01	.18
	8	.01	.00	.00	.39	.06	.48
	9	.08	.06	.50	.30	.08	.01

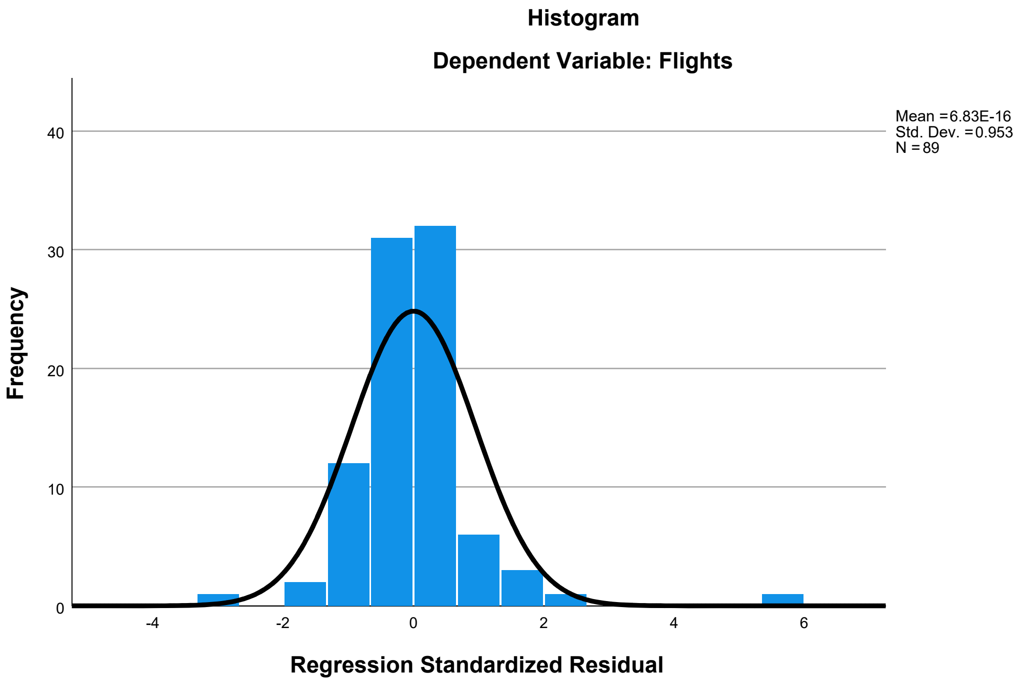
a. Dependent Variable: Flights

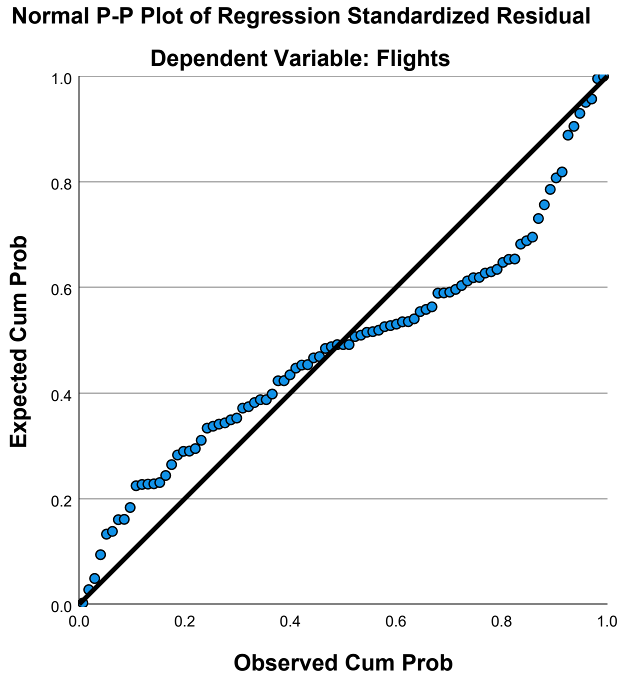
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.15	18.71	3.87	4.015	89
Residual	-8.612	16.290	.000	2.899	89
Std. Predicted Value	-1.000	3.697	.000	1.000	89
Std. Residual	-2.833	5.358	.000	.953	89

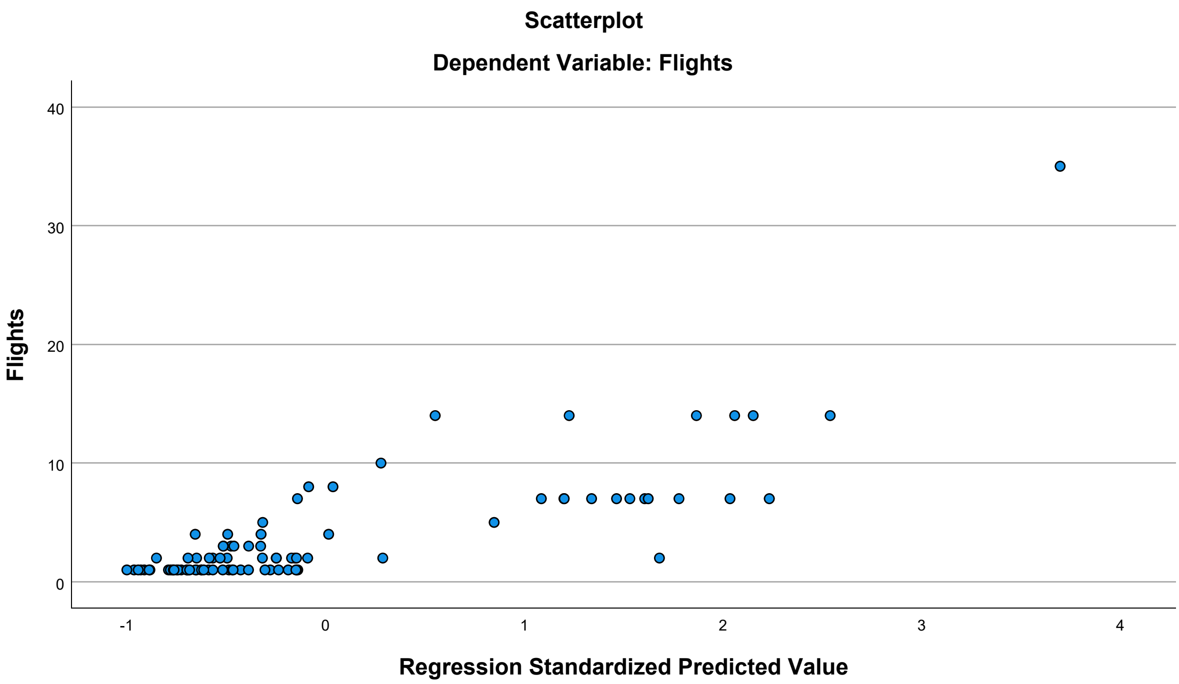
a. Dependent Variable: Flights

Charts





Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0



Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
-1
0
1
2
3
4

Regression

```
[DataSet13] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airline Region\2012 - CAN Based.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.30	4.501	88
HomeConcentration	.99759693182	1.6112583908	88
Congestion	5.10	.947	88
GLHR	.09	.289	88
PartnerConcentration	.49535613636	1.3272817632	88
Seasonality	.85230954862	.22085475257	88
Distance	3.89685	.595115	88
Language	2.47740113	3.194928180	88
Ethnicity	.96191415	.928323478	88
Urban	15.94	3.887	88

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.544	.230	.438
	HomeConcentration	.544	1.000	.297	.145
	Congestion	.230	.297	1.000	-.118
	GLHR	.438	.145	-.118	1.000
	PartnerConcentration	.356	.397	.005	.155
	Seasonality	-.369	-.258	-.147	-.354
	Distance	-.097	.154	.259	-.173
	Language	.237	-.120	-.300	.100
	Ethnicity	.281	-.109	-.175	.080
	Urban	.400	.382	.723	.046
Sig. (1-tailed)	Flights	.	<.001	.016	<.001
	HomeConcentration	.000	.	.003	.089
	Congestion	.016	.003	.	.136
	GLHR	.000	.089	.136	.
	PartnerConcentration	.000	.000	.480	.075
	Seasonality	.000	.008	.086	.000
	Distance	.184	.076	.007	.054
	Language	.013	.133	.002	.176
	Ethnicity	.004	.157	.052	.229
	Urban	.000	.000	.000	.337
N	Flights	88	88	88	88
	HomeConcentration	88	88	88	88
	Congestion	88	88	88	88
	GLHR	88	88	88	88
	PartnerConcentration	88	88	88	88

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.356	-.369	-.097	.237
	HomeConcentration	.397	-.258	.154	-.120
	Congestion	.005	-.147	.259	-.300
	GLHR	.155	-.354	-.173	.100
	PartnerConcentration	1.000	-.161	.017	-.178
	Seasonality	-.161	1.000	.093	-.147
	Distance	.017	.093	1.000	-.398
	Language	-.178	-.147	-.398	1.000
	Ethnicity	-.075	-.127	-.293	.813
	Urban	.100	-.253	.161	-.206
Sig. (1-tailed)	Flights	<.001	<.001	.184	.013
	HomeConcentration	.000	.008	.076	.133
	Congestion	.480	.086	.007	.002
	GLHR	.075	.000	.054	.176
	PartnerConcentration	.	.067	.437	.049
	Seasonality	.067	.	.195	.085
	Distance	.437	.195	.	.000
	Language	.049	.085	.000	.
	Ethnicity	.245	.119	.003	.000
	Urban	.177	.009	.067	.027
N	Flights	88	88	88	88
	HomeConcentration	88	88	88	88
	Congestion	88	88	88	88
	GLHR	88	88	88	88
	PartnerConcentration	88	88	88	88

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.281	.400
	HomeConcentration	-.109	.382
	Congestion	-.175	.723
	GLHR	.080	.046
	PartnerConcentration	-.075	.100
	Seasonality	-.127	-.253
	Distance	-.293	.161
	Language	.813	-.206
	Ethnicity	1.000	-.123
	Urban	-.123	1.000
Sig. (1-tailed)	Flights	.004	<.001
	HomeConcentration	.157	.000
	Congestion	.052	.000
	GLHR	.229	.337
	PartnerConcentration	.245	.177
	Seasonality	.119	.009
	Distance	.003	.067
	Language	.000	.027
	Ethnicity	.	.128
	Urban	.128	.
N	Flights	88	88
	HomeConcentration	88	88
	Congestion	88	88
	GLHR	88	88
	PartnerConcentration	88	88

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Seasonality	88	88	88	88
	Distance	88	88	88	88
	Language	88	88	88	88
	Ethnicity	88	88	88	88
	Urban	88	88	88	88

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	Seasonality	88	88	88	88
	Distance	88	88	88	88
	Language	88	88	88	88
	Ethnicity	88	88	88	88
	Urban	88	88	88	88

Correlations

		Ethnicity	Urban
	Seasonality	88	88
	Distance	88	88
	Language	88	88
	Ethnicity	88	88
	Urban	88	88

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, GLHR, Ethnicity, PartnerConcentration, Distance, Seasonality, HomeConcentration, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.784[a]	.615	.571	2.949	.615	13.852

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	78	<.001

a. Predictors: (Constant), Urban, GLHR, Ethnicity, PartnerConcentration, Distance, Seasonality, HomeConcentration, Congestic
Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1084.075	9	120.453	13.852	<.001[b]
	Residual	678.243	78	8.695		
	Total	1762.318	87			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, GLHR, Ethnicity, PartnerConcentration, Distance, Seasonality, HomeConcentration, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4.422	3.545		-1.247	.216
	HomeConcentration	.986	.238	.353	4.145	<.001
	Congestion	.432	.518	.091	.834	.407
	GLHR	4.915	1.215	.316	4.046	<.001
	PartnerConcentration	.644	.274	.190	2.352	.021
	Seasonality	-.188	1.641	-.009	-.114	.909
	Distance	-.224	.599	-.030	-.374	.709
	Language	.266	.191	.189	1.397	.166
	Ethnicity	.916	.601	.189	1.525	.131
	Urban	.267	.124	.231	2.152	.034

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.680	1.470
	Congestion	.414	2.413
	GLHR	.810	1.234
	PartnerConcentration	.756	1.322
	Seasonality	.761	1.314
	Distance	.787	1.270
	Language	.269	3.714
	Ethnicity	.322	3.110
	Urban	.430	2.326

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.439	1.000	.00	.00	.00
	2	1.271	2.251	.00	.09	.00
	3	.964	2.585	.00	.00	.00
	4	.655	3.135	.00	.02	.00
	5	.468	3.709	.00	.68	.00
	6	.097	8.136	.00	.00	.00
	7	.065	9.975	.00	.16	.02
	8	.025	16.211	.02	.00	.00
	9	.010	24.836	.01	.00	.75
	10	.006	33.004	.97	.03	.22

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.03	.21	.00	.00	.02	.01
	3	.48	.00	.00	.00	.02	.01
	4	.32	.28	.00	.00	.04	.03
	5	.01	.41	.00	.00	.01	.00
	6	.00	.03	.02	.00	.67	.85
	7	.04	.01	.36	.00	.07	.07
	8	.01	.00	.39	.40	.00	.00
	9	.01	.00	.01	.17	.00	.00
	10	.10	.05	.21	.43	.16	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.11
	8	.19
	9	.69
	10	.00

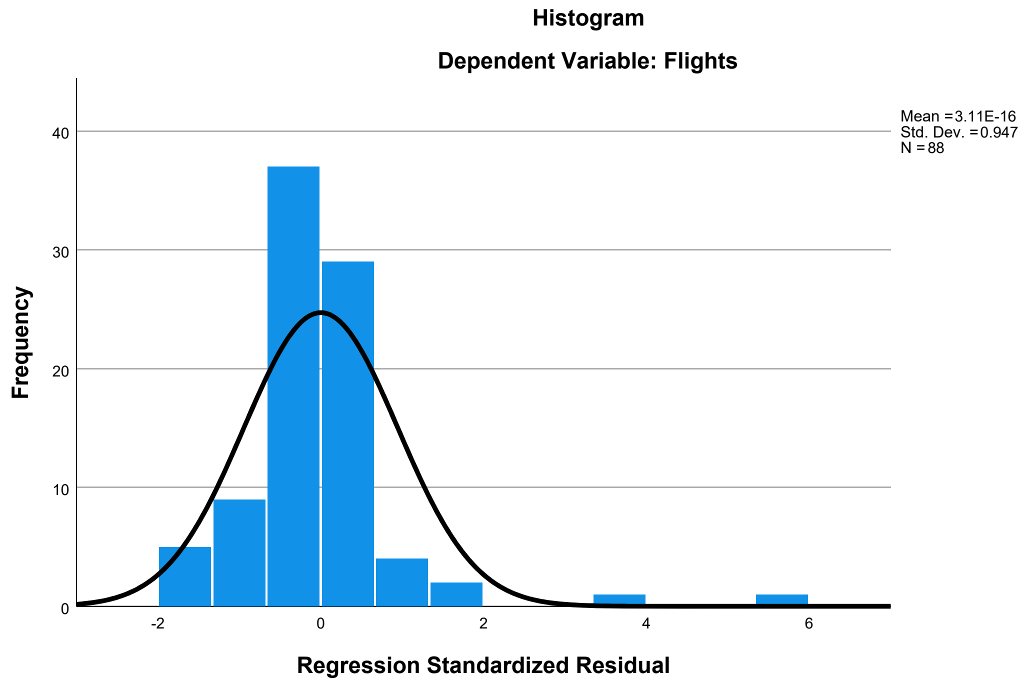
a. Dependent Variable: Flights

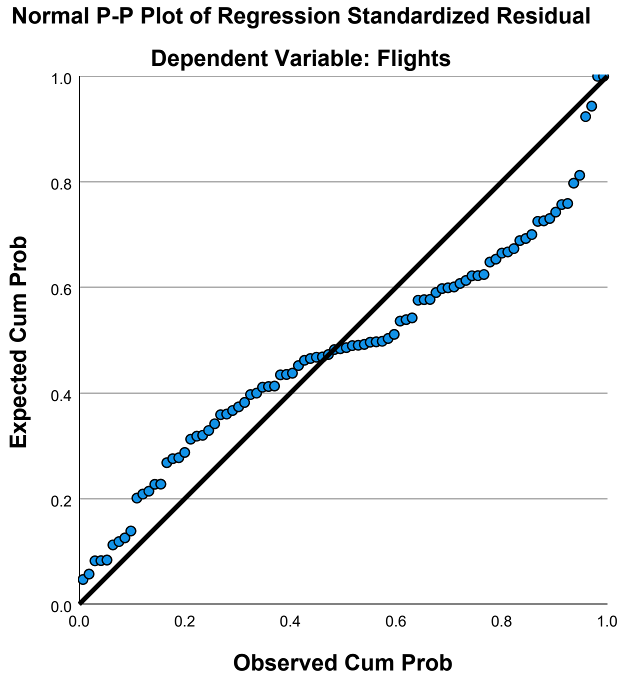
Residuals Statistics[a]

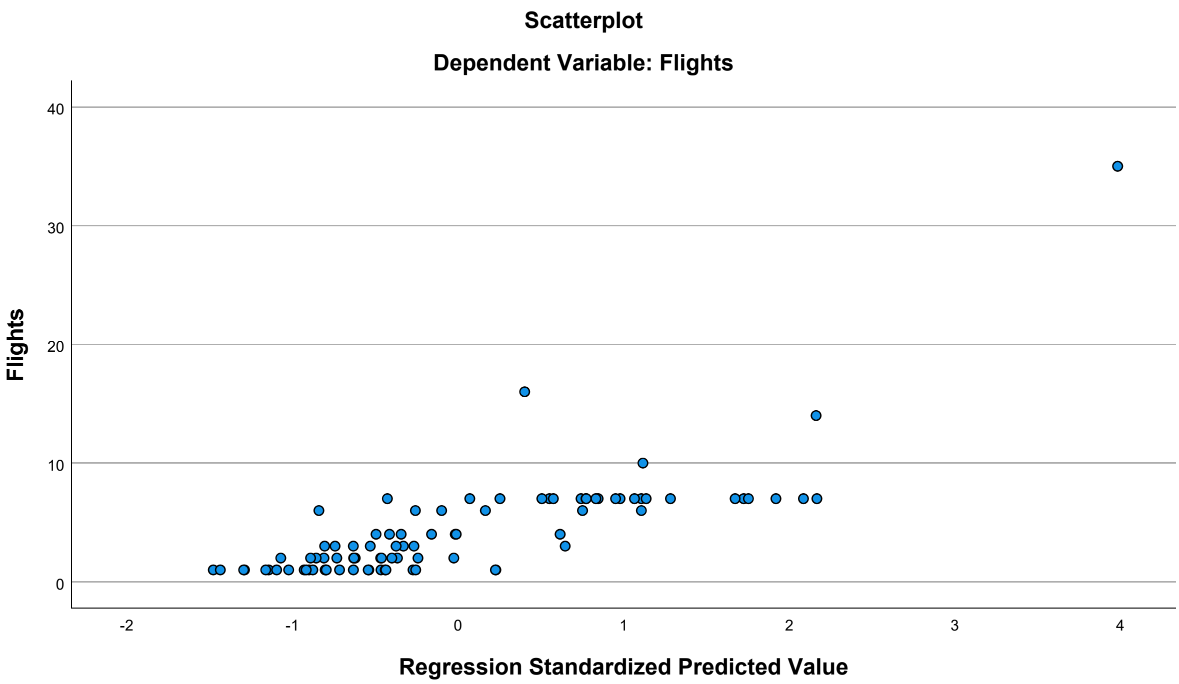
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.92	18.36	4.30	3.530	88
Residual	-4.945	16.643	.000	2.792	88
Std. Predicted Value	-1.478	3.983	.000	1.000	88
Std. Residual	-1.677	5.644	.000	.947	88

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
-2
-1
0
1
2
3
4

Regression

```
[DataSet14] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airline Region\2017 - CAN Based.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	5.12	3.518	104
HomeConcentration	1.5016020192	1.3364136501	104
Congestion	5.13	.946	104
GLHR	.07	.252	104
PartnerConcentration	.47588467308	1.4841543489	104
Seasonality	.87050763739	.19973271044	104
Distance	3.93528	.840944	104
Language	2.30028747	3.280121320	104
Ethnicity	.86456668	.864080215	104
Urban	15.46	4.155	104

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.398	.182	.375
	HomeConcentration	.398	1.000	.331	.028
	Congestion	.182	.331	1.000	-.079
	GLHR	.375	.028	-.079	1.000
	PartnerConcentration	.237	.234	.105	-.087
	Seasonality	-.379	-.127	-.169	-.422
	Distance	-.084	.200	.242	-.146
	Language	.174	-.047	-.108	.090
	Ethnicity	.254	.015	.114	.105
	Urban	.378	.322	.641	.072
Sig. (1-tailed)	Flights	.	<.001	.032	<.001
	HomeConcentration	.000	.	.000	.387
	Congestion	.032	.000	.	.212
	GLHR	.000	.387	.212	.
	PartnerConcentration	.008	.008	.145	.191
	Seasonality	.000	.099	.044	.000
	Distance	.198	.021	.007	.070
	Language	.038	.318	.138	.183
	Ethnicity	.005	.440	.126	.145
	Urban	.000	.000	.000	.233
N	Flights	104	104	104	104
	HomeConcentration	104	104	104	104
	Congestion	104	104	104	104
	GLHR	104	104	104	104
	PartnerConcentration	104	104	104	104

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.237	-.379	-.084	.174
	HomeConcentration	.234	-.127	.200	-.047
	Congestion	.105	-.169	.242	-.108
	GLHR	-.087	-.422	-.146	.090
	PartnerConcentration	1.000	.002	.132	-.195
	Seasonality	.002	1.000	-.108	-.246
	Distance	.132	-.108	1.000	-.302
	Language	-.195	-.246	-.302	1.000
	Ethnicity	-.069	-.130	-.130	.821
	Urban	.120	-.315	.315	-.032
Sig. (1-tailed)	Flights	.008	<.001	.198	.038
	HomeConcentration	.008	.099	.021	.318
	Congestion	.145	.044	.007	.138
	GLHR	.191	.000	.070	.183
	PartnerConcentration	.	.491	.091	.024
	Seasonality	.491	.	.139	.006
	Distance	.091	.139	.	.001
	Language	.024	.006	.001	.
	Ethnicity	.243	.095	.095	.000
	Urban	.112	.001	.001	.375
N	Flights	104	104	104	104
	HomeConcentration	104	104	104	104
	Congestion	104	104	104	104
	GLHR	104	104	104	104
	PartnerConcentration	104	104	104	104

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.254	.378
	HomeConcentration	.015	.322
	Congestion	.114	.641
	GLHR	.105	.072
	PartnerConcentration	-.069	.120
	Seasonality	-.130	-.315
	Distance	-.130	.315
	Language	.821	-.032
	Ethnicity	1.000	.090
	Urban	.090	1.000
Sig. (1-tailed)	Flights	.005	<.001
	HomeConcentration	.440	.000
	Congestion	.126	.000
	GLHR	.145	.233
	PartnerConcentration	.243	.112
	Seasonality	.095	.001
	Distance	.095	.001
	Language	.000	.375
	Ethnicity	.	.183
	Urban	.183	.
N	Flights	104	104
	HomeConcentration	104	104
	Congestion	104	104
	GLHR	104	104
	PartnerConcentration	104	104

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Seasonality	104	104	104	104
	Distance	104	104	104	104
	Language	104	104	104	104
	Ethnicity	104	104	104	104
	Urban	104	104	104	104

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	Seasonality	104	104	104	104
	Distance	104	104	104	104
	Language	104	104	104	104
	Ethnicity	104	104	104	104
	Urban	104	104	104	104

Correlations

	Ethnicity	Urban
Seasonality	104	104
Distance	104	104
Language	104	104
Ethnicity	104	104
Urban	104	104

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, GLHR, PartnerConcentration, HomeConcentration, Distance, Seasonality, Congestion, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.695[a]	.484	.434	2.646	.484	9.783

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	94	<.001

a. Predictors: (Constant), Urban, Language, GLHR, PartnerConcentration, HomeConcentration, Distance, Seasonality, Congest
Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	616.462	9	68.496	9.783	<.001[b]
	Residual	658.153	94	7.002		
	Total	1274.615	103			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, GLHR, PartnerConcentration, HomeConcentration, Distance, Seasonality, Congestion, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.183	3.134		2.930	.004
	HomeConcentration	.814	.216	.309	3.767	<.001
	Congestion	-.630	.400	-.169	-1.578	.118
	GLHR	2.799	1.247	.200	2.244	.027
	PartnerConcentration	.416	.188	.176	2.208	.030
	Seasonality	-3.830	1.703	-.217	-2.249	.027
	Distance	-1.018	.368	-.243	-2.764	.007
	Language	-.231	.180	-.215	-1.285	.202
	Ethnicity	1.414	.624	.347	2.267	.026
	Urban	.272	.088	.322	3.093	.003

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.816	1.225
	Congestion	.476	2.100
	GLHR	.689	1.451
	PartnerConcentration	.869	1.151
	Seasonality	.587	1.703
	Distance	.709	1.411
	Language	.196	5.101
	Ethnicity	.234	4.270
	Urban	.508	1.968

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.620	1.000	.00	.01	.00
	2	1.202	2.347	.00	.01	.00
	3	.888	2.731	.00	.01	.00
	4	.723	3.025	.00	.00	.00
	5	.348	4.363	.00	.86	.00
	6	.095	8.341	.00	.00	.00
	7	.070	9.706	.00	.09	.01
	8	.034	13.961	.00	.00	.04
	9	.016	20.631	.02	.00	.55
	10	.005	36.745	.97	.02	.40

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.08	.24	.00	.00	.03	.01
	3	.59	.03	.00	.00	.01	.01
	4	.00	.58	.00	.00	.03	.02
	5	.01	.08	.00	.00	.00	.00
	6	.00	.04	.00	.00	.53	.69
	7	.05	.00	.20	.01	.00	.01
	8	.00	.00	.06	.64	.00	.00
	9	.00	.00	.17	.02	.00	.00
	10	.26	.02	.56	.33	.38	.25

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.18
	8	.14
	9	.66
	10	.01

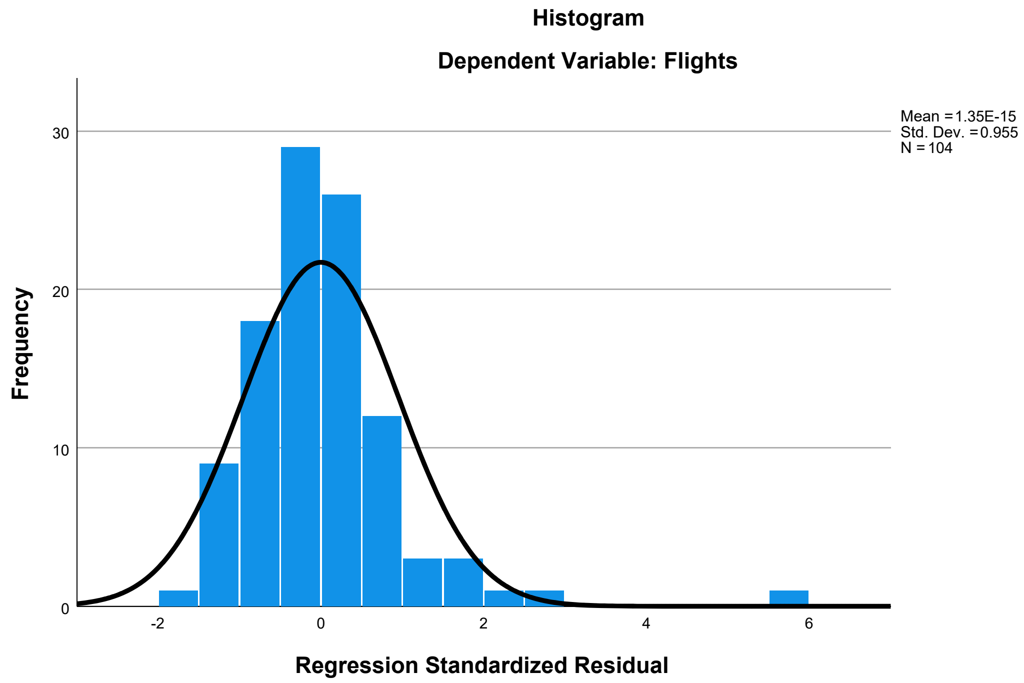
a. Dependent Variable: Flights

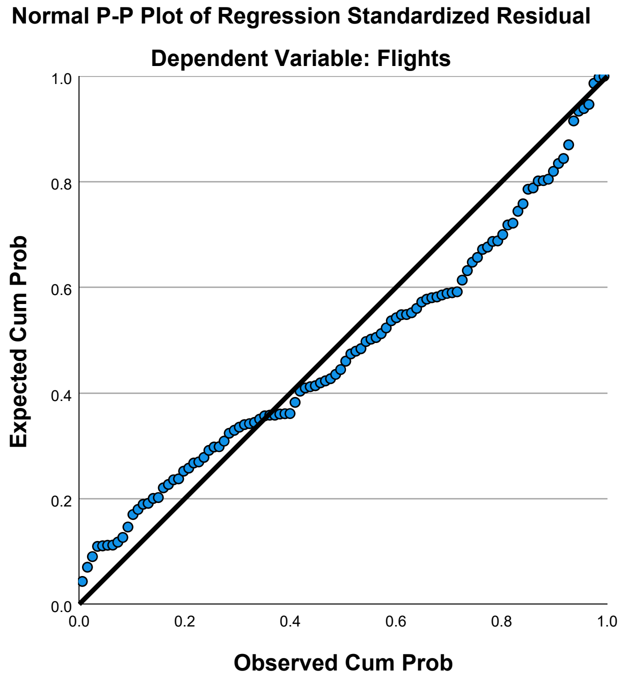
Residuals Statistics[a]

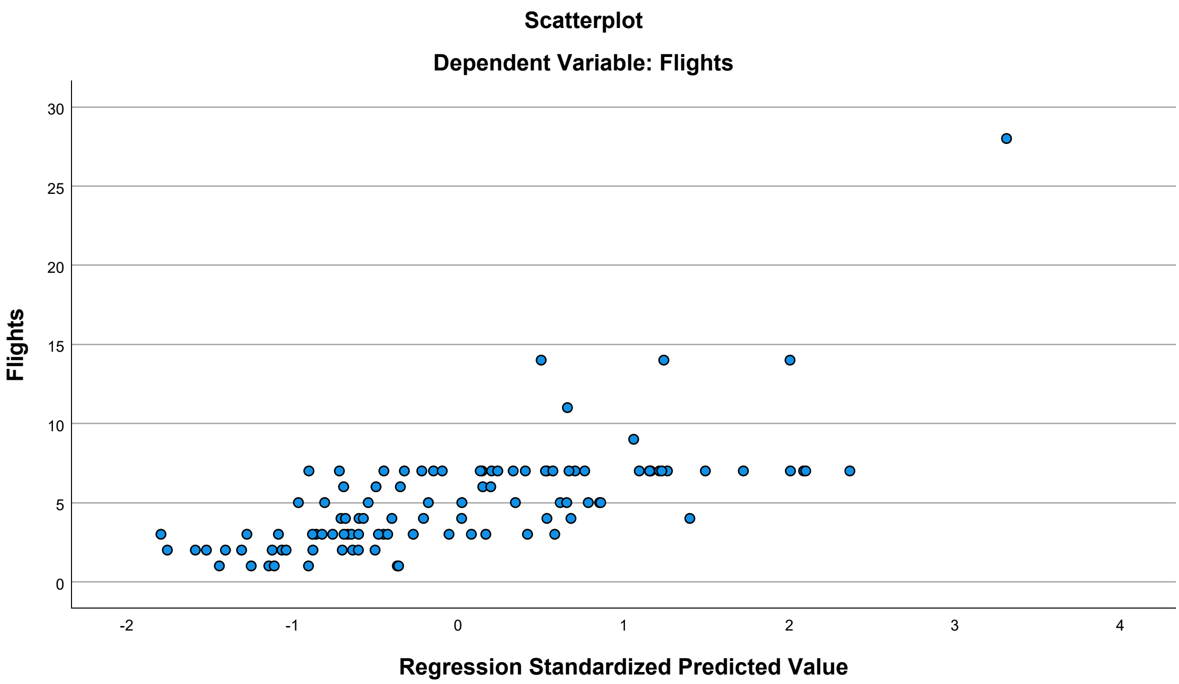
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.73	13.22	5.12	2.446	104
Residual	-4.540	14.781	.000	2.528	104
Std. Predicted Value	-1.794	3.312	.000	1.000	104
Std. Residual	-1.716	5.586	.000	.955	104

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
25
30
-2
-1
0
1
2
3
4

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	5.12	3.518	104
HomeConcentration	1.5016020192	1.3364136501	104
Congestion	5.13	.946	104
GLHR	.07	.252	104
PartnerConcentration	.47588467308	1.4841543489	104
Seasonality	.87050763739	.19973271044	104
Distance	3.93528	.840944	104
Ethnicity	.86456668	.864080215	104
Urban	15.46	4.155	104

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.398	.182	.375
	HomeConcentration	.398	1.000	.331	.028
	Congestion	.182	.331	1.000	-.079
	GLHR	.375	.028	-.079	1.000
	PartnerConcentration	.237	.234	.105	-.087
	Seasonality	-.379	-.127	-.169	-.422
	Distance	-.084	.200	.242	-.146
	Ethnicity	.254	.015	.114	.105
	Urban	.378	.322	.641	.072
Sig. (1-tailed)	Flights	.	<.001	.032	<.001
	HomeConcentration	.000	.	.000	.387
	Congestion	.032	.000	.	.212
	GLHR	.000	.387	.212	.
	PartnerConcentration	.008	.008	.145	.191
	Seasonality	.000	.099	.044	.000
	Distance	.198	.021	.007	.070
	Ethnicity	.005	.440	.126	.145
	Urban	.000	.000	.000	.233
N	Flights	104	104	104	104
	HomeConcentration	104	104	104	104
	Congestion	104	104	104	104
	GLHR	104	104	104	104
	PartnerConcentration	104	104	104	104
	Seasonality	104	104	104	104
	Distance	104	104	104	104
	Ethnicity	104	104	104	104
	Urban	104	104	104	104

Correlations

		PartnerConcentration	Seasonality	Distance	Ethnicity
Pearson Correlation	Flights	.237	-.379	-.084	.254
	HomeConcentration	.234	-.127	.200	.015
	Congestion	.105	-.169	.242	.114
	GLHR	-.087	-.422	-.146	.105
	PartnerConcentration	1.000	.002	.132	-.069
	Seasonality	.002	1.000	-.108	-.130
	Distance	.132	-.108	1.000	-.130
	Ethnicity	-.069	-.130	-.130	1.000
	Urban	.120	-.315	.315	.090
Sig. (1-tailed)	Flights	.008	<.001	.198	.005
	HomeConcentration	.008	.099	.021	.440
	Congestion	.145	.044	.007	.126
	GLHR	.191	.000	.070	.145
	PartnerConcentration	.	.491	.091	.243
	Seasonality	.491	.	.139	.095
	Distance	.091	.139	.	.095
	Ethnicity	.243	.095	.095	.
	Urban	.112	.001	.001	.183
N	Flights	104	104	104	104
	HomeConcentration	104	104	104	104
	Congestion	104	104	104	104
	GLHR	104	104	104	104
	PartnerConcentration	104	104	104	104
	Seasonality	104	104	104	104
	Distance	104	104	104	104
	Ethnicity	104	104	104	104
	Urban	104	104	104	104

Correlations

		Urban
Pearson Correlation	Flights	.378
	HomeConcentration	.322
	Congestion	.641
	GLHR	.072
	PartnerConcentration	.120
	Seasonality	-.315
	Distance	.315
	Ethnicity	.090
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.000
	Congestion	.000
	GLHR	.233
	PartnerConcentration	.112
	Seasonality	.001
	Distance	.001
	Ethnicity	.183
	Urban	.
N	Flights	104
	HomeConcentration	104
	Congestion	104
	GLHR	104
	PartnerConcentration	104
	Seasonality	104
	Distance	104
	Ethnicity	104
	Urban	104

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, GLHR, Ethnicity, PartnerConcentration, HomeConcentration, Distance, Seasonality, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.689[a]	.475	.430	2.655	.475	10.726

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	95	<.001

a. Predictors: (Constant), Urban, GLHR, Ethnicity, PartnerConcentration, HomeConcentration, Distance, Seasonality, Congestio

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	604.909	8	75.614	10.726	<.001[b]
	Residual	669.706	95	7.050		
	Total	1274.615	103			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, GLHR, Ethnicity, PartnerConcentration, HomeConcentration, Distance, Seasonality, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	6.837	2.556		2.675	.009
	HomeConcentration	.788	.216	.299	3.651	<.001
	Congestion	-.442	.373	-.119	-1.186	.239
	GLHR	3.289	1.192	.235	2.760	.007
	PartnerConcentration	.476	.183	.201	2.601	.011
	Seasonality	-2.868	1.535	-.163	-1.868	.065
	Distance	-.838	.342	-.200	-2.452	.016
	Ethnicity	.720	.312	.177	2.304	.023
	Urban	.265	.088	.312	3.001	.003

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.823	1.215
	Congestion	.550	1.819
	GLHR	.760	1.315
	PartnerConcentration	.926	1.080
	Seasonality	.728	1.374
	Distance	.829	1.206
	Ethnicity	.940	1.064
	Urban	.511	1.959

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

				Variance Proportions		
Model	Dimension	Eigenvalue	Condition Index	(Constant)	HomeConcentration	Congestion
1	1	6.223	1.000	.00	.01	.00
	2	1.029	2.459	.00	.00	.00
	3	.830	2.738	.00	.01	.00
	4	.449	3.725	.00	.07	.00
	5	.342	4.267	.00	.80	.00
	6	.070	9.400	.00	.09	.01
	7	.034	13.520	.00	.00	.04
	8	.016	20.003	.03	.00	.64
	9	.008	28.377	.96	.02	.31

Collinearity Diagnostics[a]

		Variance Proportions					
Model	Dimension	GLHR	PartnerConcentration	Seasonality	Distance	Ethnicity	Urban
1	1	.00	.00	.00	.00	.01	.00
	2	.39	.32	.00	.00	.02	.00
	3	.34	.52	.00	.00	.01	.00
	4	.01	.09	.00	.00	.84	.00
	5	.02	.07	.01	.00	.07	.00
	6	.05	.00	.25	.01	.01	.18
	7	.00	.00	.07	.75	.03	.14
	8	.00	.00	.21	.02	.02	.66
	9	.18	.00	.46	.21	.01	.01

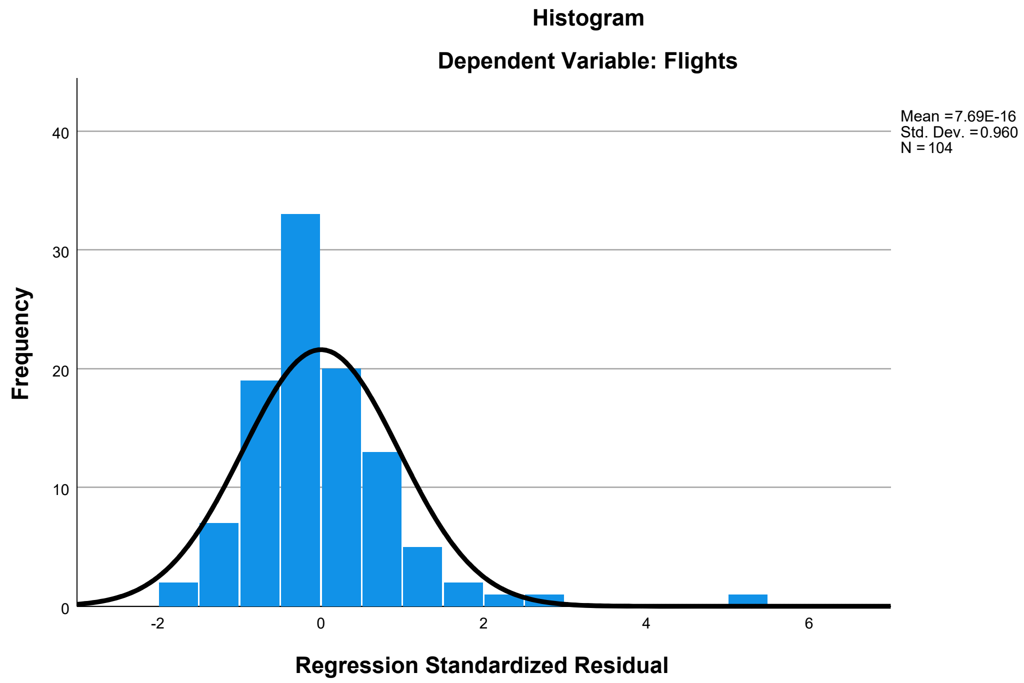
a. Dependent Variable: Flights

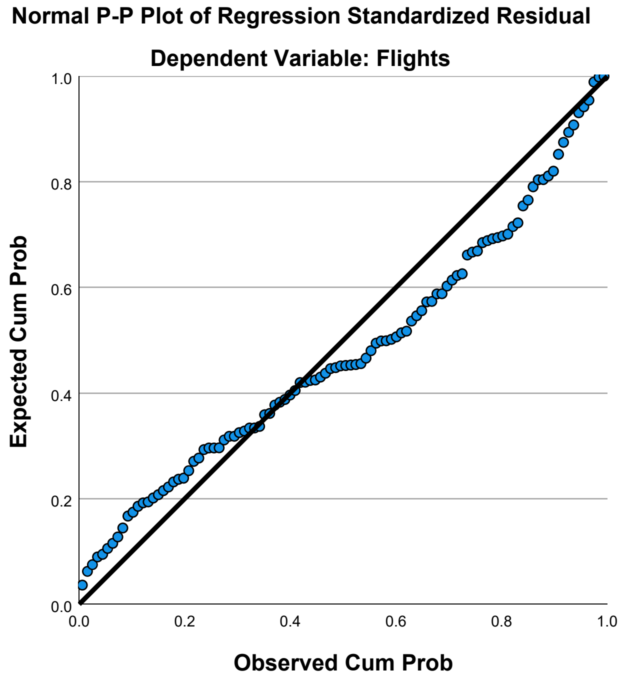
Residuals Statistics[a]

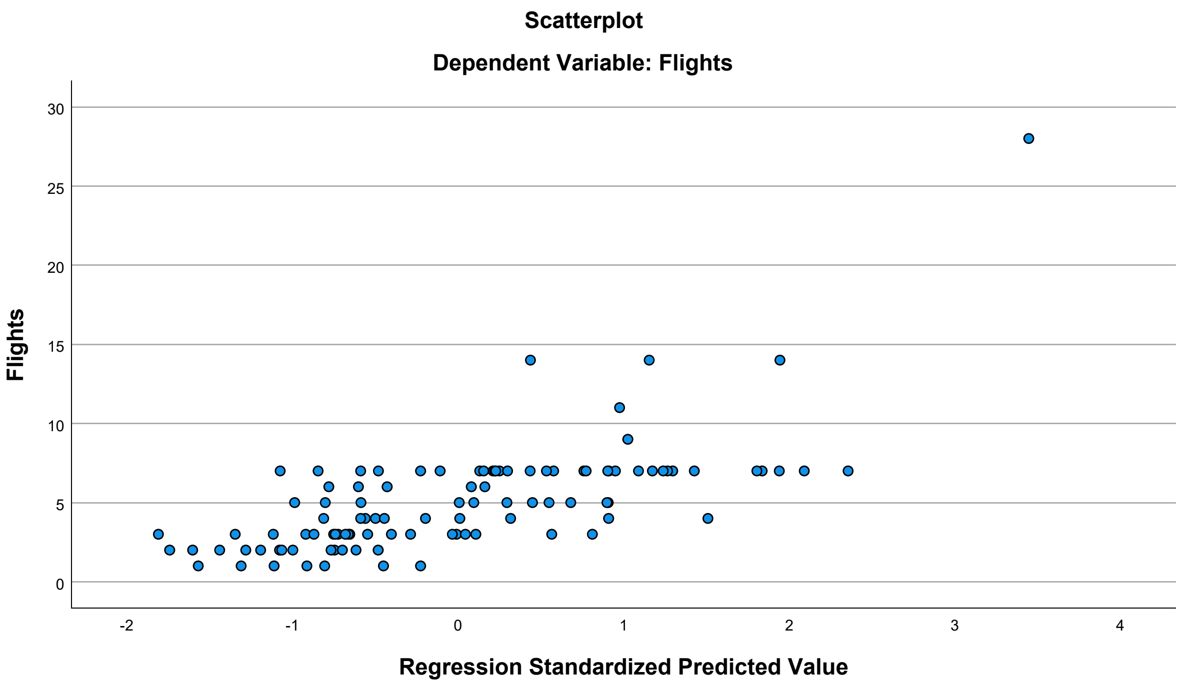
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.73	13.47	5.12	2.423	104
Residual	-4.772	14.531	.000	2.550	104
Std. Predicted Value	-1.810	3.447	.000	1.000	104
Std. Residual	-1.797	5.473	.000	.960	104

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
25
30
-2
-1
0
1
2
3
4

Regression

```
[DataSet20] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airline Type\1997 FSC.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.06	5.228	338
HomeConcentration	2.4334490533	2.6691503374	338
Congestion	4.77	1.002	338
GLHR	.14	.347	338
GJFK	.24	.429	338
PartnerConcentration	.41108147929	1.3284828867	338
Seasonality	.61433007448	.17818291215	338
Distance	4.21533	.781685	338
Language	1.97748289	3.510189105	338
Ethnicity	.60490174	.777355201	338
Urban	17.37	4.511	338

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.291	.152	.334
	HomeConcentration	.291	1.000	-.130	-.059
	Congestion	.152	-.130	1.000	.034
	GLHR	.334	-.059	.034	1.000
	GJFK	.075	-.353	.463	-.108
	PartnerConcentration	.036	.088	.013	-.095
	Seasonality	-.115	-.124	.028	-.043
	Distance	-.143	.061	-.015	-.096
	Language	.290	-.001	.015	.442
	Ethnicity	.245	.030	.210	.178
	Urban	.348	.084	.531	.257
Sig. (1-tailed)	Flights	.	<.001	.003	<.001
	HomeConcentration	.000	.	.008	.140
	Congestion	.003	.008	.	.266
	GLHR	.000	.140	.266	.
	GJFK	.084	.000	.000	.024
	PartnerConcentration	.256	.052	.408	.041
	Seasonality	.018	.012	.306	.218
	Distance	.004	.131	.395	.038
	Language	.000	.495	.390	.000
	Ethnicity	.000	.289	.000	.001
	Urban	.000	.062	.000	.000
N	Flights	338	338	338	338
	HomeConcentration	338	338	338	338

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.075	.036	-.115	-.143
	HomeConcentration	-.353	.088	-.124	.061
	Congestion	.463	.013	.028	-.015
	GLHR	-.108	-.095	-.043	-.096
	GJFK	1.000	-.143	-.030	-.191
	PartnerConcentration	-.143	1.000	.067	.049
	Seasonality	-.030	.067	1.000	.098
	Distance	-.191	.049	.098	1.000
	Language	.097	-.157	-.043	-.318
	Ethnicity	.141	.023	-.017	-.249
	Urban	.247	-.011	-.068	.009
Sig. (1-tailed)	Flights	.084	.256	.018	.004
	HomeConcentration	.000	.052	.012	.131
	Congestion	.000	.408	.306	.395
	GLHR	.024	.041	.218	.038
	GJFK	.	.004	.294	.000
	PartnerConcentration	.004	.	.111	.184
	Seasonality	.294	.111	.	.036
	Distance	.000	.184	.036	.
	Language	.037	.002	.216	.000
	Ethnicity	.005	.334	.376	.000
	Urban	.000	.421	.107	.435
N	Flights	338	338	338	338
	HomeConcentration	338	338	338	338

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.290	.245	.348
	HomeConcentration	-.001	.030	.084
	Congestion	.015	.210	.531
	GLHR	.442	.178	.257
	GJFK	.097	.141	.247
	PartnerConcentration	-.157	.023	-.011
	Seasonality	-.043	-.017	-.068
	Distance	-.318	-.249	.009
	Language	1.000	.389	.063
	Ethnicity	.389	1.000	.127
	Urban	.063	.127	1.000
Sig. (1-tailed)	Flights	<.001	<.001	<.001
	HomeConcentration	.495	.289	.062
	Congestion	.390	.000	.000
	GLHR	.000	.001	.000
	GJFK	.037	.005	.000
	PartnerConcentration	.002	.334	.421
	Seasonality	.216	.376	.107
	Distance	.000	.000	.435
	Language	.	.000	.124
	Ethnicity	.000	.	.010
	Urban	.124	.010	.
N	Flights	338	338	338
	HomeConcentration	338	338	338

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	338	338	338	338
	GLHR	338	338	338	338
	GJFK	338	338	338	338
	PartnerConcentration	338	338	338	338
	Seasonality	338	338	338	338
	Distance	338	338	338	338
	Language	338	338	338	338
	Ethnicity	338	338	338	338
	Urban	338	338	338	338

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	338	338	338	338
	GLHR	338	338	338	338
	GJFK	338	338	338	338
	PartnerConcentration	338	338	338	338
	Seasonality	338	338	338	338
	Distance	338	338	338	338
	Language	338	338	338	338
	Ethnicity	338	338	338	338
	Urban	338	338	338	338

Correlations

		Language	Ethnicity	Urban
	Congestion	338	338	338
	GLHR	338	338	338
	GJFK	338	338	338
	PartnerConcentration	338	338	338
	Seasonality	338	338	338
	Distance	338	338	338
	Language	338	338	338
	Ethnicity	338	338	338
	Urban	338	338	338

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, Seasonality, HomeConcentration, Ethnicity, GLHR, GJFK, Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.574[a]	.329	.309	4.347	.329	16.050

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	327	<.001

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, Seasonality, HomeConcentration, Ethnicity, GLHR, GJFK, La
Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3032.784	10	303.278	16.050	<.001[b]
	Residual	6178.912	327	18.896		
	Total	9211.695	337			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, Seasonality, HomeConcentration, Ethnicity, GLHR, GJFK, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.137	2.005		1.066	.287
	HomeConcentration	.646	.100	.330	6.449	<.001
	Congestion	-.064	.313	-.012	-.203	.840
	GLHR	3.837	.834	.254	4.599	<.001
	GJFK	1.831	.711	.150	2.575	.010
	PartnerConcentration	.295	.184	.075	1.600	.110
	Seasonality	-1.104	1.358	-.038	-.813	.417
	Distance	-.370	.330	-.055	-1.120	.264
	Language	.163	.085	.109	1.917	.056
	Ethnicity	.578	.345	.086	1.674	.095
	Urban	.237	.067	.205	3.537	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.783	1.277
	Congestion	.568	1.759
	GLHR	.671	1.490
	GJFK	.602	1.661
	PartnerConcentration	.935	1.069
	Seasonality	.958	1.044
	Distance	.841	1.189
	Language	.631	1.586
	Ethnicity	.779	1.284
	Urban	.612	1.633

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.606	1.000	.00	.00	.00
	2	1.263	2.287	.00	.02	.00
	3	.998	2.572	.00	.04	.00
	4	.754	2.960	.00	.09	.00
	5	.576	3.387	.00	.12	.00
	6	.365	4.256	.00	.08	.00
	7	.304	4.660	.00	.51	.00
	8	.067	9.928	.00	.10	.03
	9	.037	13.443	.02	.00	.02
	10	.020	18.309	.01	.02	.77
	11	.010	25.234	.97	.01	.18

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.13	.00	.18	.00	.00	.11
	3	.11	.23	.13	.00	.00	.01
	4	.00	.07	.60	.00	.00	.02
	5	.32	.01	.02	.00	.00	.08
	6	.05	.06	.06	.00	.00	.51
	7	.24	.34	.01	.02	.00	.18
	8	.07	.12	.00	.68	.00	.02
	9	.04	.10	.00	.20	.36	.00
	10	.03	.05	.00	.01	.12	.00
	11	.00	.00	.00	.07	.50	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.02	.00
	3	.00	.00
	4	.06	.00
	5	.29	.00
	6	.56	.00
	7	.00	.00
	8	.00	.14
	9	.02	.34
	10	.03	.52
	11	.00	.00

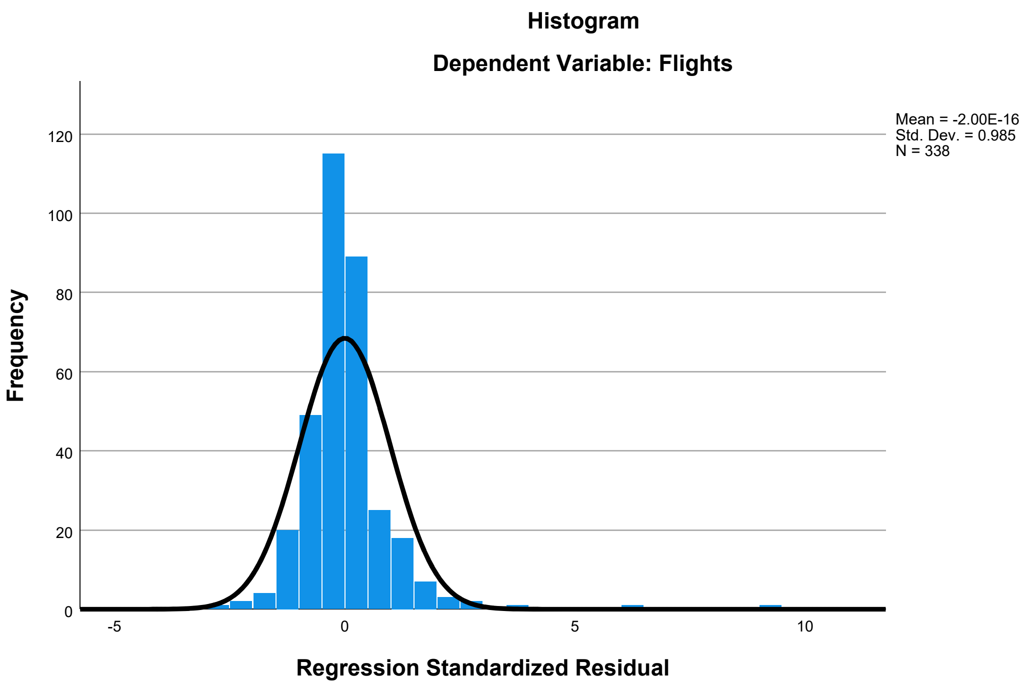
a. Dependent Variable: Flights

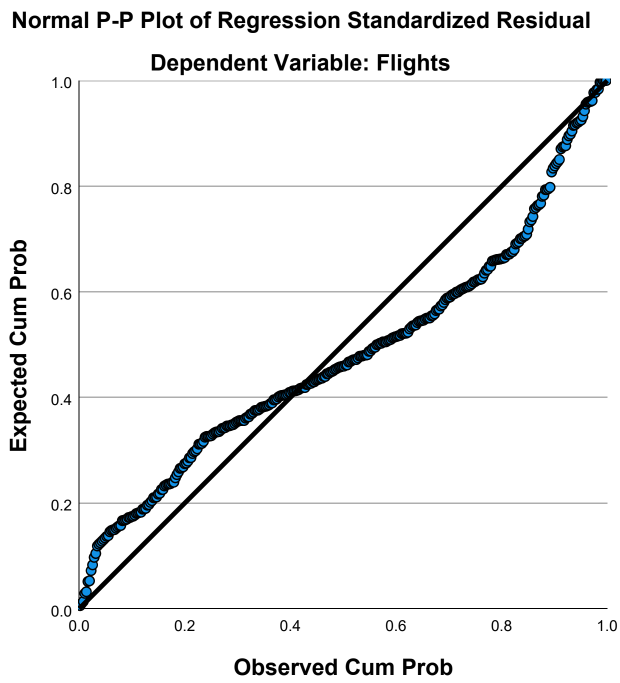
Residuals Statistics[a]

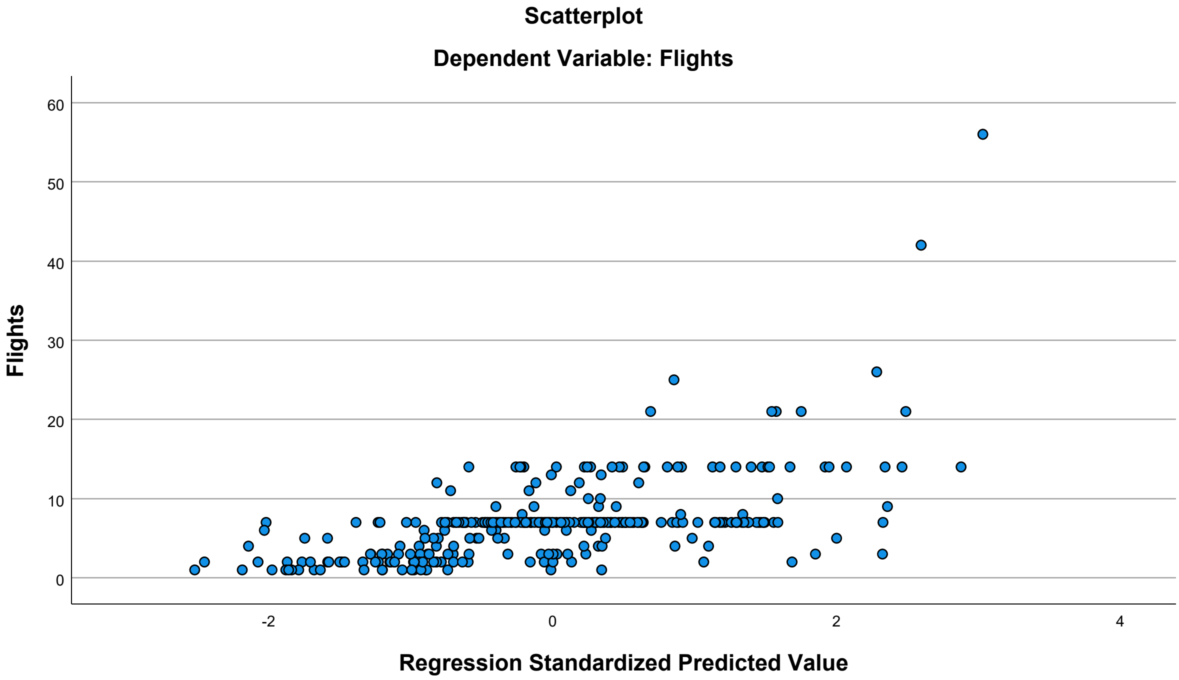
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.50	16.15	7.06	3.000	338
Residual	-11.032	39.846	.000	4.282	338
Std. Predicted Value	-2.522	3.031	.000	1.000	338
Std. Residual	-2.538	9.166	.000	.985	338

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -2.00E-16
Std. Dev. = 0.985
N = 338
Frequency
120
100
80
60
40
20
0
-5
0
5
10
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet21] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airline Type\2002 FSC.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.04	5.618	330
HomeConcentration	3.3187055939	3.0301082129	330
Congestion	4.63	.901	330
GLHR	.14	.344	330
GJFK	.19	.394	330
PartnerConcentration	1.0950880970	1.9954834254	330
Seasonality	.61495964347	.18436142241	330
Distance	4.21693	.755051	330
Language	1.96825096	3.423498324	330
Ethnicity	.58241228	.697967603	330
Urban	17.39	4.031	330

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.214	.157	.381
	HomeConcentration	.214	1.000	-.206	-.140
	Congestion	.157	-.206	1.000	.076
	GLHR	.381	-.140	.076	1.000
	GJFK	.032	-.363	.475	-.058
	PartnerConcentration	.189	-.001	-.005	.071
	Seasonality	-.140	-.063	.015	-.182
	Distance	-.165	.068	.048	-.136
	Language	.287	-.057	-.006	.469
	Ethnicity	.197	.022	.114	.129
	Urban	.342	.006	.529	.308
Sig. (1-tailed)	Flights	.	<.001	.002	<.001
	HomeConcentration	.000	.	.000	.005
	Congestion	.002	.000	.	.083
	GLHR	.000	.005	.083	.
	GJFK	.279	.000	.000	.146
	PartnerConcentration	.000	.491	.462	.098
	Seasonality	.006	.126	.390	.000
	Distance	.001	.109	.193	.007
	Language	.000	.152	.454	.000
	Ethnicity	.000	.344	.019	.010
	Urban	.000	.460	.000	.000
N	Flights	330	330	330	330
	HomeConcentration	330	330	330	330

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.032	.189	-.140	-.165
	HomeConcentration	-.363	-.001	-.063	.068
	Congestion	.475	-.005	.015	.048
	GLHR	-.058	.071	-.182	-.136
	GJFK	1.000	-.143	.004	-.085
	PartnerConcentration	-.143	1.000	-.060	.009
	Seasonality	.004	-.060	1.000	-.028
	Distance	-.085	.009	-.028	1.000
	Language	.078	.013	-.092	-.313
	Ethnicity	.101	.064	-.006	-.231
	Urban	.195	.110	-.201	.041
Sig. (1-tailed)	Flights	.279	<.001	.006	.001
	HomeConcentration	.000	.491	.126	.109
	Congestion	.000	.462	.390	.193
	GLHR	.146	.098	.000	.007
	GJFK	.	.005	.474	.061
	PartnerConcentration	.005	.	.141	.437
	Seasonality	.474	.141	.	.308
	Distance	.061	.437	.308	.
	Language	.078	.410	.047	.000
	Ethnicity	.034	.125	.453	.000
	Urban	.000	.023	.000	.232
N	Flights	330	330	330	330
	HomeConcentration	330	330	330	330

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.287	.197	.342
	HomeConcentration	-.057	.022	.006
	Congestion	-.006	.114	.529
	GLHR	.469	.129	.308
	GJFK	.078	.101	.195
	PartnerConcentration	.013	.064	.110
	Seasonality	-.092	-.006	-.201
	Distance	-.313	-.231	.041
	Language	1.000	.392	.029
	Ethnicity	.392	1.000	.028
	Urban	.029	.028	1.000
Sig. (1-tailed)	Flights	<.001	<.001	<.001
	HomeConcentration	.152	.344	.460
	Congestion	.454	.019	.000
	GLHR	.000	.010	.000
	GJFK	.078	.034	.000
	PartnerConcentration	.410	.125	.023
	Seasonality	.047	.453	.000
	Distance	.000	.000	.232
	Language	.	.000	.297
	Ethnicity	.000	.	.306
	Urban	.297	.306	.
N	Flights	330	330	330
	HomeConcentration	330	330	330

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	330	330	330	330
	GLHR	330	330	330	330
	GJFK	330	330	330	330
	PartnerConcentration	330	330	330	330
	Seasonality	330	330	330	330
	Distance	330	330	330	330
	Language	330	330	330	330
	Ethnicity	330	330	330	330
	Urban	330	330	330	330

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	330	330	330	330
	GLHR	330	330	330	330
	GJFK	330	330	330	330
	PartnerConcentration	330	330	330	330
	Seasonality	330	330	330	330
	Distance	330	330	330	330
	Language	330	330	330	330
	Ethnicity	330	330	330	330
	Urban	330	330	330	330

Correlations

		Language	Ethnicity	Urban
	Congestion	330	330	330
	GLHR	330	330	330
	GJFK	330	330	330
	PartnerConcentration	330	330	330
	Seasonality	330	330	330
	Distance	330	330	330
	Language	330	330	330
	Ethnicity	330	330	330
	Urban	330	330	330

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, Ethnicity, PartnerConcentration, Seasonality, Distance, GLHR, GJFK, Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.583[a]	.340	.319	4.636	.340	16.402

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	10	319	<.001

a. Predictors: (Constant), Urban, HomeConcentration, Ethnicity, PartnerConcentration, Seasonality, Distance, GLHR, GJFK, La
Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3525.661	10	352.566	16.402	<.001[b]
	Residual	6856.827	319	21.495		
	Total	10382.488	329			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, Ethnicity, PartnerConcentration, Seasonality, Distance, GLHR, GJFK, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.774	2.389		.743	.458
	HomeConcentration	.579	.095	.312	6.106	<.001
	Congestion	.348	.384	.056	.907	.365
	GLHR	4.737	.941	.290	5.036	<.001
	GJFK	1.443	.814	.101	1.773	.077
	PartnerConcentration	.446	.132	.158	3.387	<.001
	Seasonality	-.497	1.448	-.016	-.344	.731
	Distance	-.789	.363	-.106	-2.177	.030
	Language	.158	.095	.096	1.653	.099
	Ethnicity	.470	.409	.058	1.148	.252
	Urban	.252	.083	.180	3.024	.003

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.792	1.262
	Congestion	.545	1.836
	GLHR	.625	1.600
	GJFK	.637	1.571
	PartnerConcentration	.947	1.056
	Seasonality	.917	1.091
	Distance	.871	1.148
	Language	.612	1.633
	Ethnicity	.801	1.249
	Urban	.581	1.721

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions Congestion
1	1	6.822	1.000	.00	.00	.00
	2	1.184	2.401	.00	.02	.00
	3	.984	2.633	.00	.03	.00
	4	.698	3.126	.00	.08	.00
	5	.585	3.415	.00	.01	.00
	6	.330	4.545	.00	.08	.00
	7	.267	5.055	.00	.68	.00
	8	.073	9.650	.00	.06	.02
	9	.033	14.334	.01	.00	.04
	10	.015	21.125	.00	.02	.82
	11	.009	27.805	.98	.01	.12

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.21	.00	.00	.00	.00	.14
	3	.02	.34	.15	.00	.00	.00
	4	.00	.08	.74	.00	.00	.01
	5	.28	.00	.02	.00	.00	.07
	6	.15	.03	.04	.00	.00	.59
	7	.15	.32	.02	.03	.00	.10
	8	.12	.07	.02	.68	.02	.02
	9	.05	.07	.00	.07	.45	.00
	10	.02	.06	.00	.06	.05	.00
	11	.00	.02	.00	.15	.48	.07

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.02	.00
	3	.00	.00
	4	.00	.00
	5	.40	.00
	6	.53	.00
	7	.01	.00
	8	.00	.07
	9	.01	.28
	10	.02	.61
	11	.00	.03

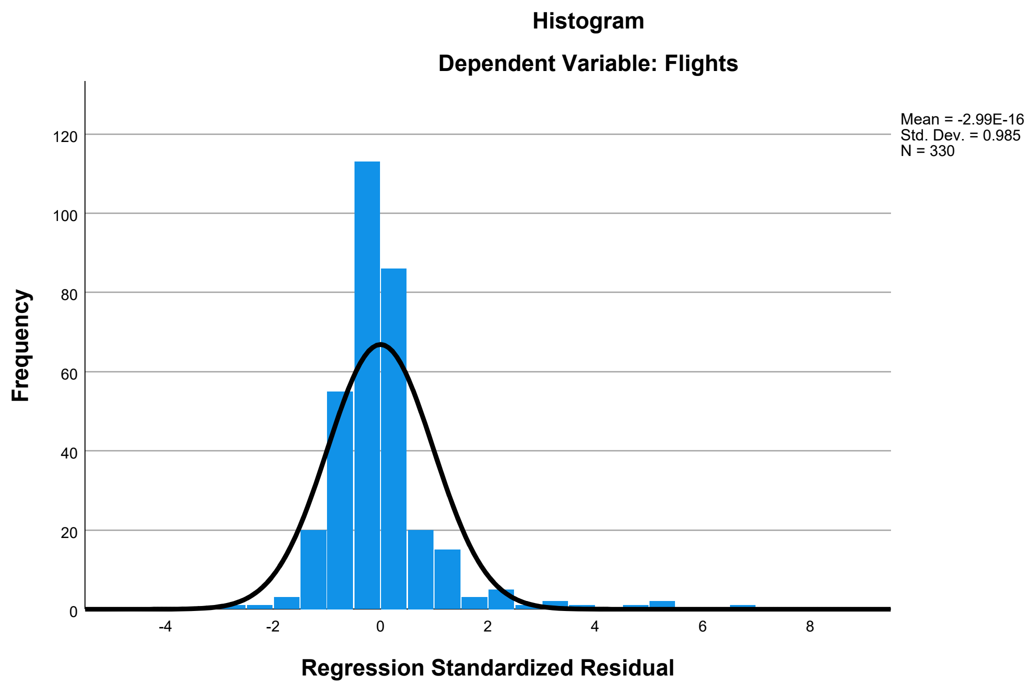
a. Dependent Variable: Flights

Residuals Statistics[a]

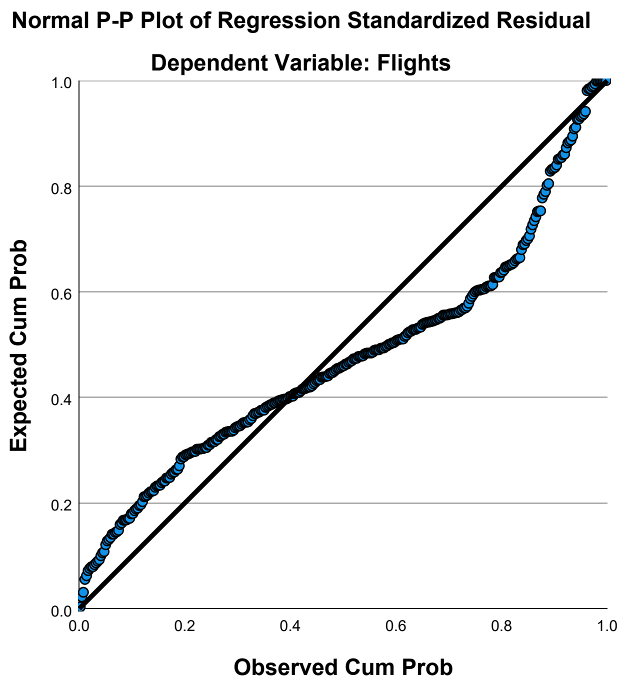
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.49	18.40	8.04	3.274	330
Residual	-12.657	30.597	.000	4.565	330
Std. Predicted Value	-2.307	3.166	.000	1.000	330
Std. Residual	-2.730	6.600	.000	.985	330

a. Dependent Variable: Flights

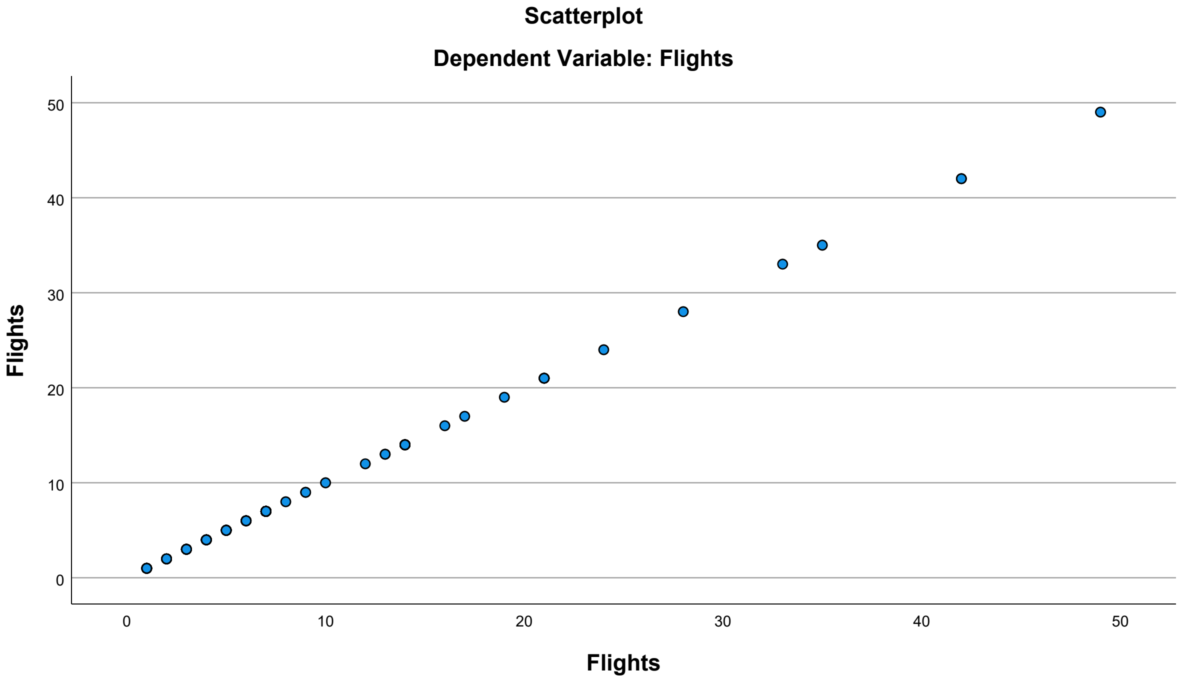
Charts



Histogram
Dependent Variable: Flights
Mean = -2.99E-16
Std. Dev. = 0.985
N = 330
Frequency
120
100
80
60
40
20
0
-4
-2
0
2
4
6
8
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Scatterplot
Dependent Variable: Flights
Flights
0
10
20
30
40
50
Flights

Regression

```
[DataSet22] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airline Type\2007 FSC.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.25	5.859	426
HomeConcentration	3.3104555399	3.0855741897	426
Congestion	4.67	.993	426
GLHR	.11	.314	426
GJFK	.19	.389	426
PartnerConcentration	1.1436375446	2.0910439251	426
Seasonality	.64295769833	.19145960195	426
Distance	4.27012	.933140	426
Language	1.78541741	3.379733034	426
Ethnicity	.63160414	.803276268	426
Urban	16.33	4.546	426

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.214	.169	.377
	HomeConcentration	.214	1.000	-.175	-.092
	Congestion	.169	-.175	1.000	.081
	GLHR	.377	-.092	.081	1.000
	GJFK	.061	-.337	.410	-.072
	PartnerConcentration	.199	.081	.007	.002
	Seasonality	-.235	-.142	-.239	-.164
	Distance	-.146	.116	-.011	-.075
	Language	.285	-.073	.131	.403
	Ethnicity	.155	-.048	.219	.089
	Urban	.387	.080	.580	.248
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.000	.029
	Congestion	.000	.000	.	.048
	GLHR	.000	.029	.048	.
	GJFK	.104	.000	.000	.070
	PartnerConcentration	.000	.048	.443	.482
	Seasonality	.000	.002	.000	.000
	Distance	.001	.009	.408	.061
	Language	.000	.067	.003	.000
	Ethnicity	.001	.160	.000	.034
	Urban	.000	.049	.000	.000
N	Flights	426	426	426	426
	HomeConcentration	426	426	426	426

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.061	.199	-.235	-.146
	HomeConcentration	-.337	.081	-.142	.116
	Congestion	.410	.007	-.239	-.011
	GLHR	-.072	.002	-.164	-.075
	GJFK	1.000	-.169	-.070	-.005
	PartnerConcentration	-.169	1.000	-.176	.056
	Seasonality	-.070	-.176	1.000	-.144
	Distance	-.005	.056	-.144	1.000
	Language	.150	-.137	-.100	-.279
	Ethnicity	.178	.019	.023	-.215
	Urban	.221	.120	-.399	.054
Sig. (1-tailed)	Flights	.104	<.001	<.001	.001
	HomeConcentration	.000	.048	.002	.009
	Congestion	.000	.443	.000	.408
	GLHR	.070	.482	.000	.061
	GJFK	.	.000	.074	.462
	PartnerConcentration	.000	.	.000	.125
	Seasonality	.074	.000	.	.001
	Distance	.462	.125	.001	.
	Language	.001	.002	.020	.000
	Ethnicity	.000	.348	.315	.000
	Urban	.000	.006	.000	.135
N	Flights	426	426	426	426
	HomeConcentration	426	426	426	426

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.285	.155	.387
	HomeConcentration	-.073	-.048	.080
	Congestion	.131	.219	.580
	GLHR	.403	.089	.248
	GJFK	.150	.178	.221
	PartnerConcentration	-.137	.019	.120
	Seasonality	-.100	.023	-.399
	Distance	-.279	-.215	.054
	Language	1.000	.315	.120
	Ethnicity	.315	1.000	.081
	Urban	.120	.081	1.000
Sig. (1-tailed)	Flights	<.001	<.001	<.001
	HomeConcentration	.067	.160	.049
	Congestion	.003	.000	.000
	GLHR	.000	.034	.000
	GJFK	.001	.000	.000
	PartnerConcentration	.002	.348	.006
	Seasonality	.020	.315	.000
	Distance	.000	.000	.135
	Language	.	.000	.006
	Ethnicity	.000	.	.048
	Urban	.006	.048	.
N	Flights	426	426	426
	HomeConcentration	426	426	426

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	426	426	426	426
	GLHR	426	426	426	426
	GJFK	426	426	426	426
	PartnerConcentration	426	426	426	426
	Seasonality	426	426	426	426
	Distance	426	426	426	426
	Language	426	426	426	426
	Ethnicity	426	426	426	426
	Urban	426	426	426	426

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	426	426	426	426
	GLHR	426	426	426	426
	GJFK	426	426	426	426
	PartnerConcentration	426	426	426	426
	Seasonality	426	426	426	426
	Distance	426	426	426	426
	Language	426	426	426	426
	Ethnicity	426	426	426	426
	Urban	426	426	426	426

Correlations

		Language	Ethnicity	Urban
	Congestion	426	426	426
	GLHR	426	426	426
	GJFK	426	426	426
	PartnerConcentration	426	426	426
	Seasonality	426	426	426
	Distance	426	426	426
	Language	426	426	426
	Ethnicity	426	426	426
	Urban	426	426	426

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, HomeConcentration, Ethnicity, GLHR, Seasonality, GJFK, Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.605[a]	.366	.351	4.722	.366	23.947

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	10	415	<.001

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, HomeConcentration, Ethnicity, GLHR, Seasonality, GJFK, La Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5339.054	10	533.905	23.947	<.001[b]
	Residual	9252.570	415	22.295		
	Total	14591.624	425			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, HomeConcentration, Ethnicity, GLHR, Seasonality, GJFK, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.752	2.181		2.179	.030
	HomeConcentration	.511	.084	.269	6.085	<.001
	Congestion	-.216	.313	-.037	-.690	.491
	GLHR	5.404	.855	.289	6.321	<.001
	GJFK	2.111	.712	.140	2.964	.003
	PartnerConcentration	.532	.116	.190	4.600	<.001
	Seasonality	-.864	1.357	-.028	-.637	.525
	Distance	-.894	.264	-.142	-3.390	<.001
	Language	.200	.082	.115	2.431	.015
	Ethnicity	.266	.314	.036	.846	.398
	Urban	.310	.069	.241	4.474	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.780	1.282
	Congestion	.542	1.845
	GLHR	.730	1.371
	GJFK	.683	1.464
	PartnerConcentration	.898	1.114
	Seasonality	.777	1.287
	Distance	.866	1.155
	Language	.681	1.468
	Ethnicity	.825	1.212
	Urban	.528	1.896

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.667	1.000	.00	.00	.00
	2	1.227	2.331	.00	.03	.00
	3	1.003	2.578	.00	.01	.00
	4	.671	3.152	.00	.08	.00
	5	.573	3.410	.00	.03	.00
	6	.393	4.120	.00	.05	.00
	7	.301	4.706	.00	.63	.00
	8	.092	8.529	.00	.09	.03
	9	.045	12.157	.00	.01	.03
	10	.019	18.650	.01	.04	.68
	11	.009	27.850	.99	.02	.26

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.14	.04	.07	.00	.00	.15
	3	.21	.27	.07	.00	.00	.01
	4	.00	.07	.69	.00	.00	.00
	5	.24	.09	.00	.00	.00	.11
	6	.17	.03	.09	.00	.00	.57
	7	.11	.29	.00	.03	.00	.08
	8	.09	.17	.06	.35	.00	.00
	9	.00	.00	.00	.14	.59	.02
	10	.03	.01	.00	.08	.05	.01
	11	.00	.02	.01	.40	.35	.04

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.02	.00
	3	.01	.00
	4	.04	.00
	5	.42	.00
	6	.43	.00
	7	.02	.00
	8	.00	.13
	9	.03	.13
	10	.02	.73
	11	.00	.01

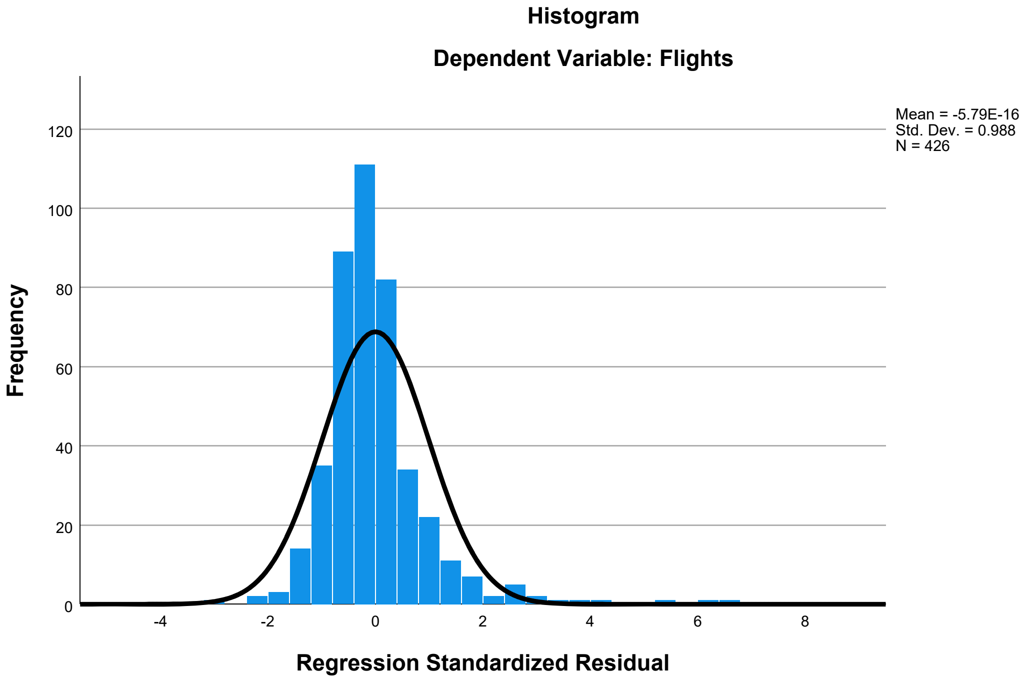
a. Dependent Variable: Flights

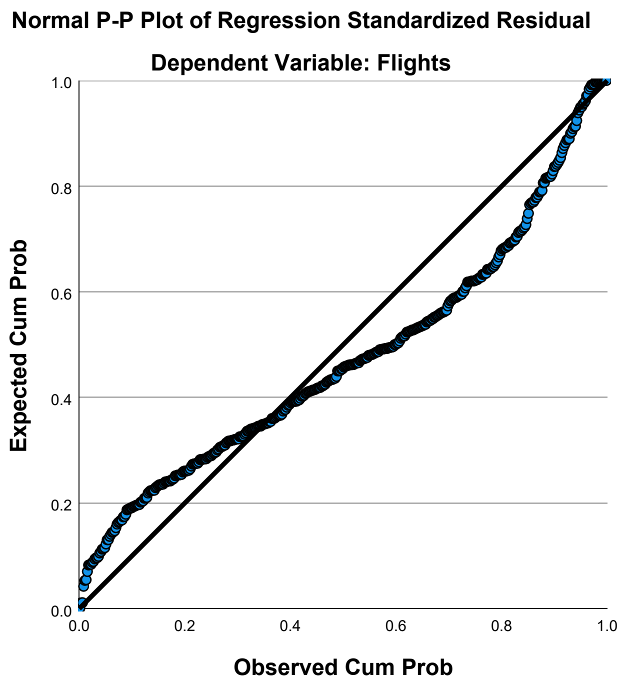
Residuals Statistics[a]

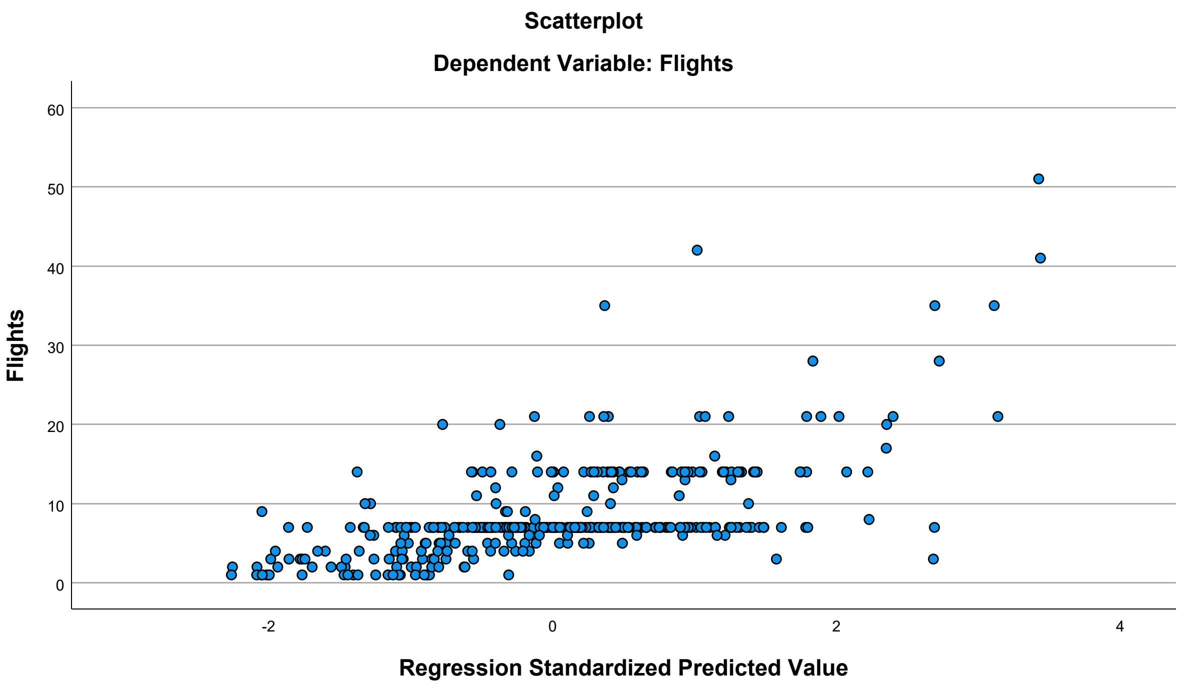
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.23	20.43	8.25	3.544	426
Residual	-14.756	30.615	.000	4.666	426
Std. Predicted Value	-2.263	3.437	.000	1.000	426
Std. Residual	-3.125	6.484	.000	.988	426

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -5.79E-16
Std. Dev. = 0.988
N = 426
Frequency
120
100
80
60
40
20
0
-4
-2
0
2
4
6
8
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet23] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final
Try\Airline Type\2012 FSC.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.28	5.565	431
HomeConcentration	3.1873254988	2.4656245159	431
Congestion	4.76	1.023	431
GLHR	.14	.347	431
GJFK	.19	.389	431
PartnerConcentration	1.2826357309	2.0110079901	431
Seasonality	.63568965807	.21464323031	431
Distance	4.40394	1.092899	431
Language	1.42707003	3.009824088	431
Ethnicity	.50649943	.697419188	431
Urban	18.05	3.536	431

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.206	.123	.389
	HomeConcentration	.206	1.000	-.134	-.021
	Congestion	.123	-.134	1.000	-.024
	GLHR	.389	-.021	-.024	1.000
	GJFK	.081	-.355	.409	-.106
	PartnerConcentration	.143	.047	-.041	-.020
	Seasonality	-.043	-.094	.001	-.146
	Distance	-.115	.123	-.121	-.096
	Language	.352	-.056	.062	.530
	Ethnicity	.168	-.029	.187	.140
	Urban	.369	.153	.477	.238
Sig. (1-tailed)	Flights	.	<.001	.005	<.001
	HomeConcentration	.000	.	.003	.330
	Congestion	.005	.003	.	.310
	GLHR	.000	.330	.310	.
	GJFK	.047	.000	.000	.014
	PartnerConcentration	.001	.166	.198	.340
	Seasonality	.185	.026	.491	.001
	Distance	.008	.005	.006	.023
	Language	.000	.125	.098	.000
	Ethnicity	.000	.277	.000	.002
	Urban	.000	.001	.000	.000
N	Flights	431	431	431	431
	HomeConcentration	431	431	431	431

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.081	.143	-.043	-.115
	HomeConcentration	-.355	.047	-.094	.123
	Congestion	.409	-.041	.001	-.121
	GLHR	-.106	-.020	-.146	-.096
	GJFK	1.000	-.186	.039	-.079
	PartnerConcentration	-.186	1.000	-.079	-.040
	Seasonality	.039	-.079	1.000	-.168
	Distance	-.079	-.040	-.168	1.000
	Language	.117	-.144	-.032	-.264
	Ethnicity	.195	.031	.047	-.230
	Urban	.212	.105	-.272	.114
Sig. (1-tailed)	Flights	.047	.001	.185	.008
	HomeConcentration	.000	.166	.026	.005
	Congestion	.000	.198	.491	.006
	GLHR	.014	.340	.001	.023
	GJFK	.	.000	.210	.051
	PartnerConcentration	.000	.	.052	.201
	Seasonality	.210	.052	.	.000
	Distance	.051	.201	.000	.
	Language	.008	.001	.252	.000
	Ethnicity	.000	.262	.167	.000
	Urban	.000	.015	.000	.009
N	Flights	431	431	431	431
	HomeConcentration	431	431	431	431

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.352	.168	.369
	HomeConcentration	-.056	-.029	.153
	Congestion	.062	.187	.477
	GLHR	.530	.140	.238
	GJFK	.117	.195	.212
	PartnerConcentration	-.144	.031	.105
	Seasonality	-.032	.047	-.272
	Distance	-.264	-.230	.114
	Language	1.000	.390	.131
	Ethnicity	.390	1.000	.098
	Urban	.131	.098	1.000
Sig. (1-tailed)	Flights	<.001	<.001	<.001
	HomeConcentration	.125	.277	.001
	Congestion	.098	.000	.000
	GLHR	.000	.002	.000
	GJFK	.008	.000	.000
	PartnerConcentration	.001	.262	.015
	Seasonality	.252	.167	.000
	Distance	.000	.000	.009
	Language	.	.000	.003
	Ethnicity	.000	.	.021
	Urban	.003	.021	.
N	Flights	431	431	431
	HomeConcentration	431	431	431

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	431	431	431	431
	GLHR	431	431	431	431
	GJFK	431	431	431	431
	PartnerConcentration	431	431	431	431
	Seasonality	431	431	431	431
	Distance	431	431	431	431
	Language	431	431	431	431
	Ethnicity	431	431	431	431
	Urban	431	431	431	431

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	431	431	431	431
GLHR	431	431	431	431
GJFK	431	431	431	431
PartnerConcentration	431	431	431	431
Seasonality	431	431	431	431
Distance	431	431	431	431
Language	431	431	431	431
Ethnicity	431	431	431	431
Urban	431	431	431	431

Correlations

	Language	Ethnicity	Urban
Congestion	431	431	431
GLHR	431	431	431
GJFK	431	431	431
PartnerConcentration	431	431	431
Seasonality	431	431	431
Distance	431	431	431
Language	431	431	431
Ethnicity	431	431	431
Urban	431	431	431

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, PartnerConcentration, HomeConcentration, GLHR, Distance, Seasonality, GJFK, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.588[a]	.346	.330	4.556	.346	22.172

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	420	<.001

a. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, HomeConcentration, GLHR, Distance, Seasonality, GJFK, Co
Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4601.250	10	460.125	22.172	<.001[b]
	Residual	8716.216	420	20.753		
	Total	13317.466	430			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, HomeConcentration, GLHR, Distance, Seasonality, GJFK, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-1.481	1.934		-.766	.444
	HomeConcentration	.560	.101	.248	5.546	<.001
	Congestion	-.145	.274	-.027	-.529	.597
	GLHR	4.248	.805	.265	5.278	<.001
	GJFK	2.305	.701	.161	3.290	.001
	PartnerConcentration	.478	.116	.173	4.122	<.001
	Seasonality	2.212	1.091	.085	2.028	.043
	Distance	-.347	.221	-.068	-1.573	.116
	Language	.354	.097	.191	3.643	<.001
	Ethnicity	-.084	.356	-.011	-.236	.814
	Urban	.371	.083	.236	4.457	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.779	1.283
	Congestion	.615	1.626
	GLHR	.620	1.612
	GJFK	.649	1.541
	PartnerConcentration	.886	1.129
	Seasonality	.881	1.135
	Distance	.829	1.206
	Language	.565	1.769
	Ethnicity	.781	1.280
	Urban	.557	1.796

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.781	1.000	.00	.00	.00
	2	1.318	2.269	.00	.01	.00
	3	1.017	2.582	.00	.02	.00
	4	.643	3.249	.00	.03	.00
	5	.522	3.604	.00	.06	.00
	6	.306	4.704	.00	.01	.00
	7	.244	5.272	.00	.71	.00
	8	.095	8.441	.00	.10	.01
	9	.049	11.797	.00	.00	.20
	10	.015	21.227	.00	.07	.68
	11	.010	25.775	.99	.00	.10

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.14	.00	.04	.00	.00	.15
	3	.08	.32	.07	.00	.00	.00
	4	.01	.01	.60	.00	.00	.00
	5	.22	.15	.12	.00	.00	.02
	6	.39	.00	.08	.00	.00	.77
	7	.04	.32	.02	.06	.00	.01
	8	.06	.06	.01	.60	.09	.01
	9	.00	.09	.02	.02	.50	.01
	10	.05	.00	.03	.03	.12	.01
	11	.00	.04	.00	.29	.28	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.03	.00
	3	.01	.00
	4	.17	.00
	5	.40	.00
	6	.35	.00
	7	.00	.00
	8	.01	.02
	9	.02	.04
	10	.00	.78
	11	.00	.16

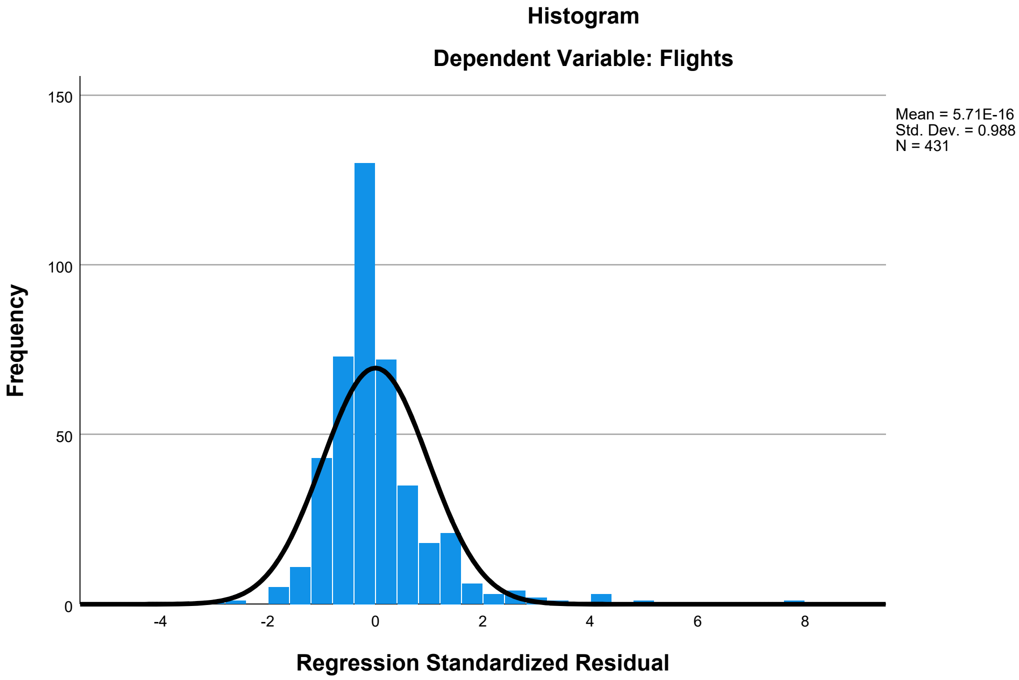
a. Dependent Variable: Flights

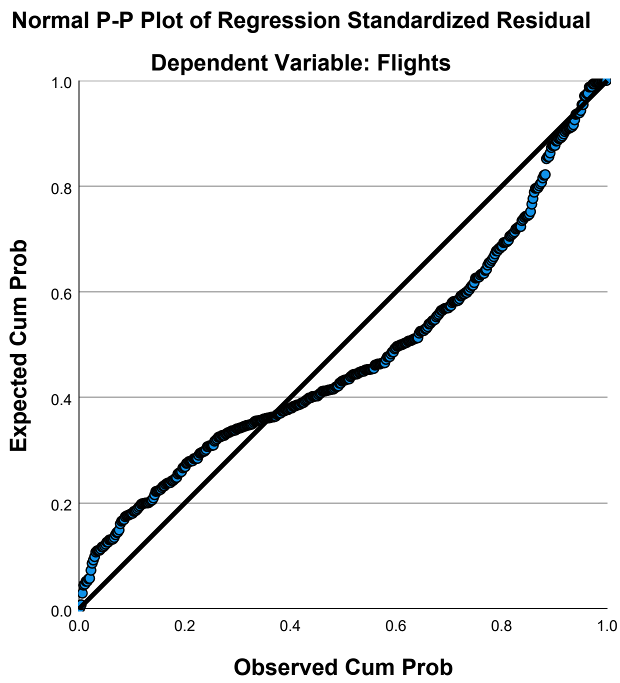
Residuals Statistics[a]

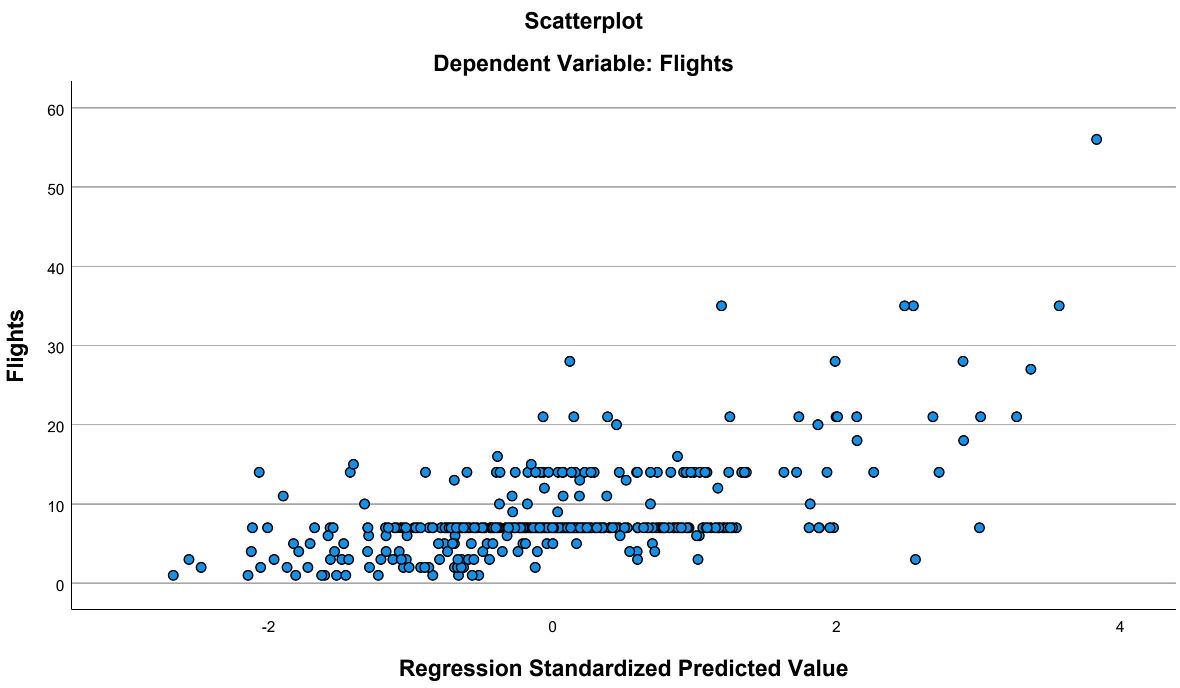
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.46	20.82	8.28	3.271	431
Residual	-13.644	35.182	.000	4.502	431
Std. Predicted Value	-2.673	3.832	.000	1.000	431
Std. Residual	-2.995	7.723	.000	.988	431

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 5.71E-16
Std. Dev. = 0.988
N = 431
Frequency
150
100
50
0
-4
-2
0
2
4
6
8
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet24] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airline Type\2017 FSC.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.88	5.061	555
HomeConcentration	3.3016251315	2.5462352801	555
Congestion	4.66	.935	555
GLHR	.12	.322	555
GJFK	.15	.360	555
PartnerConcentration	1.2637427423	2.0115852931	555
Seasonality	.70299369755	.21914199831	555
Distance	4.48423	1.214319	555
Language	1.52684702	3.133309453	555
Ethnicity	.46485221802	.64255123522	555
Urban	17.19	4.158	555

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.191	.162	.368
	HomeConcentration	.191	1.000	-.150	.036
	Congestion	.162	-.150	1.000	-.037
	GLHR	.368	.036	-.037	1.000
	GJFK	.169	-.207	.459	-.093
	PartnerConcentration	.135	.013	-.024	.041
	Seasonality	-.187	-.062	-.040	-.248
	Distance	-.118	.135	-.111	-.082
	Language	.275	-.111	.069	.403
	Ethnicity	.125	-.032	.249	.095
	Urban	.348	.125	.490	.197
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.000	.197
	Congestion	.000	.000	.	.195
	GLHR	.000	.197	.195	.
	GJFK	.000	.000	.000	.015
	PartnerConcentration	.001	.380	.289	.170
	Seasonality	.000	.074	.172	.000
	Distance	.003	.001	.004	.026
	Language	.000	.004	.052	.000
	Ethnicity	.002	.226	.000	.012
	Urban	.000	.002	.000	.000
N	Flights	555	555	555	555
	HomeConcentration	555	555	555	555

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.169	.135	-.187	-.118
	HomeConcentration	-.207	.013	-.062	.135
	Congestion	.459	-.024	-.040	-.111
	GLHR	-.093	.041	-.248	-.082
	GJFK	1.000	-.117	-.015	-.122
	PartnerConcentration	-.117	1.000	-.123	.043
	Seasonality	-.015	-.123	1.000	-.216
	Distance	-.122	.043	-.216	1.000
	Language	.171	-.063	-.004	-.303
	Ethnicity	.204	-.041	.084	-.259
	Urban	.257	.156	-.321	.134
Sig. (1-tailed)	Flights	<.001	<.001	<.001	.003
	HomeConcentration	.000	.380	.074	.001
	Congestion	.000	.289	.172	.004
	GLHR	.015	.170	.000	.026
	GJFK	.	.003	.364	.002
	PartnerConcentration	.003	.	.002	.155
	Seasonality	.364	.002	.	.000
	Distance	.002	.155	.000	.
	Language	.000	.068	.458	.000
	Ethnicity	.000	.167	.024	.000
	Urban	.000	.000	.000	.001
N	Flights	555	555	555	555
	HomeConcentration	555	555	555	555

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.275	.125	.348
	HomeConcentration	-.111	-.032	.125
	Congestion	.069	.249	.490
	GLHR	.403	.095	.197
	GJFK	.171	.204	.257
	PartnerConcentration	-.063	-.041	.156
	Seasonality	-.004	.084	-.321
	Distance	-.303	-.259	.134
	Language	1.000	.466	.099
	Ethnicity	.466	1.000	.087
	Urban	.099	.087	1.000
Sig. (1-tailed)	Flights	<.001	.002	<.001
	HomeConcentration	.004	.226	.002
	Congestion	.052	.000	.000
	GLHR	.000	.012	.000
	GJFK	.000	.000	.000
	PartnerConcentration	.068	.167	.000
	Seasonality	.458	.024	.000
	Distance	.000	.000	.001
	Language	.	.000	.010
	Ethnicity	.000	.	.020
	Urban	.010	.020	.
N	Flights	555	555	555
	HomeConcentration	555	555	555

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	555	555	555	555
	GLHR	555	555	555	555
	GJFK	555	555	555	555
	PartnerConcentration	555	555	555	555
	Seasonality	555	555	555	555
	Distance	555	555	555	555
	Language	555	555	555	555
	Ethnicity	555	555	555	555
	Urban	555	555	555	555

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	555	555	555	555
	GLHR	555	555	555	555
	GJFK	555	555	555	555
	PartnerConcentration	555	555	555	555
	Seasonality	555	555	555	555
	Distance	555	555	555	555
	Language	555	555	555	555
	Ethnicity	555	555	555	555
	Urban	555	555	555	555

Correlations

		Language	Ethnicity	Urban
	Congestion	555	555	555
	GLHR	555	555	555
	GJFK	555	555	555
	PartnerConcentration	555	555	555
	Seasonality	555	555	555
	Distance	555	555	555
	Language	555	555	555
	Ethnicity	555	555	555
	Urban	555	555	555

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, HomeConcentration, PartnerConcentration, GLHR, Distance, Seasonality, GJFK, Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.553[a]	.306	.293	4.254	.306	24.005

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	544	<.001

a. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, PartnerConcentration, GLHR, Distance, Seasonality, GJFK, La
Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4344.974	10	434.497	24.005	<.001[b]
	Residual	9846.695	544	18.101		
	Total	14191.668	554			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, PartnerConcentration, GLHR, Distance, Seasonality, GJFK, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.398	1.616		2.103	.036
	HomeConcentration	.439	.076	.221	5.792	<.001
	Congestion	.153	.257	.028	.596	.551
	GLHR	4.111	.661	.261	6.219	<.001
	GJFK	2.267	.594	.161	3.816	<.001
	PartnerConcentration	.298	.093	.119	3.209	.001
	Seasonality	-1.209	.917	-.052	-1.318	.188
	Distance	-.465	.166	-.112	-2.805	.005
	Language	.218	.075	.135	2.918	.004
	Ethnicity	-.251	.334	-.032	-.752	.452
	Urban	.223	.058	.183	3.861	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.877	1.141
	Congestion	.568	1.762
	GLHR	.722	1.386
	GJFK	.712	1.404
	PartnerConcentration	.934	1.071
	Seasonality	.809	1.237
	Distance	.806	1.240
	Language	.595	1.682
	Ethnicity	.709	1.411
	Urban	.568	1.760

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.731	1.000	.00	.00	.00
	2	1.250	2.320	.00	.01	.00
	3	1.015	2.575	.00	.01	.00
	4	.645	3.230	.00	.04	.00
	5	.579	3.411	.00	.00	.00
	6	.327	4.534	.00	.08	.00
	7	.281	4.893	.00	.76	.00
	8	.093	8.513	.00	.03	.00
	9	.051	11.538	.00	.00	.09
	10	.018	19.144	.05	.04	.47
	11	.010	26.590	.95	.02	.44

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.11	.02	.03	.00	.00	.16
	3	.22	.30	.06	.00	.00	.00
	4	.00	.07	.81	.00	.00	.00
	5	.29	.28	.01	.00	.00	.05
	6	.19	.04	.00	.01	.00	.56
	7	.06	.08	.03	.01	.00	.16
	8	.09	.04	.03	.49	.11	.02
	9	.02	.12	.01	.02	.58	.01
	10	.00	.00	.01	.22	.00	.01
	11	.01	.04	.01	.25	.29	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.05	.00
	3	.01	.00
	4	.00	.00
	5	.30	.00
	6	.49	.00
	7	.07	.00
	8	.01	.04
	9	.04	.14
	10	.02	.81
	11	.01	.00

a. Dependent Variable: Flights

Residuals Statistics[a]

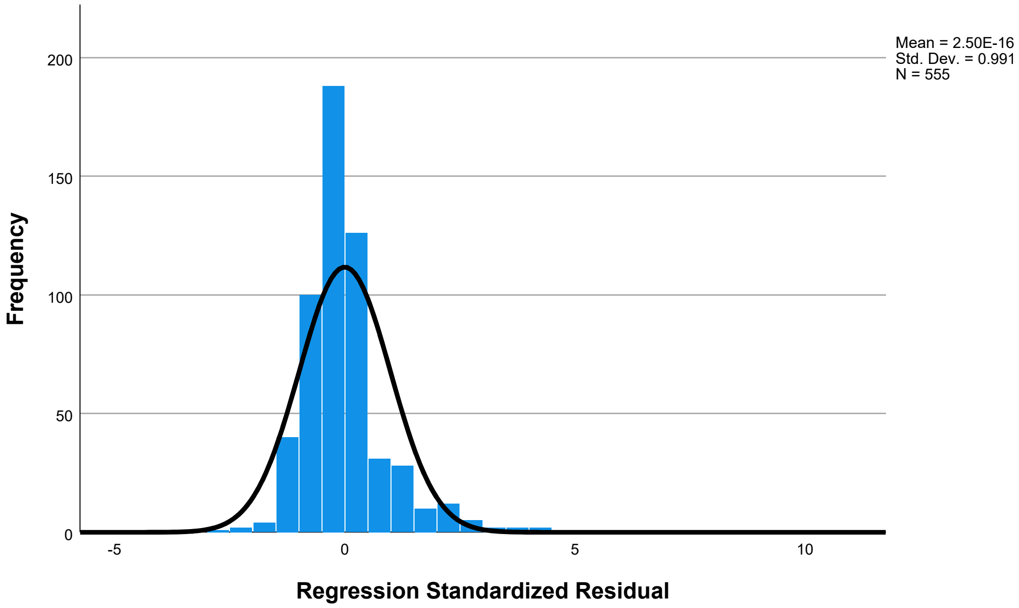
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.22	18.90	7.88	2.801	555
Residual	-10.912	37.103	.000	4.216	555
Std. Predicted Value	-2.734	3.935	.000	1.000	555
Std. Residual	-2.565	8.721	.000	.991	555

a. Dependent Variable: Flights

Charts

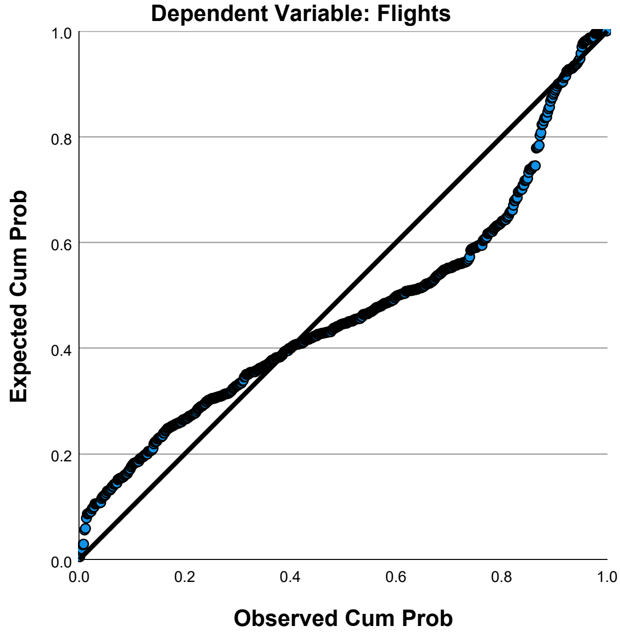
Histogram

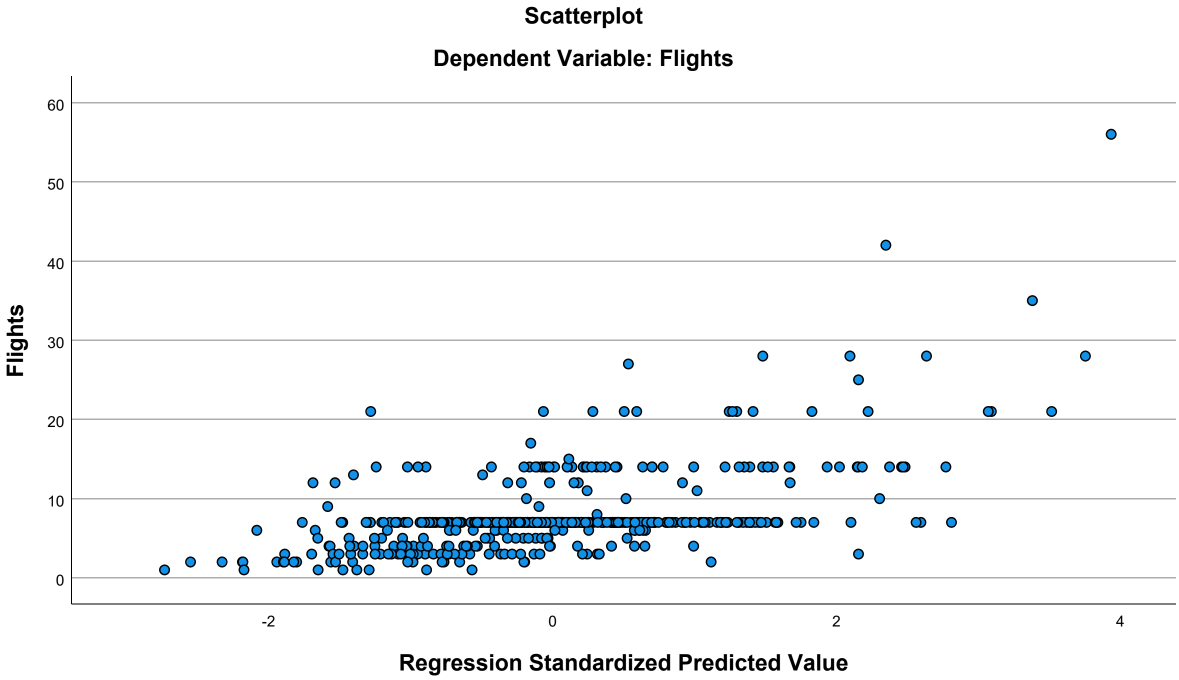
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights





Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet25] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airline Type\1997 nonFSC.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR, GJFK, PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	1.93	1.223	15
HomeConcentration	.06520	.021096	15
Congestion	4.13	.352	15
GLHR	.00	.000	15
GJFK	.00	.000	15
PartnerConcentration	.000100	.0000000	15
Seasonality	.78592592593	.24528954444	15
Distance	4.85067	.506672	15
Language	.00907160	.010045412	15
Ethnicity	.17641300	.142160327	15
Urban	12.13	5.370	15

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	-.102	.354	.
	HomeConcentration	-.102	1.000	-.100	.
	Congestion	.354	-.100	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.	.	.	.
	PartnerConcentration	.	.	.	.
	Seasonality	-.170	-.032	.078	.
	Distance	-.155	.075	-.618	.
	Language	-.322	.294	-.281	.
	Ethnicity	-.566	.230	-.328	.
	Urban	.524	.171	.292	.
Sig. (1-tailed)	Flights	.	.359	.098	.000
	HomeConcentration	.359	.	.361	.000
	Congestion	.098	.361	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.000	.000	.000	.000
	PartnerConcentration	.000	.000	.000	.000
	Seasonality	.272	.455	.391	.000
	Distance	.291	.396	.007	.000
	Language	.121	.144	.155	.000
	Ethnicity	.014	.205	.116	.000
	Urban	.023	.271	.145	.000
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15
	Language	15	15	15	15
	Ethnicity	15	15	15	15
	Urban	15	15	15	15

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.	.	-.170	-.155
	HomeConcentration	.	.	-.032	.075
	Congestion	.	.	.078	-.618
	GLHR	.	.	.	.
	GJFK	1.000	.	.	.
	PartnerConcentration	.	1.000	.	.
	Seasonality	.	.	1.000	.045
	Distance	.	.	.045	1.000
	Language	.	.	-.084	.132
	Ethnicity	.	.	.038	.271
	Urban	.	.	.053	-.278
Sig. (1-tailed)	Flights	.000	.000	.272	.291
	HomeConcentration	.000	.000	.455	.396
	Congestion	.000	.000	.391	.007
	GLHR	.000	.000	.000	.000
	GJFK	.	.000	.000	.000
	PartnerConcentration	.000	.	.000	.000
	Seasonality	.000	.000	.	.436
	Distance	.000	.000	.436	.
	Language	.000	.000	.383	.320
	Ethnicity	.000	.000	.446	.164
	Urban	.000	.000	.425	.158
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15
	Language	15	15	15	15
	Ethnicity	15	15	15	15
	Urban	15	15	15	15

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	-.322	-.566	.524
	HomeConcentration	.294	.230	.171
	Congestion	-.281	-.328	.292
	GLHR	.	.	.
	GJFK	.	.	.
	PartnerConcentration	.	.	.
	Seasonality	-.084	.038	.053
	Distance	.132	.271	-.278
	Language	1.000	.853	-.309
	Ethnicity	.853	1.000	-.446
	Urban	-.309	-.446	1.000
Sig. (1-tailed)	Flights	.121	.014	.023
	HomeConcentration	.144	.205	.271
	Congestion	.155	.116	.145
	GLHR	.000	.000	.000
	GJFK	.000	.000	.000
	PartnerConcentration	.000	.000	.000
	Seasonality	.383	.446	.425
	Distance	.320	.164	.158
	Language	.	.000	.131
	Ethnicity	.000	.	.048
	Urban	.131	.048	.
N	Flights	15	15	15
	HomeConcentration	15	15	15
	Congestion	15	15	15
	GLHR	15	15	15
	GJFK	15	15	15
	PartnerConcentration	15	15	15
	Seasonality	15	15	15
	Distance	15	15	15
	Language	15	15	15
	Ethnicity	15	15	15
	Urban	15	15	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, HomeConcentration, Distance, Language, Congestion, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.764[a]	.584	.168	1.116	.584	1.403

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	7	7	.333

a. Predictors: (Constant), Urban, Seasonality, HomeConcentration, Distance, Language, Congestion, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.221	7	1.746	1.403	.333[b]
	Residual	8.712	7	1.245		
	Total	20.933	14			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, HomeConcentration, Distance, Language, Congestion, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-5.832	7.565		-.771	.466
	HomeConcentration	-7.755	15.585	-.134	-.498	.634
	Congestion	1.162	1.128	.335	1.031	.337
	Seasonality	-.752	1.264	-.151	-.595	.571
	Distance	.772	.781	.320	.989	.356
	Language	72.606	61.285	.596	1.185	.275
	Ethnicity	-7.400	4.573	-.860	-1.618	.150
	Urban	.079	.068	.346	1.167	.281

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.822	1.216
	Congestion	.564	1.772
	Seasonality	.924	1.082
	Distance	.567	1.762
	Language	.235	4.263
	Ethnicity	.210	4.753
	Urban	.675	1.481

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions Congestion
1	1	6.919	1.000	.00	.00	.00
	2	.770	2.998	.00	.00	.00
	3	.131	7.264	.00	.03	.00
	4	.070	9.920	.00	.52	.00
	5	.051	11.671	.00	.39	.01
	6	.047	12.187	.00	.04	.00
	7	.011	24.866	.00	.01	.15
	8	.001	84.472	.99	.00	.83

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions: Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00
	2	.00	.00	.08	.03	.02
	3	.13	.00	.15	.05	.33
	4	.25	.00	.07	.00	.27
	5	.36	.01	.07	.06	.02
	6	.24	.00	.58	.80	.31
	7	.00	.27	.02	.05	.05
	8	.00	.71	.03	.01	.00

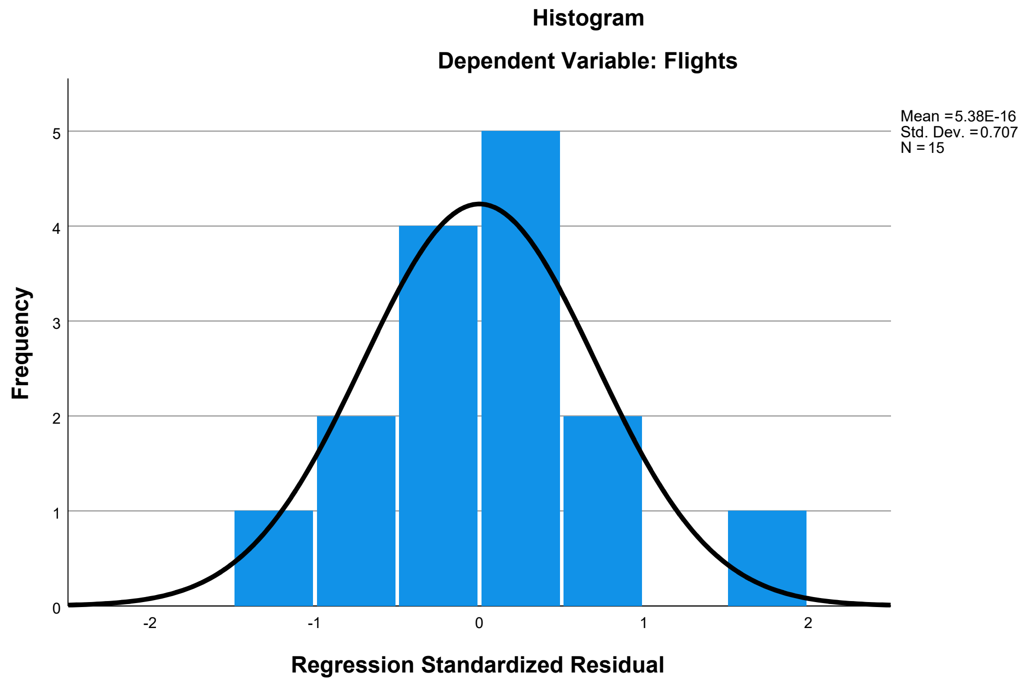
a. Dependent Variable: Flights

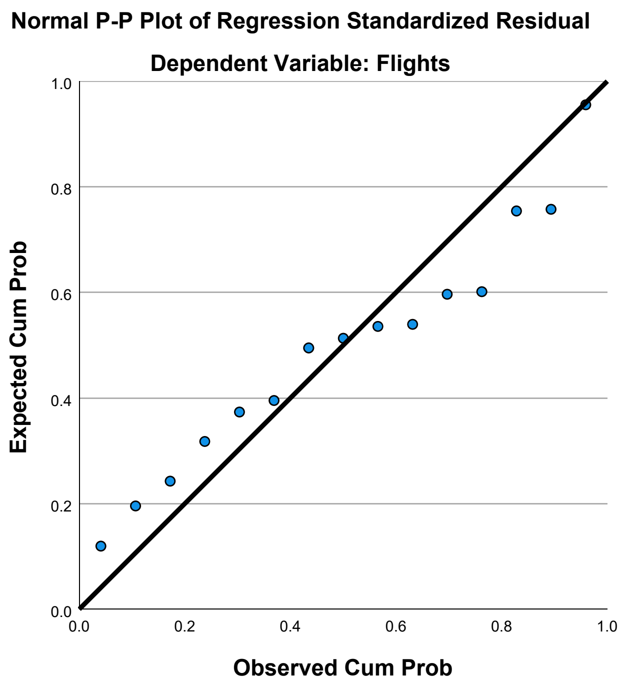
Residuals Statistics[a]

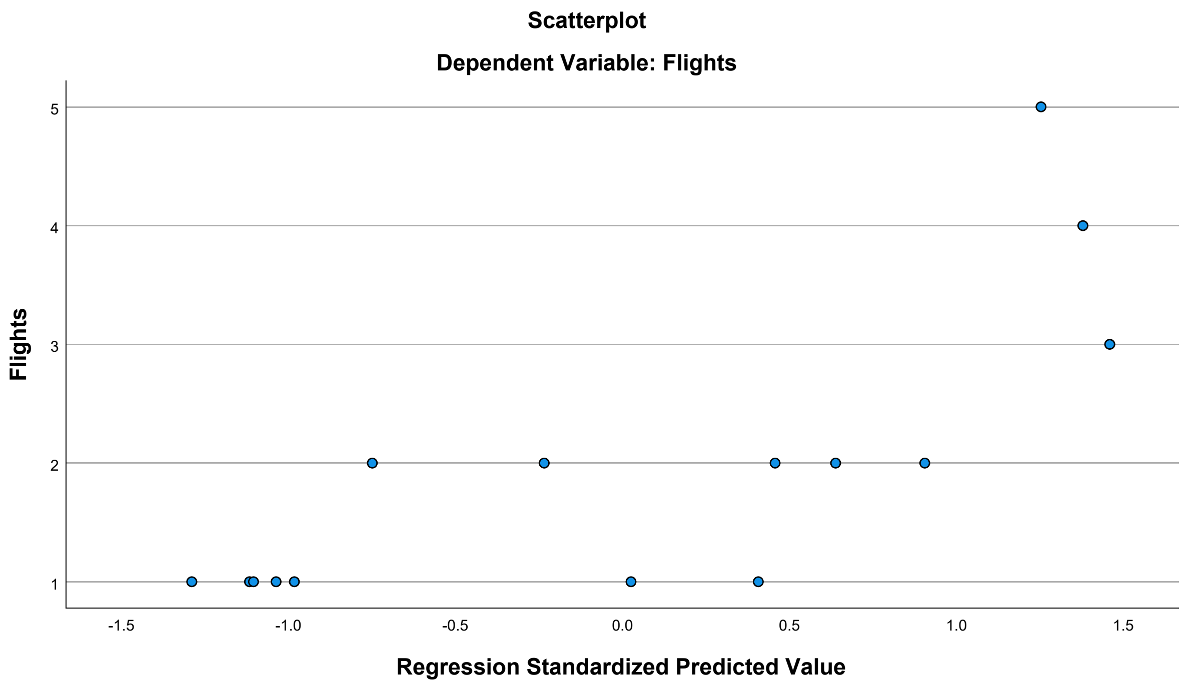
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.73	3.30	1.93	.934	15
Residual	-1.313	1.896	.000	.789	15
Std. Predicted Value	-1.291	1.459	.000	1.000	15
Std. Residual	-1.177	1.699	.000	.707	15

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR, GJFK, PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	1.93	1.223	15
HomeConcentration	.06520	.021096	15
Congestion	4.13	.352	15
GLHR	.00	.000	15
GJFK	.00	.000	15
PartnerConcentration	.000100	.0000000	15
Seasonality	.78592592593	.24528954444	15
Distance	4.85067	.506672	15
Language	.00907160	.010045412	15
Urban	12.13	5.370	15

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	-.102	.354	.
	HomeConcentration	-.102	1.000	-.100	.
	Congestion	.354	-.100	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.	.	.	.
	PartnerConcentration	.	.	.	.
	Seasonality	-.170	-.032	.078	.
	Distance	-.155	.075	-.618	.
	Language	-.322	.294	-.281	.
	Urban	.524	.171	.292	.
Sig. (1-tailed)	Flights	.	.359	.098	.000
	HomeConcentration	.359	.	.361	.000
	Congestion	.098	.361	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.000	.000	.000	.000
	PartnerConcentration	.000	.000	.000	.000
	Seasonality	.272	.455	.391	.000
	Distance	.291	.396	.007	.000
	Language	.121	.144	.155	.000
	Urban	.023	.271	.145	.000
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.	.	-.170	-.155
	HomeConcentration	.	.	-.032	.075
	Congestion	.	.	.078	-.618
	GLHR	.	.	.	.
	GJFK	1.000	.	.	.
	PartnerConcentration	.	1.000	.	.
	Seasonality	.	.	1.000	.045
	Distance	.	.	.045	1.000
	Language	.	.	-.084	.132
	Urban	.	.	.053	-.278
Sig. (1-tailed)	Flights	.000	.000	.272	.291
	HomeConcentration	.000	.000	.455	.396
	Congestion	.000	.000	.391	.007
	GLHR	.000	.000	.000	.000
	GJFK	.	.000	.000	.000
	PartnerConcentration	.000	.	.000	.000
	Seasonality	.000	.000	.	.436
	Distance	.000	.000	.436	.
	Language	.000	.000	.383	.320
	Urban	.000	.000	.425	.158
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15

Correlations

		Language	Urban
Pearson Correlation	Flights	-.322	.524
	HomeConcentration	.294	.171
	Congestion	-.281	.292
	GLHR	.	.
	GJFK	.	.
	PartnerConcentration	.	.
	Seasonality	-.084	.053
	Distance	.132	-.278
	Language	1.000	-.309
	Urban	-.309	1.000
Sig. (1-tailed)	Flights	.121	.023
	HomeConcentration	.144	.271
	Congestion	.155	.145
	GLHR	.000	.000
	GJFK	.000	.000
	PartnerConcentration	.000	.000
	Seasonality	.383	.425
	Distance	.320	.158
	Language	.	.131
	Urban	.131	.
N	Flights	15	15
	HomeConcentration	15	15

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15
	Language	15	15	15	15
	Urban	15	15	15	15

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	15	15	15	15
GLHR	15	15	15	15
GJFK	15	15	15	15
PartnerConcentration	15	15	15	15
Seasonality	15	15	15	15
Distance	15	15	15	15
Language	15	15	15	15
Urban	15	15	15	15

Correlations

	Language	Urban
Congestion	15	15
GLHR	15	15
GJFK	15	15
PartnerConcentration	15	15
Seasonality	15	15
Distance	15	15
Language	15	15
Urban	15	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, HomeConcentration, Distance, Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.654[a]	.428	-.001	1.223	.428	.998

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	8	.486

a. Predictors: (Constant), Urban, Seasonality, HomeConcentration, Distance, Language, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.961	6	1.494	.998	.486[b]
	Residual	11.972	8	1.497		
	Total	20.933	14			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, HomeConcentration, Distance, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-5.026	8.277		-.607	.561
	HomeConcentration	-9.106	17.064	-.157	-.534	.608
	Congestion	1.122	1.237	.323	.908	.391
	Seasonality	-1.216	1.350	-.244	-.900	.394
	Distance	.528	.840	.219	.628	.548
	Language	-9.582	37.612	-.079	-.255	.805
	Urban	.115	.070	.505	1.647	.138

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.825	1.212
	Congestion	.565	1.771
	Seasonality	.975	1.026
	Distance	.589	1.696
	Language	.749	1.335
	Urban	.759	1.318

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.211	1.000	.00	.00	.00
	2	.537	3.401	.00	.00	.00
	3	.118	7.246	.00	.03	.00
	4	.070	9.400	.00	.53	.00
	5	.050	11.092	.00	.42	.01
	6	.012	23.116	.00	.02	.15
	7	.001	79.791	.99	.00	.84

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Distance	Language	Urban
1	1	.00	.00	.01	.00
	2	.00	.00	.63	.02
	3	.18	.00	.06	.57
	4	.28	.00	.25	.29
	5	.54	.01	.01	.00
	6	.00	.26	.00	.12
	7	.00	.72	.04	.00

a. Dependent Variable: Flights

Residuals Statistics[a]

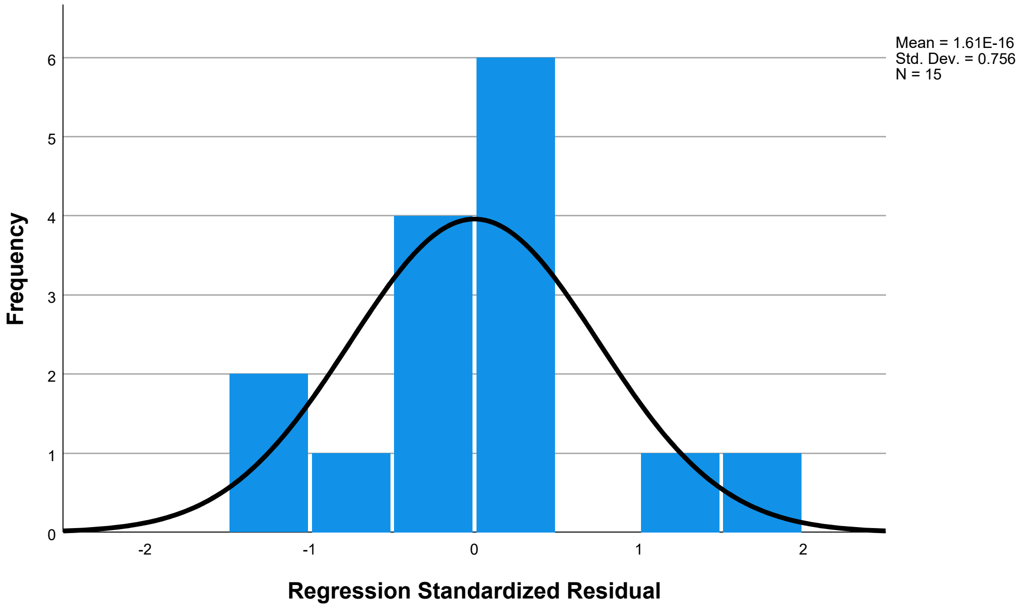
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.75	3.24	1.93	.800	15
Residual	-1.555	2.165	.000	.925	15
Std. Predicted Value	-1.477	1.639	.000	1.000	15
Std. Residual	-1.271	1.770	.000	.756	15

a. Dependent Variable: Flights

Charts

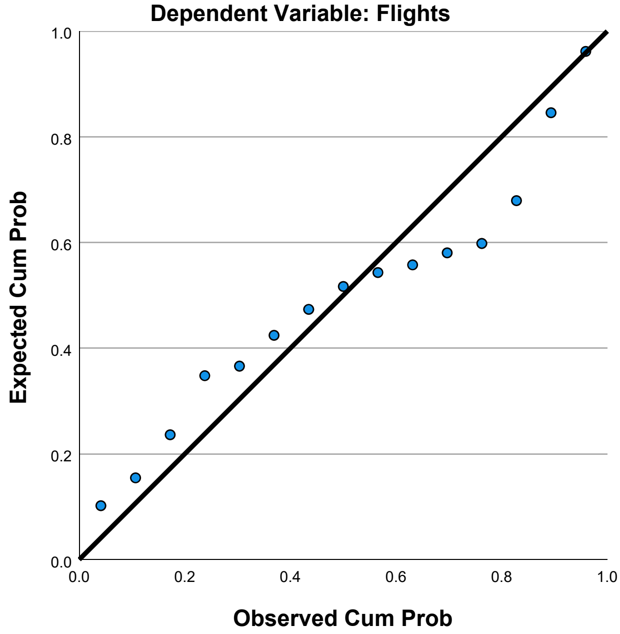
Histogram

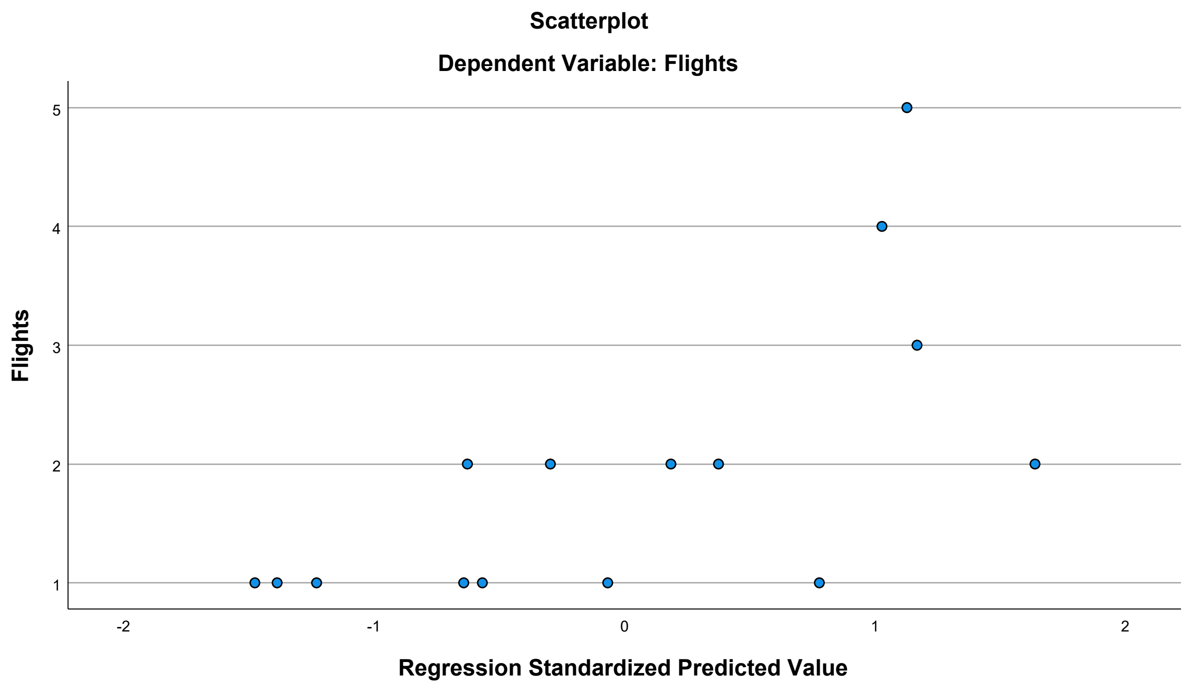
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights





Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR, GJFK, PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	1.93	1.223	15
HomeConcentration	.06520	.021096	15
Congestion	4.13	.352	15
GLHR	.00	.000	15
GJFK	.00	.000	15
PartnerConcentration	.000100	.0000000	15
Seasonality	.78592592593	.24528954444	15
Distance	4.85067	.506672	15
Urban	12.13	5.370	15

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	-.102	.354	.
	HomeConcentration	-.102	1.000	-.100	.
	Congestion	.354	-.100	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.	.	.	.
	PartnerConcentration	.	.	.	.
	Seasonality	-.170	-.032	.078	.
	Distance	-.155	.075	-.618	.
	Urban	.524	.171	.292	.
Sig. (1-tailed)	Flights	.	.359	.098	.000
	HomeConcentration	.359	.	.361	.000
	Congestion	.098	.361	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.000	.000	.000	.000
	PartnerConcentration	.000	.000	.000	.000
	Seasonality	.272	.455	.391	.000
	Distance	.291	.396	.007	.000
	Urban	.023	.271	.145	.000
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15
	Urban	15	15	15	15

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.	.	-.170	-.155
	HomeConcentration	.	.	-.032	.075
	Congestion	.	.	.078	-.618
	GLHR	.	.	.	.
	GJFK	1.000	.	.	.
	PartnerConcentration	.	1.000	.	.
	Seasonality	.	.	1.000	.045
	Distance	.	.	.045	1.000
	Urban	.	.	.053	-.278
Sig. (1-tailed)	Flights	.000	.000	.272	.291
	HomeConcentration	.000	.000	.455	.396
	Congestion	.000	.000	.391	.007
	GLHR	.000	.000	.000	.000
	GJFK	.	.000	.000	.000
	PartnerConcentration	.000	.	.000	.000
	Seasonality	.000	.000	.	.436
	Distance	.000	.000	.436	.
	Urban	.000	.000	.425	.158
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15
	Urban	15	15	15	15

Correlations

		Urban
Pearson Correlation	Flights	.524
	HomeConcentration	.171
	Congestion	.292
	GLHR	.
	GJFK	.
	PartnerConcentration	.
	Seasonality	.053
	Distance	-.278
	Urban	1.000
Sig. (1-tailed)	Flights	.023
	HomeConcentration	.271
	Congestion	.145
	GLHR	.000
	GJFK	.000
	PartnerConcentration	.000
	Seasonality	.425
	Distance	.158
	Urban	.
N	Flights	15
	HomeConcentration	15
	Congestion	15
	GLHR	15
	GJFK	15
	PartnerConcentration	15
	Seasonality	15
	Distance	15
	Urban	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, HomeConcentration, Distance, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.651[a]	.423	.103	1.158	.423	1.322

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	5	9	.337

a. Predictors: (Constant), Urban, Seasonality, HomeConcentration, Distance, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.864	5	1.773	1.322	.337[b]
	Residual	12.069	9	1.341		
	Total	20.933	14			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, HomeConcentration, Distance, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-5.458	7.669		-.712	.495
	HomeConcentration	-10.644	15.110	-.184	-.704	.499
	Congestion	1.183	1.149	.340	1.030	.330
	Seasonality	-1.203	1.277	-.241	-.942	.371
	Distance	.551	.791	.228	.697	.504
	Urban	.121	.062	.532	1.943	.084

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.943	1.061
	Congestion	.586	1.705
	Seasonality	.976	1.025
	Distance	.596	1.677
	Urban	.855	1.169

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Congestion
1	1	5.717	1.000	.00	.00	.00
	2	.132	6.582	.00	.00	.00
	3	.088	8.073	.00	.57	.00
	4	.051	10.613	.00	.39	.01
	5	.012	22.145	.00	.03	.16
	6	.001	75.044	.99	.01	.83

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions		
		Seasonality	Distance	Urban
1	1	.00	.00	.00
	2	.06	.00	.80
	3	.34	.00	.04
	4	.59	.02	.00
	5	.00	.26	.15
	6	.00	.72	.00

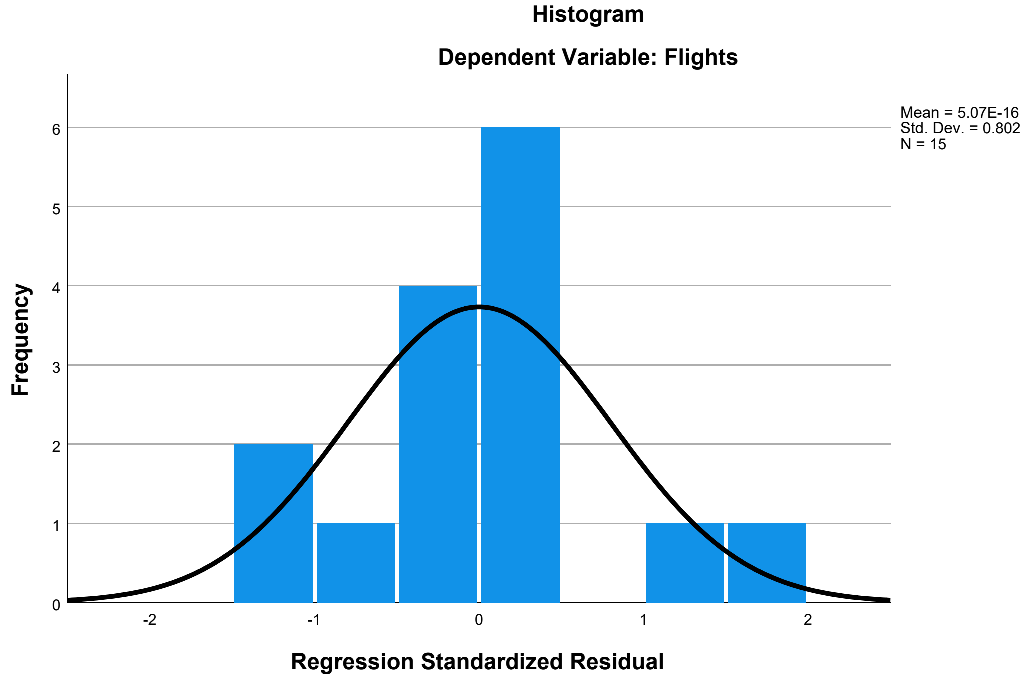
a. Dependent Variable: Flights

Residuals Statistics[a]

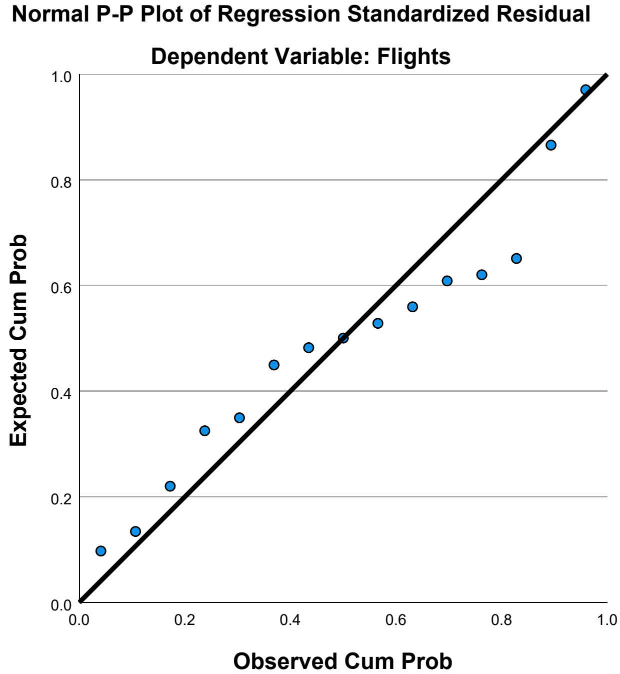
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.68	3.28	1.93	.796	15
Residual	-1.501	2.184	.000	.928	15
Std. Predicted Value	-1.574	1.693	.000	1.000	15
Std. Residual	-1.296	1.886	.000	.802	15

a. Dependent Variable: Flights

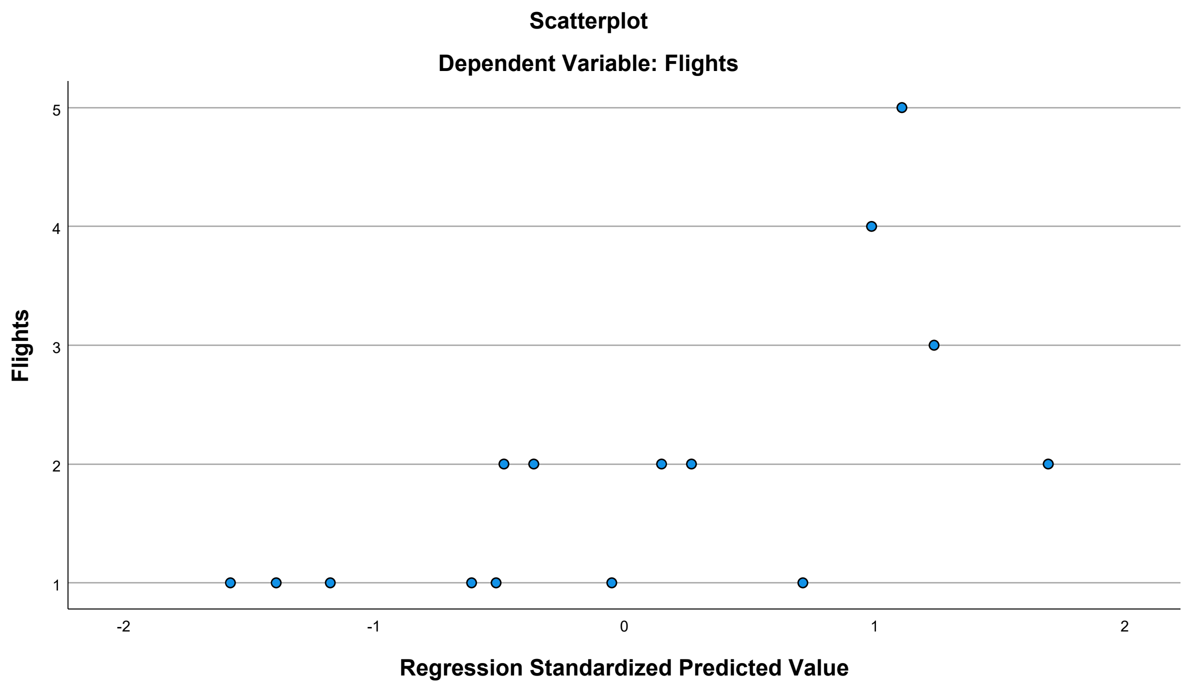
Charts



Histogram
Dependent Variable: Flights
Mean = 5.07E-16
Std. Dev. = 0.802
N = 15
Frequency
0
1
2
3
4
5
6
-2
-1
0
1
2
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR, GJFK, PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	1.93	1.223	15
HomeConcentration	.06520	.021096	15
Congestion	4.13	.352	15
GLHR	.00	.000	15
GJFK	.00	.000	15
PartnerConcentration	.000100	.0000000	15
Seasonality	.78592592593	.24528954444	15
Urban	12.13	5.370	15

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	-.102	.354	.
	HomeConcentration	-.102	1.000	-.100	.
	Congestion	.354	-.100	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.	.	.	.
	PartnerConcentration	.	.	.	.
	Seasonality	-.170	-.032	.078	.
	Urban	.524	.171	.292	.
Sig. (1-tailed)	Flights	.	.359	.098	.000
	HomeConcentration	.359	.	.361	.000
	Congestion	.098	.361	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.000	.000	.000	.000
	PartnerConcentration	.000	.000	.000	.000
	Seasonality	.272	.455	.391	.000
	Urban	.023	.271	.145	.000
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Urban	15	15	15	15

Correlations

		GJFK	PartnerConcentration	Seasonality	Urban
Pearson Correlation	Flights	.	.	-.170	.524
	HomeConcentration	.	.	-.032	.171
	Congestion	.	.	.078	.292
	GLHR	.	.	.	.
	GJFK	1.000	.	.	.
	PartnerConcentration	.	1.000	.	.
	Seasonality	.	.	1.000	.053
	Urban	.	.	.053	1.000
Sig. (1-tailed)	Flights	.000	.000	.272	.023
	HomeConcentration	.000	.000	.455	.271
	Congestion	.000	.000	.391	.145
	GLHR	.000	.000	.000	.000
	GJFK	.	.000	.000	.000
	PartnerConcentration	.000	.	.000	.000
	Seasonality	.000	.000	.	.425
	Urban	.000	.000	.425	.
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Urban	15	15	15	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, HomeConcentration, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.626[a]	.392	.149	1.128	.392	1.614

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	4	10	.245

a. Predictors: (Constant), Urban, Seasonality, HomeConcentration, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.214	4	2.053	1.614	.245[b]
	Residual	12.720	10	1.272		
	Total	20.933	14			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, HomeConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.907	3.909		-.232	.821
	HomeConcentration	-10.124	14.698	-.175	-.689	.507
	Congestion	.717	.909	.206	.789	.449
	Seasonality	-1.090	1.234	-.219	-.884	.398
	Urban	.115	.060	.505	1.913	.085

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.945	1.058
	Congestion	.888	1.126
	Seasonality	.992	1.008
	Urban	.873	1.146

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	4.743	1.000	.00	.00	.00
	2	.123	6.203	.00	.01	.00
	3	.088	7.362	.00	.61	.00
	4	.043	10.445	.03	.30	.04
	5	.003	39.947	.97	.08	.96

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Urban
1	1	.00	.01
	2	.12	.83
	3	.31	.06
	4	.56	.05
	5	.01	.06

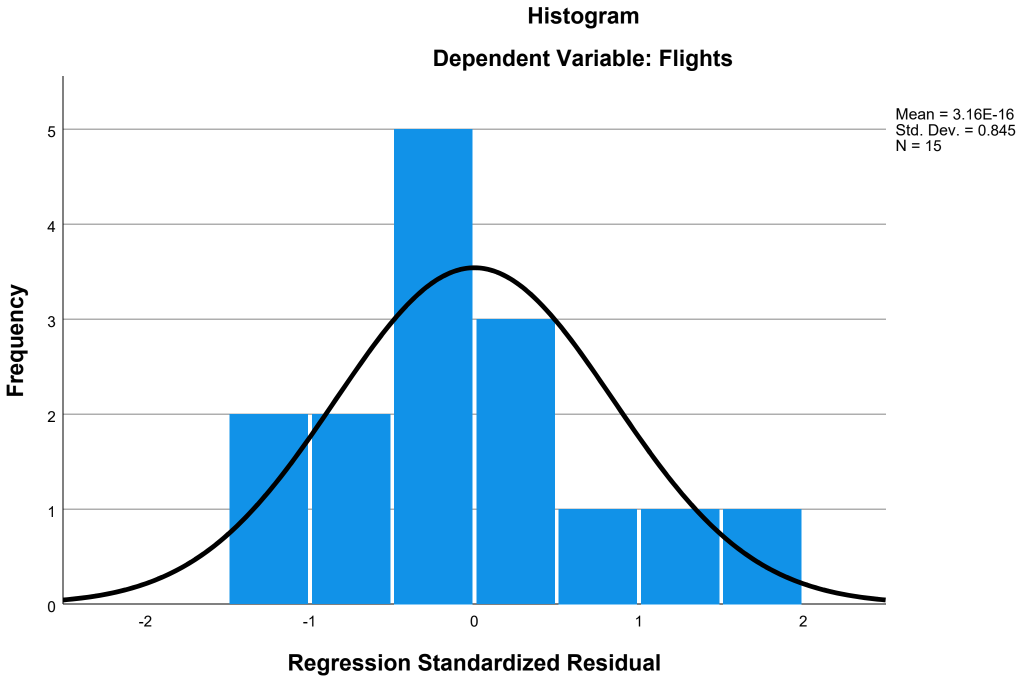
a. Dependent Variable: Flights

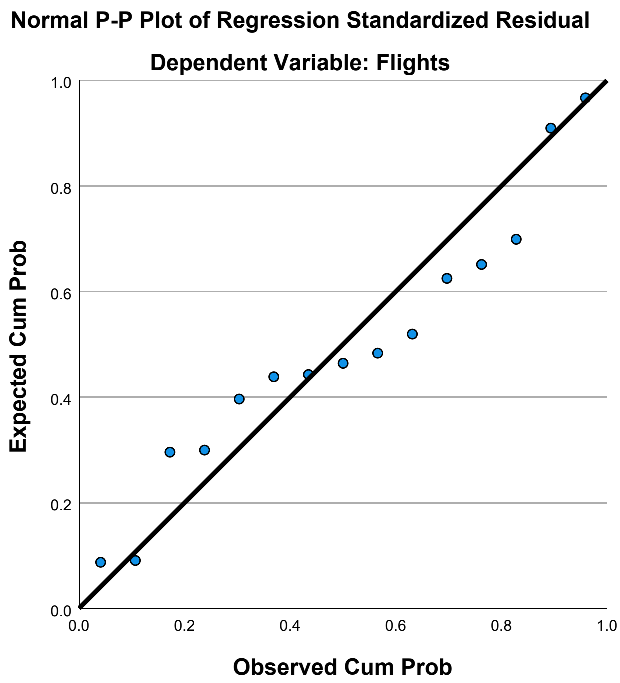
Residuals Statistics[a]

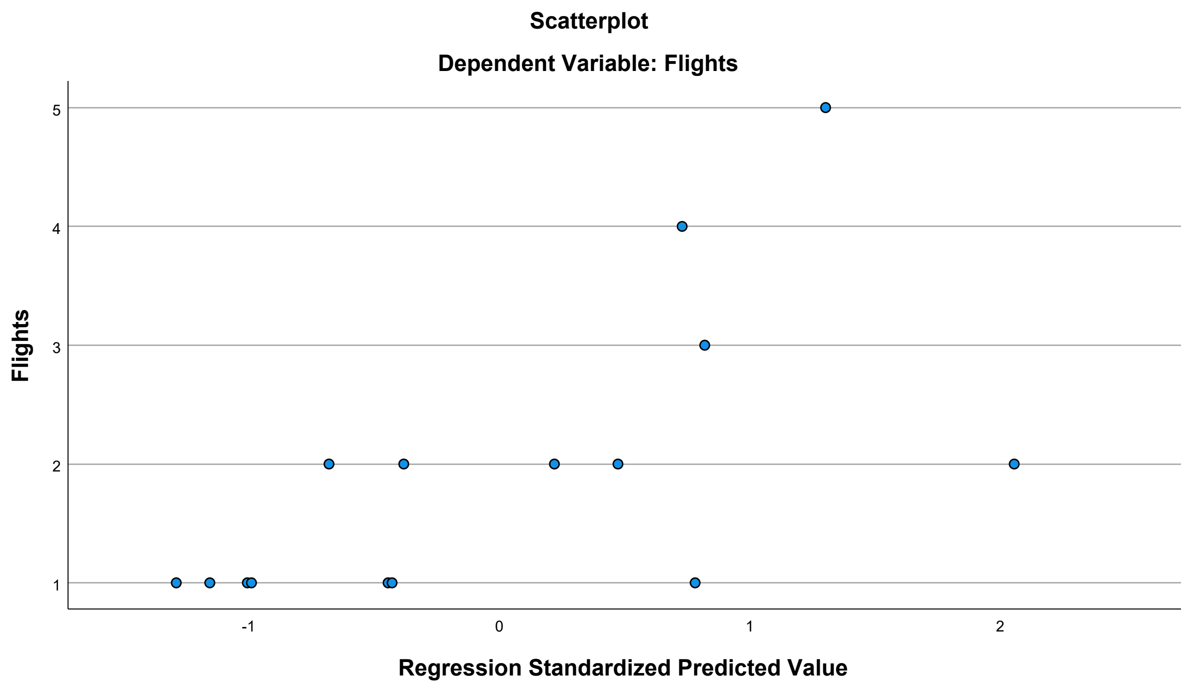
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.94	3.51	1.93	.766	15
Residual	-1.532	2.069	.000	.953	15
Std. Predicted Value	-1.291	2.056	.000	1.000	15
Std. Residual	-1.358	1.835	.000	.845	15

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 3.16E-16
Std. Dev. = 0.845
N = 15
Frequency
0
1
2
3
4
5
-2
-1
0
1
2
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR, GJFK, PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	1.93	1.223	15
Congestion	4.13	.352	15
GLHR	.00	.000	15
GJFK	.00	.000	15
PartnerConcentration	.000100	.0000000	15
Seasonality	.78592592593	.24528954444	15
Urban	12.13	5.370	15

Correlations

		Flights	Congestion	GLHR	GJFK
Pearson Correlation	Flights	1.000	.354	.	.
	Congestion	.354	1.000	.	.
	GLHR	.	.	1.000	.
	GJFK	.	.	.	1.000
	PartnerConcentration	.	.	.	.
	Seasonality	-.170	.078	.	.
	Urban	.524	.292	.	.
Sig. (1-tailed)	Flights	.	.098	.000	.000
	Congestion	.098	.	.000	.000
	GLHR	.000	.000	.	.000
	GJFK	.000	.000	.000	.
	PartnerConcentration	.000	.000	.000	.000
	Seasonality	.272	.391	.000	.000
	Urban	.023	.145	.000	.000
N	Flights	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Urban	15	15	15	15

Correlations

		PartnerConcentration	Seasonality	Urban
Pearson Correlation	Flights	.	-.170	.524
	Congestion	.	.078	.292
	GLHR	.	.	.
	GJFK	.	.	.
	PartnerConcentration	1.000	.	.
	Seasonality	.	1.000	.053
	Urban	.	.053	1.000
Sig. (1-tailed)	Flights	.000	.272	.023
	Congestion	.000	.391	.145
	GLHR	.000	.000	.000
	GJFK	.000	.000	.000
	PartnerConcentration	.	.000	.000
	Seasonality	.000	.	.425
	Urban	.000	.425	.
N	Flights	15	15	15
	Congestion	15	15	15
	GLHR	15	15	15
	GJFK	15	15	15
	PartnerConcentration	15	15	15
	Seasonality	15	15	15
	Urban	15	15	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.603[a]	.364	.190	1.101	.364	2.094

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	3	11	.159

a. Predictors: (Constant), Urban, Seasonality, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.610	3	2.537	2.094	.159[b]
	Residual	13.323	11	1.211		
	Total	20.933	14			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-1.889	3.552		-.532	.606
	Congestion	.815	.876	.235	.931	.372
	Seasonality	-1.064	1.203	-.213	-.884	.396
	Urban	.106	.057	.466	1.853	.091

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	Congestion	.911	1.098
	Seasonality	.993	1.007
	Urban	.914	1.095

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	Seasonality	Urban
1	1	3.822	1.000	.00	.00	.01	.01
	2	.123	5.579	.00	.00	.15	.82
	3	.052	8.563	.03	.02	.84	.13
	4	.003	34.494	.97	.97	.00	.04

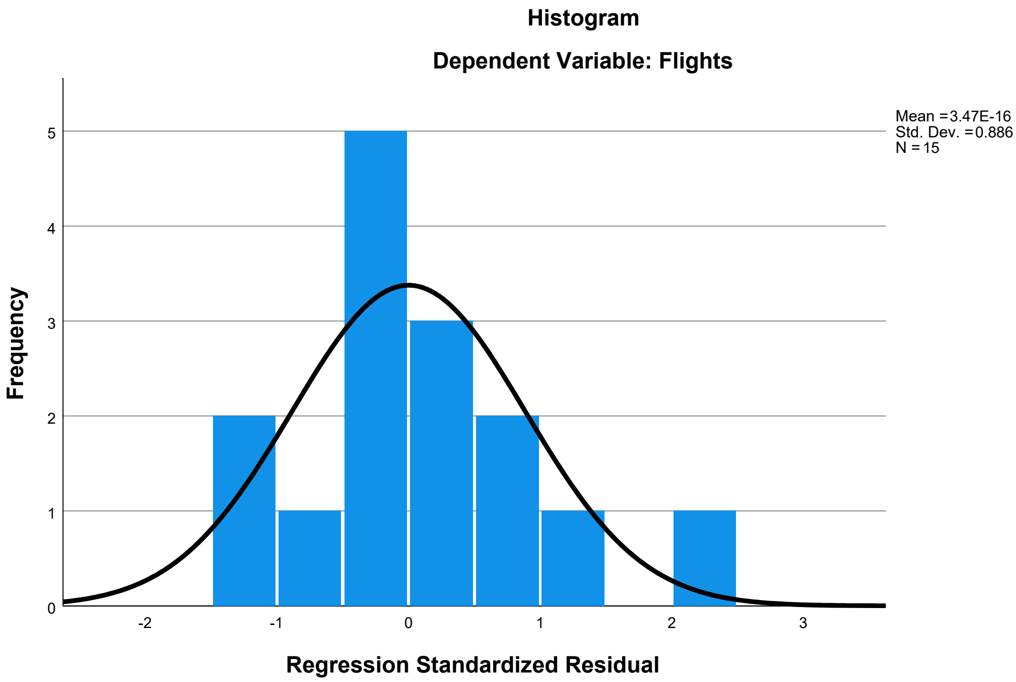
a. Dependent Variable: Flights

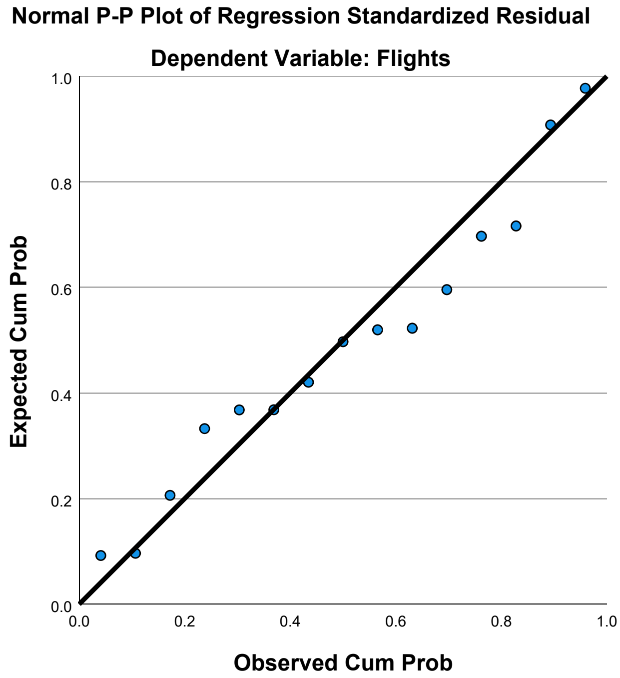
Residuals Statistics[a]

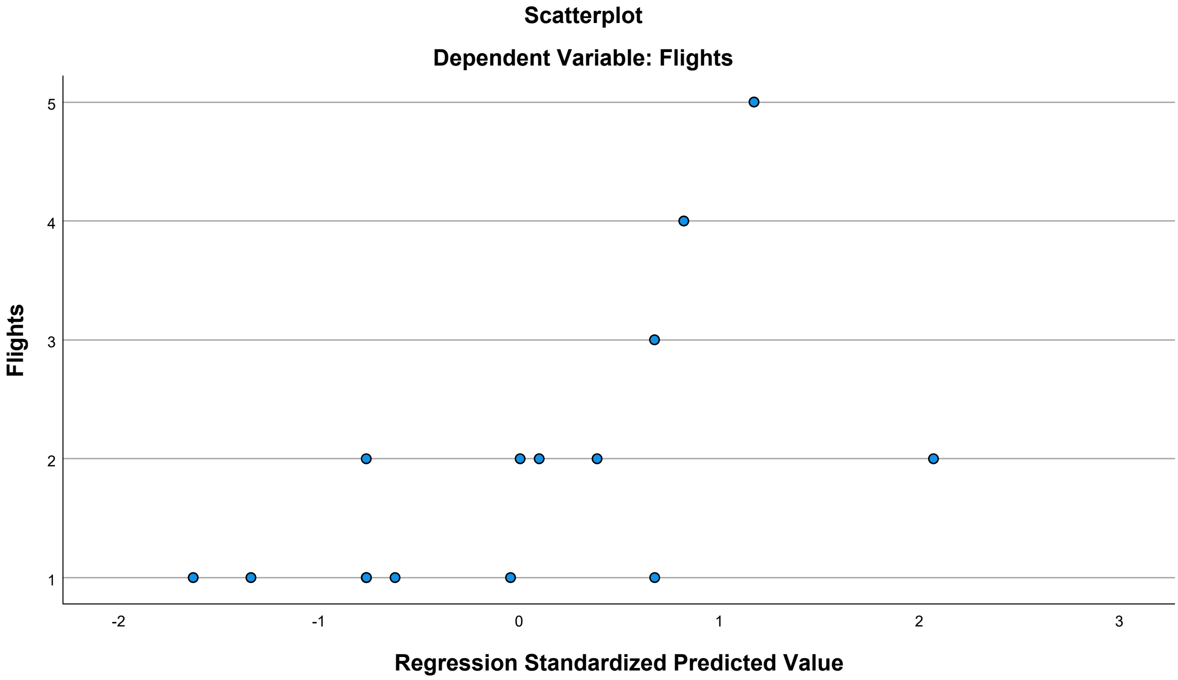
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.73	3.46	1.93	.737	15
Residual	-1.460	2.201	.000	.976	15
Std. Predicted Value	-1.628	2.071	.000	1.000	15
Std. Residual	-1.327	2.000	.000	.886	15

a. Dependent Variable: Flights

Charts







Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	1.93	1.223	15
Congestion	4.13	.352	15
Urban	12.13	5.370	15

Correlations

		Flights	Congestion	Urban
Pearson Correlation	Flights	1.000	.354	.524
	Congestion	.354	1.000	.292
	Urban	.524	.292	1.000
Sig. (1-tailed)	Flights	.	.098	.023
	Congestion	.098	.	.145
	Urban	.023	.145	.
N	Flights	15	15	15
	Congestion	15	15	15
	Urban	15	15	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.564[a]	.318	.205	1.090	.318	2.802

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	2	12	.100

a. Predictors: (Constant), Urban, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.664	2	3.332	2.802	.100[b]
	Residual	14.269	12	1.189		
	Total	20.933	14			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-2.494	3.454		-.722	.484
	Congestion	.764	.866	.220	.882	.395
	Urban	.105	.057	.459	1.843	.090

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	Congestion	.915	1.093
	Urban	.915	1.093

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions Congestion	Variance Proportions Urban
1	1	2.895	1.000	.00	.00	.02
	2	.102	5.335	.01	.01	.94
	3	.003	29.963	.99	.99	.04

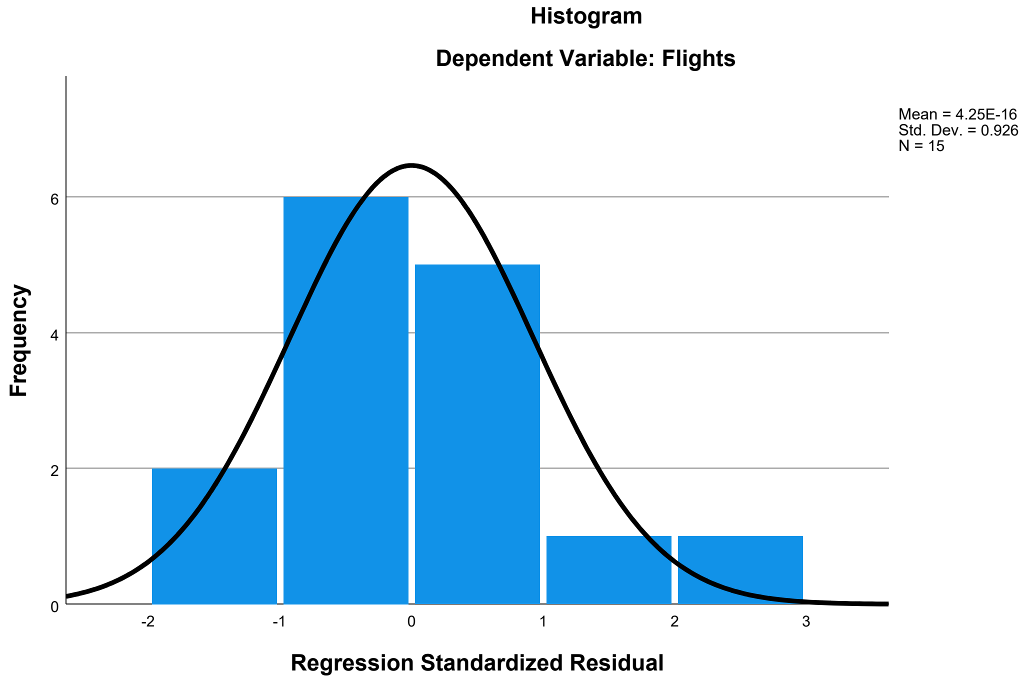
a. Dependent Variable: Flights

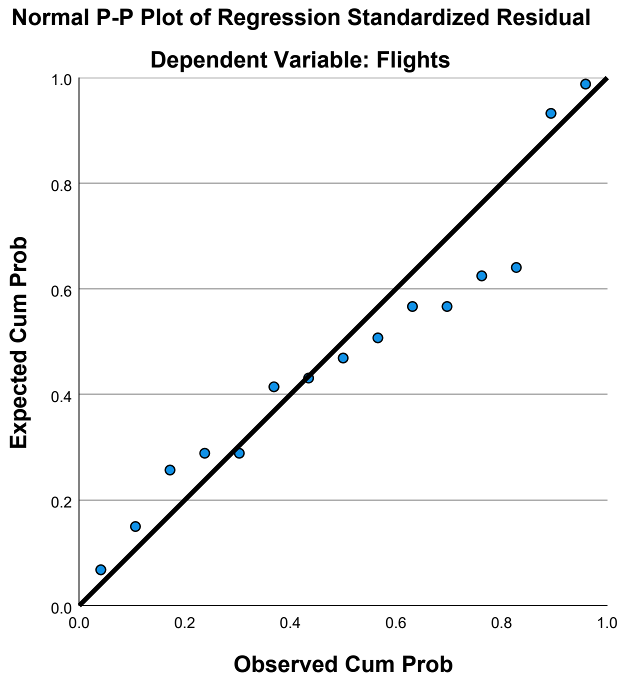
Residuals Statistics[a]

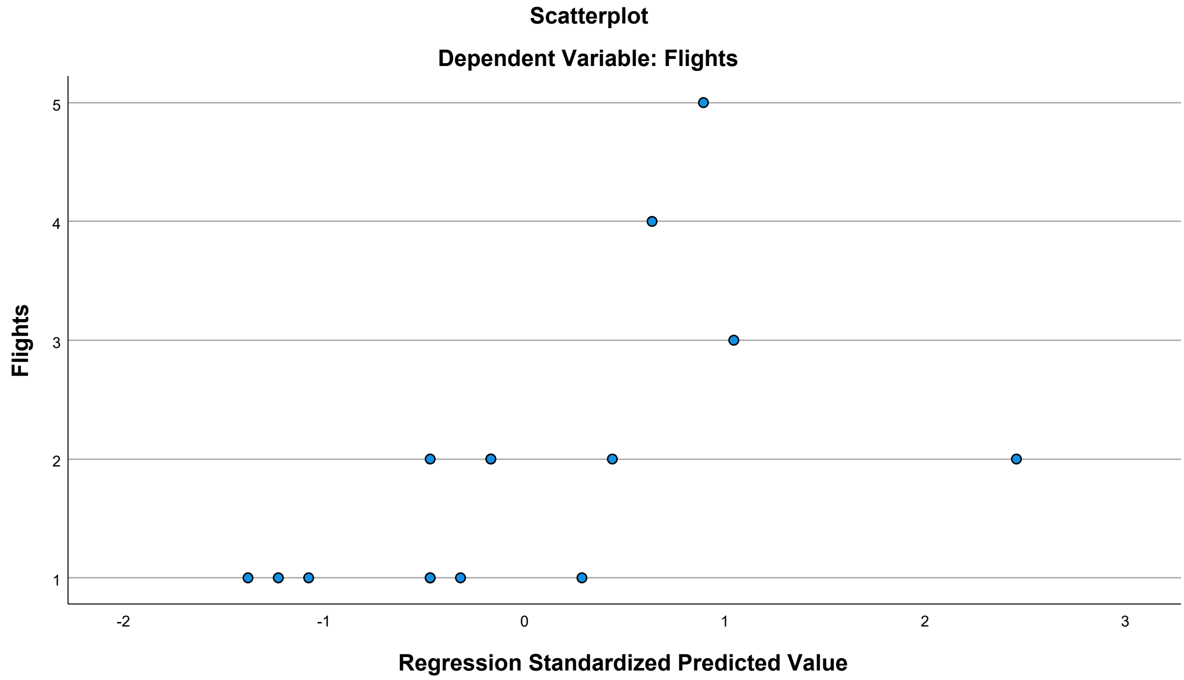
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.98	3.63	1.93	.690	15
Residual	-1.628	2.450	.000	1.010	15
Std. Predicted Value	-1.381	2.456	.000	1.000	15
Std. Residual	-1.492	2.247	.000	.926	15

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 4.25E-16
Std. Dev. = 0.926
N = 15
Frequency
0
2
4
6
-2
-1
0
1
2
3
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	1.93	1.223	15
Urban	12.13	5.370	15

Correlations

		Flights	Urban
Pearson Correlation	Flights	1.000	.524
	Urban	.524	1.000
Sig. (1-tailed)	Flights	.	.023
	Urban	.023	.
N	Flights	15	15
	Urban	15	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.524[a]	.274	.218	1.081	.274	4.910

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	1	13	.045

a. Predictors: (Constant), Urban

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.738	1	5.738	4.910	.045[b]
	Residual	15.195	13	1.169		
	Total	20.933	14			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance
1	(Constant)	.487	.710		.686	.505	
	Urban	.119	.054	.524	2.216	.045	1.000

Coefficients[a]

Model		Collinearity Statistics VIF
1	(Constant)	
	Urban	1.000

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Urban
1	1	1.919	1.000	.04	.04
	2	.081	4.882	.96	.96

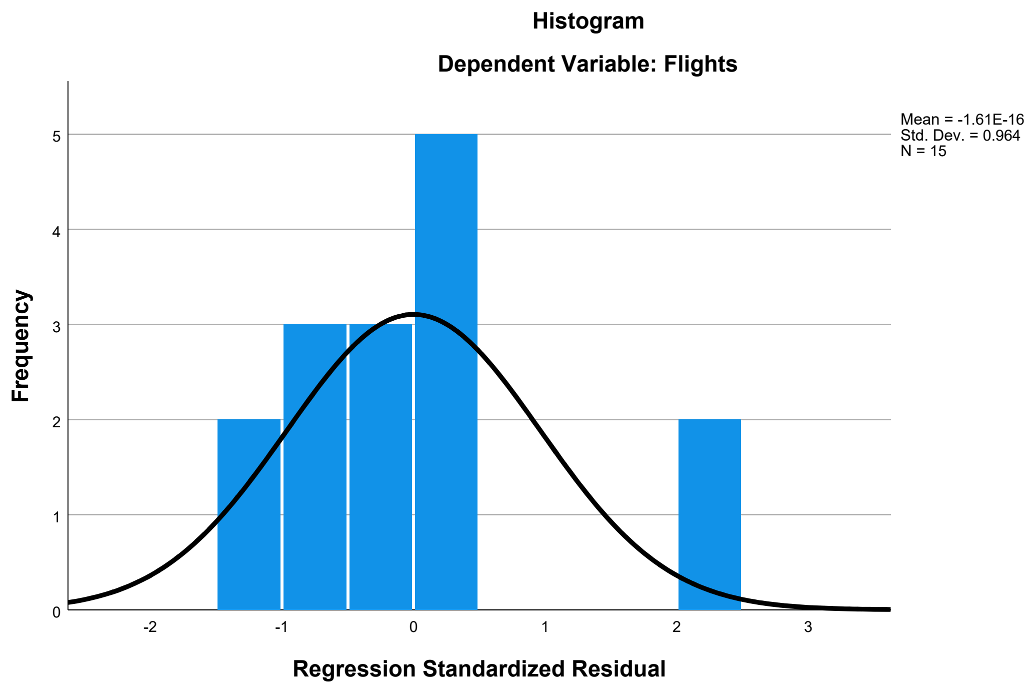
a. Dependent Variable: Flights

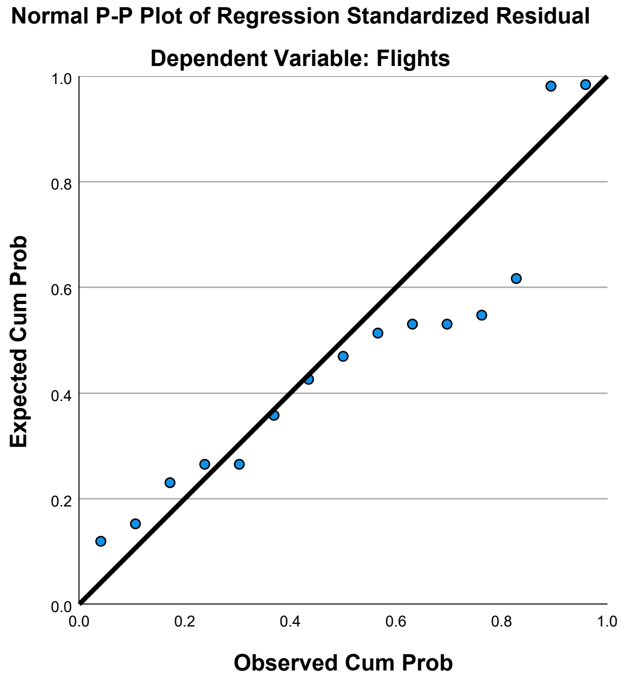
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.96	3.11	1.93	.640	15
Residual	-1.275	2.321	.000	1.042	15
Std. Predicted Value	-1.515	1.837	.000	1.000	15
Std. Residual	-1.179	2.147	.000	.964	15

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
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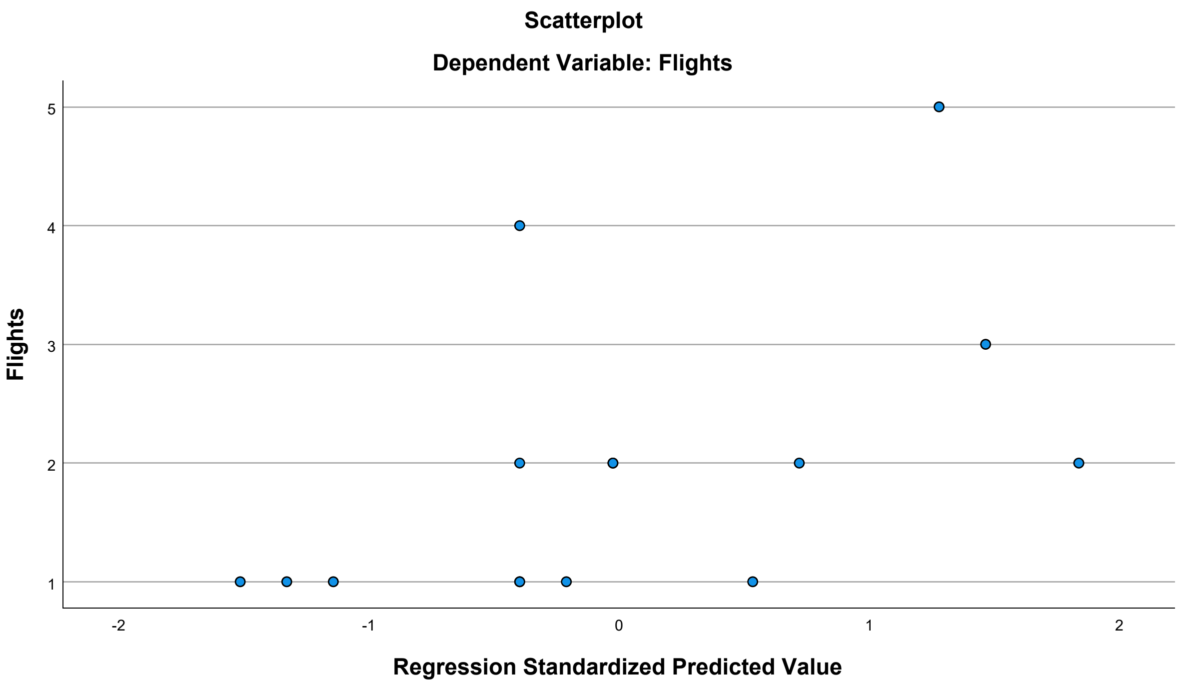
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
1
2
3
4
5
-2
-1
0
1
2

Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR, PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	1.79	1.501	48
HomeConcentration	.0654115	.07614588	48
Congestion	4.38	1.084	48
GLHR	.00	.000	48
GJFK	.02	.144	48
PartnerConcentration	.000100	.0000000	48
Seasonality	.94011994949	.14945046802	48
Distance	4.09058	.701514	48
Language	2.53371502	3.230174911	48
Ethnicity	.85884029	.918423969	48
Urban	13.10	4.406	48

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	-.079	.114	.
	HomeConcentration	-.079	1.000	.048	.
	Congestion	.114	.048	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.020	-.119	.221	.
	PartnerConcentration	.	.	.	.
	Seasonality	-.330	-.164	-.174	.
	Distance	-.189	.388	.074	.
	Language	.180	-.280	-.155	.
	Ethnicity	.215	-.165	-.027	.
	Urban	.360	-.037	.597	.
Sig. (1-tailed)	Flights	.	.296	.219	.000
	HomeConcentration	.296	.	.372	.000

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.020	.	-.330	-.189
	HomeConcentration	-.119	.	-.164	.388
	Congestion	.221	.	-.174	.074
	GLHR	.	.	.	.
	GJFK	1.000	.	-.434	-.091
	PartnerConcentration	.	1.000	.	.
	Seasonality	-.434	.	1.000	-.086
	Distance	-.091	.	-.086	1.000
	Language	-.116	.	.138	-.655
	Ethnicity	-.138	.	.131	-.489
	Urban	-.037	.	-.087	.058
Sig. (1-tailed)	Flights	.445	.000	.011	.099
	HomeConcentration	.210	.000	.133	.003

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.180	.215	.360
	HomeConcentration	-.280	-.165	-.037
	Congestion	-.155	-.027	.597
	GLHR	.	.	.
	GJFK	-.116	-.138	-.037
	PartnerConcentration	.	.	.
	Seasonality	.138	.131	-.087
	Distance	-.655	-.489	.058
	Language	1.000	.766	-.188
	Ethnicity	.766	1.000	-.067
	Urban	-.188	-.067	1.000
Sig. (1-tailed)	Flights	.110	.071	.006
	HomeConcentration	.027	.131	.401

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	.219	.372	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.445	.210	.066	.000
	PartnerConcentration	.000	.000	.000	.000
	Seasonality	.011	.133	.119	.000
	Distance	.099	.003	.309	.000
	Language	.110	.027	.147	.000
	Ethnicity	.071	.131	.426	.000
	Urban	.006	.401	.000	.000
N	Flights	48	48	48	48
	HomeConcentration	48	48	48	48
	Congestion	48	48	48	48
	GLHR	48	48	48	48
	GJFK	48	48	48	48
	PartnerConcentration	48	48	48	48
	Seasonality	48	48	48	48
	Distance	48	48	48	48
	Language	48	48	48	48
	Ethnicity	48	48	48	48
	Urban	48	48	48	48

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	.066	.000	.119	.309
	GLHR	.000	.000	.000	.000
	GJFK	.	.000	.001	.269
	PartnerConcentration	.000	.	.000	.000
	Seasonality	.001	.000	.	.281
	Distance	.269	.000	.281	.
	Language	.217	.000	.175	.000
	Ethnicity	.175	.000	.188	.000
	Urban	.402	.000	.277	.348
N	Flights	48	48	48	48
	HomeConcentration	48	48	48	48
	Congestion	48	48	48	48
	GLHR	48	48	48	48
	GJFK	48	48	48	48
	PartnerConcentration	48	48	48	48
	Seasonality	48	48	48	48
	Distance	48	48	48	48
	Language	48	48	48	48
	Ethnicity	48	48	48	48
	Urban	48	48	48	48

Correlations

		Language	Ethnicity	Urban
	Congestion	.147	.426	.000
	GLHR	.000	.000	.000
	GJFK	.217	.175	.402
	PartnerConcentration	.000	.000	.000
	Seasonality	.175	.188	.277
	Distance	.000	.000	.348
	Language	.	.000	.101
	Ethnicity	.000	.	.327
	Urban	.101	.327	.
N	Flights	48	48	48
	HomeConcentration	48	48	48
	Congestion	48	48	48
	GLHR	48	48	48
	GJFK	48	48	48
	PartnerConcentration	48	48	48
	Seasonality	48	48	48
	Distance	48	48	48
	Language	48	48	48
	Ethnicity	48	48	48
	Urban	48	48	48

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, GJFK, Distance, HomeConcentration, Seasonality, Ethnicity, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.591[a]	.350	.216	1.329	.350	2.621

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	39	.021

a. Predictors: (Constant), Urban, GJFK, Distance, HomeConcentration, Seasonality, Ethnicity, Congestion, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.031	8	4.629	2.621	.021[b]
	Residual	68.886	39	1.766		
	Total	105.917	47			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, GJFK, Distance, HomeConcentration, Seasonality, Ethnicity, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	5.155	2.529		2.038	.048
	HomeConcentration	-.805	2.883	-.041	-.279	.782
	Congestion	-.266	.238	-.192	-1.119	.270
	GJFK	-.770	1.658	-.074	-.464	.645
	Seasonality	-4.042	1.500	-.402	-2.695	.010
	Distance	-.186	.391	-.087	-.477	.636
	Language	.042	.113	.091	.376	.709
	Ethnicity	.269	.335	.164	.803	.427
	Urban	.160	.058	.469	2.742	.009

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.780	1.283
	Congestion	.565	1.771
	GJFK	.656	1.524
	Seasonality	.748	1.337
	Distance	.501	1.998
	Language	.284	3.522
	Ethnicity	.398	2.514
	Urban	.570	1.753

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.256	1.000	.00	.01	.00
	2	1.115	2.369	.00	.03	.00
	3	.954	2.560	.00	.10	.00
	4	.418	3.871	.00	.68	.00
	5	.133	6.851	.00	.01	.00
	6	.080	8.868	.00	.05	.03
	7	.024	16.096	.00	.03	.93
	8	.017	19.332	.00	.11	.02
	9	.004	38.577	.99	.00	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.23	.00	.00	.04	.04	.00
	3	.37	.00	.00	.03	.02	.00
	4	.07	.00	.00	.02	.04	.01
	5	.00	.00	.00	.51	.80	.02
	6	.01	.04	.02	.12	.10	.33
	7	.13	.02	.00	.00	.01	.60
	8	.03	.53	.40	.08	.00	.00
	9	.16	.40	.57	.20	.00	.04

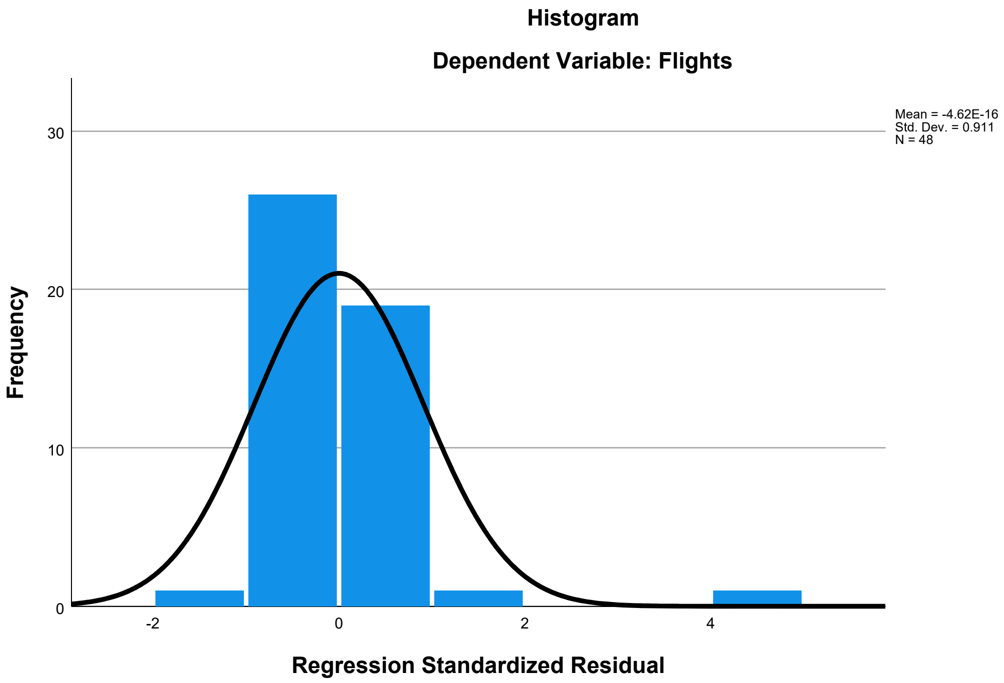
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.10	4.22	1.79	.888	48
Residual	-2.625	6.574	.000	1.211	48
Std. Predicted Value	-2.135	2.736	.000	1.000	48
Std. Residual	-1.975	4.946	.000	.911	48

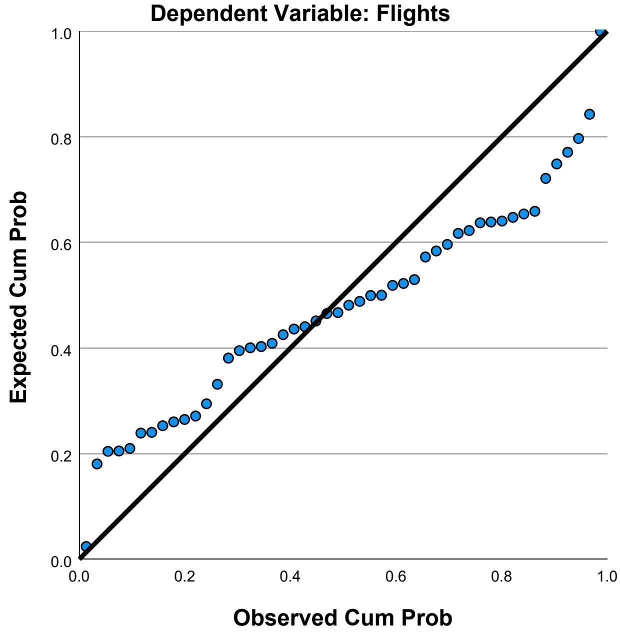
a. Dependent Variable: Flights

Charts



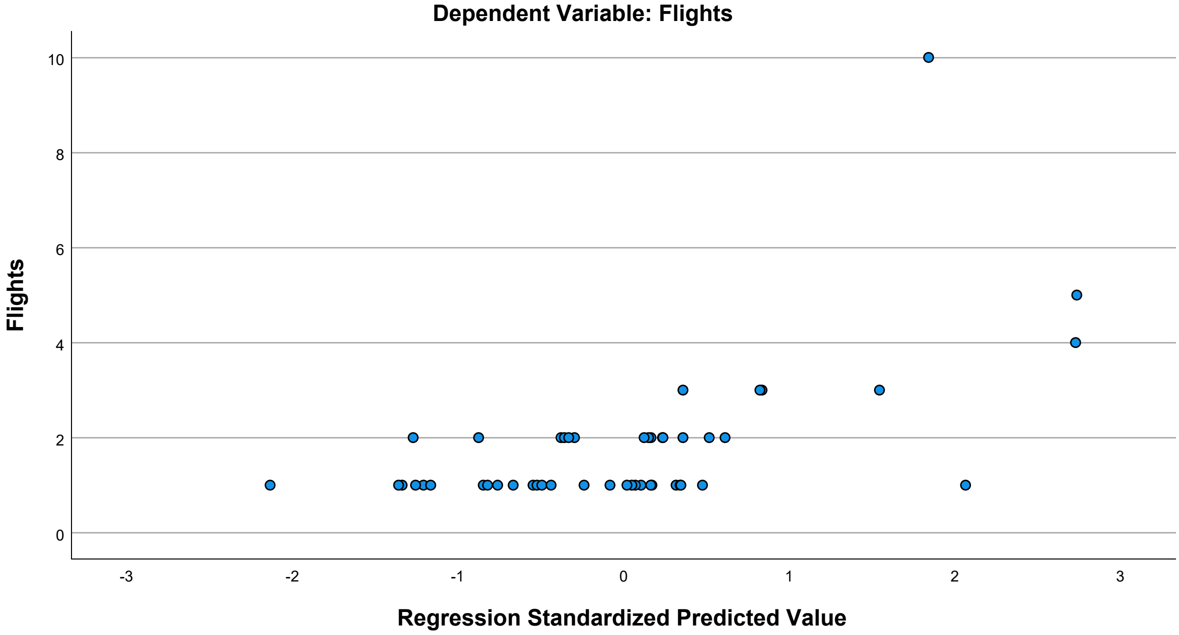
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

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Try\Airline Type\2007 nonFSC.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	2.22	1.828	131
HomeConcentration	.070115	.0899693	131
Congestion	4.43	1.170	131
GLHR	.02	.123	131
GJFK	.02	.150	131
PartnerConcentration	.000100	.0000000	131
Seasonality	.93559286346	.15796452534	131
Distance	3.95578	.672764	131
Language	3.14070879	3.402242664	131
Ethnicity	1.06157857	1.012624233	131
Urban	12.40	5.083	131

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.302	.099	.156
	HomeConcentration	.302	1.000	.226	-.029
	Congestion	.099	.226	1.000	.061
	GLHR	.156	-.029	.061	1.000
	GJFK	.374	.093	.031	-.019
	PartnerConcentration	.	.	.	.
	Seasonality	-.211	-.125	-.052	.051
	Distance	-.139	.333	.313	-.102
	Language	.254	-.309	-.192	.125
	Ethnicity	.234	-.152	.032	.097
	Urban	.243	.182	.628	.187
Sig. (1-tailed)	Flights	.	<.001	.130	.038
	HomeConcentration	.000	.	.005	.373
	Congestion	.130	.005	.	.244
	GLHR	.038	.373	.244	.
	GJFK	.000	.145	.361	.414
	PartnerConcentration	.000	.000	.000	.000
	Seasonality	.008	.078	.279	.282
	Distance	.056	.000	.000	.123
	Language	.002	.000	.014	.078
	Ethnicity	.004	.042	.358	.135
	Urban	.003	.019	.000	.016
N	Flights	131	131	131	131
	HomeConcentration	131	131	131	131
	Congestion	131	131	131	131
	GLHR	131	131	131	131
	GJFK	131	131	131	131
	PartnerConcentration	131	131	131	131
	Seasonality	131	131	131	131
	Distance	131	131	131	131
	Language	131	131	131	131
	Ethnicity	131	131	131	131
	Urban	131	131	131	131

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.374	.	-.211	-.139
	HomeConcentration	.093	.	-.125	.333
	Congestion	.031	.	-.052	.313
	GLHR	-.019	.	.051	-.102
	GJFK	1.000	.	-.072	-.133
	PartnerConcentration	.	1.000	.	.
	Seasonality	-.072	.	1.000	-.097
	Distance	-.133	.	-.097	1.000
	Language	.245	.	.007	-.543
	Ethnicity	.133	.	.027	-.410
	Urban	.089	.	-.001	.047
Sig. (1-tailed)	Flights	<.001	.000	.008	.056
	HomeConcentration	.145	.000	.078	.000
	Congestion	.361	.000	.279	.000
	GLHR	.414	.000	.282	.123
	GJFK	.	.000	.205	.064
	PartnerConcentration	.000	.	.000	.000
	Seasonality	.205	.000	.	.135
	Distance	.064	.000	.135	.
	Language	.002	.000	.468	.000
	Ethnicity	.065	.000	.379	.000
	Urban	.157	.000	.497	.298
N	Flights	131	131	131	131
	HomeConcentration	131	131	131	131
	Congestion	131	131	131	131
	GLHR	131	131	131	131
	GJFK	131	131	131	131
	PartnerConcentration	131	131	131	131
	Seasonality	131	131	131	131
	Distance	131	131	131	131
	Language	131	131	131	131
	Ethnicity	131	131	131	131
	Urban	131	131	131	131

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.254	.234	.243
	HomeConcentration	-.309	-.152	.182
	Congestion	-.192	.032	.628
	GLHR	.125	.097	.187
	GJFK	.245	.133	.089
	PartnerConcentration	.	.	.
	Seasonality	.007	.027	-.001
	Distance	-.543	-.410	.047
	Language	1.000	.815	.080
	Ethnicity	.815	1.000	.273
	Urban	.080	.273	1.000
Sig. (1-tailed)	Flights	.002	.004	.003
	HomeConcentration	.000	.042	.019
	Congestion	.014	.358	.000
	GLHR	.078	.135	.016
	GJFK	.002	.065	.157
	PartnerConcentration	.000	.000	.000
	Seasonality	.468	.379	.497
	Distance	.000	.000	.298
	Language	.	.000	.183
	Ethnicity	.000	.	.001
	Urban	.183	.001	.
N	Flights	131	131	131
	HomeConcentration	131	131	131
	Congestion	131	131	131
	GLHR	131	131	131
	GJFK	131	131	131
	PartnerConcentration	131	131	131
	Seasonality	131	131	131
	Distance	131	131	131
	Language	131	131	131
	Ethnicity	131	131	131
	Urban	131	131	131

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, Language, GLHR, GJFK, HomeConcentration, Distance, Congestion, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change	Change Statistics: df1	Change Statistics: df2	Change Statistics: Sig. F Change
1	.593[a]	.352	.304	1.525	.352	7.307	9	121	<.001

a. Predictors: (Constant), Urban, Seasonality, Language, GLHR, GJFK, HomeConcentration, Distance, Congestion, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	153.027	9	17.003	7.307	<.001[b]
	Residual	281.554	121	2.327		
	Total	434.580	130			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, Language, GLHR, GJFK, HomeConcentration, Distance, Congestion, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.754	1.421		2.642	.009
	HomeConcentration	6.998	1.685	.344	4.152	<.001
	Congestion	-.005	.161	-.003	-.032	.975
	GLHR	1.724	1.124	.116	1.534	.128
	GJFK	3.053	.958	.251	3.187	.002
	Seasonality	-1.940	.862	-.168	-2.250	.026
	Distance	-.308	.251	-.113	-1.225	.223
	Language	.128	.083	.238	1.542	.126
	Ethnicity	-.054	.254	-.030	-.213	.832
	Urban	.048	.037	.133	1.297	.197

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.779	1.284
	Congestion	.501	1.996
	GLHR	.936	1.069
	GJFK	.865	1.156
	Seasonality	.965	1.036
	Distance	.626	1.597
	Language	.225	4.436
	Ethnicity	.270	3.703
	Urban	.512	1.953

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.410	1.000	.00	.01	.00
	2	1.101	2.413	.00	.06	.00
	3	1.011	2.518	.00	.01	.00
	4	.839	2.764	.00	.14	.00
	5	.391	4.048	.00	.64	.00
	6	.127	7.100	.00	.07	.02
	7	.064	10.039	.00	.03	.00
	8	.031	14.375	.00	.01	.41
	9	.020	18.083	.01	.04	.56
	10	.006	32.099	.98	.00	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.13	.22	.00	.00	.03	.01
	3	.52	.34	.00	.00	.00	.00
	4	.29	.26	.00	.00	.02	.02
	5	.00	.10	.00	.00	.02	.05
	6	.01	.00	.02	.01	.15	.11
	7	.03	.08	.01	.01	.60	.76
	8	.01	.00	.33	.05	.05	.00
	9	.00	.00	.25	.35	.01	.02
	10	.00	.00	.39	.58	.13	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.25
	7	.26
	8	.28
	9	.20
	10	.00

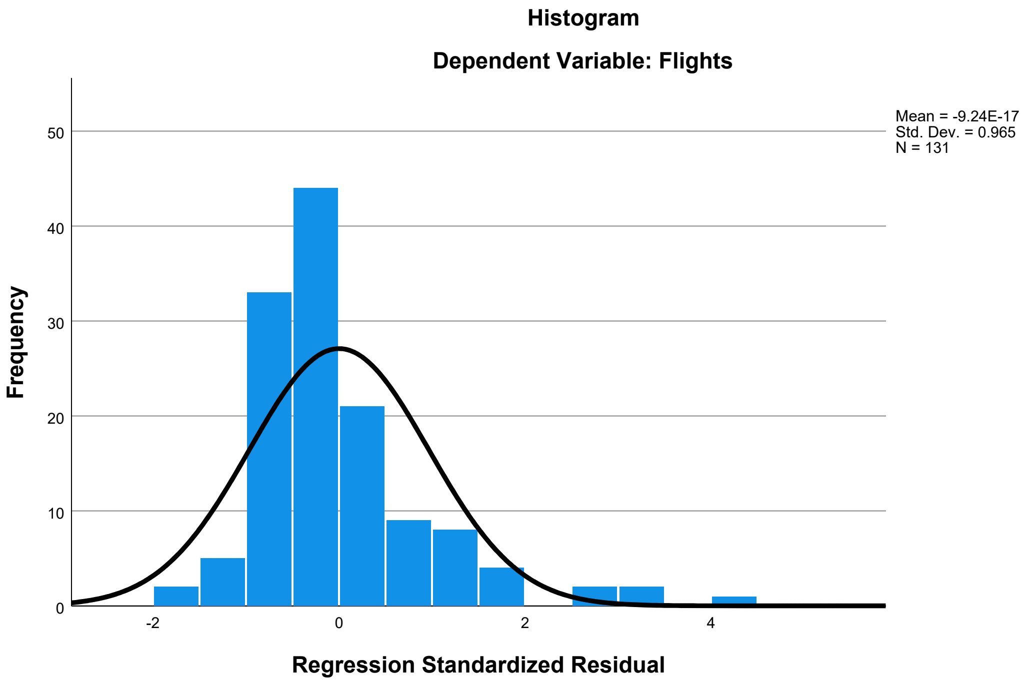
a. Dependent Variable: Flights

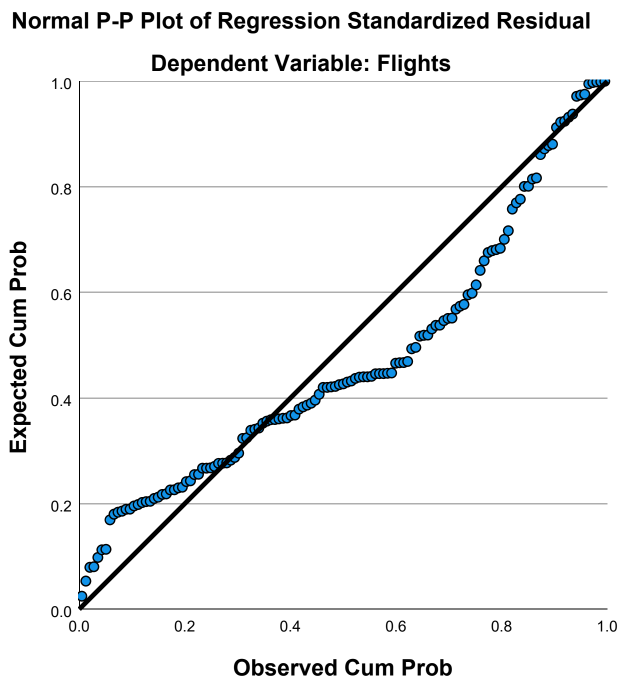
Residuals Statistics[a]

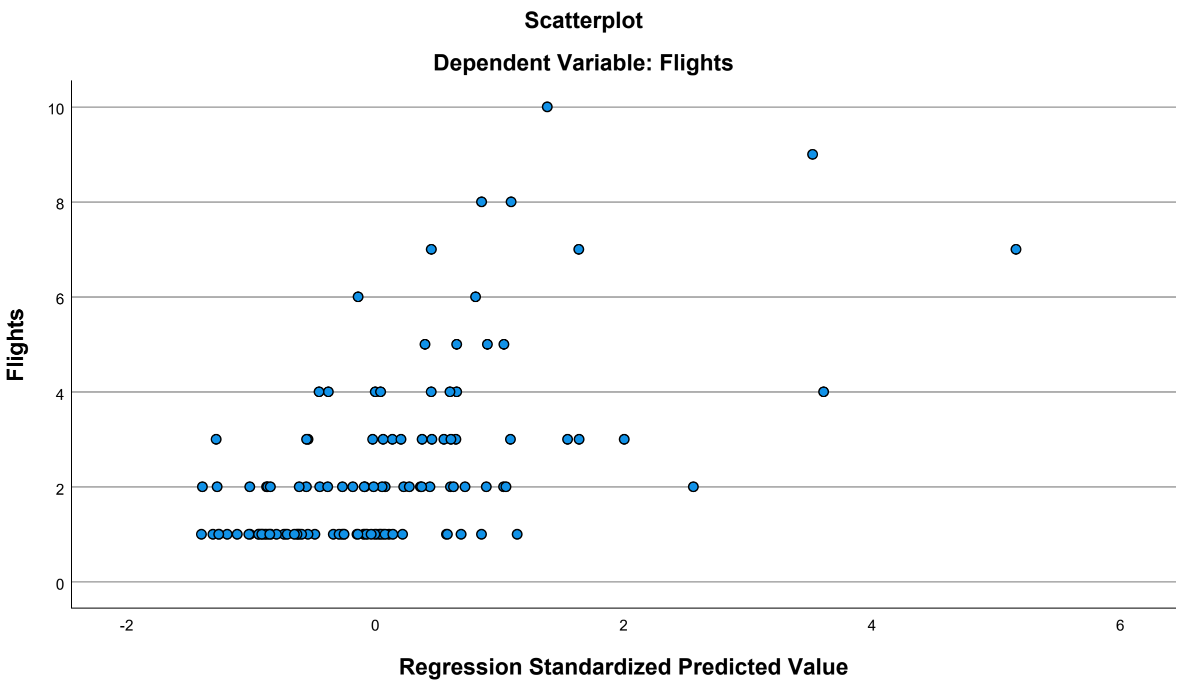
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.70	7.82	2.22	1.085	131
Residual	-3.000	6.276	.000	1.472	131
Std. Predicted Value	-1.400	5.160	.000	1.000	131
Std. Residual	-1.967	4.114	.000	.965	131

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
2
4
6
8
10
-2

Regression

```
[DataSet28] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airline Type\2012 nonFSC.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	2.73	2.470	105
HomeConcentration	.17509295	.294391503	105
Congestion	4.76	1.070	105
GLHR	.00	.000	105
GJFK	.03	.167	105
PartnerConcentration	.13597321905	.63582960337	105
Seasonality	.88438549337	.19126183700	105
Distance	4.17881	.685264	105
Language	1.77393933	2.769084320	105
Ethnicity	.77702498	.866836194	105
Urban	14.53	4.693	105

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.168	.310	.
	HomeConcentration	.168	1.000	.088	.
	Congestion	.310	.088	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.251	.350	.199	.
	PartnerConcentration	.120	.700	-.041	.
	Seasonality	-.384	-.154	-.105	.
	Distance	-.155	.345	-.057	.
	Language	.220	-.210	-.160	.
	Ethnicity	.365	.038	.106	.
	Urban	.448	.153	.761	.
Sig. (1-tailed)	Flights	.	.043	<.001	.000
	HomeConcentration	.043	.	.186	.000
	Congestion	.001	.186	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.005	.000	.021	.000
	PartnerConcentration	.112	.000	.340	.000
	Seasonality	.000	.058	.143	.000
	Distance	.057	.000	.282	.000
	Language	.012	.016	.052	.000
	Ethnicity	.000	.349	.142	.000
	Urban	.000	.059	.000	.000
N	Flights	105	105	105	105
	HomeConcentration	105	105	105	105
	Congestion	105	105	105	105
	GLHR	105	105	105	105
	GJFK	105	105	105	105
	PartnerConcentration	105	105	105	105
	Seasonality	105	105	105	105
	Distance	105	105	105	105
	Language	105	105	105	105
	Ethnicity	105	105	105	105
	Urban	105	105	105	105

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.251	.120	-.384	-.155
	HomeConcentration	.350	.700	-.154	.345
	Congestion	.199	-.041	-.105	-.057
	GLHR	.	.	.	.
	GJFK	1.000	.135	.014	-.102
	PartnerConcentration	.135	1.000	-.183	.250
	Seasonality	.014	-.183	1.000	-.021
	Distance	-.102	.250	-.021	1.000
	Language	-.105	-.136	.003	-.505
	Ethnicity	.164	-.019	-.097	-.426
	Urban	.237	.145	-.227	-.042
Sig. (1-tailed)	Flights	.005	.112	<.001	.057
	HomeConcentration	.000	.000	.058	.000
	Congestion	.021	.340	.143	.282
	GLHR	.000	.000	.000	.000
	GJFK	.	.085	.443	.151
	PartnerConcentration	.085	.	.031	.005
	Seasonality	.443	.031	.	.415
	Distance	.151	.005	.415	.
	Language	.143	.083	.486	.000
	Ethnicity	.047	.426	.163	.000
	Urban	.007	.070	.010	.335
N	Flights	105	105	105	105
	HomeConcentration	105	105	105	105
	Congestion	105	105	105	105
	GLHR	105	105	105	105
	GJFK	105	105	105	105
	PartnerConcentration	105	105	105	105
	Seasonality	105	105	105	105
	Distance	105	105	105	105
	Language	105	105	105	105
	Ethnicity	105	105	105	105
	Urban	105	105	105	105

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.220	.365	.448
	HomeConcentration	-.210	.038	.153
	Congestion	-.160	.106	.761
	GLHR	.	.	.
	GJFK	-.105	.164	.237
	PartnerConcentration	-.136	-.019	.145
	Seasonality	.003	-.097	-.227
	Distance	-.505	-.426	-.042
	Language	1.000	.793	-.126
	Ethnicity	.793	1.000	.128
	Urban	-.126	.128	1.000
Sig. (1-tailed)	Flights	.012	<.001	<.001
	HomeConcentration	.016	.349	.059
	Congestion	.052	.142	.000
	GLHR	.000	.000	.000
	GJFK	.143	.047	.007
	PartnerConcentration	.083	.426	.070
	Seasonality	.486	.163	.010
	Distance	.000	.000	.335
	Language	.	.000	.100
	Ethnicity	.000	.	.096
	Urban	.100	.096	.
N	Flights	105	105	105
	HomeConcentration	105	105	105
	Congestion	105	105	105
	GLHR	105	105	105
	GJFK	105	105	105
	PartnerConcentration	105	105	105
	Seasonality	105	105	105
	Distance	105	105	105
	Language	105	105	105
	Ethnicity	105	105	105
	Urban	105	105	105

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Seasonality, GJFK, PartnerConcentration, Ethnicity, Congestion, HomeConcentration, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.633[a]	.401	.344	2.001	.401	7.055

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	95	<.001

a. Predictors: (Constant), Urban, Distance, Seasonality, GJFK, PartnerConcentration, Ethnicity, Congestion, HomeConcentratio Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	254.196	9	28.244	7.055	<.001[b]
	Residual	380.337	95	4.004		
	Total	634.533	104			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Seasonality, GJFK, PartnerConcentration, Ethnicity, Congestion, HomeConcentration, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.626	2.206		1.191	.237
	HomeConcentration	.679	1.101	.081	.617	.539
	Congestion	-.005	.304	-.002	-.016	.987
	GJFK	2.364	1.409	.160	1.677	.097
	PartnerConcentration	-.117	.460	-.030	-.253	.801
	Seasonality	-3.768	1.083	-.292	-3.478	<.001
	Distance	.003	.367	.001	.008	.993
	Language	.215	.150	.241	1.438	.154
	Ethnicity	.198	.455	.069	.435	.664
	Urban	.189	.069	.359	2.718	.008

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.367	2.727
	Congestion	.365	2.739
	GJFK	.691	1.446
	PartnerConcentration	.449	2.225
	Seasonality	.896	1.116
	Distance	.608	1.645
	Language	.224	4.462
	Ethnicity	.248	4.038
	Urban	.362	2.761

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.140	1.000	.00	.00	.00
	2	1.595	1.962	.00	.05	.00
	3	.962	2.526	.00	.00	.00
	4	.850	2.687	.00	.01	.00
	5	.219	5.296	.00	.71	.00
	6	.126	6.974	.00	.02	.01
	7	.062	9.943	.00	.10	.01
	8	.027	15.061	.02	.05	.01
	9	.013	21.493	.01	.01	.82
	10	.006	33.297	.97	.05	.15

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.06	.10	.00	.00	.01	.00
	3	.22	.00	.00	.00	.04	.04
	4	.38	.14	.00	.00	.03	.01
	5	.14	.63	.00	.00	.00	.01
	6	.09	.00	.05	.00	.23	.27
	7	.01	.04	.08	.01	.55	.65
	8	.07	.00	.67	.25	.01	.00
	9	.00	.06	.08	.04	.00	.01
	10	.03	.01	.12	.70	.12	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.06
	7	.13
	8	.02
	9	.78
	10	.00

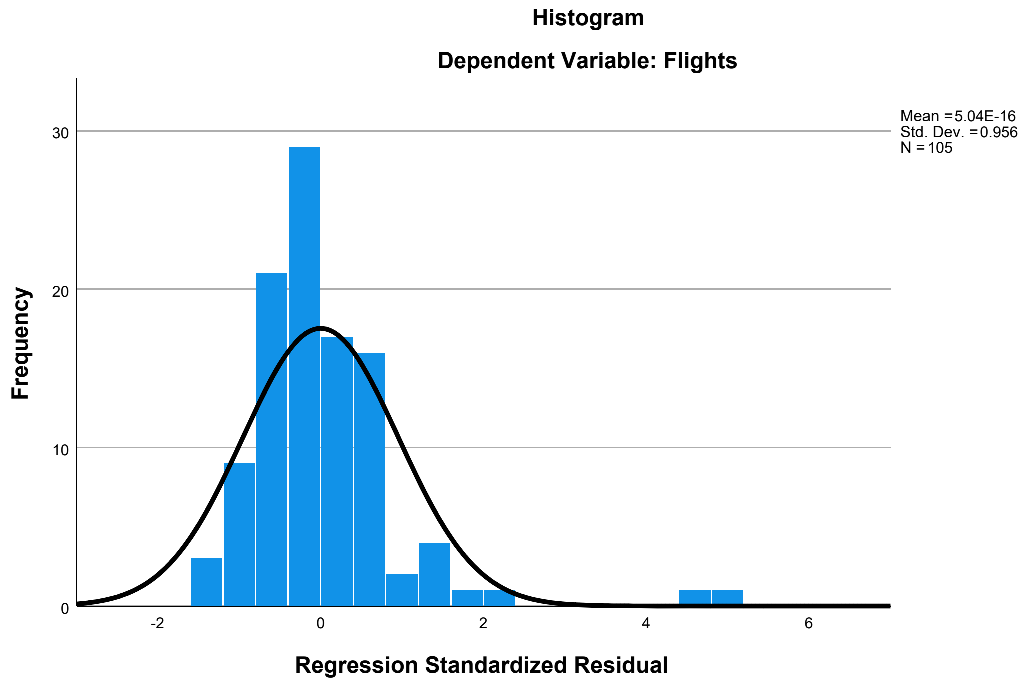
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.07	7.36	2.73	1.563	105
Residual	-2.967	10.208	.000	1.912	105
Std. Predicted Value	-1.792	2.962	.000	1.000	105
Std. Residual	-1.483	5.102	.000	.956	105

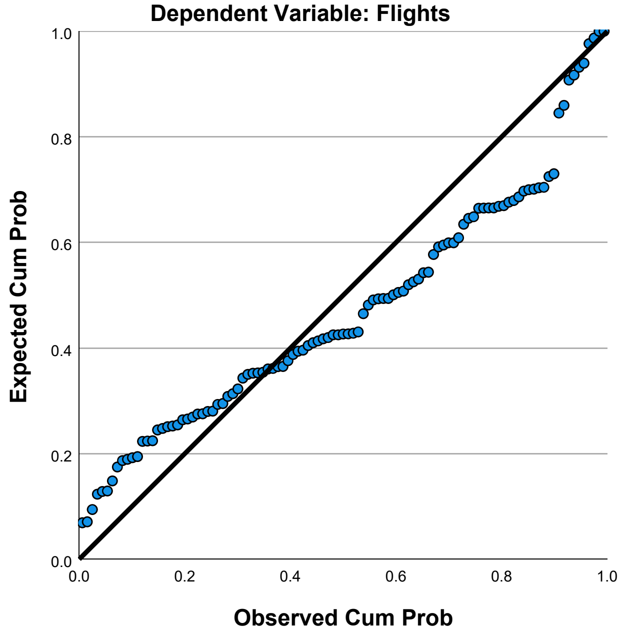
a. Dependent Variable: Flights

Charts



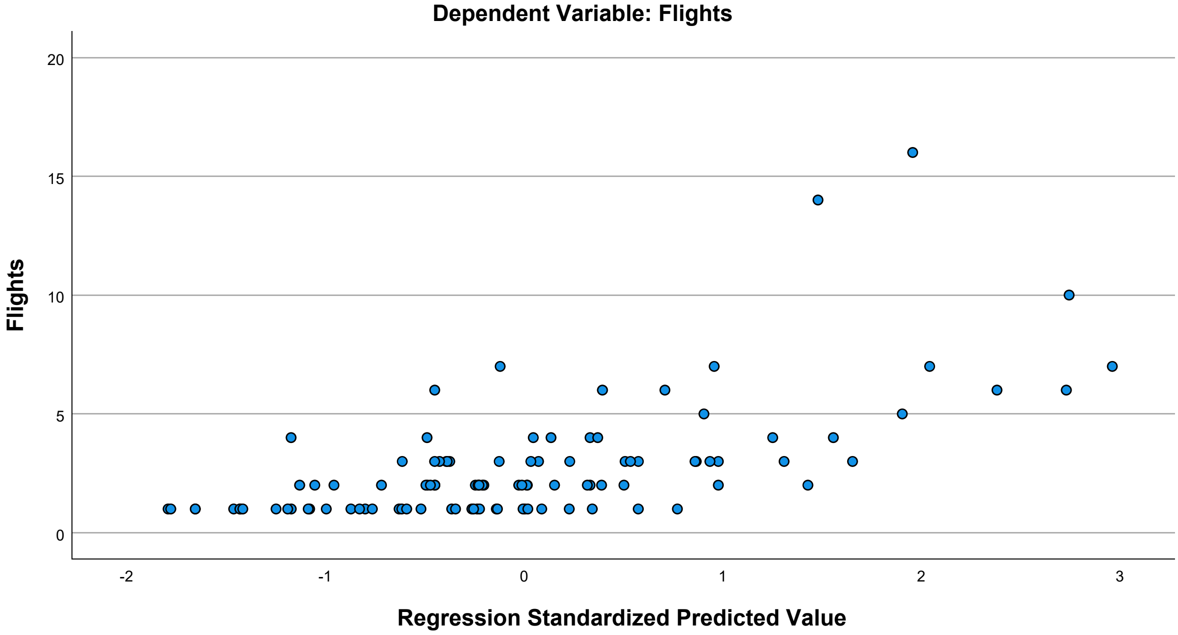
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

```
[DataSet29] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airline Type\2017 nonFSC.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	3.70	2.312	163
HomeConcentration	.41366433129	.48860538931	163
Congestion	4.58	.968	163
GLHR	.00	.000	163
GJFK	.06	.241	163
PartnerConcentration	.10741369325	.52584902562	163
Seasonality	.81457316504	.21813995216	163
Distance	4.18113	.905692	163
Language	1.66976782	3.149392090	163
Ethnicity	.50406161	.706640671	163
Urban	13.70	4.967	163

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.199	.279	.
	HomeConcentration	.199	1.000	.194	.
	Congestion	.279	.194	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.299	.287	.377	.
	PartnerConcentration	.257	.475	.012	.
	Seasonality	-.117	-.289	-.115	.
	Distance	-.214	.243	.120	.
	Language	.217	-.175	-.069	.
	Ethnicity	.329	.043	.238	.
	Urban	.270	.166	.640	.
Sig. (1-tailed)	Flights	.	.005	<.001	.000
	HomeConcentration	.005	.	.006	.000
	Congestion	.000	.006	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.000	.000	.000	.000
	PartnerConcentration	.000	.000	.437	.000
	Seasonality	.068	.000	.072	.000
	Distance	.003	.001	.064	.000
	Language	.003	.013	.191	.000
	Ethnicity	.000	.294	.001	.000
	Urban	.000	.017	.000	.000
N	Flights	163	163	163	163
	HomeConcentration	163	163	163	163
	Congestion	163	163	163	163
	GLHR	163	163	163	163
	GJFK	163	163	163	163
	PartnerConcentration	163	163	163	163
	Seasonality	163	163	163	163
	Distance	163	163	163	163
	Language	163	163	163	163
	Ethnicity	163	163	163	163
	Urban	163	163	163	163

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.299	.257	-.117	-.214
	HomeConcentration	.287	.475	-.289	.243
	Congestion	.377	.012	-.115	.120
	GLHR	.	.	.	.
	GJFK	1.000	.058	-.174	-.072
	PartnerConcentration	.058	1.000	-.057	.144
	Seasonality	-.174	-.057	1.000	-.147
	Distance	-.072	.144	-.147	1.000
	Language	.085	-.107	.018	-.317
	Ethnicity	.069	.125	.008	-.155
	Urban	.346	.143	-.201	.207
Sig. (1-tailed)	Flights	<.001	<.001	.068	.003
	HomeConcentration	.000	.000	.000	.001
	Congestion	.000	.437	.072	.064
	GLHR	.000	.000	.000	.000
	GJFK	.	.231	.013	.182
	PartnerConcentration	.231	.	.236	.033
	Seasonality	.013	.236	.	.031
	Distance	.182	.033	.031	.
	Language	.141	.087	.410	.000
	Ethnicity	.191	.057	.458	.024
	Urban	.000	.035	.005	.004
N	Flights	163	163	163	163
	HomeConcentration	163	163	163	163
	Congestion	163	163	163	163
	GLHR	163	163	163	163
	GJFK	163	163	163	163
	PartnerConcentration	163	163	163	163
	Seasonality	163	163	163	163
	Distance	163	163	163	163
	Language	163	163	163	163
	Ethnicity	163	163	163	163
	Urban	163	163	163	163

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.217	.329	.270
	HomeConcentration	-.175	.043	.166
	Congestion	-.069	.238	.640
	GLHR	.	.	.
	GJFK	.085	.069	.346
	PartnerConcentration	-.107	.125	.143
	Seasonality	.018	.008	-.201
	Distance	-.317	-.155	.207
	Language	1.000	.594	.167
	Ethnicity	.594	1.000	.278
	Urban	.167	.278	1.000
Sig. (1-tailed)	Flights	.003	<.001	<.001
	HomeConcentration	.013	.294	.017
	Congestion	.191	.001	.000
	GLHR	.000	.000	.000
	GJFK	.141	.191	.000
	PartnerConcentration	.087	.057	.035
	Seasonality	.410	.458	.005
	Distance	.000	.024	.004
	Language	.	.000	.016
	Ethnicity	.000	.	.000
	Urban	.016	.000	.
N	Flights	163	163	163
	HomeConcentration	163	163	163
	Congestion	163	163	163
	GLHR	163	163	163
	GJFK	163	163	163
	PartnerConcentration	163	163	163
	Seasonality	163	163	163
	Distance	163	163	163
	Language	163	163	163
	Ethnicity	163	163	163
	Urban	163	163	163

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Seasonality, Language, GJFK, Distance, HomeConcentration, Ethnicity, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change	Change Statistics: df1	Change Statistics: df2	Change Statistics: Sig. F Change
1	.549[a]	.302	.261	1.988	.302	7.345	9	153	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, Seasonality, Language, GJFK, Distance, HomeConcentration, Ethnicity, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	261.347	9	29.039	7.345	<.001[b]
	Residual	604.923	153	3.954		
	Total	866.270	162			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Seasonality, Language, GJFK, Distance, HomeConcentration, Ethnicity, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.112	1.352		3.041	.003
	HomeConcentration	.235	.410	.050	.572	.568
	Congestion	.409	.240	.171	1.707	.090
	GJFK	1.369	.761	.142	1.799	.074
	PartnerConcentration	1.039	.357	.236	2.913	.004
	Seasonality	-.778	.768	-.073	-1.012	.313
	Distance	-.623	.197	-.244	-3.162	.002
	Language	.057	.072	.077	.784	.434
	Ethnicity	.491	.308	.150	1.595	.113
	Urban	.023	.046	.050	.506	.614

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.607	1.647
	Congestion	.454	2.203
	GJFK	.728	1.374
	PartnerConcentration	.694	1.440
	Seasonality	.869	1.151
	Distance	.766	1.306
	Language	.469	2.132
	Ethnicity	.516	1.936
	Urban	.462	2.165

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.140	1.000	.00	.00	.00
	2	1.246	2.220	.00	.06	.00
	3	.990	2.490	.00	.00	.00
	4	.886	2.633	.00	.00	.00
	5	.317	4.398	.00	.67	.00
	6	.256	4.896	.00	.12	.00
	7	.094	8.096	.00	.02	.00
	8	.040	12.463	.01	.10	.01
	9	.022	16.805	.07	.02	.45
	10	.009	26.207	.91	.00	.53

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.03	.22	.00	.00	.08	.02
	3	.24	.04	.00	.00	.08	.06
	4	.40	.23	.00	.00	.02	.04
	5	.10	.42	.01	.00	.01	.08
	6	.02	.00	.00	.00	.59	.63
	7	.10	.00	.26	.00	.00	.03
	8	.08	.01	.27	.51	.01	.03
	9	.03	.06	.30	.17	.02	.03
	10	.01	.01	.15	.32	.20	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.29
	8	.20
	9	.35
	10	.15

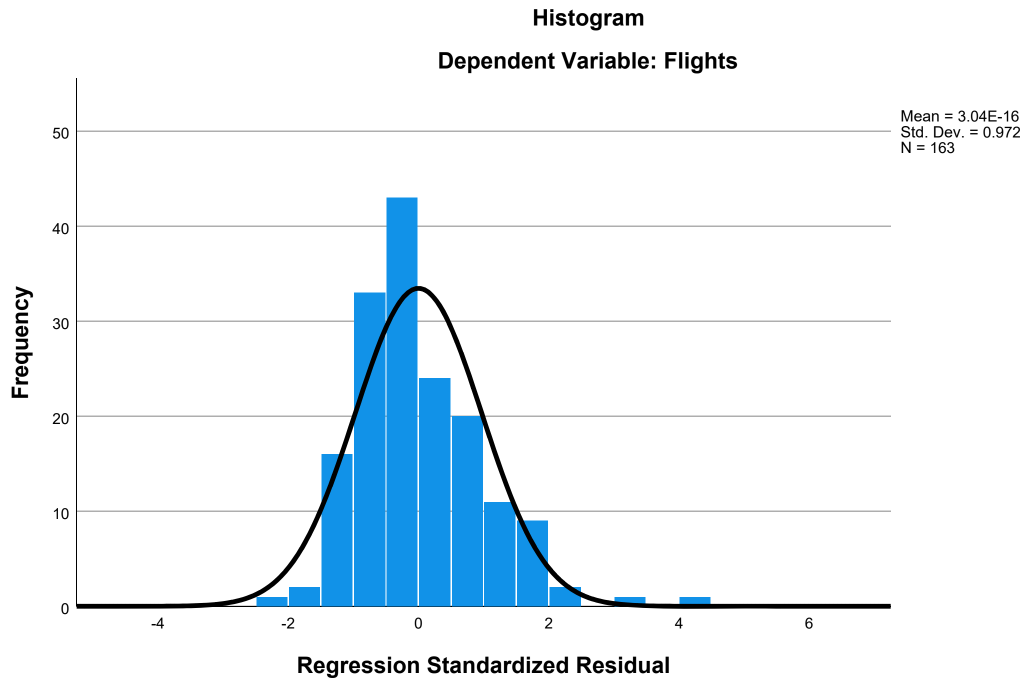
a. Dependent Variable: Flights

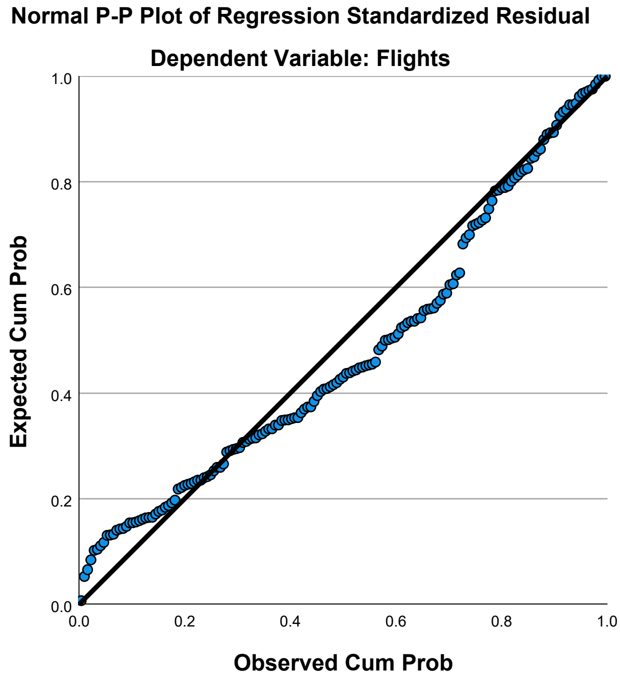
Residuals Statistics[a]

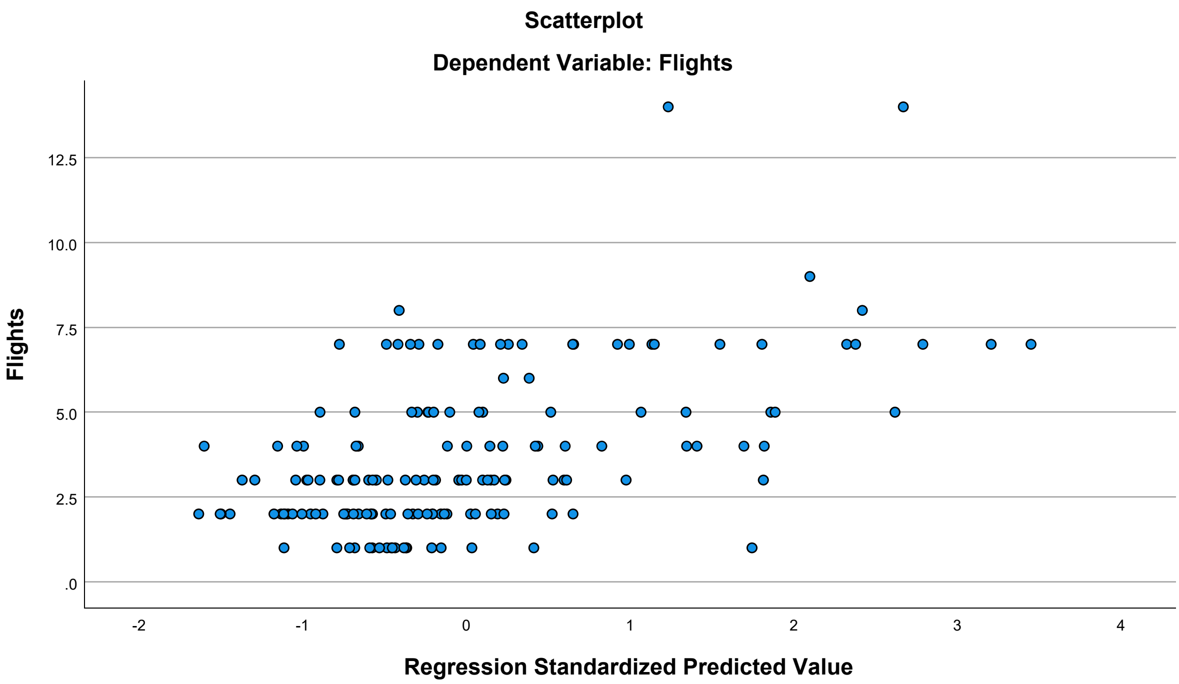
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.62	8.08	3.70	1.270	163
Residual	-4.916	8.735	.000	1.932	163
Std. Predicted Value	-1.636	3.450	.000	1.000	163
Std. Residual	-2.472	4.393	.000	.972	163

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
.0
2.5
5.0
7.5
10.0
12.5
-2
-1
0
1
2
3
4

Regression

```
[DataSet2] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Alliances
\1997 No Alliance.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.20	5.861	230
HomeConcentration	1.6669357391	2.1161179454	230
Congestion	4.70	.999	230
GLHR	.14	.351	230
GJFK	.26	.438	230
PartnerConcentration	.000100	.0000000	230
Seasonality	.62357532628	.19079591671	230
Distance	4.26987	.844683	230
Language	2.22819063	3.709038388	230
Ethnicity	.53947357	.710077803	230
Urban	16.81	5.228	230

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.386	.197	.406
	HomeConcentration	.386	1.000	.054	.077
	Congestion	.197	.054	1.000	.088
	GLHR	.406	.077	.088	1.000
	GJFK	.131	-.282	.449	-.098
	PartnerConcentration	.	.	.	.
	Seasonality	-.147	-.132	-.004	-.076
	Distance	-.198	-.038	-.042	-.081
	Language	.362	.049	.075	.451
	Ethnicity	.248	.056	.202	.223
	Urban	.369	.208	.542	.331
Sig. (1-tailed)	Flights	.	<.001	.001	<.001
	HomeConcentration	.000	.	.207	.123
	Congestion	.001	.207	.	.093
	GLHR	.000	.123	.093	.
	GJFK	.024	.000	.000	.068
	PartnerConcentration	.000	.000	.000	.000
	Seasonality	.013	.023	.475	.125
	Distance	.001	.284	.261	.111
	Language	.000	.230	.130	.000
	Ethnicity	.000	.198	.001	.000
	Urban	.000	.001	.000	.000
N	Flights	230	230	230	230
	HomeConcentration	230	230	230	230
	Congestion	230	230	230	230
	GLHR	230	230	230	230
	GJFK	230	230	230	230
	PartnerConcentration	230	230	230	230
	Seasonality	230	230	230	230
	Distance	230	230	230	230
	Language	230	230	230	230
	Ethnicity	230	230	230	230
	Urban	230	230	230	230

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.131	.	-.147	-.198
	HomeConcentration	-.282	.	-.132	-.038
	Congestion	.449	.	-.004	-.042
	GLHR	-.098	.	-.076	-.081
	GJFK	1.000	.	-.105	-.219
	PartnerConcentration	.	1.000	.	.
	Seasonality	-.105	.	1.000	.168
	Distance	-.219	.	.168	1.000
	Language	.140	.	-.102	-.357
	Ethnicity	.180	.	-.028	-.298
	Urban	.247	.	-.072	-.051
Sig. (1-tailed)	Flights	.024	.000	.013	.001
	HomeConcentration	.000	.000	.023	.284
	Congestion	.000	.000	.475	.261
	GLHR	.068	.000	.125	.111
	GJFK	.	.000	.055	.000
	PartnerConcentration	.000	.	.000	.000
	Seasonality	.055	.000	.	.005
	Distance	.000	.000	.005	.
	Language	.017	.000	.062	.000
	Ethnicity	.003	.000	.338	.000
	Urban	.000	.000	.137	.219
N	Flights	230	230	230	230
	HomeConcentration	230	230	230	230
	Congestion	230	230	230	230
	GLHR	230	230	230	230
	GJFK	230	230	230	230
	PartnerConcentration	230	230	230	230
	Seasonality	230	230	230	230
	Distance	230	230	230	230
	Language	230	230	230	230
	Ethnicity	230	230	230	230
	Urban	230	230	230	230

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.362	.248	.369
	HomeConcentration	.049	.056	.208
	Congestion	.075	.202	.542
	GLHR	.451	.223	.331
	GJFK	.140	.180	.247
	PartnerConcentration	.	.	.
	Seasonality	-.102	-.028	-.072
	Distance	-.357	-.298	-.051
	Language	1.000	.463	.135
	Ethnicity	.463	1.000	.199
	Urban	.135	.199	1.000
Sig. (1-tailed)	Flights	<.001	<.001	<.001
	HomeConcentration	.230	.198	.001
	Congestion	.130	.001	.000
	GLHR	.000	.000	.000
	GJFK	.017	.003	.000
	PartnerConcentration	.000	.000	.000
	Seasonality	.062	.338	.137
	Distance	.000	.000	.219
	Language	.	.000	.020
	Ethnicity	.000	.	.001
	Urban	.020	.001	.
N	Flights	230	230	230
	HomeConcentration	230	230	230
	Congestion	230	230	230
	GLHR	230	230	230
	GJFK	230	230	230
	PartnerConcentration	230	230	230
	Seasonality	230	230	230
	Distance	230	230	230
	Language	230	230	230
	Ethnicity	230	230	230
	Urban	230	230	230

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Seasonality, HomeConcentration, GLHR, Ethnicity, GJFK, Language, ...[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.635[a]	.403	.379	4.619	.403	16.511

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	220	<.001

a. Predictors: (Constant), Urban, Distance, Seasonality, HomeConcentration, GLHR, Ethnicity, GJFK, Language, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3170.899	9	352.322	16.511	<.001[b]
	Residual	4694.497	220	21.339		
	Total	7865.396	229			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Seasonality, HomeConcentration, GLHR, Ethnicity, GJFK, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.601	2.460		1.057	.292
	HomeConcentration	1.070	.162	.386	6.595	<.001
	Congestion	-.204	.400	-.035	-.510	.611
	GLHR	4.699	1.073	.282	4.381	<.001
	GJFK	2.859	.901	.213	3.172	.002
	Seasonality	-.590	1.661	-.019	-.355	.723
	Distance	-.326	.405	-.047	-.807	.421
	Language	.220	.107	.139	2.060	.041
	Ethnicity	.217	.503	.026	.432	.666
	Urban	.150	.077	.134	1.962	.051

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.791	1.264
	Congestion	.582	1.717
	GLHR	.656	1.524
	GJFK	.599	1.669
	Seasonality	.928	1.077
	Distance	.798	1.253
	Language	.592	1.688
	Ethnicity	.731	1.368
	Urban	.582	1.718

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.510	1.000	.00	.01	.00
	2	1.138	2.392	.00	.00	.00
	3	.933	2.642	.00	.15	.00
	4	.553	3.430	.00	.22	.00
	5	.397	4.048	.00	.43	.00
	6	.322	4.496	.00	.01	.00
	7	.069	9.688	.00	.16	.02
	8	.044	12.099	.03	.02	.00
	9	.022	17.147	.01	.00	.75
	10	.011	24.149	.96	.00	.23

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.01
	2	.21	.01	.00	.00	.12	.04
	3	.03	.27	.00	.00	.01	.02
	4	.33	.00	.00	.00	.04	.25
	5	.05	.34	.01	.00	.00	.23
	6	.20	.02	.00	.00	.73	.42
	7	.10	.19	.62	.00	.01	.00
	8	.04	.05	.31	.26	.00	.03
	9	.02	.10	.01	.23	.01	.02
	10	.01	.00	.04	.50	.07	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.24
	8	.40
	9	.35
	10	.00

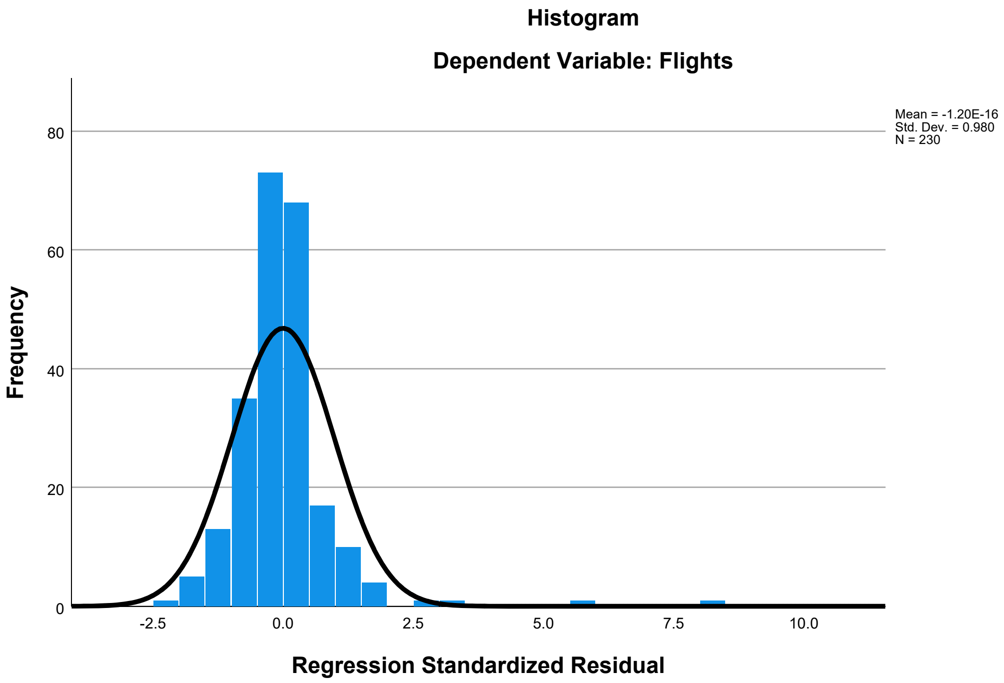
a. Dependent Variable: Flights

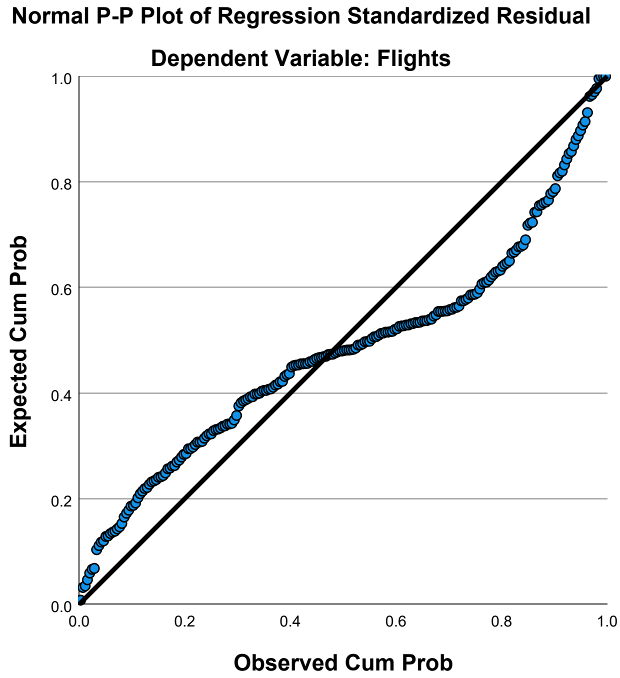
Residuals Statistics[a]

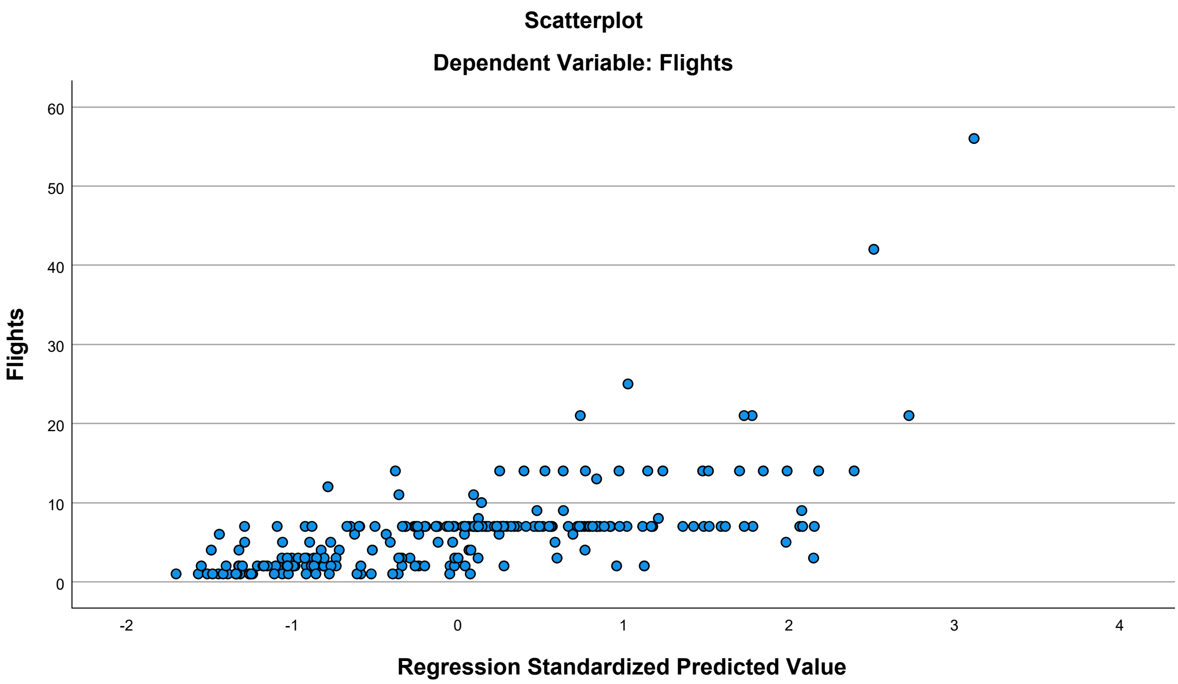
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.13	17.81	6.20	3.721	230
Residual	-11.201	38.192	.000	4.528	230
Std. Predicted Value	-1.703	3.118	.000	1.000	230
Std. Residual	-2.425	8.268	.000	.980	230

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
60
-2
-1
0
1
2
3
4

Regression

```
[DataSet3] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Alliances
\2002 No Alliance.sav
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Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.24	3.400	142
HomeConcentration	.94013372535	1.7449059646	142
Congestion	4.46	1.036	142
GLHR	.06	.245	142
GJFK	.22	.415	142
PartnerConcentration	.000100	.0000000	142
Seasonality	.74413843753	.23180996708	142
Distance	4.25388	.871916	142
Language	2.04191051	3.507685119	142
Ethnicity	.52228007	.720208782	142
Urban	14.87	4.841	142

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.413	.186	.331
	HomeConcentration	.413	1.000	-.083	-.121
	Congestion	.186	-.083	1.000	.165
	GLHR	.331	-.121	.165	1.000
	GJFK	.154	-.141	.377	.072
	PartnerConcentration	.	.	.	.
	Seasonality	-.519	-.309	-.137	-.274
	Distance	-.091	-.055	.141	-.093
	Language	.054	-.173	.051	.443
	Ethnicity	-.130	-.159	-.014	.098
	Urban	.362	.060	.572	.403
Sig. (1-tailed)	Flights	.	<.001	.013	<.001
	HomeConcentration	.000	.	.163	.075
	Congestion	.013	.163	.	.025
	GLHR	.000	.075	.025	.
	GJFK	.034	.048	.000	.196
	PartnerConcentration	.000	.000	.000	.000
	Seasonality	.000	.000	.052	.000
	Distance	.141	.260	.047	.136
	Language	.263	.020	.274	.000
	Ethnicity	.061	.029	.434	.123
	Urban	.000	.240	.000	.000
N	Flights	142	142	142	142
	HomeConcentration	142	142	142	142
	Congestion	142	142	142	142
	GLHR	142	142	142	142
	GJFK	142	142	142	142
	PartnerConcentration	142	142	142	142
	Seasonality	142	142	142	142
	Distance	142	142	142	142
	Language	142	142	142	142
	Ethnicity	142	142	142	142
	Urban	142	142	142	142

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.154	.	-.519	-.091
	HomeConcentration	-.141	.	-.309	-.055
	Congestion	.377	.	-.137	.141
	GLHR	.072	.	-.274	-.093
	GJFK	1.000	.	-.240	.030
	PartnerConcentration	.	1.000	.	.
	Seasonality	-.240	.	1.000	-.070
	Distance	.030	.	-.070	1.000
	Language	.075	.	-.006	-.385
	Ethnicity	-.132	.	.240	-.347
	Urban	.269	.	-.279	.158
Sig. (1-tailed)	Flights	.034	.000	<.001	.141
	HomeConcentration	.048	.000	.000	.260
	Congestion	.000	.000	.052	.047
	GLHR	.196	.000	.000	.136
	GJFK	.	.000	.002	.360
	PartnerConcentration	.000	.	.000	.000
	Seasonality	.002	.000	.	.204
	Distance	.360	.000	.204	.
	Language	.188	.000	.473	.000
	Ethnicity	.058	.000	.002	.000
	Urban	.001	.000	.000	.030
N	Flights	142	142	142	142
	HomeConcentration	142	142	142	142
	Congestion	142	142	142	142
	GLHR	142	142	142	142
	GJFK	142	142	142	142
	PartnerConcentration	142	142	142	142
	Seasonality	142	142	142	142
	Distance	142	142	142	142
	Language	142	142	142	142
	Ethnicity	142	142	142	142
	Urban	142	142	142	142

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.054	-.130	.362
	HomeConcentration	-.173	-.159	.060
	Congestion	.051	-.014	.572
	GLHR	.443	.098	.403
	GJFK	.075	-.132	.269
	PartnerConcentration	.	.	.
	Seasonality	-.006	.240	-.279
	Distance	-.385	-.347	.158
	Language	1.000	.640	-.005
	Ethnicity	.640	1.000	-.111
	Urban	-.005	-.111	1.000
Sig. (1-tailed)	Flights	.263	.061	<.001
	HomeConcentration	.020	.029	.240
	Congestion	.274	.434	.000
	GLHR	.000	.123	.000
	GJFK	.188	.058	.001
	PartnerConcentration	.000	.000	.000
	Seasonality	.473	.002	.000
	Distance	.000	.000	.030
	Language	.	.000	.475
	Ethnicity	.000	.	.094
	Urban	.475	.094	.
N	Flights	142	142	142
	HomeConcentration	142	142	142
	Congestion	142	142	142
	GLHR	142	142	142
	GJFK	142	142	142
	PartnerConcentration	142	142	142
	Seasonality	142	142	142
	Distance	142	142	142
	Language	142	142	142
	Ethnicity	142	142	142
	Urban	142	142	142

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, HomeConcentration, GJFK, Distance, Seasonality, Congestion, GLHR, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.671[a]	.450	.413	2.605	.450	12.016

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	9	132	<.001

a. Predictors: (Constant), Urban, Language, HomeConcentration, GJFK, Distance, Seasonality, Congestion, GLHR, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	733.989	9	81.554	12.016	<.001[b]
	Residual	895.870	132	6.787		
	Total	1629.859	141			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, HomeConcentration, GJFK, Distance, Seasonality, Congestion, GLHR, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	6.460	1.858		3.477	<.001
	HomeConcentration	.659	.143	.338	4.592	<.001
	Congestion	.176	.275	.054	.640	.523
	GLHR	3.115	1.216	.224	2.561	.012
	GJFK	.475	.617	.058	.771	.442
	Seasonality	-4.311	1.136	-.294	-3.796	<.001
	Distance	-.481	.284	-.123	-1.693	.093
	Language	-.020	.100	-.021	-.204	.839
	Ethnicity	-.158	.439	-.033	-.360	.719
	Urban	.098	.063	.139	1.542	.125

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.768	1.302
	Congestion	.595	1.679
	GLHR	.544	1.838
	GJFK	.737	1.357
	Seasonality	.694	1.440
	Distance	.784	1.275
	Language	.389	2.568
	Ethnicity	.482	2.075
	Urban	.511	1.958

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Congestion
1	1	6.073	1.000	.00	.00	.00
	2	1.355	2.117	.00	.07	.00
	3	.908	2.587	.00	.05	.00
	4	.783	2.785	.00	.31	.00
	5	.557	3.303	.00	.32	.00
	6	.178	5.846	.00	.00	.00
	7	.072	9.187	.00	.11	.04
	8	.041	12.134	.01	.01	.01
	9	.024	15.946	.00	.00	.85
	10	.010	24.054	.98	.13	.10

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions					
		GLHR	GJFK	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.12	.00	.00	.00	.07	.03
	3	.05	.35	.00	.00	.01	.08
	4	.26	.05	.00	.00	.00	.03
	5	.07	.30	.01	.00	.06	.03
	6	.16	.07	.00	.00	.74	.77
	7	.27	.19	.41	.00	.03	.00
	8	.01	.00	.29	.41	.00	.05
	9	.05	.03	.01	.08	.03	.00
	10	.00	.00	.28	.51	.05	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance ...
		Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.22
	8	.25
	9	.53
	10	.00

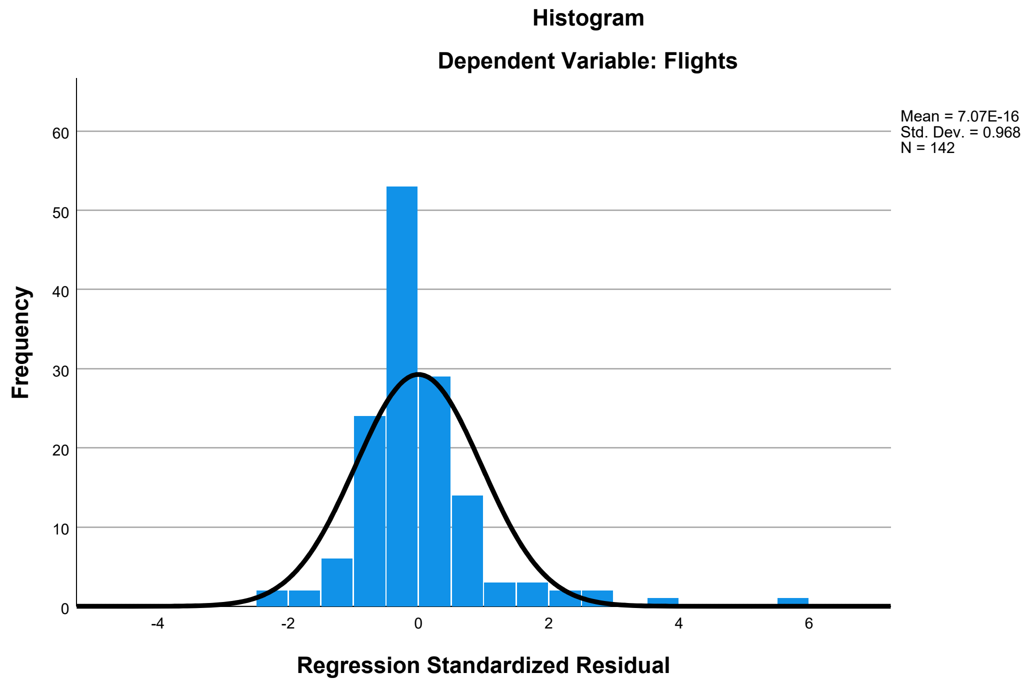
a. Dependent Variable: Flights

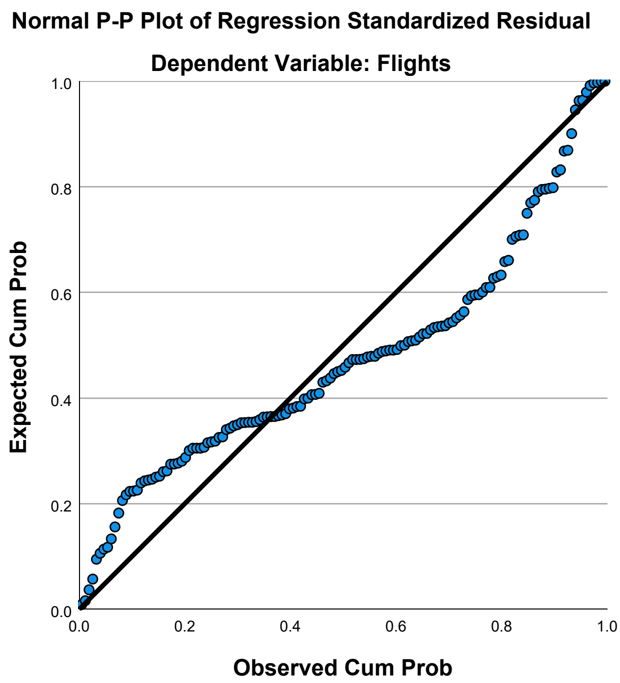
Residuals Statistics[a]

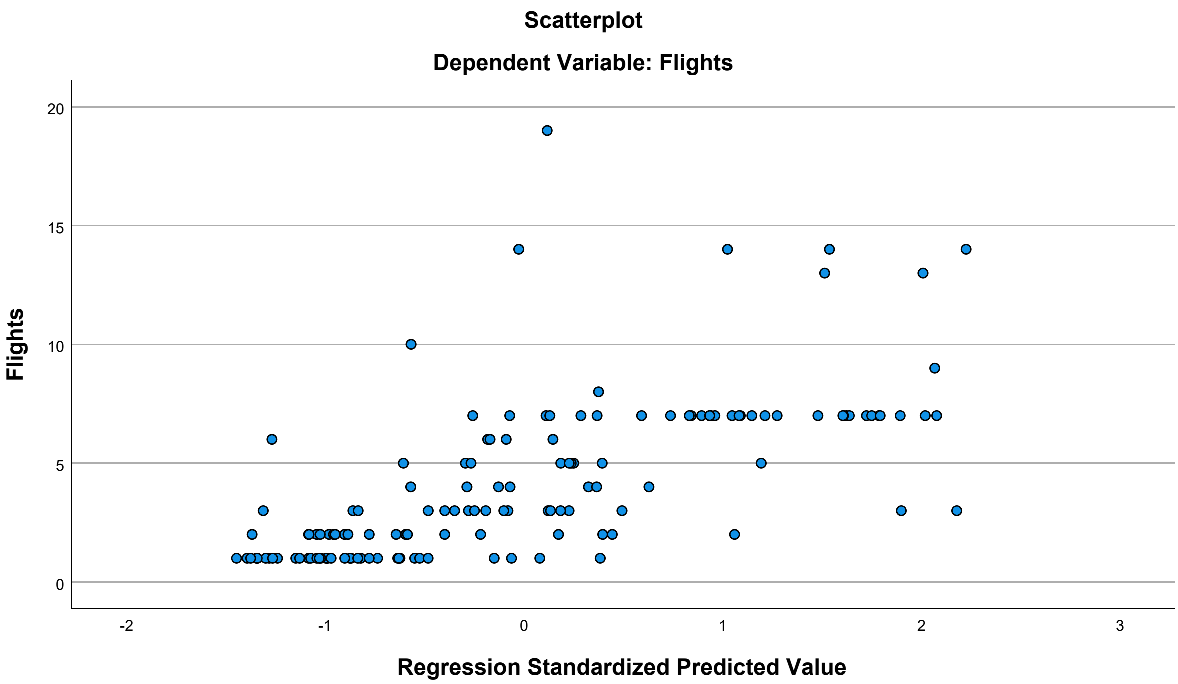
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.94	9.31	4.24	2.282	142
Residual	-6.208	14.495	.000	2.521	142
Std. Predicted Value	-1.447	2.224	.000	1.000	142
Std. Residual	-2.383	5.564	.000	.968	142

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
-2
-1
0
1
2
3

Regression

```
[DataSet4] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Alliances
\2007 No Alliance.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	3.56	3.648	228
HomeConcentration	.21069205263	.39902366264	228
Congestion	4.50	1.140	228
GLHR	.06	.232	228
GJFK	.14	.344	228
PartnerConcentration	.000100	.0000000	228
Seasonality	.83540571535	.22112447428	228
Distance	4.10311	1.028201	228
Language	2.84052932	3.765025773	228
Ethnicity	.83856878	.954966390	228
Urban	13.30	5.563	228

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.293	.189	.383
	HomeConcentration	.293	1.000	.098	.000
	Congestion	.189	.098	1.000	.140
	GLHR	.383	.000	.140	1.000
	GJFK	.403	.253	.240	.068
	PartnerConcentration	.	.	.	.
	Seasonality	-.434	-.237	-.169	-.231
	Distance	-.019	.370	.195	-.049
	Language	.242	-.155	.053	.301
	Ethnicity	.017	-.216	.104	.018
	Urban	.373	.171	.587	.368
Sig. (1-tailed)	Flights	.	<.001	.002	<.001
	HomeConcentration	.000	.	.071	.498
	Congestion	.002	.071	.	.017
	GLHR	.000	.498	.017	.
	GJFK	.000	.000	.000	.153
	PartnerConcentration	.000	.000	.000	.000
	Seasonality	.000	.000	.005	.000
	Distance	.387	.000	.002	.230
	Language	.000	.010	.212	.000
	Ethnicity	.398	.001	.058	.392
	Urban	.000	.005	.000	.000
N	Flights	228	228	228	228
	HomeConcentration	228	228	228	228
	Congestion	228	228	228	228
	GLHR	228	228	228	228
	GJFK	228	228	228	228
	PartnerConcentration	228	228	228	228
	Seasonality	228	228	228	228
	Distance	228	228	228	228
	Language	228	228	228	228
	Ethnicity	228	228	228	228
	Urban	228	228	228	228

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.403	.	-.434	-.019
	HomeConcentration	.253	.	-.237	.370
	Congestion	.240	.	-.169	.195
	GLHR	.068	.	-.231	-.049
	GJFK	1.000	.	-.330	.129
	PartnerConcentration	.	1.000	.	.
	Seasonality	-.330	.	1.000	-.284
	Distance	.129	.	-.284	1.000
	Language	.187	.	-.079	-.356
	Ethnicity	.077	.	.145	-.310
	Urban	.260	.	-.270	.176
Sig. (1-tailed)	Flights	<.001	.000	<.001	.387
	HomeConcentration	.000	.000	.000	.000
	Congestion	.000	.000	.005	.002
	GLHR	.153	.000	.000	.230
	GJFK	.	.000	.000	.026
	PartnerConcentration	.000	.	.000	.000
	Seasonality	.000	.000	.	.000
	Distance	.026	.000	.000	.
	Language	.002	.000	.118	.000
	Ethnicity	.124	.000	.014	.000
	Urban	.000	.000	.000	.004
N	Flights	228	228	228	228
	HomeConcentration	228	228	228	228
	Congestion	228	228	228	228
	GLHR	228	228	228	228
	GJFK	228	228	228	228
	PartnerConcentration	228	228	228	228
	Seasonality	228	228	228	228
	Distance	228	228	228	228
	Language	228	228	228	228
	Ethnicity	228	228	228	228
	Urban	228	228	228	228

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.242	.017	.373
	HomeConcentration	-.155	-.216	.171
	Congestion	.053	.104	.587
	GLHR	.301	.018	.368
	GJFK	.187	.077	.260
	PartnerConcentration	.	.	.
	Seasonality	-.079	.145	-.270
	Distance	-.356	-.310	.176
	Language	1.000	.654	.223
	Ethnicity	.654	1.000	.186
	Urban	.223	.186	1.000
Sig. (1-tailed)	Flights	<.001	.398	<.001
	HomeConcentration	.010	.001	.005
	Congestion	.212	.058	.000
	GLHR	.000	.392	.000
	GJFK	.002	.124	.000
	PartnerConcentration	.000	.000	.000
	Seasonality	.118	.014	.000
	Distance	.000	.000	.004
	Language	.	.000	.000
	Ethnicity	.000	.	.002
	Urban	.000	.002	.
N	Flights	228	228	228
	HomeConcentration	228	228	228
	Congestion	228	228	228
	GLHR	228	228	228
	GJFK	228	228	228
	PartnerConcentration	228	228	228
	Seasonality	228	228	228
	Distance	228	228	228
	Language	228	228	228
	Ethnicity	228	228	228
	Urban	228	228	228

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, Language, Seasonality, GJFK, GLHR, Distance, Congestion, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.658[a]	.433	.410	2.803	.433	18.493	9	218	<.001

a. Predictors: (Constant), Urban, HomeConcentration, Language, Seasonality, GJFK, GLHR, Distance, Congestion, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1307.571	9	145.286	18.493	<.001[b]
	Residual	1712.688	218	7.856		
	Total	3020.259	227			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, Language, Seasonality, GJFK, GLHR, Distance, Congestion, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	8.009	1.539		5.205	<.001
	HomeConcentration	2.046	.526	.224	3.890	<.001
	Congestion	-.053	.206	-.016	-.255	.799
	GLHR	3.375	.938	.215	3.598	<.001
	GJFK	2.383	.611	.224	3.897	<.001
	Seasonality	-4.261	.981	-.258	-4.342	<.001
	Distance	-.752	.219	-.212	-3.433	<.001
	Language	.078	.076	.081	1.038	.300
	Ethnicity	-.254	.281	-.067	-.903	.367
	Urban	.111	.047	.169	2.374	.018

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.786	1.272
	Congestion	.626	1.598
	GLHR	.728	1.373
	GJFK	.785	1.275
	Seasonality	.735	1.360
	Distance	.682	1.467
	Language	.428	2.337
	Ethnicity	.479	2.087
	Urban	.514	1.947

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.229	1.000	.00	.00	.00
	2	1.136	2.341	.00	.17	.00
	3	.990	2.509	.00	.08	.00
	4	.808	2.777	.00	.00	.00
	5	.469	3.644	.00	.64	.00
	6	.172	6.020	.00	.00	.00
	7	.105	7.709	.01	.02	.02
	8	.051	11.088	.00	.05	.00
	9	.031	14.192	.00	.02	.86
	10	.011	24.115	.99	.00	.11

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.13	.01	.00	.00	.06	.03
	3	.26	.22	.00	.00	.00	.01
	4	.28	.34	.00	.00	.03	.04
	5	.01	.27	.00	.00	.07	.06
	6	.12	.01	.00	.00	.72	.75
	7	.19	.10	.14	.00	.01	.02
	8	.01	.02	.28	.45	.00	.07
	9	.01	.01	.05	.09	.00	.00
	10	.00	.00	.52	.45	.10	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.39
	8	.16
	9	.44
	10	.00

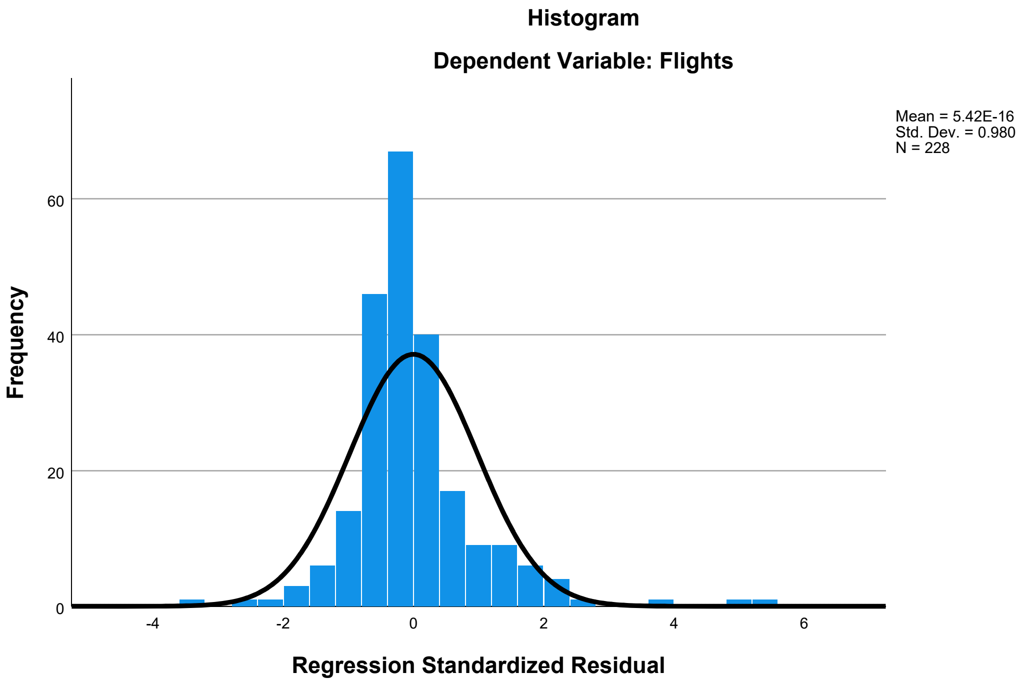
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.35	12.73	3.56	2.400	228
Residual	-9.144	15.271	.000	2.747	228
Std. Predicted Value	-1.335	3.822	.000	1.000	228
Std. Residual	-3.262	5.448	.000	.980	228

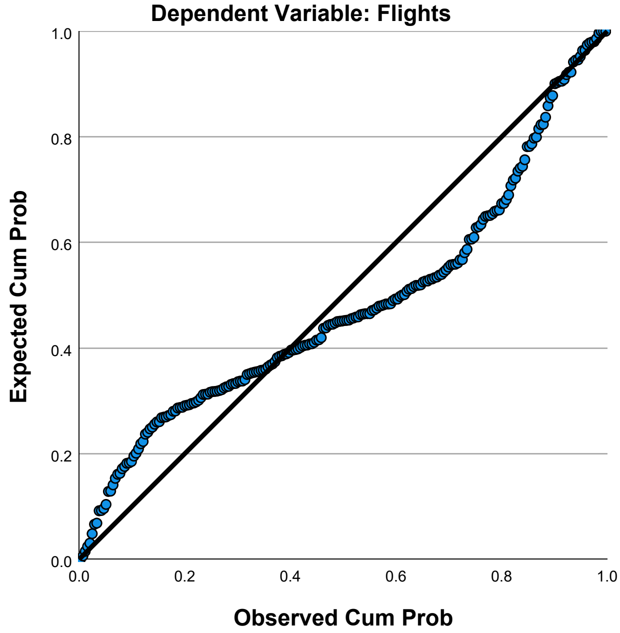
a. Dependent Variable: Flights

Charts



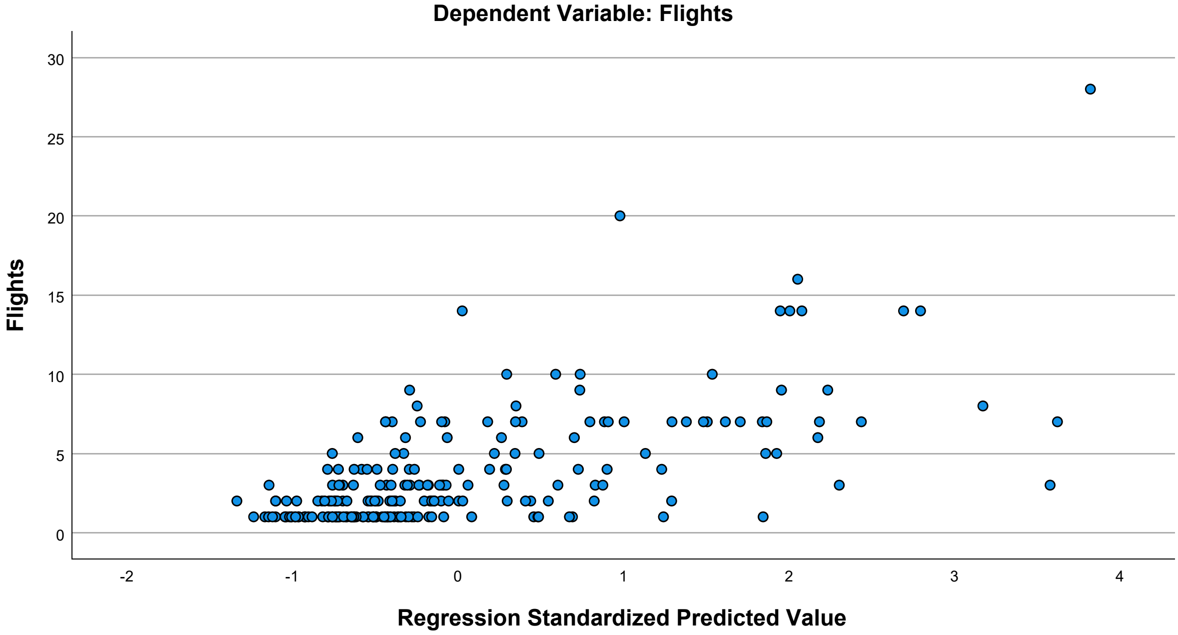
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

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[DataSet5] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Alliances
\2012 No Alliance.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.22	3.912	176
HomeConcentration	.36342711364	.65102181968	176
Congestion	4.70	1.133	176
GLHR	.06	.232	176
GJFK	.12	.325	176
PartnerConcentration	.00550025	.071642412	176
Seasonality	.78978166796	.24418564124	176
Distance	4.33466	1.269145	176
Language	1.84122472	3.157741521	176
Ethnicity	.60998242	.811146641	176
Urban	15.16	5.107	176

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.368	.182	.320
	HomeConcentration	.368	1.000	-.054	-.058
	Congestion	.182	-.054	1.000	.086
	GLHR	.320	-.058	.086	1.000
	GJFK	.312	.134	.220	.061
	PartnerConcentration	.054	.224	.020	-.019
	Seasonality	-.409	-.353	-.063	-.211
	Distance	.137	.634	.031	-.042
	Language	.204	-.120	.015	.370
	Ethnicity	.038	-.189	.110	.040
	Urban	.413	.245	.604	.325
Sig. (1-tailed)	Flights	.	<.001	.008	<.001
	HomeConcentration	.000	.	.239	.223
	Congestion	.008	.239	.	.128
	GLHR	.000	.223	.128	.
	GJFK	.000	.038	.002	.210
	PartnerConcentration	.238	.001	.397	.403
	Seasonality	.000	.000	.205	.002
	Distance	.035	.000	.341	.290
	Language	.003	.056	.422	.000
	Ethnicity	.307	.006	.073	.300
	Urban	.000	.001	.000	.000
N	Flights	176	176	176	176
	HomeConcentration	176	176	176	176

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.312	.054	-.409	.137
	HomeConcentration	.134	.224	-.353	.634
	Congestion	.220	.020	-.063	.031
	GLHR	.061	-.019	-.211	-.042
	GJFK	1.000	.205	-.135	.035
	PartnerConcentration	.205	1.000	-.028	.141
	Seasonality	-.135	-.028	1.000	-.281
	Distance	.035	.141	-.281	1.000
	Language	.152	-.042	-.019	-.314
	Ethnicity	.070	-.043	.114	-.303
	Urban	.285	.057	-.327	.269
Sig. (1-tailed)	Flights	<.001	.238	<.001	.035
	HomeConcentration	.038	.001	.000	.000
	Congestion	.002	.397	.205	.341
	GLHR	.210	.403	.002	.290
	GJFK	.	.003	.037	.321
	PartnerConcentration	.003	.	.357	.031
	Seasonality	.037	.357	.	.000
	Distance	.321	.031	.000	.
	Language	.022	.289	.402	.000
	Ethnicity	.177	.287	.067	.000
	Urban	.000	.226	.000	.000
N	Flights	176	176	176	176
	HomeConcentration	176	176	176	176

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.204	.038	.413
	HomeConcentration	-.120	-.189	.245
	Congestion	.015	.110	.604
	GLHR	.370	.040	.325
	GJFK	.152	.070	.285
	PartnerConcentration	-.042	-.043	.057
	Seasonality	-.019	.114	-.327
	Distance	-.314	-.303	.269
	Language	1.000	.700	.094
	Ethnicity	.700	1.000	.057
	Urban	.094	.057	1.000
Sig. (1-tailed)	Flights	.003	.307	<.001
	HomeConcentration	.056	.006	.001
	Congestion	.422	.073	.000
	GLHR	.000	.300	.000
	GJFK	.022	.177	.000
	PartnerConcentration	.289	.287	.226
	Seasonality	.402	.067	.000
	Distance	.000	.000	.000
	Language	.	.000	.106
	Ethnicity	.000	.	.227
	Urban	.106	.227	.
N	Flights	176	176	176
	HomeConcentration	176	176	176

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	176	176	176	176
	GLHR	176	176	176	176
	GJFK	176	176	176	176
	PartnerConcentration	176	176	176	176
	Seasonality	176	176	176	176
	Distance	176	176	176	176
	Language	176	176	176	176
	Ethnicity	176	176	176	176
	Urban	176	176	176	176

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	176	176	176	176
	GLHR	176	176	176	176
	GJFK	176	176	176	176
	PartnerConcentration	176	176	176	176
	Seasonality	176	176	176	176
	Distance	176	176	176	176
	Language	176	176	176	176
	Ethnicity	176	176	176	176
	Urban	176	176	176	176

Correlations

		Language	Ethnicity	Urban
	Congestion	176	176	176
	GLHR	176	176	176
	GJFK	176	176	176
	PartnerConcentration	176	176	176
	Seasonality	176	176	176
	Distance	176	176	176
	Language	176	176	176
	Ethnicity	176	176	176
	Urban	176	176	176

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, PartnerConcentration, GLHR, GJFK, Seasonality, Distance, Congestion, HomeConcentration, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.633[a]	.401	.365	3.117	.401	11.058

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	165	<.001

a. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, GLHR, GJFK, Seasonality, Distance, Congestion, HomeConc
Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1074.514	10	107.451	11.058	<.001[b]
	Residual	1603.282	165	9.717		
	Total	2677.795	175			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, GLHR, GJFK, Seasonality, Distance, Congestion, HomeConcentration, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	5.102	1.772		2.879	.005
	HomeConcentration	2.251	.511	.375	4.407	<.001
	Congestion	.169	.279	.049	.604	.546
	GLHR	3.260	1.268	.193	2.571	.011
	GJFK	2.069	.791	.172	2.617	.010
	PartnerConcentration	-2.755	3.449	-.050	-.799	.426
	Seasonality	-3.284	1.098	-.205	-2.992	.003
	Distance	-.521	.259	-.169	-2.011	.046
	Language	.110	.125	.089	.877	.382
	Ethnicity	-.081	.447	-.017	-.180	.857
	Urban	.118	.070	.154	1.679	.095

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.502	1.991
	Congestion	.555	1.802
	GLHR	.641	1.561
	GJFK	.840	1.190
	PartnerConcentration	.909	1.100
	Seasonality	.773	1.294
	Distance	.513	1.949
	Language	.355	2.816
	Ethnicity	.422	2.370
	Urban	.433	2.311

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.041	1.000	.00	.00	.00
	2	1.379	2.093	.00	.06	.00
	3	1.112	2.330	.00	.00	.00
	4	.851	2.665	.00	.03	.00
	5	.708	2.922	.00	.00	.00
	6	.582	3.223	.00	.40	.00
	7	.157	6.211	.00	.00	.00
	8	.091	8.144	.00	.09	.04
	9	.045	11.637	.01	.34	.05
	10	.023	16.263	.03	.06	.65
	11	.013	21.564	.95	.01	.26

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.07	.01	.12	.00	.00	.05
	3	.08	.17	.31	.00	.00	.02
	4	.42	.03	.04	.00	.00	.01
	5	.01	.64	.43	.00	.00	.00
	6	.02	.04	.09	.01	.00	.05
	7	.15	.00	.00	.02	.00	.71
	8	.22	.08	.01	.32	.00	.10
	9	.00	.02	.00	.21	.58	.01
	10	.04	.00	.00	.17	.02	.00
	11	.00	.00	.00	.27	.39	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.03	.00
	3	.00	.00
	4	.07	.00
	5	.01	.00
	6	.03	.00
	7	.77	.01
	8	.08	.16
	9	.01	.07
	10	.00	.75
	11	.01	.01

a. Dependent Variable: Flights

Residuals Statistics[a]

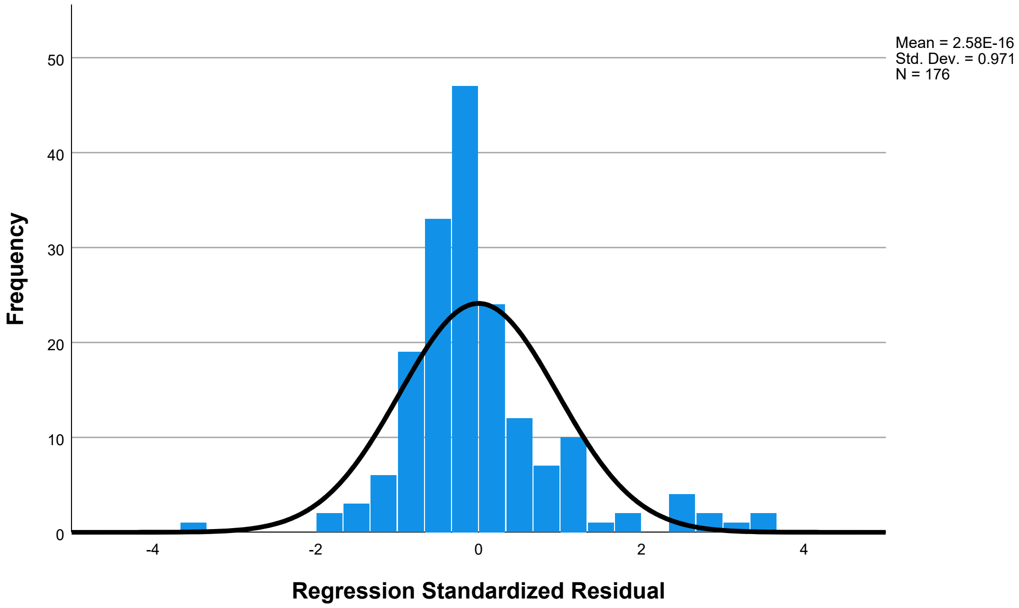
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.60	13.42	4.22	2.478	176
Residual	-10.422	11.190	.000	3.027	176
Std. Predicted Value	-1.461	3.715	.000	1.000	176
Std. Residual	-3.343	3.590	.000	.971	176

a. Dependent Variable: Flights

Charts

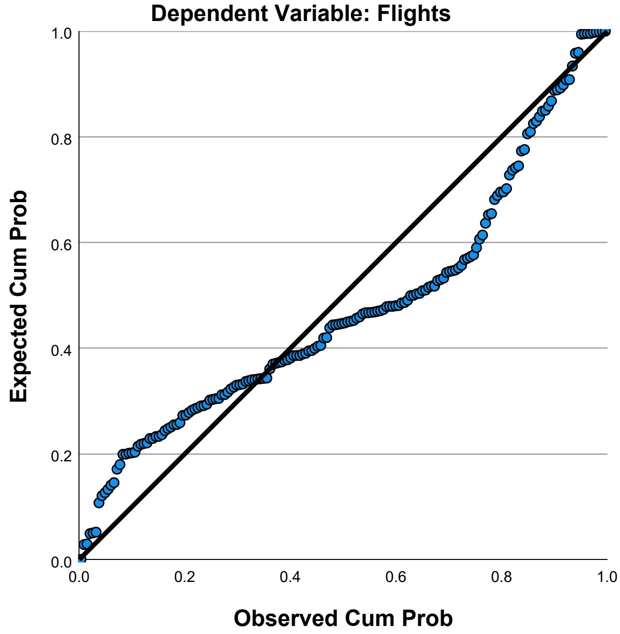
Histogram

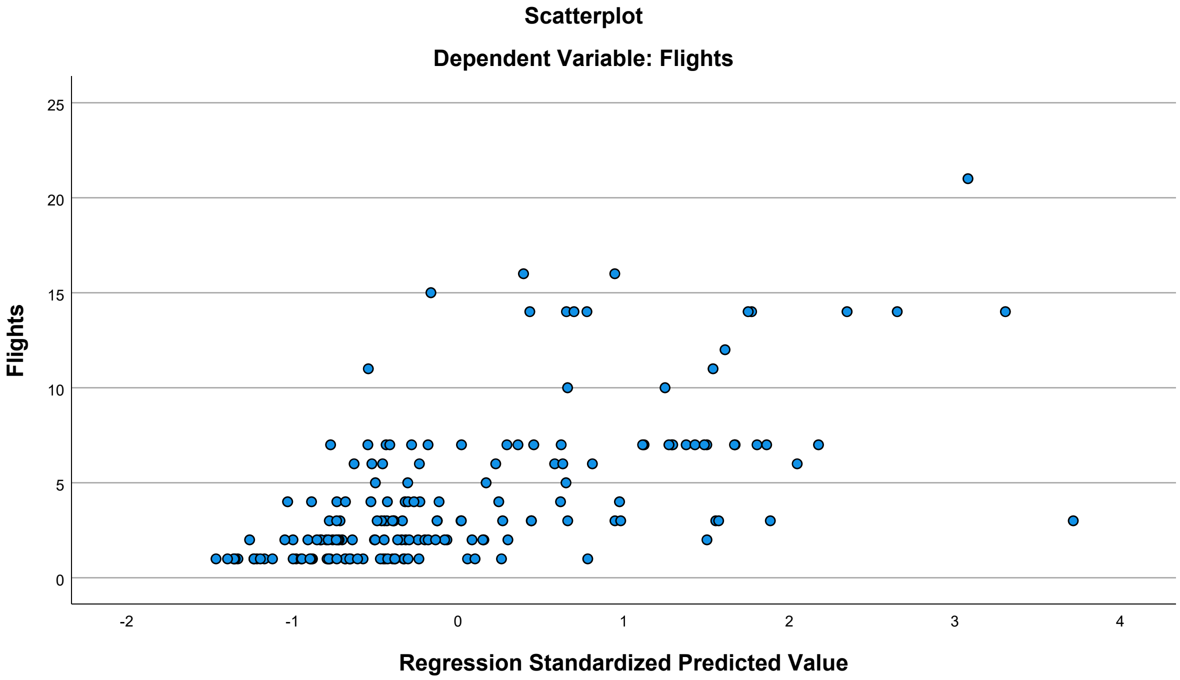
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights




Scatterplot
Dependent Variable: Flights
Flights
25
20
15
10
5
0
-2
-1
0
1
2
3
4
Regression Standardized Predicted Value

Regression

```
[DataSet6] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Alliances
\2017 No Alliance.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.86	4.069	258
HomeConcentration	.59231283721	.85866613866	258
Congestion	4.53	1.006	258
GLHR	.03	.184	258
GJFK	.10	.296	258
PartnerConcentration	.15252652713	1.0608693141	258
Seasonality	.77826909309	.22724145655	258
Distance	4.31579	1.330568	258
Language	1.82312726	3.340254651	258
Ethnicity	.44287422	.666124691	258
Urban	13.87	5.434	258

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.254	.232	.345
	HomeConcentration	.254	1.000	.082	-.062
	Congestion	.232	.082	1.000	.026
	GLHR	.345	-.062	.026	1.000
	GJFK	.328	.028	.336	.009
	PartnerConcentration	.157	-.069	-.016	.351
	Seasonality	-.239	-.366	-.182	-.160
	Distance	-.030	.561	.035	-.012
	Language	.251	-.113	.040	.236
	Ethnicity	.124	-.131	.215	.043
	Urban	.296	.250	.571	.258
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.096	.160
	Congestion	.000	.096	.	.341
	GLHR	.000	.160	.341	.
	GJFK	.000	.328	.000	.442
	PartnerConcentration	.006	.135	.398	.000
	Seasonality	.000	.000	.002	.005
	Distance	.316	.000	.288	.422
	Language	.000	.035	.263	.000
	Ethnicity	.023	.017	.000	.246
	Urban	.000	.000	.000	.000
N	Flights	258	258	258	258
	HomeConcentration	258	258	258	258

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.328	.157	-.239	-.030
	HomeConcentration	.028	-.069	-.366	.561
	Congestion	.336	-.016	-.182	.035
	GLHR	.009	.351	-.160	-.012
	GJFK	1.000	.025	-.130	-.054
	PartnerConcentration	.025	1.000	-.094	-.025
	Seasonality	-.130	-.094	1.000	-.294
	Distance	-.054	-.025	-.294	1.000
	Language	.230	.244	.000	-.270
	Ethnicity	.193	.055	.062	-.215
	Urban	.291	.084	-.345	.309
Sig. (1-tailed)	Flights	<.001	.006	<.001	.316
	HomeConcentration	.328	.135	.000	.000
	Congestion	.000	.398	.002	.288
	GLHR	.442	.000	.005	.422
	GJFK	.	.342	.018	.196
	PartnerConcentration	.342	.	.065	.345
	Seasonality	.018	.065	.	.000
	Distance	.196	.345	.000	.
	Language	.000	.000	.498	.000
	Ethnicity	.001	.191	.159	.000
	Urban	.000	.089	.000	.000
N	Flights	258	258	258	258
	HomeConcentration	258	258	258	258

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.251	.124	.296
	HomeConcentration	-.113	-.131	.250
	Congestion	.040	.215	.571
	GLHR	.236	.043	.258
	GJFK	.230	.193	.291
	PartnerConcentration	.244	.055	.084
	Seasonality	.000	.062	-.345
	Distance	-.270	-.215	.309
	Language	1.000	.648	.233
	Ethnicity	.648	1.000	.219
	Urban	.233	.219	1.000
Sig. (1-tailed)	Flights	<.001	.023	<.001
	HomeConcentration	.035	.017	.000
	Congestion	.263	.000	.000
	GLHR	.000	.246	.000
	GJFK	.000	.001	.000
	PartnerConcentration	.000	.191	.089
	Seasonality	.498	.159	.000
	Distance	.000	.000	.000
	Language	.	.000	.000
	Ethnicity	.000	.	.000
	Urban	.000	.000	.
N	Flights	258	258	258
	HomeConcentration	258	258	258

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	258	258	258	258
	GLHR	258	258	258	258
	GJFK	258	258	258	258
	PartnerConcentration	258	258	258	258
	Seasonality	258	258	258	258
	Distance	258	258	258	258
	Language	258	258	258	258
	Ethnicity	258	258	258	258
	Urban	258	258	258	258

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	258	258	258	258
GLHR	258	258	258	258
GJFK	258	258	258	258
PartnerConcentration	258	258	258	258
Seasonality	258	258	258	258
Distance	258	258	258	258
Language	258	258	258	258
Ethnicity	258	258	258	258
Urban	258	258	258	258

Correlations

	Language	Ethnicity	Urban
Congestion	258	258	258
GLHR	258	258	258
GJFK	258	258	258
PartnerConcentration	258	258	258
Seasonality	258	258	258
Distance	258	258	258
Language	258	258	258
Ethnicity	258	258	258
Urban	258	258	258

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Ethnicity, GJFK, HomeConcentration, GLHR, Seasonality, Congestion, Distance, ...[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.597[a]	.357	.331	3.329	.357	13.701

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	247	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, Ethnicity, GJFK, HomeConcentration, GLHR, Seasonality, Congestion, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1518.388	10	151.839	13.701	<.001[b]
	Residual	2737.306	247	11.082		
	Total	4255.694	257			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Ethnicity, GJFK, HomeConcentration, GLHR, Seasonality, Congestion, Distance, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.793	1.695		2.827	.005
	HomeConcentration	1.743	.307	.368	5.685	<.001
	Congestion	.403	.276	.100	1.458	.146
	GLHR	6.833	1.291	.309	5.292	<.001
	GJFK	3.209	.772	.234	4.155	<.001
	PartnerConcentration	.122	.215	.032	.569	.570
	Seasonality	-1.055	1.043	-.059	-1.011	.313
	Distance	-.693	.211	-.227	-3.288	.001
	Language	.128	.094	.105	1.364	.174
	Ethnicity	-.173	.434	-.028	-.400	.689
	Urban	.021	.057	.028	.369	.713

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.622	1.607
	Congestion	.558	1.793
	GLHR	.765	1.307
	GJFK	.823	1.215
	PartnerConcentration	.832	1.202
	Seasonality	.767	1.304
	Distance	.549	1.823
	Language	.439	2.277
	Ethnicity	.517	1.935
	Urban	.448	2.234

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.025	1.000	.00	.00	.00
	2	1.482	2.016	.00	.02	.00
	3	1.085	2.356	.00	.02	.00
	4	.789	2.763	.00	.05	.00
	5	.634	3.084	.00	.00	.00
	6	.560	3.279	.00	.48	.00
	7	.231	5.113	.00	.00	.00
	8	.104	7.606	.00	.17	.01
	9	.050	11.008	.00	.24	.08
	10	.030	14.276	.06	.00	.34
	11	.010	24.241	.94	.00	.57

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.13	.01	.17	.00	.00	.04
	3	.13	.15	.12	.00	.00	.04
	4	.01	.64	.02	.00	.00	.02
	5	.57	.00	.64	.00	.00	.00
	6	.00	.06	.00	.01	.00	.06
	7	.03	.00	.04	.00	.00	.68
	8	.10	.09	.00	.22	.00	.01
	9	.00	.03	.01	.06	.68	.02
	10	.01	.01	.00	.44	.00	.03
	11	.01	.01	.00	.26	.31	.10

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.01	.00
	3	.07	.00
	4	.05	.00
	5	.00	.00
	6	.03	.00
	7	.76	.00
	8	.03	.28
	9	.02	.06
	10	.00	.57
	11	.03	.10

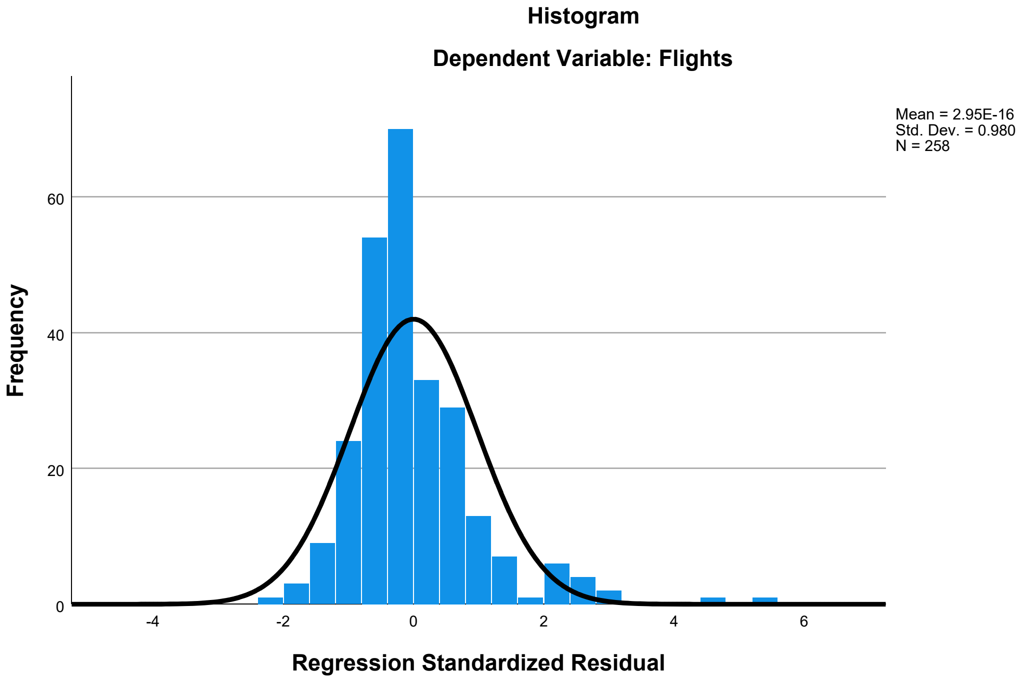
a. Dependent Variable: Flights

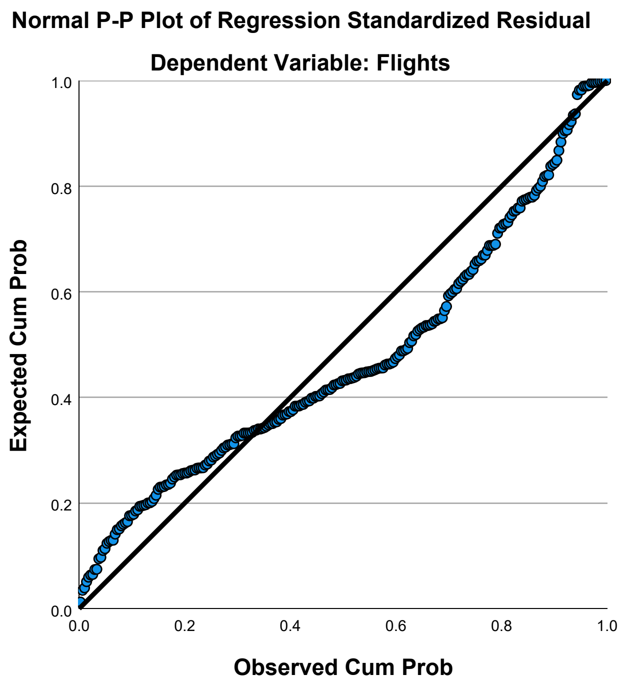
Residuals Statistics[a]

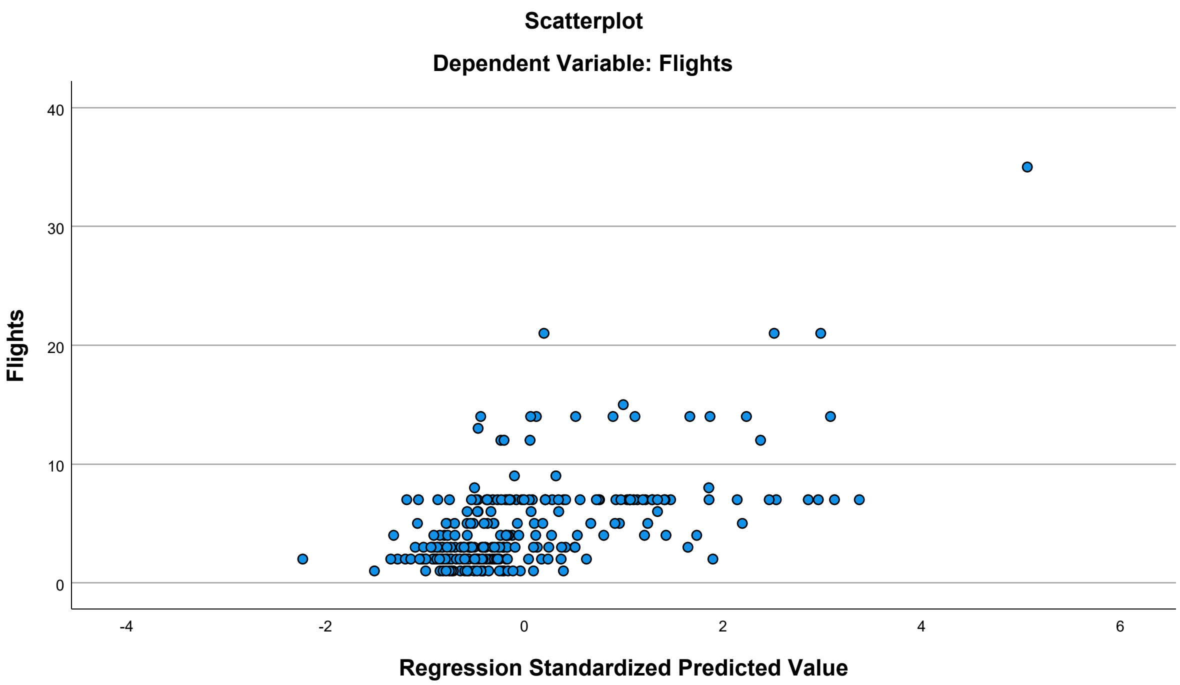
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.56	17.16	4.86	2.431	258
Residual	-7.470	17.837	.000	3.264	258
Std. Predicted Value	-2.229	5.063	.000	1.000	258
Std. Residual	-2.244	5.358	.000	.980	258

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 2.95E-16
Std. Dev. = 0.980
N = 258
Frequency
60
40
20
0
-4
-2
0
2
4
6
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Scatterplot
Dependent Variable: Flights
Flights
40
30
20
10
0
-4
-2
0
2
4
6
Regression Standardized Predicted Value

Regression

```
[DataSet31] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Alliances\1997 Wings.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.43	2.619	21
HomeConcentration	3.5792723810	2.1426718335	21
Congestion	4.48	.814	21
GLHR	.00	.000	21
GJFK	.05	.218	21
PartnerConcentration	1.321495	2.1437491	21
Seasonality	.59563829028	.14523656098	21
Distance	4.16419	.603019	21
Language	.61618071	2.021460949	21
Ethnicity	.32229190	.480900943	21
Urban	17.00	3.017	21

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.281	-.007	.
	HomeConcentration	.281	1.000	-.262	.
	Congestion	-.007	-.262	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.313	-.069	.429	.
	PartnerConcentration	.056	-.225	-.295	.
	Seasonality	.117	.023	.084	.
	Distance	-.180	.008	-.009	.
	Language	.392	.437	-.180	.
	Ethnicity	.718	.554	-.123	.
	Urban	-.076	-.434	.570	.
Sig. (1-tailed)	Flights	.	.109	.488	.000
	HomeConcentration	.109	.	.126	.000
	Congestion	.488	.126	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.084	.383	.026	.000
	PartnerConcentration	.404	.164	.097	.000
	Seasonality	.307	.460	.358	.000
	Distance	.217	.486	.485	.000
	Language	.039	.024	.217	.000
	Ethnicity	.000	.005	.297	.000
	Urban	.372	.025	.003	.000
N	Flights	21	21	21	21
	HomeConcentration	21	21	21	21
	Congestion	21	21	21	21
	GLHR	21	21	21	21
	GJFK	21	21	21	21
	PartnerConcentration	21	21	21	21
	Seasonality	21	21	21	21
	Distance	21	21	21	21
	Language	21	21	21	21
	Ethnicity	21	21	21	21
	Urban	21	21	21	21

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.313	.056	.117	-.180
	HomeConcentration	-.069	-.225	.023	.008
	Congestion	.429	-.295	.084	-.009
	GLHR	.	.	.	.
	GJFK	1.000	-.141	-.038	-.201
	PartnerConcentration	-.141	1.000	.221	-.277
	Seasonality	-.038	.221	1.000	-.103
	Distance	-.201	-.277	-.103	1.000
	Language	-.069	-.196	-.010	-.173
	Ethnicity	-.029	-.127	.043	-.170
	Urban	.380	-.230	.178	-.004
Sig. (1-tailed)	Flights	.084	.404	.307	.217
	HomeConcentration	.383	.164	.460	.486
	Congestion	.026	.097	.358	.485
	GLHR	.000	.000	.000	.000
	GJFK	.	.271	.435	.191
	PartnerConcentration	.271	.	.168	.112
	Seasonality	.435	.168	.	.328
	Distance	.191	.112	.328	.
	Language	.384	.197	.483	.227
	Ethnicity	.450	.292	.426	.231
	Urban	.045	.158	.220	.493
N	Flights	21	21	21	21
	HomeConcentration	21	21	21	21
	Congestion	21	21	21	21
	GLHR	21	21	21	21
	GJFK	21	21	21	21
	PartnerConcentration	21	21	21	21
	Seasonality	21	21	21	21
	Distance	21	21	21	21
	Language	21	21	21	21
	Ethnicity	21	21	21	21
	Urban	21	21	21	21

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.392	.718	-.076
	HomeConcentration	.437	.554	-.434
	Congestion	-.180	-.123	.570
	GLHR	.	.	.
	GJFK	-.069	-.029	.380
	PartnerConcentration	-.196	-.127	-.230
	Seasonality	-.010	.043	.178
	Distance	-.173	-.170	-.004
	Language	1.000	.291	-.069
	Ethnicity	.291	1.000	-.283
	Urban	-.069	-.283	1.000
Sig. (1-tailed)	Flights	.039	<.001	.372
	HomeConcentration	.024	.005	.025
	Congestion	.217	.297	.003
	GLHR	.000	.000	.000
	GJFK	.384	.450	.045
	PartnerConcentration	.197	.292	.158
	Seasonality	.483	.426	.220
	Distance	.227	.231	.493
	Language	.	.100	.383
	Ethnicity	.100	.	.107
	Urban	.383	.107	.
N	Flights	21	21	21
	HomeConcentration	21	21	21
	Congestion	21	21	21
	GLHR	21	21	21
	GJFK	21	21	21
	PartnerConcentration	21	21	21
	Seasonality	21	21	21
	Distance	21	21	21
	Language	21	21	21
	Ethnicity	21	21	21
	Urban	21	21	21

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Language, Seasonality, Ethnicity, GJFK, PartnerConcentration, Congestion, HomeConcentr...[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.892[a]	.796	.629	1.594	.796	4.772

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	11	.009

a. Predictors: (Constant), Urban, Distance, Language, Seasonality, Ethnicity, GJFK, PartnerConcentration, Congestion, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	109.181	9	12.131	4.772	.009[b]
	Residual	27.961	11	2.542		
	Total	137.143	20			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Language, Seasonality, Ethnicity, GJFK, PartnerConcentration, Congestion, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.649	4.685		.779	.452
	HomeConcentration	-.352	.248	-.288	-1.417	.184
	Congestion	.031	.586	.010	.053	.959
	GJFK	5.356	1.944	.446	2.754	.019
	PartnerConcentration	.317	.215	.259	1.474	.169
	Seasonality	1.520	2.720	.084	.559	.587
	Distance	.867	.679	.200	1.276	.228
	Language	.509	.211	.393	2.409	.035
	Ethnicity	4.468	.920	.821	4.859	<.001
	Urban	-.061	.175	-.071	-.351	.732

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.449	2.228
	Congestion	.558	1.791
	GJFK	.706	1.417
	PartnerConcentration	.599	1.671
	Seasonality	.815	1.228
	Distance	.758	1.320
	Language	.696	1.437
	Ethnicity	.650	1.539
	Urban	.457	2.187

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.500	1.000	.00	.00	.00
	2	1.188	2.339	.00	.01	.00
	3	1.011	2.536	.00	.00	.00
	4	.556	3.418	.00	.00	.00
	5	.534	3.489	.00	.00	.00
	6	.138	6.871	.00	.63	.00
	7	.040	12.780	.01	.00	.01
	8	.018	19.055	.00	.16	.39
	9	.011	24.561	.00	.10	.48
	10	.004	39.096	.99	.10	.12

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.02	.06	.00	.00	.28	.06
	3	.54	.08	.00	.00	.00	.00
	4	.10	.32	.00	.00	.42	.07
	5	.05	.14	.00	.00	.09	.47
	6	.02	.01	.00	.00	.08	.32
	7	.00	.08	.85	.05	.01	.01
	8	.23	.02	.08	.39	.02	.03
	9	.02	.00	.06	.07	.09	.00
	10	.01	.28	.00	.49	.02	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.01
	7	.00
	8	.03
	9	.77
	10	.19

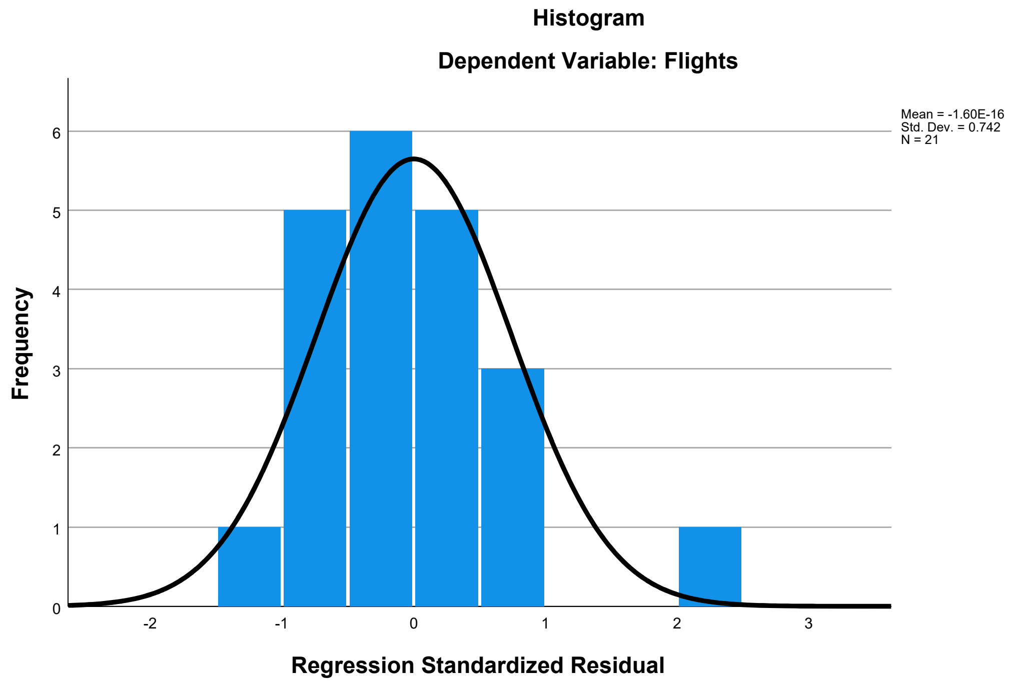
a. Dependent Variable: Flights

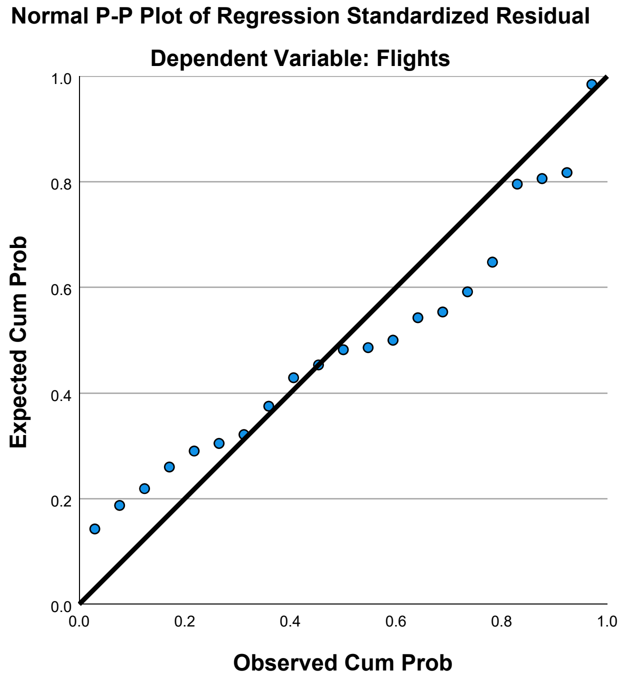
Residuals Statistics[a]

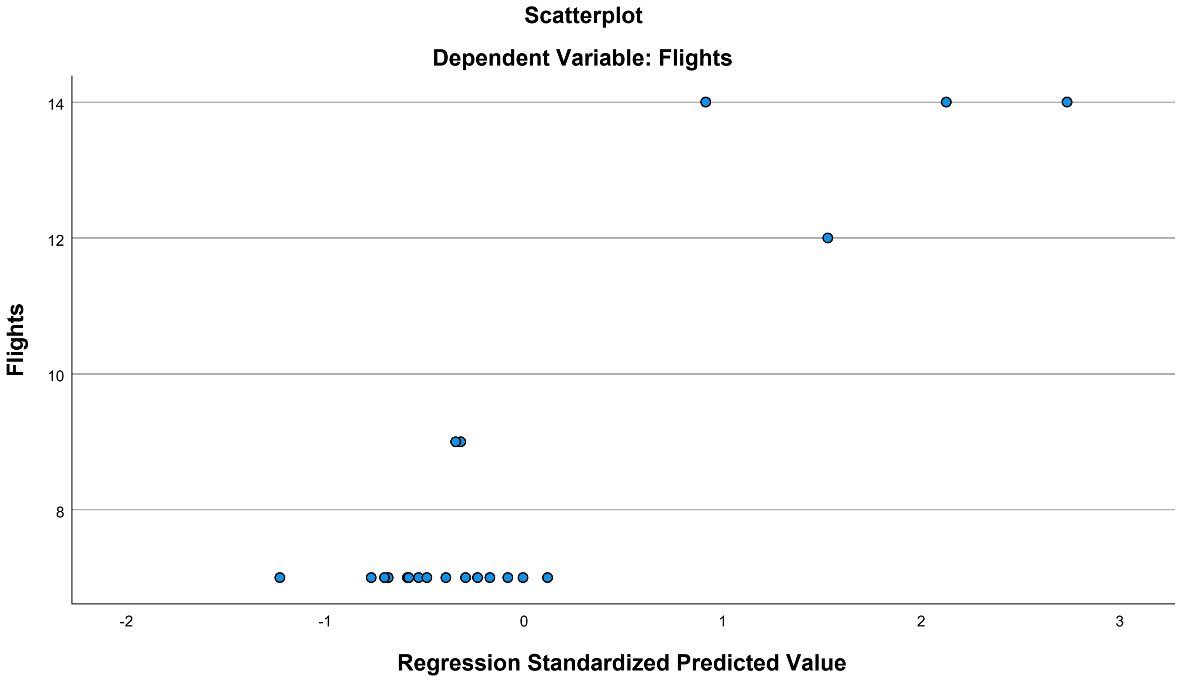
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.56	14.82	8.43	2.336	21
Residual	-1.705	3.435	.000	1.182	21
Std. Predicted Value	-1.229	2.733	.000	1.000	21
Std. Residual	-1.069	2.154	.000	.742	21

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
14
12
10
8
-2
-1
0
1
2
3

Regression

```
[DataSet32] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Alliances\2002 Wings.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.98	2.924	43
HomeConcentration	4.2379227674	2.0148349818	43
Congestion	4.53	.702	43
GLHR	.00	.000	43
GJFK	.05	.213	43
PartnerConcentration	1.2088814186	2.0607758750	43
Seasonality	.61400905296	.19353079625	43
Distance	4.05756	.675741	43
Language	1.44410895	2.747104829	43
Ethnicity	.41128414	.512487334	43
Urban	17.63	3.665	43

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.305	-.121	.
	HomeConcentration	.305	1.000	-.223	.
	Congestion	-.121	-.223	1.000	.
	GLHR	.	.	.	1.000
	GJFK	-.151	-.247	.466	.
	PartnerConcentration	.126	-.455	-.195	.
	Seasonality	-.120	-.058	-.106	.
	Distance	.008	.115	.013	.
	Language	.015	.147	-.328	.
	Ethnicity	-.055	.265	-.185	.
	Urban	.026	-.274	.496	.
Sig. (1-tailed)	Flights	.	.023	.219	.000
	HomeConcentration	.023	.	.075	.000
	Congestion	.219	.075	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.167	.055	.001	.000
	PartnerConcentration	.211	.001	.105	.000
	Seasonality	.222	.357	.249	.000
	Distance	.479	.231	.467	.000
	Language	.461	.174	.016	.000
	Ethnicity	.363	.043	.118	.000
	Urban	.435	.037	.000	.000
N	Flights	43	43	43	43
	HomeConcentration	43	43	43	43
	Congestion	43	43	43	43
	GLHR	43	43	43	43
	GJFK	43	43	43	43
	PartnerConcentration	43	43	43	43
	Seasonality	43	43	43	43
	Distance	43	43	43	43
	Language	43	43	43	43
	Ethnicity	43	43	43	43
	Urban	43	43	43	43

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	-.151	.126	-.120	.008
	HomeConcentration	-.247	-.455	-.058	.115
	Congestion	.466	-.195	-.106	.013
	GLHR	.	.	.	.
	GJFK	1.000	.087	.049	-.140
	PartnerConcentration	.087	1.000	.127	.061
	Seasonality	.049	.127	1.000	-.044
	Distance	-.140	.061	-.044	1.000
	Language	-.117	-.315	.082	-.396
	Ethnicity	-.066	-.271	.107	-.244
	Urban	.267	-.100	-.044	-.136
Sig. (1-tailed)	Flights	.167	.211	.222	.479
	HomeConcentration	.055	.001	.357	.231
	Congestion	.001	.105	.249	.467
	GLHR	.000	.000	.000	.000
	GJFK	.	.289	.378	.185
	PartnerConcentration	.289	.	.208	.348
	Seasonality	.378	.208	.	.389
	Distance	.185	.348	.389	.
	Language	.228	.020	.300	.004
	Ethnicity	.338	.040	.247	.057
	Urban	.042	.262	.390	.192
N	Flights	43	43	43	43
	HomeConcentration	43	43	43	43
	Congestion	43	43	43	43
	GLHR	43	43	43	43
	GJFK	43	43	43	43
	PartnerConcentration	43	43	43	43
	Seasonality	43	43	43	43
	Distance	43	43	43	43
	Language	43	43	43	43
	Ethnicity	43	43	43	43
	Urban	43	43	43	43

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.015	-.055	.026
	HomeConcentration	.147	.265	-.274
	Congestion	-.328	-.185	.496
	GLHR	.	.	.
	GJFK	-.117	-.066	.267
	PartnerConcentration	-.315	-.271	-.100
	Seasonality	.082	.107	-.044
	Distance	-.396	-.244	-.136
	Language	1.000	.359	-.149
	Ethnicity	.359	1.000	-.122
	Urban	-.149	-.122	1.000
Sig. (1-tailed)	Flights	.461	.363	.435
	HomeConcentration	.174	.043	.037
	Congestion	.016	.118	.000
	GLHR	.000	.000	.000
	GJFK	.228	.338	.042
	PartnerConcentration	.020	.040	.262
	Seasonality	.300	.247	.390
	Distance	.004	.057	.192
	Language	.	.009	.171
	Ethnicity	.009	.	.218
	Urban	.171	.218	.
N	Flights	43	43	43
	HomeConcentration	43	43	43
	Congestion	43	43	43
	GLHR	43	43	43
	GJFK	43	43	43
	PartnerConcentration	43	43	43
	Seasonality	43	43	43
	Distance	43	43	43
	Language	43	43	43
	Ethnicity	43	43	43
	Urban	43	43	43

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, Distance, PartnerConcentration, GJFK, Ethnicity, Language, HomeConcentration, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.522[a]	.272	.074	2.814	.272	1.371

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	33	.241

a. Predictors: (Constant), Urban, Seasonality, Distance, PartnerConcentration, GJFK, Ethnicity, Language, HomeConcentration, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	97.713	9	10.857	1.371	.241[b]
	Residual	261.264	33	7.917		
	Total	358.977	42			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, Distance, PartnerConcentration, GJFK, Ethnicity, Language, HomeConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.396	6.236		.224	.824
	HomeConcentration	.819	.274	.564	2.988	.005
	Congestion	.247	.902	.059	.274	.786
	GJFK	-1.800	2.411	-.131	-.746	.461
	PartnerConcentration	.662	.291	.467	2.275	.030
	Seasonality	-1.929	2.304	-.128	-.837	.409
	Distance	-.194	.744	-.045	-.261	.796
	Language	.155	.208	.146	.747	.460
	Ethnicity	-.556	.964	-.097	-.577	.568
	Urban	.184	.142	.231	1.298	.203

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.618	1.617
	Congestion	.470	2.127
	GJFK	.714	1.401
	PartnerConcentration	.523	1.910
	Seasonality	.948	1.055
	Distance	.746	1.340
	Language	.579	1.728
	Ethnicity	.772	1.295
	Urban	.697	1.435

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Congestion
1	1	6.671	1.000	.00	.00	.00
	2	1.259	2.301	.00	.00	.00
	3	.877	2.758	.00	.00	.00
	4	.538	3.522	.00	.02	.00
	5	.415	4.008	.00	.00	.00
	6	.123	7.378	.00	.65	.00
	7	.074	9.495	.00	.00	.01
	8	.028	15.495	.00	.20	.00
	9	.012	23.284	.01	.00	.47
	10	.004	42.789	.98	.13	.52

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions					
		GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.01
	2	.12	.09	.00	.00	.11	.05
	3	.57	.06	.00	.00	.03	.02
	4	.00	.32	.00	.00	.33	.01
	5	.00	.03	.00	.00	.21	.82
	6	.10	.13	.03	.00	.01	.03
	7	.00	.04	.91	.00	.03	.02
	8	.03	.05	.02	.38	.01	.01
	9	.09	.01	.00	.34	.00	.00
	10	.08	.26	.04	.28	.27	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance ...
		Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.03
	7	.04
	8	.39
	9	.49
	10	.05

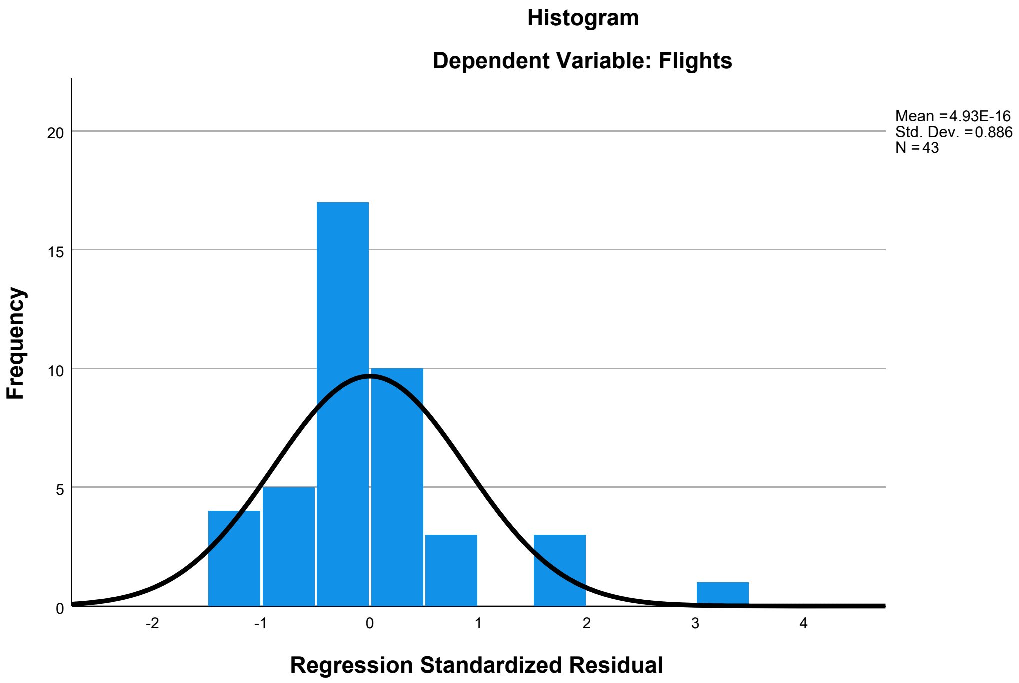
a. Dependent Variable: Flights

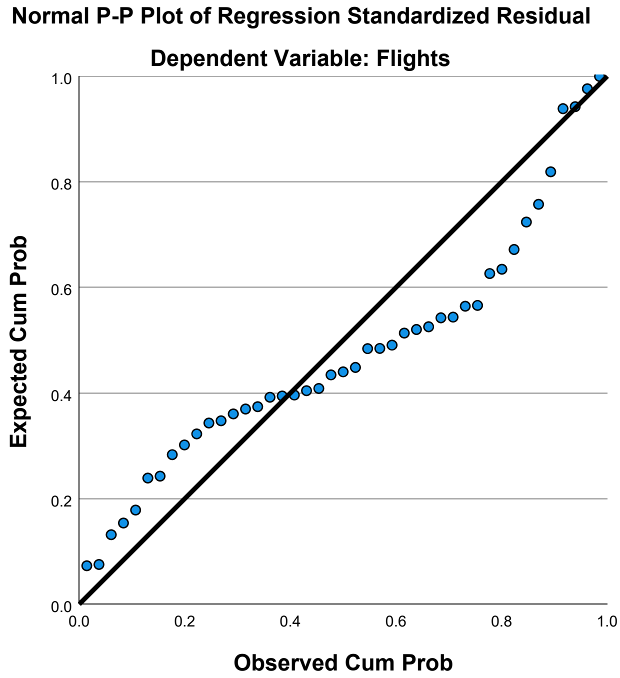
Residuals Statistics[a]

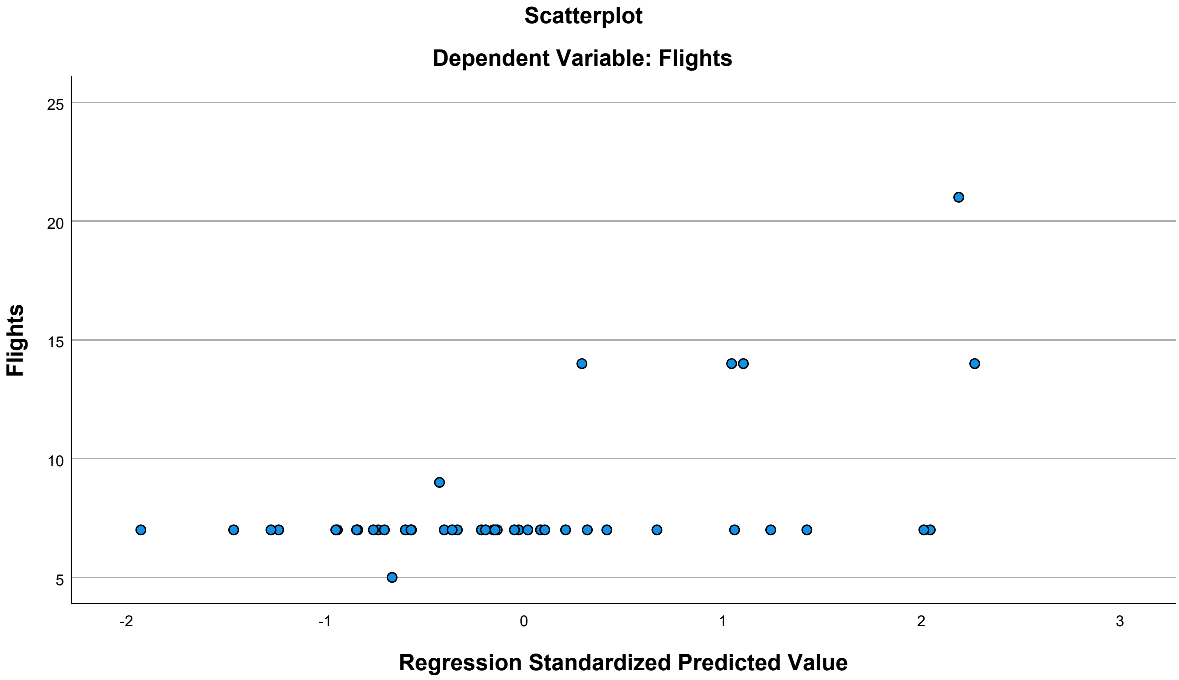
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.04	11.44	7.98	1.525	43
Residual	-4.094	9.686	.000	2.494	43
Std. Predicted Value	-1.928	2.268	.000	1.000	43
Std. Residual	-1.455	3.443	.000	.886	43

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.98	2.924	43
HomeConcentration	4.2379227674	2.0148349818	43
Congestion	4.53	.702	43
GLHR	.00	.000	43
GJFK	.05	.213	43
PartnerConcentration	1.2088814186	2.0607758750	43
Seasonality	.61400905296	.19353079625	43
Language	1.44410895	2.747104829	43
Ethnicity	.41128414	.512487334	43
Urban	17.63	3.665	43

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.305	-.121	.
	HomeConcentration	.305	1.000	-.223	.
	Congestion	-.121	-.223	1.000	.
	GLHR	.	.	.	1.000
	GJFK	-.151	-.247	.466	.
	PartnerConcentration	.126	-.455	-.195	.
	Seasonality	-.120	-.058	-.106	.
	Language	.015	.147	-.328	.
	Ethnicity	-.055	.265	-.185	.
	Urban	.026	-.274	.496	.
Sig. (1-tailed)	Flights	.	.023	.219	.000
	HomeConcentration	.023	.	.075	.000
	Congestion	.219	.075	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.167	.055	.001	.000
	PartnerConcentration	.211	.001	.105	.000
	Seasonality	.222	.357	.249	.000
	Language	.461	.174	.016	.000
	Ethnicity	.363	.043	.118	.000
	Urban	.435	.037	.000	.000
N	Flights	43	43	43	43
	HomeConcentration	43	43	43	43

Correlations

		GJFK	PartnerConcentration	Seasonality	Language
Pearson Correlation	Flights	-.151	.126	-.120	.015
	HomeConcentration	-.247	-.455	-.058	.147
	Congestion	.466	-.195	-.106	-.328
	GLHR	.	.	.	.
	GJFK	1.000	.087	.049	-.117
	PartnerConcentration	.087	1.000	.127	-.315
	Seasonality	.049	.127	1.000	.082
	Language	-.117	-.315	.082	1.000
	Ethnicity	-.066	-.271	.107	.359
	Urban	.267	-.100	-.044	-.149
Sig. (1-tailed)	Flights	.167	.211	.222	.461
	HomeConcentration	.055	.001	.357	.174
	Congestion	.001	.105	.249	.016
	GLHR	.000	.000	.000	.000
	GJFK	.	.289	.378	.228
	PartnerConcentration	.289	.	.208	.020
	Seasonality	.378	.208	.	.300
	Language	.228	.020	.300	.
	Ethnicity	.338	.040	.247	.009
	Urban	.042	.262	.390	.171
N	Flights	43	43	43	43
	HomeConcentration	43	43	43	43

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	-.055	.026
	HomeConcentration	.265	-.274
	Congestion	-.185	.496
	GLHR	.	.
	GJFK	-.066	.267
	PartnerConcentration	-.271	-.100
	Seasonality	.107	-.044
	Language	.359	-.149
	Ethnicity	1.000	-.122
	Urban	-.122	1.000
Sig. (1-tailed)	Flights	.363	.435
	HomeConcentration	.043	.037
	Congestion	.118	.000
	GLHR	.000	.000
	GJFK	.338	.042
	PartnerConcentration	.040	.262
	Seasonality	.247	.390
	Language	.009	.171
	Ethnicity	.	.218
	Urban	.218	.
N	Flights	43	43
	HomeConcentration	43	43

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	43	43	43	43
	GLHR	43	43	43	43
	GJFK	43	43	43	43
	PartnerConcentration	43	43	43	43
	Seasonality	43	43	43	43
	Language	43	43	43	43
	Ethnicity	43	43	43	43
	Urban	43	43	43	43

Correlations

	GJFK	PartnerConcentration	Seasonality	Language
Congestion	43	43	43	43
GLHR	43	43	43	43
GJFK	43	43	43	43
PartnerConcentration	43	43	43	43
Seasonality	43	43	43	43
Language	43	43	43	43
Ethnicity	43	43	43	43
Urban	43	43	43	43

Correlations

	Ethnicity	Urban
Congestion	43	43
GLHR	43	43
GJFK	43	43
PartnerConcentration	43	43
Seasonality	43	43
Language	43	43
Ethnicity	43	43
Urban	43	43

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, PartnerConcentration, GJFK, Ethnicity, Language, HomeConcentration, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.520[a]	.271	.099	2.775	.271	1.578

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	34	.168

a. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, GJFK, Ethnicity, Language, HomeConcentration, Congesti

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	97.175	8	12.147	1.578	.168[b]
	Residual	261.802	34	7.700		
	Total	358.977	42			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, GJFK, Ethnicity, Language, HomeConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.489	5.104		.096	.924
	HomeConcentration	.811	.269	.559	3.019	.005
	Congestion	.249	.890	.060	.280	.781
	GJFK	-1.726	2.362	-.126	-.731	.470
	PartnerConcentration	.667	.287	.470	2.328	.026
	Seasonality	-1.944	2.272	-.129	-.856	.398
	Language	.175	.191	.164	.917	.365
	Ethnicity	-.511	.935	-.090	-.546	.588
	Urban	.190	.138	.238	1.372	.179

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.625	1.599
	Congestion	.470	2.127
	GJFK	.724	1.381
	PartnerConcentration	.525	1.903
	Seasonality	.949	1.054
	Language	.668	1.497
	Ethnicity	.798	1.253
	Urban	.713	1.402

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	5.730	1.000	.00	.00	.00
	2	1.253	2.138	.00	.00	.00
	3	.864	2.575	.00	.00	.00
	4	.524	3.305	.00	.02	.00
	5	.411	3.734	.00	.00	.00
	6	.122	6.840	.00	.65	.00
	7	.073	8.861	.00	.00	.01
	8	.017	18.404	.05	.11	.20
	9	.005	35.051	.95	.22	.78

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.01	.00
	2	.14	.09	.00	.12	.05	.00
	3	.57	.08	.00	.04	.02	.00
	4	.00	.28	.00	.44	.00	.00
	5	.00	.04	.00	.19	.87	.00
	6	.10	.13	.03	.01	.03	.03
	7	.01	.04	.89	.02	.02	.05
	8	.01	.01	.03	.00	.00	.91
	9	.17	.31	.05	.18	.01	.01

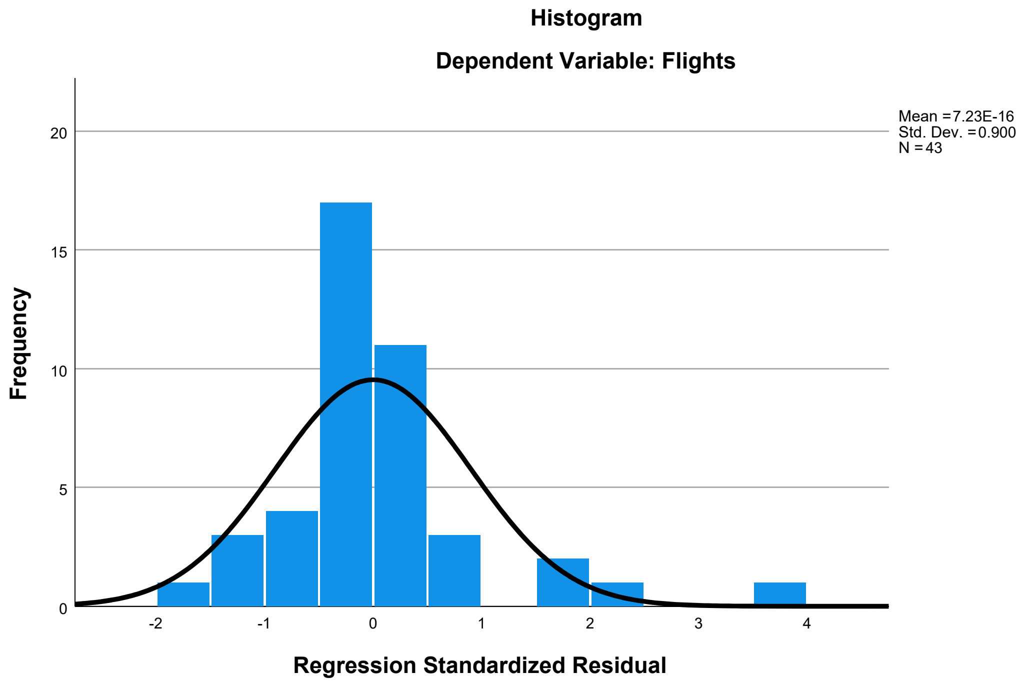
a. Dependent Variable: Flights

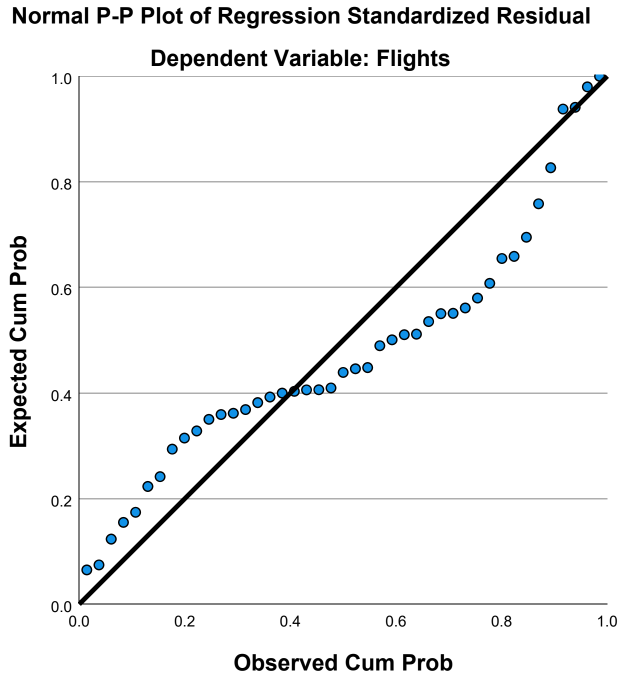
Residuals Statistics[a]

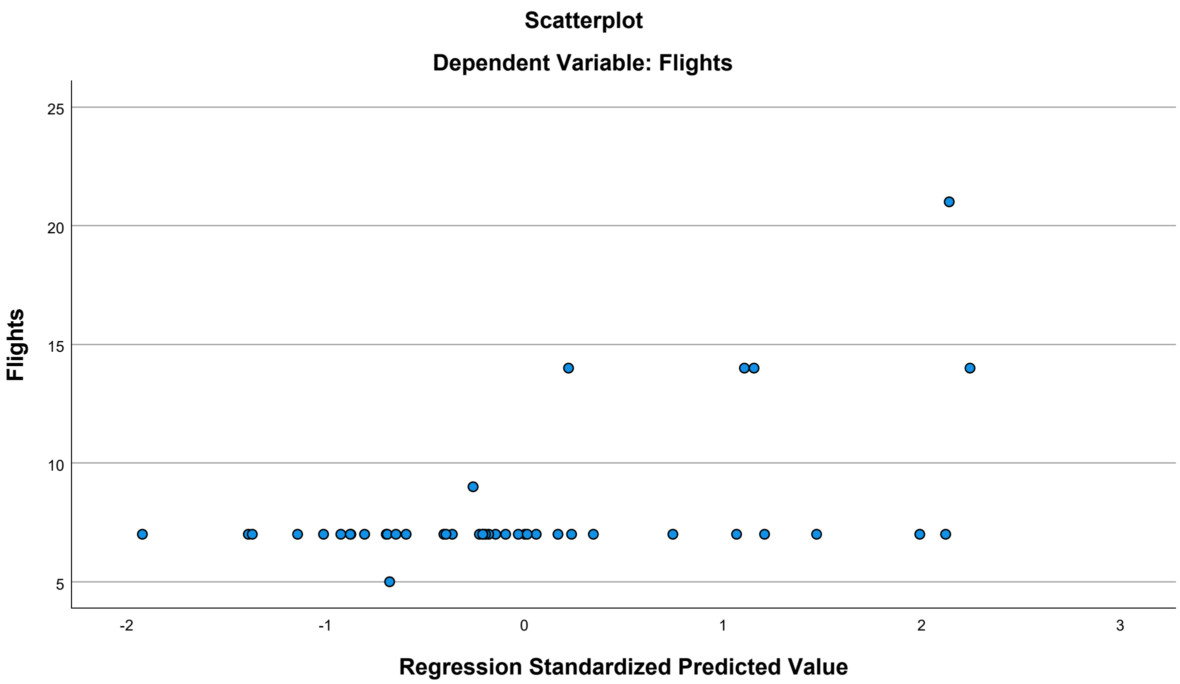
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.05	11.39	7.98	1.521	43
Residual	-4.202	9.771	.000	2.497	43
Std. Predicted Value	-1.922	2.243	.000	1.000	43
Std. Residual	-1.514	3.521	.000	.900	43

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.98	2.924	43
HomeConcentration	4.2379227674	2.0148349818	43
GLHR	.00	.000	43
GJFK	.05	.213	43
PartnerConcentration	1.2088814186	2.0607758750	43
Seasonality	.61400905296	.19353079625	43
Language	1.44410895	2.747104829	43
Ethnicity	.41128414	.512487334	43
Urban	17.63	3.665	43

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.305	.	-.151
	HomeConcentration	.305	1.000	.	-.247
	GLHR	.	.	1.000	.
	GJFK	-.151	-.247	.	1.000
	PartnerConcentration	.126	-.455	.	.087
	Seasonality	-.120	-.058	.	.049
	Language	.015	.147	.	-.117
	Ethnicity	-.055	.265	.	-.066
	Urban	.026	-.274	.	.267
Sig. (1-tailed)	Flights	.	.023	.000	.167
	HomeConcentration	.023	.	.000	.055
	GLHR	.000	.000	.	.000
	GJFK	.167	.055	.000	.
	PartnerConcentration	.211	.001	.000	.289
	Seasonality	.222	.357	.000	.378
	Language	.461	.174	.000	.228
	Ethnicity	.363	.043	.000	.338
	Urban	.435	.037	.000	.042
N	Flights	43	43	43	43
	HomeConcentration	43	43	43	43
	GLHR	43	43	43	43
	GJFK	43	43	43	43
	PartnerConcentration	43	43	43	43
	Seasonality	43	43	43	43
	Language	43	43	43	43
	Ethnicity	43	43	43	43
	Urban	43	43	43	43

Correlations

		PartnerConcentration	Seasonality	Language	Ethnicity
Pearson Correlation	Flights	.126	-.120	.015	-.055
	HomeConcentration	-.455	-.058	.147	.265
	GLHR	.	.	.	.
	GJFK	.087	.049	-.117	-.066
	PartnerConcentration	1.000	.127	-.315	-.271
	Seasonality	.127	1.000	.082	.107
	Language	-.315	.082	1.000	.359
	Ethnicity	-.271	.107	.359	1.000
	Urban	-.100	-.044	-.149	-.122
Sig. (1-tailed)	Flights	.211	.222	.461	.363
	HomeConcentration	.001	.357	.174	.043
	GLHR	.000	.000	.000	.000
	GJFK	.289	.378	.228	.338
	PartnerConcentration	.	.208	.020	.040
	Seasonality	.208	.	.300	.247
	Language	.020	.300	.	.009
	Ethnicity	.040	.247	.009	.
	Urban	.262	.390	.171	.218
N	Flights	43	43	43	43
	HomeConcentration	43	43	43	43
	GLHR	43	43	43	43
	GJFK	43	43	43	43
	PartnerConcentration	43	43	43	43
	Seasonality	43	43	43	43
	Language	43	43	43	43
	Ethnicity	43	43	43	43
	Urban	43	43	43	43

Correlations

		Urban
Pearson Correlation	Flights	.026
	HomeConcentration	-.274
	GLHR	.
	GJFK	.267
	PartnerConcentration	-.100
	Seasonality	-.044
	Language	-.149
	Ethnicity	-.122
	Urban	1.000
Sig. (1-tailed)	Flights	.435
	HomeConcentration	.037
	GLHR	.000
	GJFK	.042
	PartnerConcentration	.262
	Seasonality	.390
	Language	.171
	Ethnicity	.218
	Urban	.
N	Flights	43
	HomeConcentration	43
	GLHR	43
	GJFK	43
	PartnerConcentration	43
	Seasonality	43
	Language	43
	Ethnicity	43
	Urban	43

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, PartnerConcentration, GJFK, Ethnicity, Language, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.519[a]	.269	.123	2.738	.269	1.840

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	7	35	.110

a. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, GJFK, Ethnicity, Language, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	96.573	7	13.796	1.840	.110[b]
	Residual	262.403	35	7.497		
	Total	358.977	42			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, GJFK, Ethnicity, Language, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.560	3.329		.469	.642
	HomeConcentration	.795	.259	.548	3.070	.004
	GJFK	-1.441	2.102	-.105	-.686	.498
	PartnerConcentration	.633	.256	.446	2.471	.018
	Seasonality	-1.978	2.238	-.131	-.884	.383
	Language	.155	.174	.145	.889	.380
	Ethnicity	-.535	.919	-.094	-.582	.564
	Urban	.202	.130	.253	1.558	.128

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.656	1.525
	GJFK	.889	1.124
	PartnerConcentration	.640	1.563
	Seasonality	.951	1.051
	Language	.782	1.279
	Ethnicity	.805	1.242
	Urban	.791	1.265

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	4.796	1.000	.00	.00	.00
	2	1.240	1.966	.00	.00	.18
	3	.864	2.356	.00	.00	.69
	4	.506	3.080	.00	.03	.00
	5	.401	3.458	.00	.01	.00
	6	.115	6.444	.00	.64	.10
	7	.067	8.461	.01	.01	.01
	8	.011	20.990	.98	.31	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Language	Ethnicity	Urban
1	1	.01	.00	.01	.01	.00
	2	.12	.00	.13	.04	.00
	3	.10	.00	.04	.02	.00
	4	.29	.00	.62	.00	.00
	5	.08	.00	.14	.90	.00
	6	.20	.09	.02	.01	.04
	7	.02	.80	.01	.02	.14
	8	.17	.10	.03	.00	.81

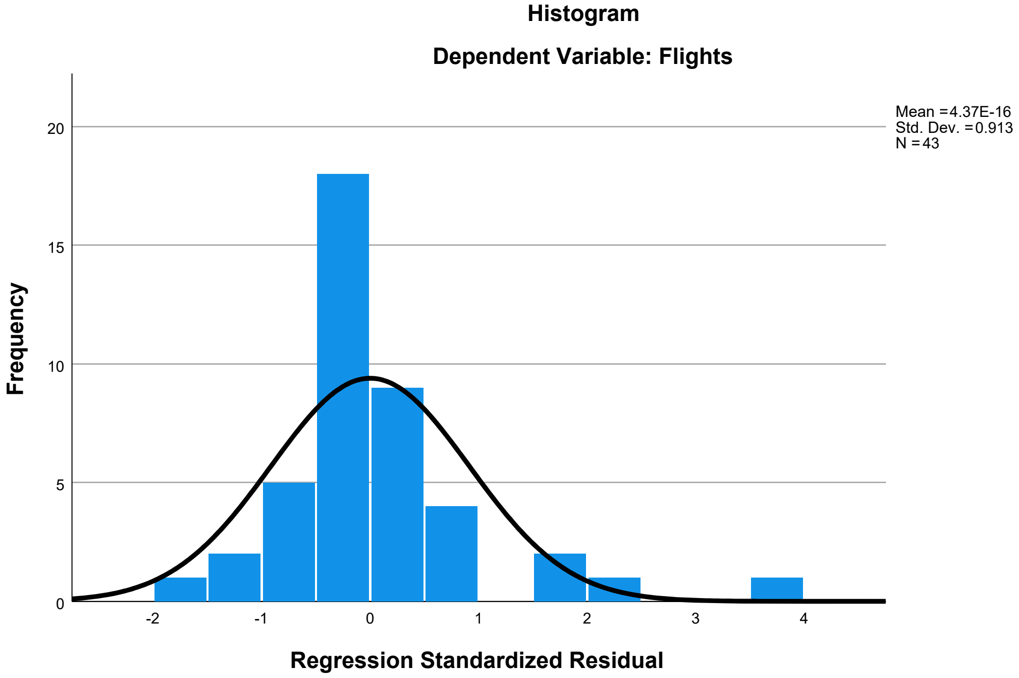
a. Dependent Variable: Flights

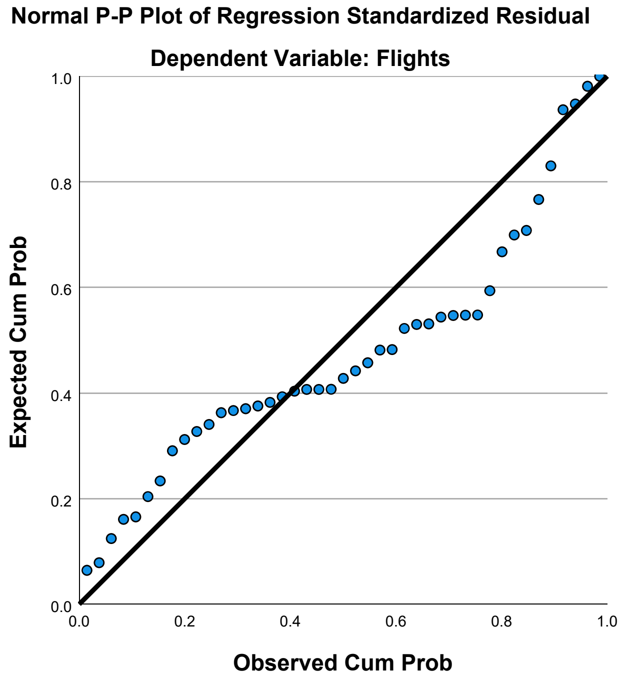
Residuals Statistics[a]

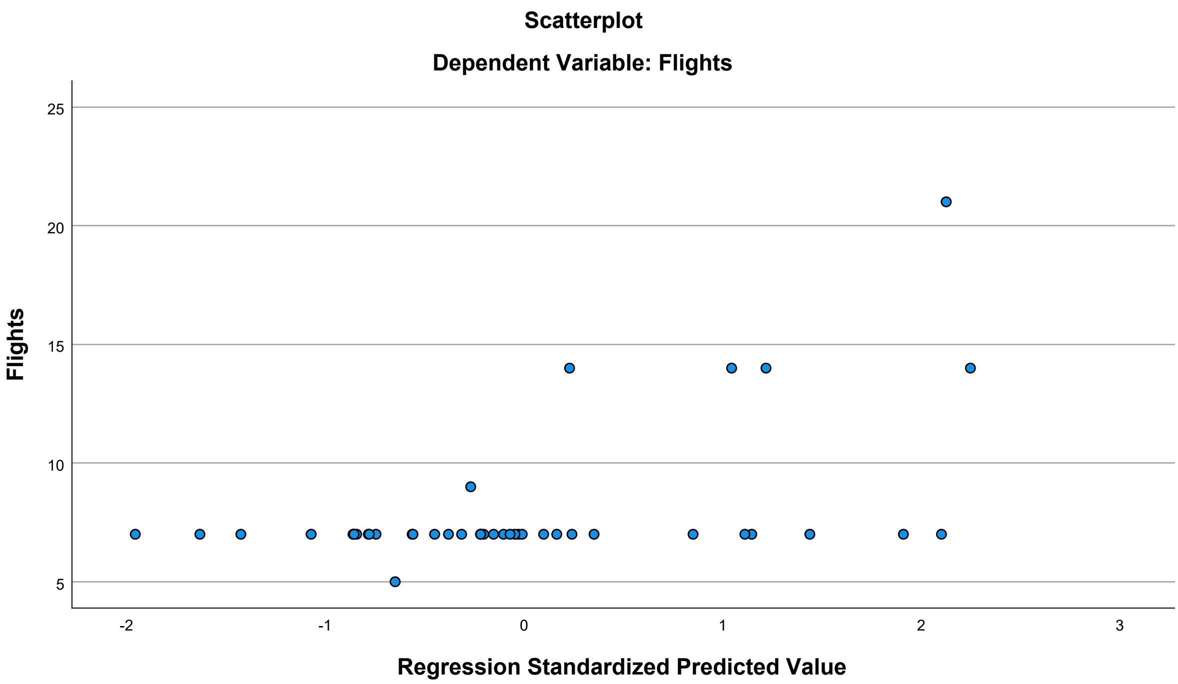
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.01	11.38	7.98	1.516	43
Residual	-4.163	9.801	.000	2.500	43
Std. Predicted Value	-1.958	2.247	.000	1.000	43
Std. Residual	-1.520	3.579	.000	.913	43

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
5
10
15
20
25
-2
-1
0
1
2
3

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.98	2.924	43
HomeConcentration	4.2379227674	2.0148349818	43
GJFK	.05	.213	43
PartnerConcentration	1.2088814186	2.0607758750	43
Seasonality	.61400905296	.19353079625	43
Language	1.44410895	2.747104829	43
Urban	17.63	3.665	43

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.305	-.151	.126
	HomeConcentration	.305	1.000	-.247	-.455
	GJFK	-.151	-.247	1.000	.087
	PartnerConcentration	.126	-.455	.087	1.000
	Seasonality	-.120	-.058	.049	.127
	Language	.015	.147	-.117	-.315
	Urban	.026	-.274	.267	-.100
Sig. (1-tailed)	Flights	.	.023	.167	.211
	HomeConcentration	.023	.	.055	.001
	GJFK	.167	.055	.	.289
	PartnerConcentration	.211	.001	.289	.
	Seasonality	.222	.357	.378	.208
	Language	.461	.174	.228	.020
	Urban	.435	.037	.042	.262
N	Flights	43	43	43	43
	HomeConcentration	43	43	43	43
	GJFK	43	43	43	43
	PartnerConcentration	43	43	43	43
	Seasonality	43	43	43	43
	Language	43	43	43	43
	Urban	43	43	43	43

Correlations

		Seasonality	Language	Urban
Pearson Correlation	Flights	-.120	.015	.026
	HomeConcentration	-.058	.147	-.274
	GJFK	.049	-.117	.267
	PartnerConcentration	.127	-.315	-.100
	Seasonality	1.000	.082	-.044
	Language	.082	1.000	-.149
	Urban	-.044	-.149	1.000
Sig. (1-tailed)	Flights	.222	.461	.435
	HomeConcentration	.357	.174	.037
	GJFK	.378	.228	.042
	PartnerConcentration	.208	.020	.262
	Seasonality	.	.300	.390
	Language	.300	.	.171
	Urban	.390	.171	.
N	Flights	43	43	43
	HomeConcentration	43	43	43
	GJFK	43	43	43
	PartnerConcentration	43	43	43
	Seasonality	43	43	43
	Language	43	43	43
	Urban	43	43	43

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, PartnerConcentration, GJFK, Language, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.512[a]	.262	.139	2.713	.262	2.129

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	36	.074

a. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, GJFK, Language, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	94.032	6	15.672	2.129	.074[b]
	Residual	264.945	36	7.360		
	Total	358.977	42			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, GJFK, Language, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.482	3.296		.450	.656
	HomeConcentration	.773	.254	.533	3.045	.004
	GJFK	-1.477	2.082	-.108	-.709	.483
	PartnerConcentration	.650	.252	.458	2.578	.014
	Seasonality	-2.129	2.203	-.141	-.966	.340
	Language	.127	.166	.119	.764	.450
	Urban	.206	.128	.258	1.604	.118

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.670	1.491
	GJFK	.890	1.123
	PartnerConcentration	.648	1.542
	Seasonality	.964	1.037
	Language	.847	1.181
	Urban	.793	1.261

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	GJFK
1	1	4.316	1.000	.00	.01	.00
	2	1.139	1.947	.00	.00	.28
	3	.844	2.261	.00	.00	.59
	4	.505	2.923	.00	.03	.00
	5	.117	6.083	.00	.64	.10
	6	.068	7.974	.01	.00	.01
	7	.011	19.904	.98	.32	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions			
		PartnerConcentration	Seasonality	Language	Urban
1	1	.01	.00	.01	.00
	2	.11	.00	.18	.00
	3	.15	.00	.11	.00
	4	.32	.00	.63	.00
	5	.22	.09	.01	.05
	6	.02	.80	.03	.14
	7	.17	.10	.04	.81

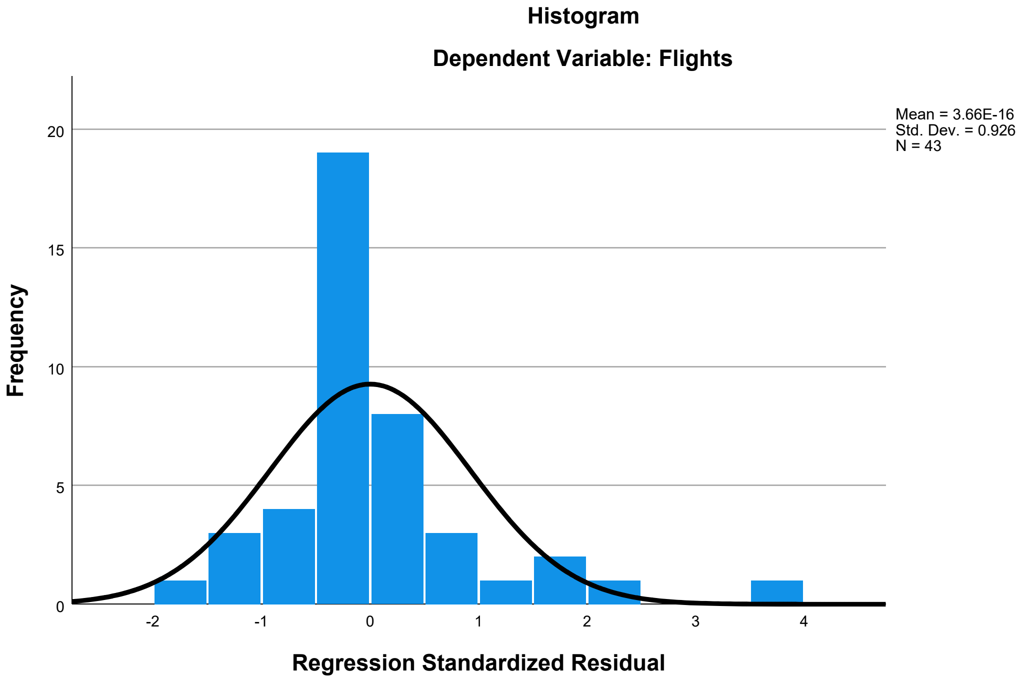
a. Dependent Variable: Flights

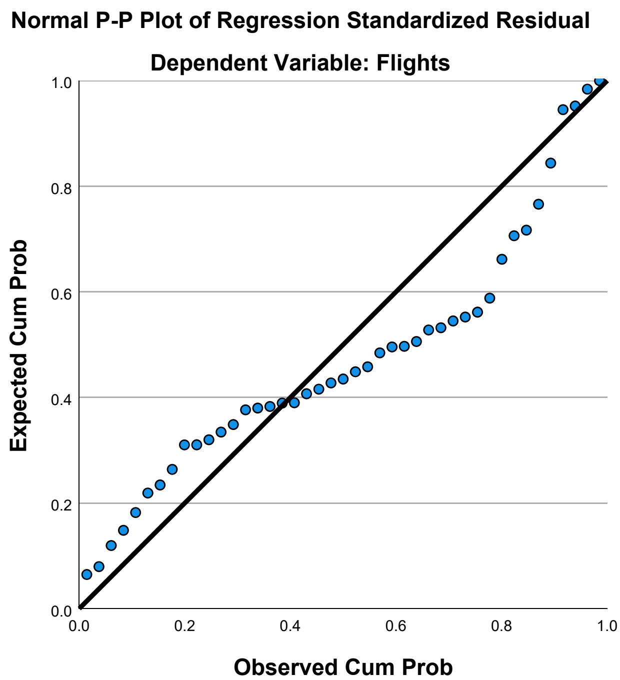
Residuals Statistics[a]

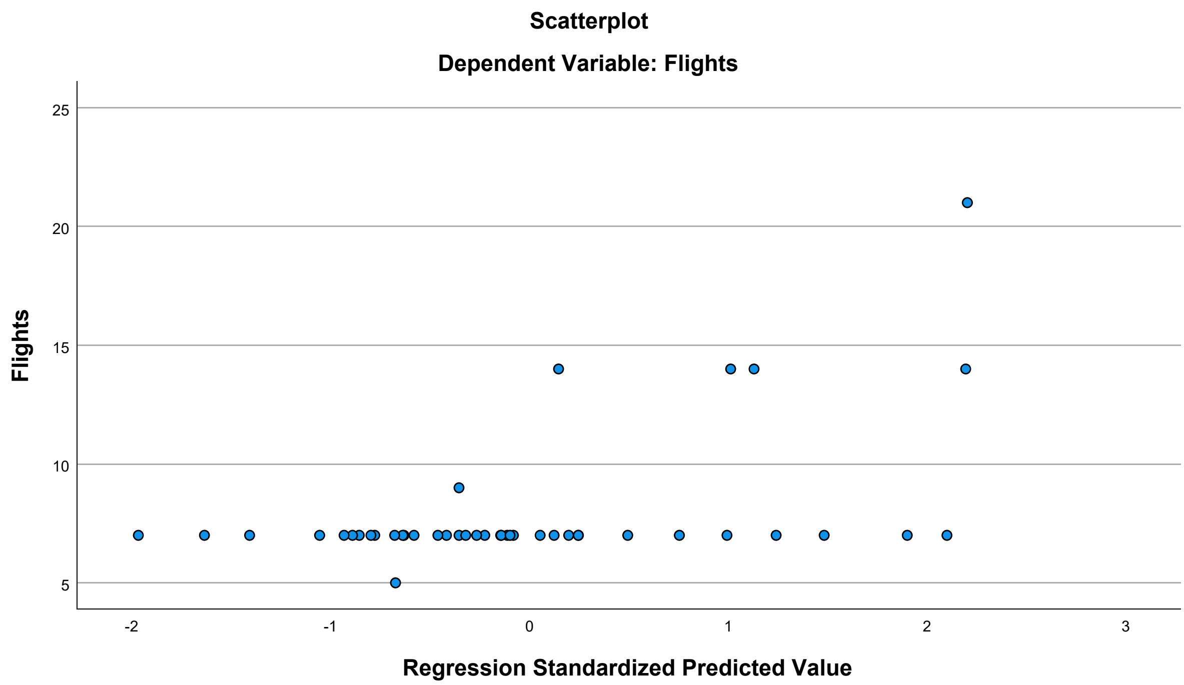
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.03	11.27	7.98	1.496	43
Residual	-4.119	9.728	.000	2.512	43
Std. Predicted Value	-1.968	2.202	.000	1.000	43
Std. Residual	-1.518	3.586	.000	.926	43

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 3.66E-16
Std. Dev. = 0.926
N = 43
Frequency
20
15
10
5
0
-2
-1
0
1
2
3
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.98	2.924	43
HomeConcentration	4.2379227674	2.0148349818	43
PartnerConcentration	1.2088814186	2.0607758750	43
Seasonality	.61400905296	.19353079625	43
Language	1.44410895	2.747104829	43
Urban	17.63	3.665	43

Correlations

		Flights	HomeConcentration	PartnerConcentration	Seasonality
Pearson Correlation	Flights	1.000	.305	.126	-.120
	HomeConcentration	.305	1.000	-.455	-.058
	PartnerConcentration	.126	-.455	1.000	.127
	Seasonality	-.120	-.058	.127	1.000
	Language	.015	.147	-.315	.082
	Urban	.026	-.274	-.100	-.044
Sig. (1-tailed)	Flights	.	.023	.211	.222
	HomeConcentration	.023	.	.001	.357
	PartnerConcentration	.211	.001	.	.208
	Seasonality	.222	.357	.208	.
	Language	.461	.174	.020	.300
	Urban	.435	.037	.262	.390
N	Flights	43	43	43	43
	HomeConcentration	43	43	43	43
	PartnerConcentration	43	43	43	43
	Seasonality	43	43	43	43
	Language	43	43	43	43
	Urban	43	43	43	43

Correlations

		Language	Urban
Pearson Correlation	Flights	.015	.026
	HomeConcentration	.147	-.274
	PartnerConcentration	-.315	-.100
	Seasonality	.082	-.044
	Language	1.000	-.149
	Urban	-.149	1.000
Sig. (1-tailed)	Flights	.461	.435
	HomeConcentration	.174	.037
	PartnerConcentration	.020	.262
	Seasonality	.300	.390
	Language	.	.171
	Urban	.171	.
N	Flights	43	43
	HomeConcentration	43	43
	PartnerConcentration	43	43
	Seasonality	43	43
	Language	43	43
	Urban	43	43

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, PartnerConcentration, Language, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.502[a]	.252	.151	2.695	.252	2.488

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	5	37	.049

a. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, Language, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	90.331	5	18.066	2.488	.049[b]
	Residual	268.646	37	7.261		
	Total	358.977	42			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, Language, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.660	3.264		.509	.614
	HomeConcentration	.800	.249	.551	3.212	.003
	PartnerConcentration	.650	.251	.458	2.594	.014
	Seasonality	-2.215	2.185	-.147	-1.014	.317
	Language	.134	.164	.126	.815	.420
	Urban	.188	.125	.235	1.502	.142

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.686	1.457
	PartnerConcentration	.648	1.542
	Seasonality	.967	1.034
	Language	.850	1.176
	Urban	.826	1.211

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions PartnerConcentration
1	1	4.263	1.000	.00	.01	.01
	2	1.023	2.041	.00	.00	.24
	3	.506	2.904	.00	.03	.33
	4	.128	5.768	.00	.60	.22
	5	.068	7.897	.01	.00	.03
	6	.011	19.667	.98	.36	.17

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Variance Proportions Language	Variance Proportions Urban
1	1	.00	.01	.00
	2	.00	.29	.00
	3	.00	.62	.00
	4	.06	.00	.05
	5	.83	.03	.14
	6	.10	.04	.81

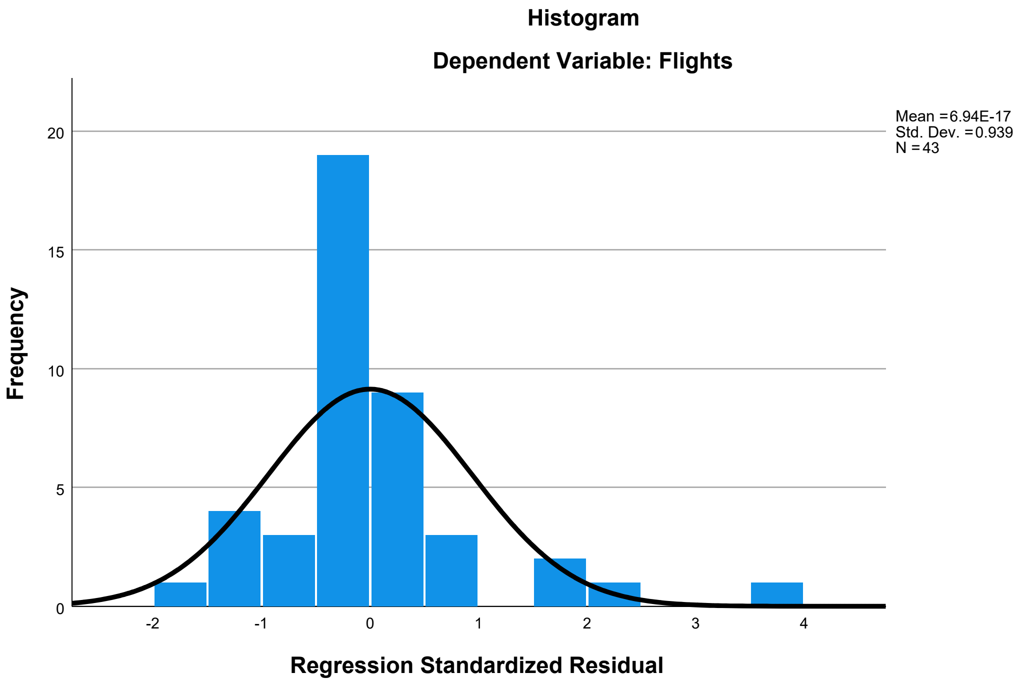
a. Dependent Variable: Flights

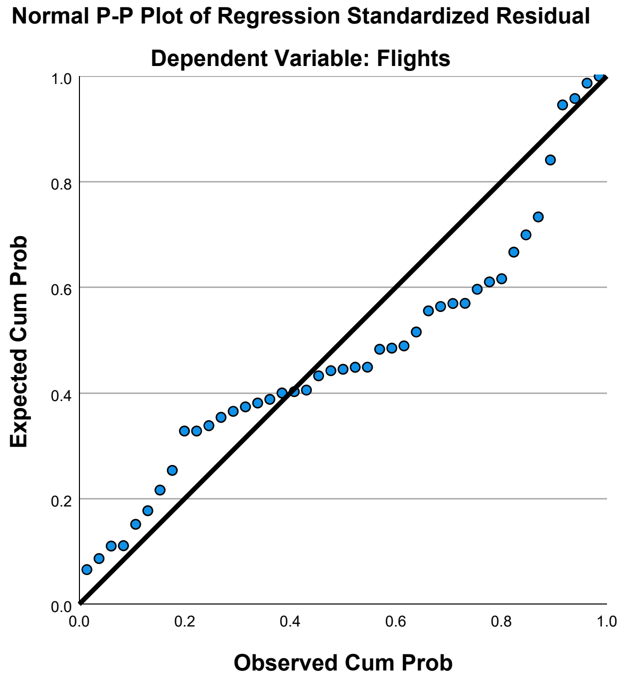
Residuals Statistics[a]

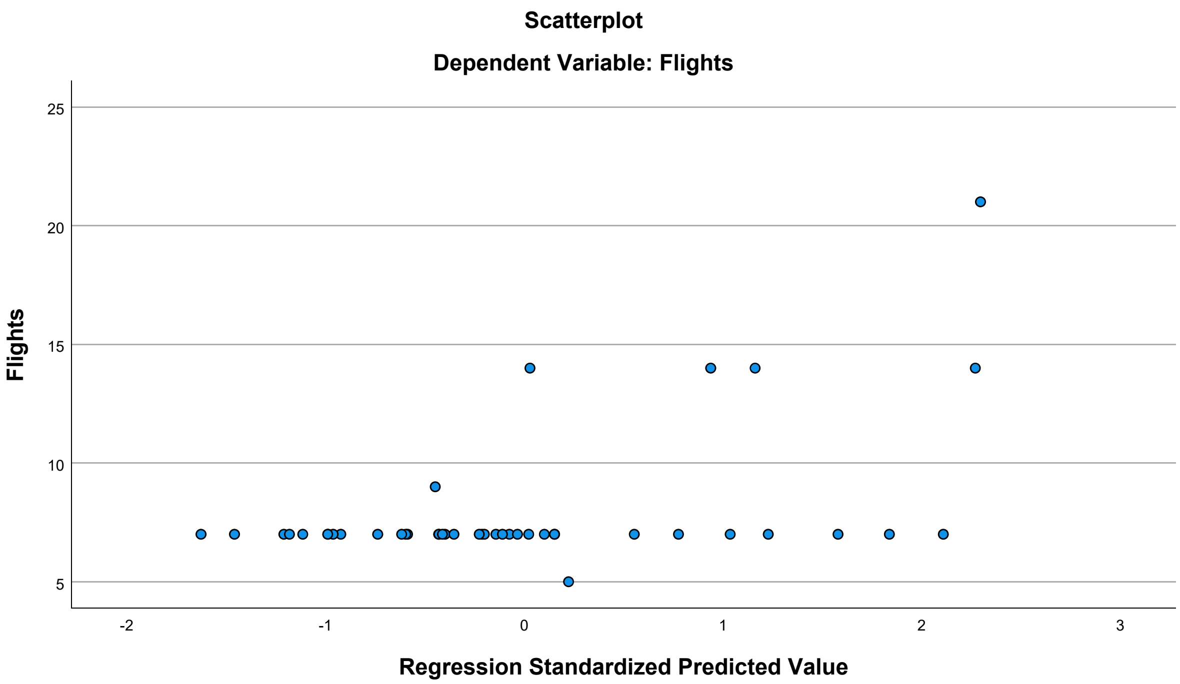
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.59	11.34	7.98	1.467	43
Residual	-4.069	9.656	.000	2.529	43
Std. Predicted Value	-1.627	2.296	.000	1.000	43
Std. Residual	-1.510	3.584	.000	.939	43

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
5
10
15
20
25
-2
-1
0
1
2
3

Regression

```
[DataSet2] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Alliances
\1997 Star.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.39	4.368	56
HomeConcentration	2.9068664286	1.8232834748	56
Congestion	4.95	.903	56
GLHR	.25	.437	56
GJFK	.05	.227	56
PartnerConcentration	1.3694764286	2.0541560842	56
Seasonality	.61023660632	.16350438824	56
Distance	4.20620	.778761	56
Language	1.60055907	3.009838841	56
Ethnicity	.90480582	.926170222	56
Urban	17.96	3.303	56

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.323	.102	.214
	HomeConcentration	.323	1.000	.314	-.292
	Congestion	.102	.314	1.000	-.150
	GLHR	.214	-.292	-.150	1.000
	GJFK	.180	-.149	.280	.046
	PartnerConcentration	-.102	.061	.245	-.296
	Seasonality	-.197	-.249	-.056	.009
	Distance	-.064	.257	.078	-.266
	Language	.349	-.118	.102	.603
	Ethnicity	.227	.080	.341	.061
	Urban	.550	.382	.353	.082
Sig. (1-tailed)	Flights	.	.008	.227	.056
	HomeConcentration	.008	.	.009	.014
	Congestion	.227	.009	.	.135
	GLHR	.056	.014	.135	.
	GJFK	.092	.136	.018	.369
	PartnerConcentration	.227	.327	.034	.014
	Seasonality	.073	.032	.340	.474
	Distance	.319	.028	.283	.024
	Language	.004	.192	.226	.000
	Ethnicity	.046	.279	.005	.328
	Urban	.000	.002	.004	.274
N	Flights	56	56	56	56
	HomeConcentration	56	56	56	56

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.180	-.102	-.197	-.064
	HomeConcentration	-.149	.061	-.249	.257
	Congestion	.280	.245	-.056	.078
	GLHR	.046	-.296	.009	-.266
	GJFK	1.000	-.107	-.153	-.162
	PartnerConcentration	-.107	1.000	-.018	.213
	Seasonality	-.153	-.018	1.000	-.018
	Distance	-.162	.213	-.018	1.000
	Language	.217	-.285	-.001	-.314
	Ethnicity	.236	.151	-.026	-.258
	Urban	.269	-.022	-.426	.110
Sig. (1-tailed)	Flights	.092	.227	.073	.319
	HomeConcentration	.136	.327	.032	.028
	Congestion	.018	.034	.340	.283
	GLHR	.369	.014	.474	.024
	GJFK	.	.216	.130	.117
	PartnerConcentration	.216	.	.447	.057
	Seasonality	.130	.447	.	.447
	Distance	.117	.057	.447	.
	Language	.054	.017	.498	.009
	Ethnicity	.040	.133	.426	.028
	Urban	.022	.435	.001	.209
N	Flights	56	56	56	56
	HomeConcentration	56	56	56	56

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.349	.227	.550
	HomeConcentration	-.118	.080	.382
	Congestion	.102	.341	.353
	GLHR	.603	.061	.082
	GJFK	.217	.236	.269
	PartnerConcentration	-.285	.151	-.022
	Seasonality	-.001	-.026	-.426
	Distance	-.314	-.258	.110
	Language	1.000	.421	.160
	Ethnicity	.421	1.000	.048
	Urban	.160	.048	1.000
Sig. (1-tailed)	Flights	.004	.046	<.001
	HomeConcentration	.192	.279	.002
	Congestion	.226	.005	.004
	GLHR	.000	.328	.274
	GJFK	.054	.040	.022
	PartnerConcentration	.017	.133	.435
	Seasonality	.498	.426	.001
	Distance	.009	.028	.209
	Language	.	.001	.119
	Ethnicity	.001	.	.364
	Urban	.119	.364	.
N	Flights	56	56	56
	HomeConcentration	56	56	56

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	56	56	56	56
	GLHR	56	56	56	56
	GJFK	56	56	56	56
	PartnerConcentration	56	56	56	56
	Seasonality	56	56	56	56
	Distance	56	56	56	56
	Language	56	56	56	56
	Ethnicity	56	56	56	56
	Urban	56	56	56	56

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	56	56	56	56
GLHR	56	56	56	56
GJFK	56	56	56	56
PartnerConcentration	56	56	56	56
Seasonality	56	56	56	56
Distance	56	56	56	56
Language	56	56	56	56
Ethnicity	56	56	56	56
Urban	56	56	56	56

Correlations

	Language	Ethnicity	Urban
Congestion	56	56	56
GLHR	56	56	56
GJFK	56	56	56
PartnerConcentration	56	56	56
Seasonality	56	56	56
Distance	56	56	56
Language	56	56	56
Ethnicity	56	56	56
Urban	56	56	56

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Ethnicity, GLHR, GJFK, Seasonality, Distance, Congestion, HomeConcentration, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.679[a]	.461	.341	3.546	.461	3.844

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	10	45	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, Ethnicity, GLHR, GJFK, Seasonality, Distance, Congestion, HomeConc
Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	483.405	10	48.340	3.844	<.001[b]
	Residual	565.952	45	12.577		
	Total	1049.357	55			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Ethnicity, GLHR, GJFK, Seasonality, Distance, Congestion, HomeConcentration, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.596	5.131		-.311	.757
	HomeConcentration	.696	.340	.290	2.048	.046
	Congestion	-1.182	.668	-.244	-1.769	.084
	GLHR	.913	1.520	.091	.601	.551
	GJFK	1.681	2.512	.087	.669	.507
	PartnerConcentration	.065	.273	.031	.238	.813
	Seasonality	2.441	3.328	.091	.733	.467
	Distance	-.254	.699	-.045	-.364	.718
	Language	.273	.240	.188	1.137	.262
	Ethnicity	.678	.666	.144	1.018	.314
	Urban	.664	.191	.502	3.473	.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.596	1.677
	Congestion	.629	1.591
	GLHR	.518	1.929
	GJFK	.702	1.425
	PartnerConcentration	.730	1.370
	Seasonality	.772	1.295
	Distance	.773	1.294
	Language	.437	2.290
	Ethnicity	.600	1.666
	Urban	.573	1.745

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions Congestion
1	1	7.139	1.000	.00	.00	.00
	2	1.443	2.224	.00	.00	.00
	3	.918	2.788	.00	.00	.00
	4	.581	3.505	.00	.01	.00
	5	.435	4.053	.00	.05	.00
	6	.208	5.858	.00	.27	.00
	7	.182	6.262	.00	.21	.00
	8	.049	12.124	.00	.38	.01
	9	.023	17.744	.00	.02	.22
	10	.015	21.649	.01	.00	.71
	11	.007	33.037	.98	.06	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.07	.06	.06	.00	.00	.08
	3	.07	.54	.01	.00	.00	.01
	4	.00	.05	.39	.00	.00	.05
	5	.25	.08	.26	.00	.00	.05
	6	.01	.02	.17	.03	.00	.30
	7	.52	.01	.00	.03	.00	.48
	8	.04	.13	.04	.55	.04	.00
	9	.01	.07	.00	.01	.70	.01
	10	.03	.00	.04	.11	.07	.00
	11	.01	.03	.02	.27	.19	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.00	.00
	3	.01	.00
	4	.13	.00
	5	.17	.00
	6	.36	.00
	7	.18	.00
	8	.02	.08
	9	.06	.08
	10	.03	.44
	11	.03	.39

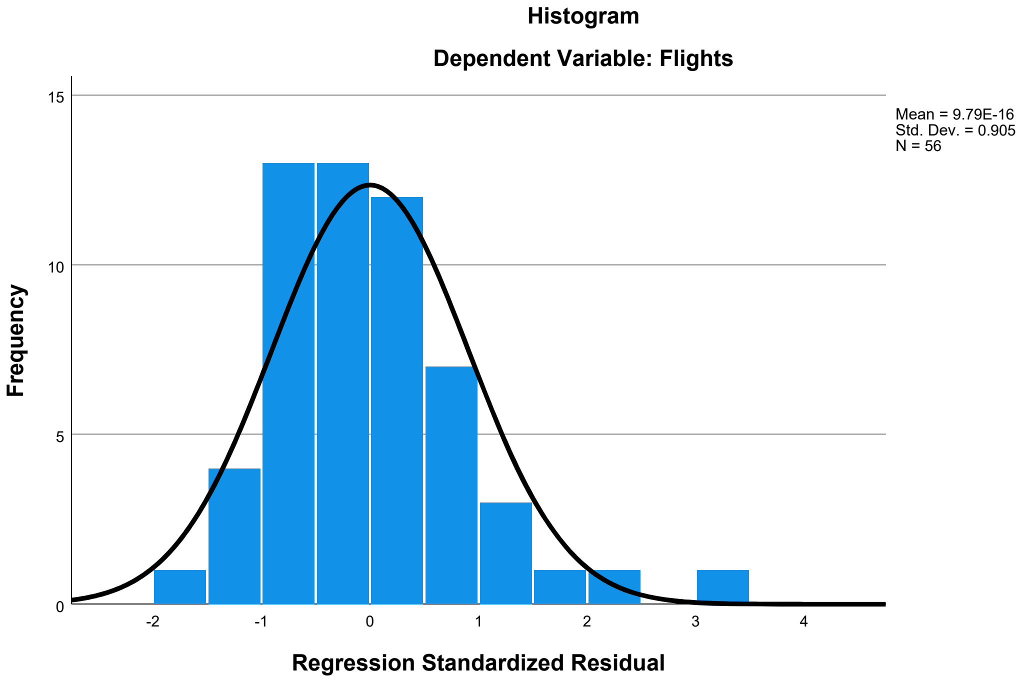
a. Dependent Variable: Flights

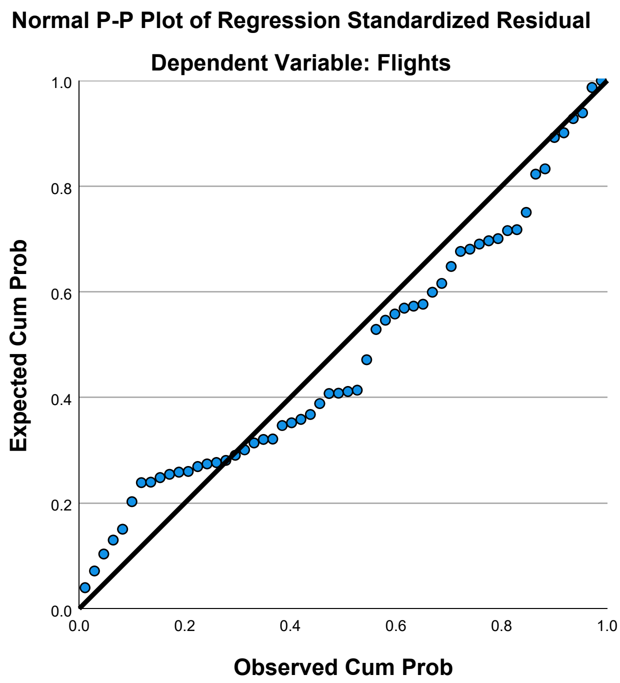
Residuals Statistics[a]

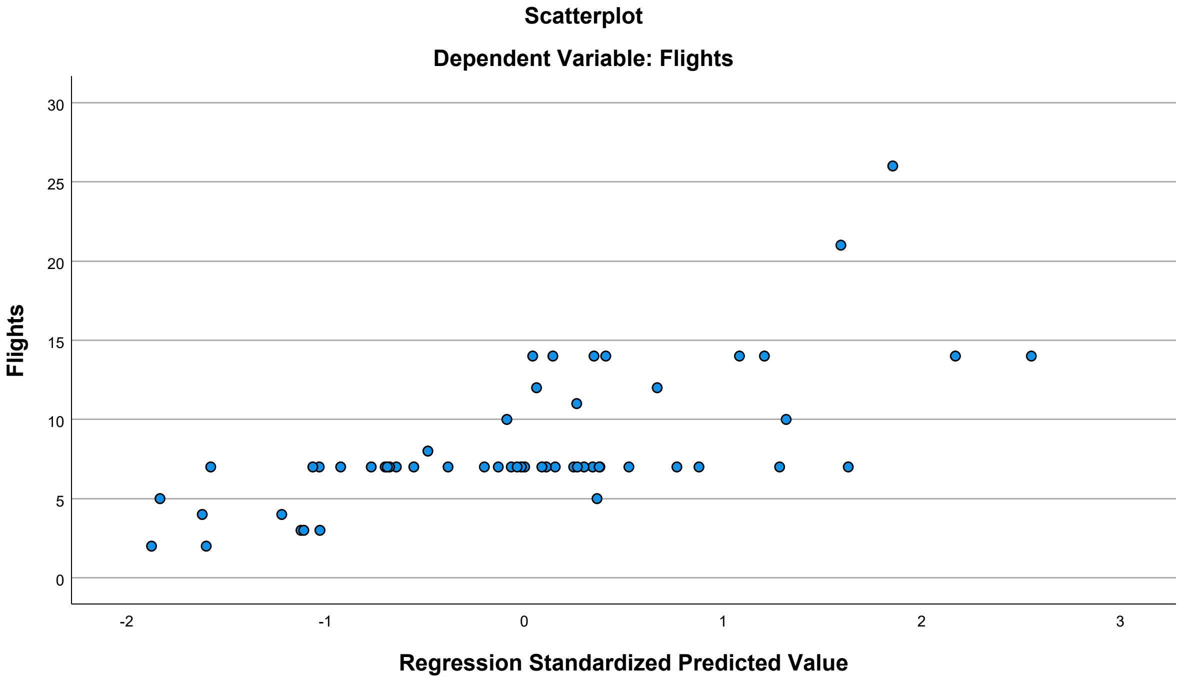
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.83	15.96	8.39	2.965	56
Residual	-6.227	12.110	.000	3.208	56
Std. Predicted Value	-1.876	2.552	.000	1.000	56
Std. Residual	-1.756	3.415	.000	.905	56

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 9.79E-16
Std. Dev. = 0.905
N = 56
Frequency
15
10
5
0
-2
-1
0
1
2
3
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
30
25
20
15
10
5
0
-2
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

```
[DataSet3] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Alliances
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.01	5.759	77
HomeConcentration	3.3334488831	1.9293128903	77
Congestion	4.79	.800	77
GLHR	.19	.399	77
GJFK	.06	.248	77
PartnerConcentration	2.0825199221	2.3570251013	77
Seasonality	.63532657818	.19362827240	77
Distance	4.18838	.745938	77
Language	1.59583734	3.028043826	77
Ethnicity	.80721079	.780588943	77
Urban	17.84	3.285	77

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.245	.132	.348
	HomeConcentration	.245	1.000	.124	-.335
	Congestion	.132	.124	1.000	-.036
	GLHR	.348	-.335	-.036	1.000
	GJFK	.101	-.158	.400	.003
	PartnerConcentration	-.017	-.177	.024	-.085
	Seasonality	-.101	.094	.168	-.182
	Distance	-.083	.288	.078	-.196
	Language	.348	-.220	.084	.554
	Ethnicity	.376	.156	.178	.057
	Urban	.339	.026	.393	.245
Sig. (1-tailed)	Flights	.	.016	.126	<.001
	HomeConcentration	.016	.	.141	.001
	Congestion	.126	.141	.	.377
	GLHR	.001	.001	.377	.
	GJFK	.192	.086	.000	.488
	PartnerConcentration	.441	.062	.417	.231
	Seasonality	.191	.209	.072	.057
	Distance	.238	.006	.251	.044
	Language	.001	.027	.233	.000
	Ethnicity	.000	.088	.060	.310
	Urban	.001	.413	.000	.016
N	Flights	77	77	77	77
	HomeConcentration	77	77	77	77

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.101	-.017	-.101	-.083
	HomeConcentration	-.158	-.177	.094	.288
	Congestion	.400	.024	.168	.078
	GLHR	.003	-.085	-.182	-.196
	GJFK	1.000	-.200	.027	-.109
	PartnerConcentration	-.200	1.000	-.217	.167
	Seasonality	.027	-.217	1.000	-.189
	Distance	-.109	.167	-.189	1.000
	Language	.091	-.045	-.006	-.308
	Ethnicity	.248	.051	.117	-.196
	Urban	.287	.021	-.303	.107
Sig. (1-tailed)	Flights	.192	.441	.191	.238
	HomeConcentration	.086	.062	.209	.006
	Congestion	.000	.417	.072	.251
	GLHR	.488	.231	.057	.044
	GJFK	.	.041	.408	.172
	PartnerConcentration	.041	.	.029	.074
	Seasonality	.408	.029	.	.050
	Distance	.172	.074	.050	.
	Language	.216	.350	.478	.003
	Ethnicity	.015	.331	.155	.044
	Urban	.006	.429	.004	.178
N	Flights	77	77	77	77
	HomeConcentration	77	77	77	77

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.348	.376	.339
	HomeConcentration	-.220	.156	.026
	Congestion	.084	.178	.393
	GLHR	.554	.057	.245
	GJFK	.091	.248	.287
	PartnerConcentration	-.045	.051	.021
	Seasonality	-.006	.117	-.303
	Distance	-.308	-.196	.107
	Language	1.000	.379	.064
	Ethnicity	.379	1.000	.004
	Urban	.064	.004	1.000
Sig. (1-tailed)	Flights	<.001	<.001	.001
	HomeConcentration	.027	.088	.413
	Congestion	.233	.060	.000
	GLHR	.000	.310	.016
	GJFK	.216	.015	.006
	PartnerConcentration	.350	.331	.429
	Seasonality	.478	.155	.004
	Distance	.003	.044	.178
	Language	.	.000	.291
	Ethnicity	.000	.	.485
	Urban	.291	.485	.
N	Flights	77	77	77
	HomeConcentration	77	77	77

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	77	77	77	77
	GLHR	77	77	77	77
	GJFK	77	77	77	77
	PartnerConcentration	77	77	77	77
	Seasonality	77	77	77	77
	Distance	77	77	77	77
	Language	77	77	77	77
	Ethnicity	77	77	77	77
	Urban	77	77	77	77

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	77	77	77	77
	GLHR	77	77	77	77
	GJFK	77	77	77	77
	PartnerConcentration	77	77	77	77
	Seasonality	77	77	77	77
	Distance	77	77	77	77
	Language	77	77	77	77
	Ethnicity	77	77	77	77
	Urban	77	77	77	77

Correlations

		Language	Ethnicity	Urban
	Congestion	77	77	77
	GLHR	77	77	77
	GJFK	77	77	77
	PartnerConcentration	77	77	77
	Seasonality	77	77	77
	Distance	77	77	77
	Language	77	77	77
	Ethnicity	77	77	77
	Urban	77	77	77

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, PartnerConcentration, HomeConcentration, Seasonality, Distance, GLHR, Congestion, GJFK, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.656[a]	.431	.344	4.664	.431	4.990

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	10	66	<.001

a. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, HomeConcentration, Seasonality, Distance, GLHR, Congestic
Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1085.408	10	108.541	4.990	<.001[b]
	Residual	1435.579	66	21.751		
	Total	2520.987	76			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, HomeConcentration, Seasonality, Distance, GLHR, Congestion, GJFK, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.697	5.573		-.125	.901
	HomeConcentration	1.203	.356	.403	3.377	.001
	Congestion	-.569	.848	-.079	-.671	.504
	GLHR	4.564	1.829	.316	2.495	.015
	GJFK	1.487	2.748	.064	.541	.590
	PartnerConcentration	.237	.266	.097	.893	.375
	Seasonality	-.313	3.250	-.011	-.096	.924
	Distance	-.637	.830	-.083	-.768	.445
	Language	.270	.241	.142	1.121	.266
	Ethnicity	1.615	.847	.219	1.907	.061
	Urban	.453	.206	.258	2.197	.032

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.606	1.650
	Congestion	.622	1.607
	GLHR	.538	1.858
	GJFK	.616	1.623
	PartnerConcentration	.729	1.372
	Seasonality	.723	1.383
	Distance	.747	1.339
	Language	.536	1.864
	Ethnicity	.655	1.527
	Urban	.624	1.602

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions Congestion
1	1	7.243	1.000	.00	.00	.00
	2	1.266	2.392	.00	.01	.00
	3	.991	2.704	.00	.00	.00
	4	.535	3.679	.00	.03	.00
	5	.485	3.865	.00	.02	.00
	6	.244	5.451	.00	.01	.00
	7	.133	7.382	.00	.62	.00
	8	.060	10.982	.01	.26	.00
	9	.023	17.619	.00	.01	.08
	10	.013	23.761	.01	.01	.90
	11	.007	32.272	.98	.04	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00	.00	.00
	2	.13	.03	.01	.00	.00	.13	.00	.00
	3	.04	.45	.03	.00	.00	.01	.01	.00
	4	.04	.03	.51	.00	.00	.02	.04	.00
	5	.18	.10	.07	.00	.00	.13	.24	.00
	6	.38	.00	.00	.01	.00	.61	.47	.00
	7	.01	.10	.09	.13	.00	.07	.12	.00
	8	.17	.12	.26	.46	.04	.00	.09	.06
	9	.02	.08	.00	.00	.57	.01	.01	.25
	10	.03	.05	.02	.14	.00	.02	.00	.40
	11	.00	.05	.00	.25	.38	.01	.02	.28

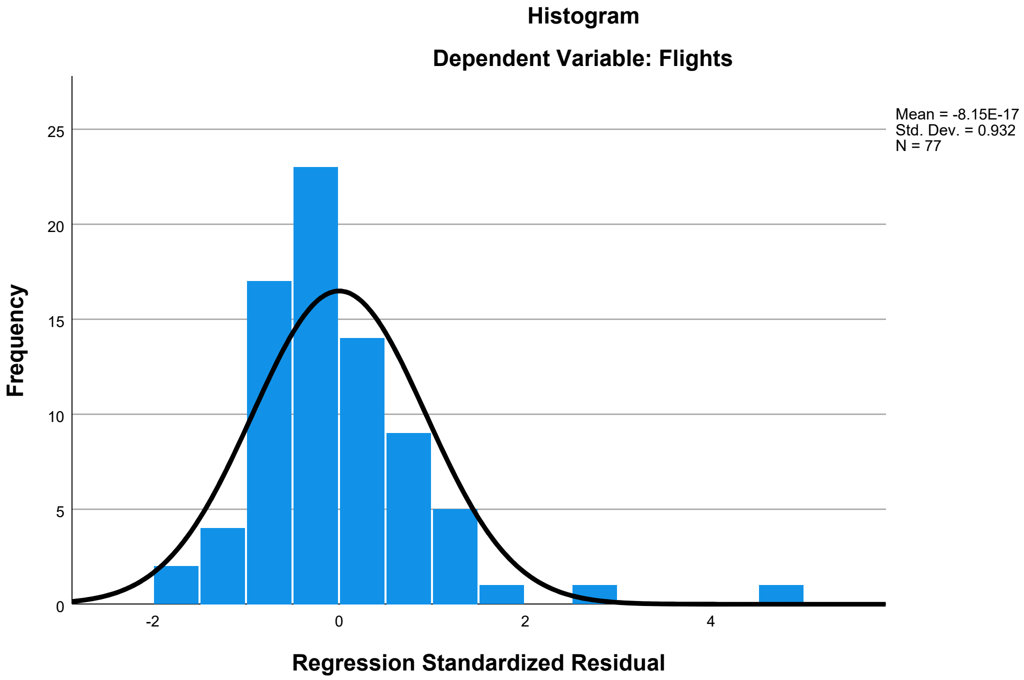
a. Dependent Variable: Flights

Residuals Statistics[a]

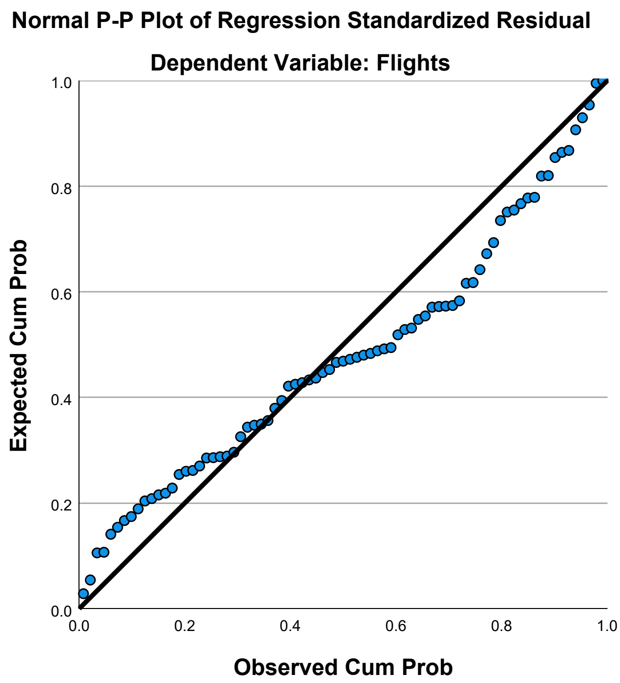
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.42	21.62	9.01	3.779	77
Residual	-8.898	21.756	.000	4.346	77
Std. Predicted Value	-1.481	3.337	.000	1.000	77
Std. Residual	-1.908	4.665	.000	.932	77

a. Dependent Variable: Flights

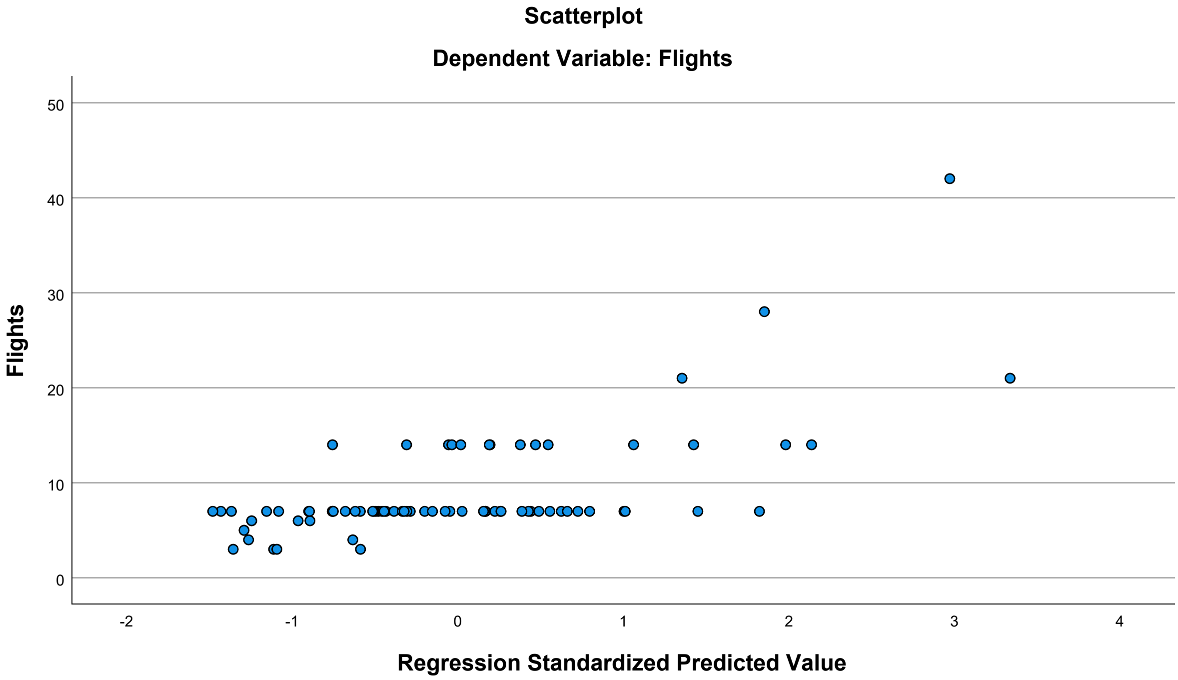
Charts



Histogram
Dependent Variable: Flights
Mean = -8.15E-17
Std. Dev. = 0.932
N = 77
Frequency
25
20
15
10
5
0
-2
0
2
4
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
50
40
30
20
10
0
-2
-1
0
1
2
3
4
Regression Standardized Predicted Value

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.51	4.691	122
HomeConcentration	3.1118588033	1.7234681131	122
Congestion	4.66	.967	122
GLHR	.11	.310	122
GJFK	.08	.275	122
PartnerConcentration	1.8552836557	2.0775877173	122
Seasonality	.64521967608	.18867729884	122
Distance	4.22716	.699468	122
Language	1.02748898	2.290756893	122
Ethnicity	.82106322	.918908035	122
Urban	16.13	4.014	122

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.236	.187	.406
	HomeConcentration	.236	1.000	.121	-.219
	Congestion	.187	.121	1.000	.065
	GLHR	.406	-.219	.065	1.000
	GJFK	-.026	-.247	.228	-.103
	PartnerConcentration	.133	.127	.159	-.067
	Seasonality	-.184	-.089	-.268	-.076
	Distance	-.140	.165	.041	-.096
	Language	.300	-.032	.022	.481
	Ethnicity	.262	.250	.131	.063
	Urban	.392	.181	.618	.142
Sig. (1-tailed)	Flights	.	.004	.019	<.001
	HomeConcentration	.004	.	.091	.008
	Congestion	.019	.091	.	.237
	GLHR	.000	.008	.237	.
	GJFK	.388	.003	.006	.129
	PartnerConcentration	.071	.082	.040	.233
	Seasonality	.021	.166	.001	.204
	Distance	.062	.034	.326	.147
	Language	.000	.364	.407	.000
	Ethnicity	.002	.003	.074	.247
	Urban	.000	.023	.000	.060
N	Flights	122	122	122	122
	HomeConcentration	122	122	122	122
	Congestion	122	122	122	122
	GLHR	122	122	122	122

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	-.026	.133	-.184	-.140
	HomeConcentration	-.247	.127	-.089	.165
	Congestion	.228	.159	-.268	.041
	GLHR	-.103	-.067	-.076	-.096
	GJFK	1.000	-.268	-.033	-.078
	PartnerConcentration	-.268	1.000	-.204	.265
	Seasonality	-.033	-.204	1.000	-.217
	Distance	-.078	.265	-.217	1.000
	Language	-.119	-.171	.098	-.264
	Ethnicity	.046	.116	.028	-.152
	Urban	.155	.109	-.445	.104
Sig. (1-tailed)	Flights	.388	.071	.021	.062
	HomeConcentration	.003	.082	.166	.034
	Congestion	.006	.040	.001	.326
	GLHR	.129	.233	.204	.147
	GJFK	.	.001	.358	.196
	PartnerConcentration	.001	.	.012	.002
	Seasonality	.358	.012	.	.008
	Distance	.196	.002	.008	.
	Language	.095	.030	.142	.002
	Ethnicity	.309	.101	.380	.047
	Urban	.045	.116	.000	.128
N	Flights	122	122	122	122
	HomeConcentration	122	122	122	122
	Congestion	122	122	122	122
	GLHR	122	122	122	122

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.300	.262	.392
	HomeConcentration	-.032	.250	.181
	Congestion	.022	.131	.618
	GLHR	.481	.063	.142
	GJFK	-.119	.046	.155
	PartnerConcentration	-.171	.116	.109
	Seasonality	.098	.028	-.445
	Distance	-.264	-.152	.104
	Language	1.000	.305	-.077
	Ethnicity	.305	1.000	-.006
	Urban	-.077	-.006	1.000
Sig. (1-tailed)	Flights	<.001	.002	<.001
	HomeConcentration	.364	.003	.023
	Congestion	.407	.074	.000
	GLHR	.000	.247	.060
	GJFK	.095	.309	.045
	PartnerConcentration	.030	.101	.116
	Seasonality	.142	.380	.000
	Distance	.002	.047	.128
	Language	.	.000	.200
	Ethnicity	.000	.	.476
	Urban	.200	.476	.
N	Flights	122	122	122
	HomeConcentration	122	122	122
	Congestion	122	122	122
	GLHR	122	122	122

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	GJFK	122	122	122	122
	PartnerConcentration	122	122	122	122
	Seasonality	122	122	122	122
	Distance	122	122	122	122
	Language	122	122	122	122
	Ethnicity	122	122	122	122
	Urban	122	122	122	122

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	GJFK	122	122	122	122
	PartnerConcentration	122	122	122	122
	Seasonality	122	122	122	122
	Distance	122	122	122	122
	Language	122	122	122	122
	Ethnicity	122	122	122	122
	Urban	122	122	122	122

Correlations

		Language	Ethnicity	Urban
	GJFK	122	122	122
	PartnerConcentration	122	122	122
	Seasonality	122	122	122
	Distance	122	122	122
	Language	122	122	122
	Ethnicity	122	122	122
	Urban	122	122	122

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, GLHR, PartnerConcentration, Distance, GJFK, Seasonality, HomeConcentration, Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.669[a]	.447	.397	3.642	.447	8.973

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	10	111	<.001

a. Predictors: (Constant), Urban, Ethnicity, GLHR, PartnerConcentration, Distance, GJFK, Seasonality, HomeConcentration, La
Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1190.164	10	119.016	8.973	<.001[b]
	Residual	1472.328	111	13.264		
	Total	2662.492	121			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, GLHR, PartnerConcentration, Distance, GJFK, Seasonality, HomeConcentration, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.126	3.518		1.741	.084
	HomeConcentration	.749	.229	.275	3.269	.001
	Congestion	-.857	.457	-.177	-1.875	.063
	GLHR	5.361	1.324	.354	4.049	<.001
	GJFK	1.856	1.433	.109	1.295	.198
	PartnerConcentration	.436	.185	.193	2.359	.020
	Seasonality	-.548	2.018	-.022	-.272	.786
	Distance	-1.203	.523	-.179	-2.298	.023
	Language	.292	.185	.143	1.574	.118
	Ethnicity	.504	.417	.099	1.210	.229
	Urban	.449	.118	.384	3.795	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.702	1.424
	Congestion	.560	1.786
	GLHR	.651	1.535
	GJFK	.704	1.420
	PartnerConcentration	.742	1.348
	Seasonality	.756	1.322
	Distance	.818	1.222
	Language	.608	1.645
	Ethnicity	.746	1.340
	Urban	.486	2.057

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.035	1.000	.00	.00	.00
	2	1.320	2.309	.00	.00	.00
	3	1.008	2.642	.00	.00	.00
	4	.593	3.444	.00	.01	.00
	5	.457	3.923	.00	.02	.00
	6	.296	4.875	.00	.03	.00
	7	.155	6.728	.00	.60	.00
	8	.081	9.336	.00	.31	.04
	9	.031	14.947	.01	.01	.08
	10	.016	20.972	.00	.01	.83
	11	.007	32.503	.99	.01	.05

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.20	.04	.01	.00	.00	.16
	3	.01	.49	.07	.00	.00	.01
	4	.31	.00	.01	.00	.00	.14
	5	.09	.09	.40	.01	.00	.04
	6	.22	.07	.33	.00	.00	.57
	7	.02	.10	.01	.11	.00	.03
	8	.13	.18	.11	.25	.00	.01
	9	.00	.01	.03	.22	.43	.01
	10	.02	.01	.02	.04	.00	.02
	11	.00	.00	.01	.37	.56	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.00	.00
	3	.00	.00
	4	.29	.00
	5	.19	.00
	6	.32	.00
	7	.11	.00
	8	.05	.10
	9	.02	.09
	10	.01	.71
	11	.01	.09

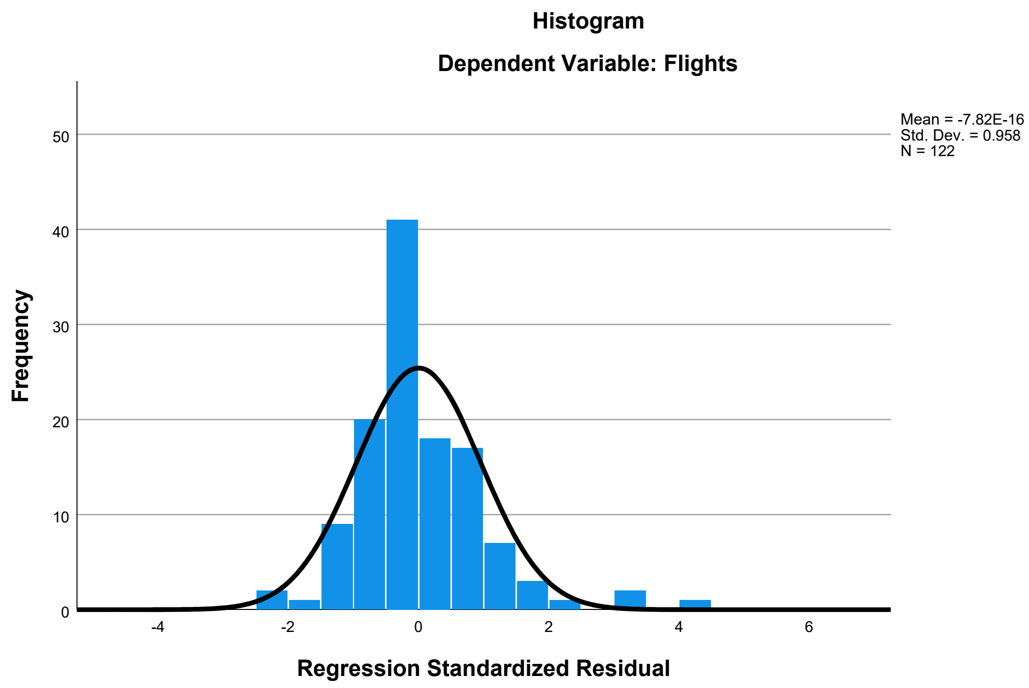
a. Dependent Variable: Flights

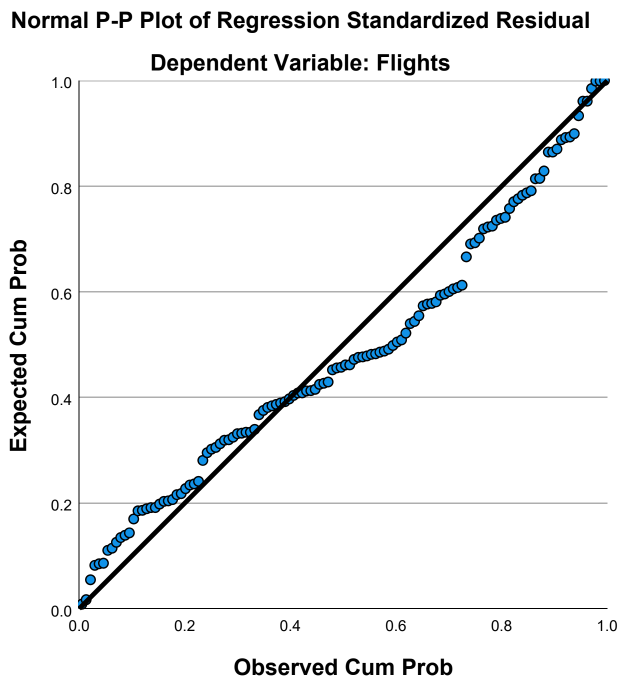
Residuals Statistics[a]

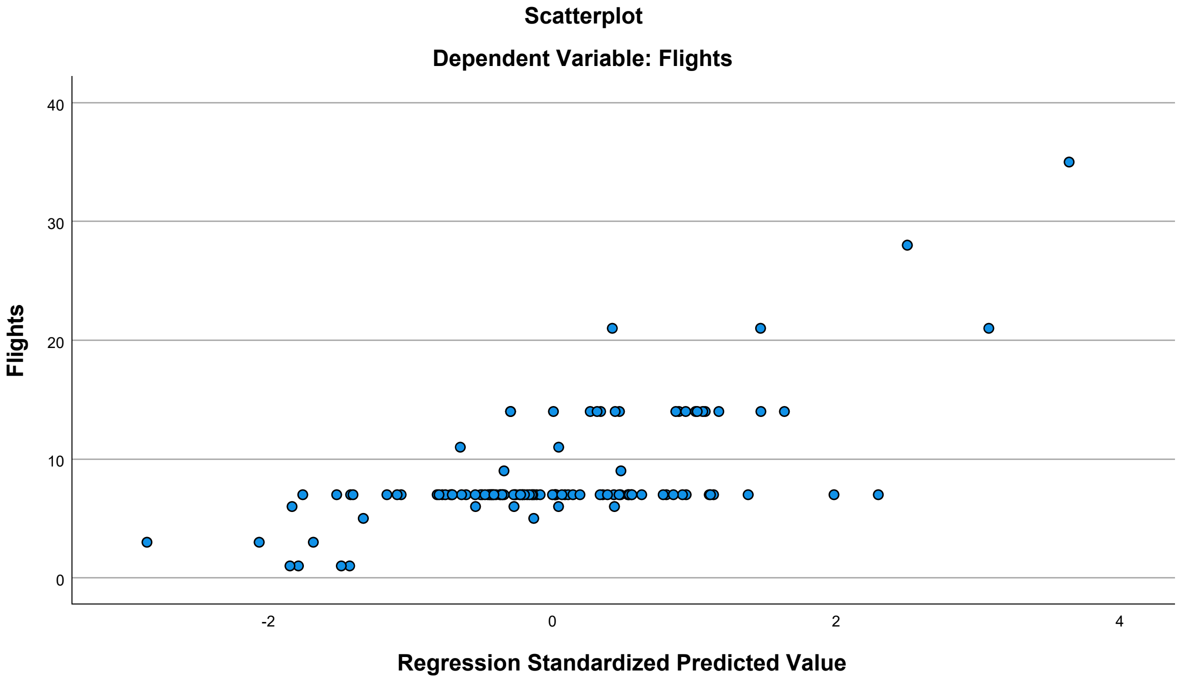
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.46	19.93	8.51	3.136	122
Residual	-8.712	15.070	.000	3.488	122
Std. Predicted Value	-2.858	3.642	.000	1.000	122
Std. Residual	-2.392	4.138	.000	.958	122

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -7.82E-16
Std. Dev. = 0.958
N = 122
Frequency
Regression Standardized Residual
50
40
30
20
10
0
-4
-2
0
2
4
6


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet5] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Alliances
\2012 Star.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.28	4.385	179
HomeConcentration	3.8763480112	1.8501739100	179
Congestion	4.83	1.008	179
GLHR	.09	.286	179
GJFK	.06	.241	179
PartnerConcentration	1.8692722905	2.1770264250	179
Seasonality	.62845885754	.20590169770	179
Distance	4.29992	.904097	179
Language	.98347914	2.184726117	179
Ethnicity	.53348541	.680761507	179
Urban	18.42	2.537	179

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.168	.069	.378
	HomeConcentration	.168	1.000	.040	-.191
	Congestion	.069	.040	1.000	-.026
	GLHR	.378	-.191	-.026	1.000
	GJFK	.074	-.220	.205	-.080
	PartnerConcentration	.034	-.212	.018	-.101
	Seasonality	-.074	.037	-.070	-.063
	Distance	-.082	.067	-.108	-.098
	Language	.334	-.018	-.001	.500
	Ethnicity	.236	.046	.116	.158
	Urban	.291	.063	.566	.071
Sig. (1-tailed)	Flights	.	.012	.178	<.001
	HomeConcentration	.012	.	.298	.005
	Congestion	.178	.298	.	.366
	GLHR	.000	.005	.366	.
	GJFK	.163	.002	.003	.143
	PartnerConcentration	.324	.002	.407	.089
	Seasonality	.163	.309	.176	.201
	Distance	.137	.186	.076	.096
	Language	.000	.404	.493	.000
	Ethnicity	.001	.272	.060	.017
	Urban	.000	.203	.000	.172
N	Flights	179	179	179	179
	HomeConcentration	179	179	179	179

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.074	.034	-.074	-.082
	HomeConcentration	-.220	-.212	.037	.067
	Congestion	.205	.018	-.070	-.108
	GLHR	-.080	-.101	-.063	-.098
	GJFK	1.000	-.220	-.074	.076
	PartnerConcentration	-.220	1.000	-.028	.019
	Seasonality	-.074	-.028	1.000	-.104
	Distance	.076	.019	-.104	1.000
	Language	-.107	-.264	.040	-.301
	Ethnicity	.063	.176	-.031	-.169
	Urban	.260	.040	-.309	.097
Sig. (1-tailed)	Flights	.163	.324	.163	.137
	HomeConcentration	.002	.002	.309	.186
	Congestion	.003	.407	.176	.076
	GLHR	.143	.089	.201	.096
	GJFK	.	.002	.163	.157
	PartnerConcentration	.002	.	.353	.402
	Seasonality	.163	.353	.	.084
	Distance	.157	.402	.084	.
	Language	.077	.000	.299	.000
	Ethnicity	.200	.009	.342	.012
	Urban	.000	.298	.000	.097
N	Flights	179	179	179	179
	HomeConcentration	179	179	179	179

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.334	.236	.291
	HomeConcentration	-.018	.046	.063
	Congestion	-.001	.116	.566
	GLHR	.500	.158	.071
	GJFK	-.107	.063	.260
	PartnerConcentration	-.264	.176	.040
	Seasonality	.040	-.031	-.309
	Distance	-.301	-.169	.097
	Language	1.000	.273	-.031
	Ethnicity	.273	1.000	.091
	Urban	-.031	.091	1.000
Sig. (1-tailed)	Flights	<.001	<.001	<.001
	HomeConcentration	.404	.272	.203
	Congestion	.493	.060	.000
	GLHR	.000	.017	.172
	GJFK	.077	.200	.000
	PartnerConcentration	.000	.009	.298
	Seasonality	.299	.342	.000
	Distance	.000	.012	.097
	Language	.	.000	.339
	Ethnicity	.000	.	.112
	Urban	.339	.112	.
N	Flights	179	179	179
	HomeConcentration	179	179	179

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	179	179	179	179
	GLHR	179	179	179	179
	GJFK	179	179	179	179
	PartnerConcentration	179	179	179	179
	Seasonality	179	179	179	179
	Distance	179	179	179	179
	Language	179	179	179	179
	Ethnicity	179	179	179	179
	Urban	179	179	179	179

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	179	179	179	179
	GLHR	179	179	179	179
	GJFK	179	179	179	179
	PartnerConcentration	179	179	179	179
	Seasonality	179	179	179	179
	Distance	179	179	179	179
	Language	179	179	179	179
	Ethnicity	179	179	179	179
	Urban	179	179	179	179

Correlations

		Language	Ethnicity	Urban
	Congestion	179	179	179
	GLHR	179	179	179
	GJFK	179	179	179
	PartnerConcentration	179	179	179
	Seasonality	179	179	179
	Distance	179	179	179
	Language	179	179	179
	Ethnicity	179	179	179
	Urban	179	179	179

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, HomeConcentration, Ethnicity, Seasonality, Distance, GJFK, GLHR, PartnerConcentration, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.604[a]	.365	.327	3.598	.365	9.641

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	168	<.001

a. Predictors: (Constant), Urban, Language, HomeConcentration, Ethnicity, Seasonality, Distance, GJFK, GLHR, PartnerConcer Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1247.919	10	124.792	9.641	<.001[b]
	Residual	2174.551	168	12.944		
	Total	3422.469	178			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, HomeConcentration, Ethnicity, Seasonality, Distance, GJFK, GLHR, PartnerConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-1.853	2.890		-.641	.522
	HomeConcentration	.756	.168	.319	4.496	<.001
	Congestion	-.662	.337	-.152	-1.966	.051
	GLHR	4.955	1.142	.323	4.339	<.001
	GJFK	3.770	1.335	.207	2.825	.005
	PartnerConcentration	.467	.150	.232	3.107	.002
	Seasonality	.426	1.397	.020	.305	.761
	Distance	-.268	.325	-.055	-.826	.410
	Language	.491	.162	.245	3.028	.003
	Ethnicity	.206	.446	.032	.461	.645
	Urban	.497	.143	.287	3.461	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.752	1.330
	Congestion	.631	1.584
	GLHR	.681	1.468
	GJFK	.704	1.421
	PartnerConcentration	.678	1.474
	Seasonality	.879	1.137
	Distance	.845	1.184
	Language	.579	1.726
	Ethnicity	.788	1.269
	Urban	.549	1.822

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.916	1.000	.00	.00	.00
	2	1.374	2.244	.00	.00	.00
	3	1.004	2.625	.00	.00	.00
	4	.623	3.331	.00	.02	.00
	5	.527	3.622	.00	.01	.00
	6	.300	4.805	.00	.04	.00
	7	.113	7.833	.00	.55	.00
	8	.081	9.225	.00	.36	.04
	9	.044	12.530	.00	.00	.24
	10	.012	23.770	.18	.01	.65
	11	.006	34.770	.82	.00	.07

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.20	.02	.01	.00	.00	.14
	3	.00	.55	.05	.00	.00	.00
	4	.01	.03	.20	.00	.00	.01
	5	.50	.02	.07	.00	.00	.16
	6	.18	.06	.32	.00	.00	.56
	7	.01	.10	.18	.33	.00	.04
	8	.07	.18	.14	.39	.04	.00
	9	.01	.01	.00	.00	.45	.04
	10	.01	.00	.02	.01	.44	.03
	11	.01	.03	.00	.26	.06	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.01	.00
	3	.00	.00
	4	.36	.00
	5	.22	.00
	6	.31	.00
	7	.07	.00
	8	.02	.01
	9	.01	.01
	10	.00	.24
	11	.00	.74

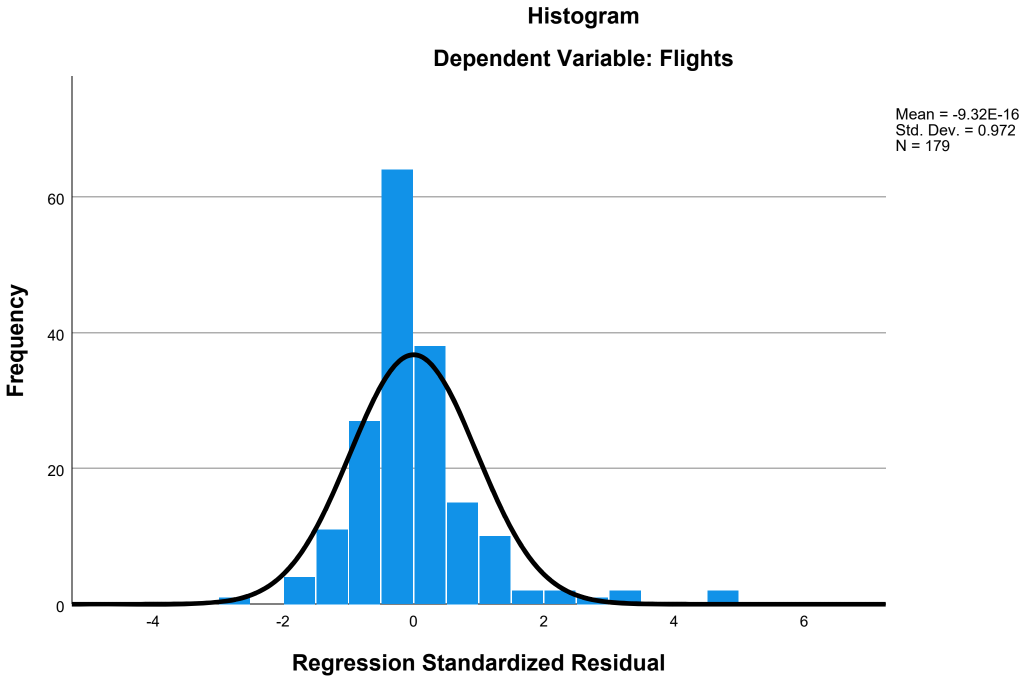
a. Dependent Variable: Flights

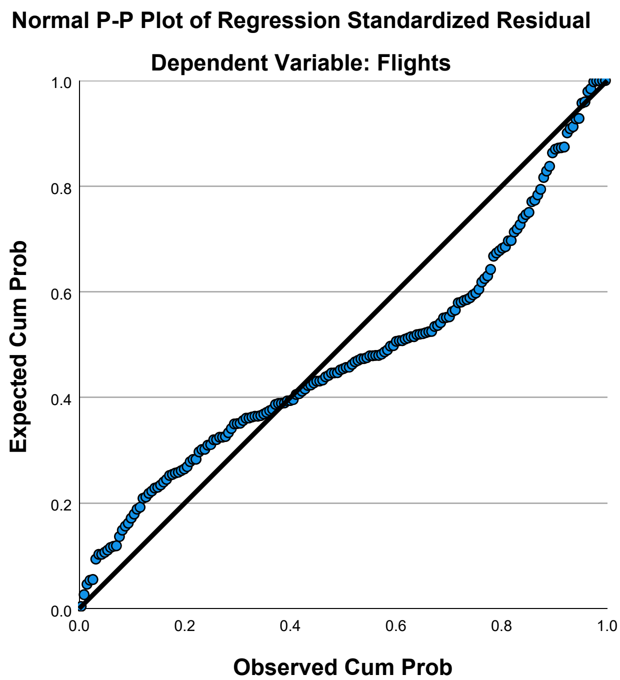
Residuals Statistics[a]

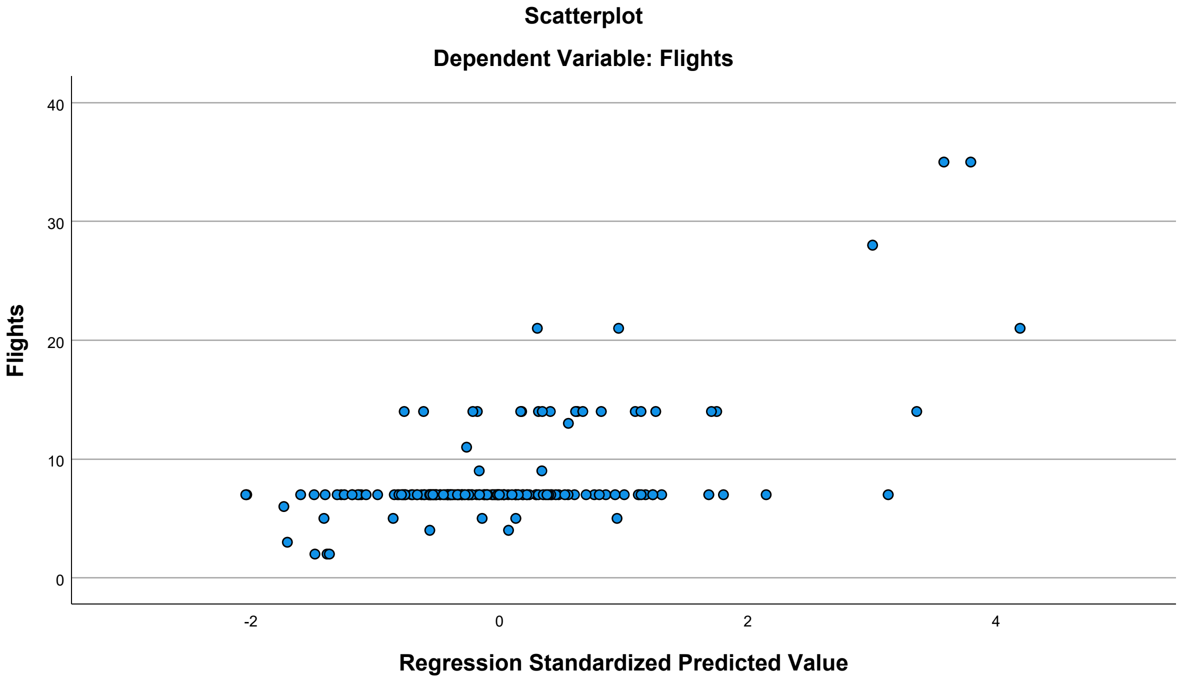
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.88	19.38	8.28	2.648	179
Residual	-9.573	17.239	.000	3.495	179
Std. Predicted Value	-2.043	4.192	.000	1.000	179
Std. Residual	-2.661	4.792	.000	.972	179

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -9.32E-16
Std. Dev. = 0.972
N = 179
Frequency
0
20
40
60
-4
-2
0
2
4
6
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet6] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Alliances
\2017 Star.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.49	4.111	217
HomeConcentration	3.3415015115	1.7560688732	217
Congestion	4.85	.826	217
GLHR	.07	.254	217
GJFK	.06	.238	217
PartnerConcentration	1.5975086820	1.9858118404	217
Seasonality	.70415018992	.21889297077	217
Distance	4.44371	1.058614	217
Language	1.17582114	2.588781656	217
Ethnicity	.53886346544	.67793431768	217
Urban	18.07	3.105	217

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.219	.076	.384
	HomeConcentration	.219	1.000	-.030	-.173
	Congestion	.076	-.030	1.000	-.017
	GLHR	.384	-.173	-.017	1.000
	GJFK	.112	-.110	.304	-.069
	PartnerConcentration	-.048	-.104	-.013	-.163
	Seasonality	-.188	-.114	.102	-.217
	Distance	-.095	.134	.015	-.115
	Language	.189	-.157	-.028	.356
	Ethnicity	.124	.045	.181	.118
	Urban	.367	.117	.403	.123
Sig. (1-tailed)	Flights	.	<.001	.133	<.001
	HomeConcentration	.001	.	.328	.005
	Congestion	.133	.328	.	.400
	GLHR	.000	.005	.400	.
	GJFK	.050	.054	.000	.157
	PartnerConcentration	.242	.064	.427	.008
	Seasonality	.003	.047	.067	.001
	Distance	.081	.025	.415	.046
	Language	.003	.010	.340	.000
	Ethnicity	.034	.257	.004	.042
	Urban	.000	.043	.000	.036
N	Flights	217	217	217	217
	HomeConcentration	217	217	217	217

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.112	-.048	-.188	-.095
	HomeConcentration	-.110	-.104	-.114	.134
	Congestion	.304	-.013	.102	.015
	GLHR	-.069	-.163	-.217	-.115
	GJFK	1.000	-.204	-.093	.057
	PartnerConcentration	-.204	1.000	-.108	.142
	Seasonality	-.093	-.108	1.000	-.166
	Distance	.057	.142	-.166	1.000
	Language	-.108	-.236	.030	-.312
	Ethnicity	.004	-.024	.116	-.246
	Urban	.251	.092	-.218	.179
Sig. (1-tailed)	Flights	.050	.242	.003	.081
	HomeConcentration	.054	.064	.047	.025
	Congestion	.000	.427	.067	.415
	GLHR	.157	.008	.001	.046
	GJFK	.	.001	.086	.200
	PartnerConcentration	.001	.	.057	.019
	Seasonality	.086	.057	.	.007
	Distance	.200	.019	.007	.
	Language	.056	.000	.330	.000
	Ethnicity	.474	.360	.045	.000
	Urban	.000	.088	.001	.004
N	Flights	217	217	217	217
	HomeConcentration	217	217	217	217

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.189	.124	.367
	HomeConcentration	-.157	.045	.117
	Congestion	-.028	.181	.403
	GLHR	.356	.118	.123
	GJFK	-.108	.004	.251
	PartnerConcentration	-.236	-.024	.092
	Seasonality	.030	.116	-.218
	Distance	-.312	-.246	.179
	Language	1.000	.486	-.087
	Ethnicity	.486	1.000	-.079
	Urban	-.087	-.079	1.000
Sig. (1-tailed)	Flights	.003	.034	<.001
	HomeConcentration	.010	.257	.043
	Congestion	.340	.004	.000
	GLHR	.000	.042	.036
	GJFK	.056	.474	.000
	PartnerConcentration	.000	.360	.088
	Seasonality	.330	.045	.001
	Distance	.000	.000	.004
	Language	.	.000	.101
	Ethnicity	.000	.	.123
	Urban	.101	.123	.
N	Flights	217	217	217
	HomeConcentration	217	217	217

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	217	217	217	217
	GLHR	217	217	217	217
	GJFK	217	217	217	217
	PartnerConcentration	217	217	217	217
	Seasonality	217	217	217	217
	Distance	217	217	217	217
	Language	217	217	217	217
	Ethnicity	217	217	217	217
	Urban	217	217	217	217

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	217	217	217	217
	GLHR	217	217	217	217
	GJFK	217	217	217	217
	PartnerConcentration	217	217	217	217
	Seasonality	217	217	217	217
	Distance	217	217	217	217
	Language	217	217	217	217
	Ethnicity	217	217	217	217
	Urban	217	217	217	217

Correlations

		Language	Ethnicity	Urban
	Congestion	217	217	217
	GLHR	217	217	217
	GJFK	217	217	217
	PartnerConcentration	217	217	217
	Seasonality	217	217	217
	Distance	217	217	217
	Language	217	217	217
	Ethnicity	217	217	217
	Urban	217	217	217

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, PartnerConcentration, HomeConcentration, Seasonality, Distance, GJFK, GLHR, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.603[a]	.363	.332	3.359	.363	11.754

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	206	<.001

a. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, HomeConcentration, Seasonality, Distance, GJFK, GLHR, Co
Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1326.067	10	132.607	11.754	<.001[b]
	Residual	2324.154	206	11.282		
	Total	3650.221	216			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, HomeConcentration, Seasonality, Distance, GJFK, GLHR, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.713	2.189		.326	.745
	HomeConcentration	.716	.147	.306	4.883	<.001
	Congestion	-.372	.330	-.075	-1.127	.261
	GLHR	5.872	1.045	.363	5.621	<.001
	GJFK	2.704	1.116	.156	2.424	.016
	PartnerConcentration	.194	.133	.094	1.460	.146
	Seasonality	-.048	1.166	-.003	-.042	.967
	Distance	-.496	.235	-.128	-2.110	.036
	Language	.197	.117	.124	1.684	.094
	Ethnicity	.095	.419	.016	.227	.821
	Urban	.402	.089	.304	4.497	<.001

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.787	1.270
	Congestion	.705	1.418
	GLHR	.740	1.351
	GJFK	.742	1.348
	PartnerConcentration	.752	1.330
	Seasonality	.802	1.247
	Distance	.843	1.186
	Language	.572	1.748
	Ethnicity	.646	1.547
	Urban	.678	1.474

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Congestion
1	1	6.829	1.000	.00	.00	.00
	2	1.365	2.237	.00	.00	.00
	3	1.004	2.608	.00	.00	.00
	4	.709	3.104	.00	.00	.00
	5	.495	3.716	.00	.04	.00
	6	.314	4.662	.00	.04	.00
	7	.165	6.440	.00	.59	.00
	8	.062	10.478	.00	.25	.01
	9	.036	13.835	.00	.02	.13
	10	.014	22.354	.00	.03	.73
	11	.009	27.973	.99	.02	.13

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.18	.02	.02	.00	.00	.14
	3	.00	.58	.07	.00	.00	.00
	4	.53	.00	.00	.00	.00	.10
	5	.03	.12	.57	.00	.00	.00
	6	.09	.02	.05	.00	.00	.56
	7	.00	.05	.09	.12	.00	.13
	8	.10	.11	.15	.51	.24	.00
	9	.04	.08	.02	.14	.57	.02
	10	.02	.00	.02	.04	.01	.01
	11	.00	.02	.00	.19	.18	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.03	.00
	3	.00	.00
	4	.15	.00
	5	.07	.00
	6	.57	.00
	7	.04	.00
	8	.07	.02
	9	.01	.12
	10	.06	.68
	11	.00	.19

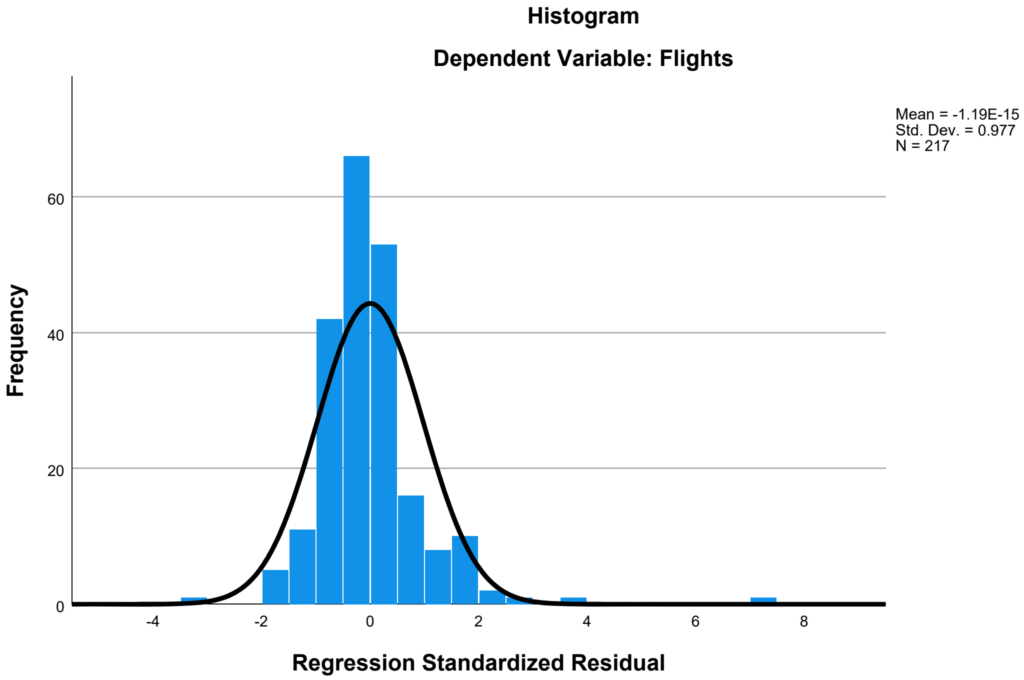
a. Dependent Variable: Flights

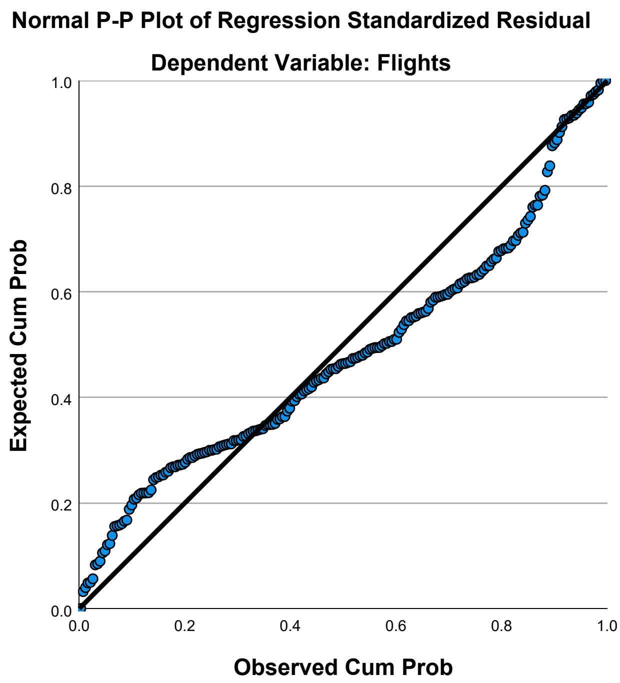
Residuals Statistics[a]

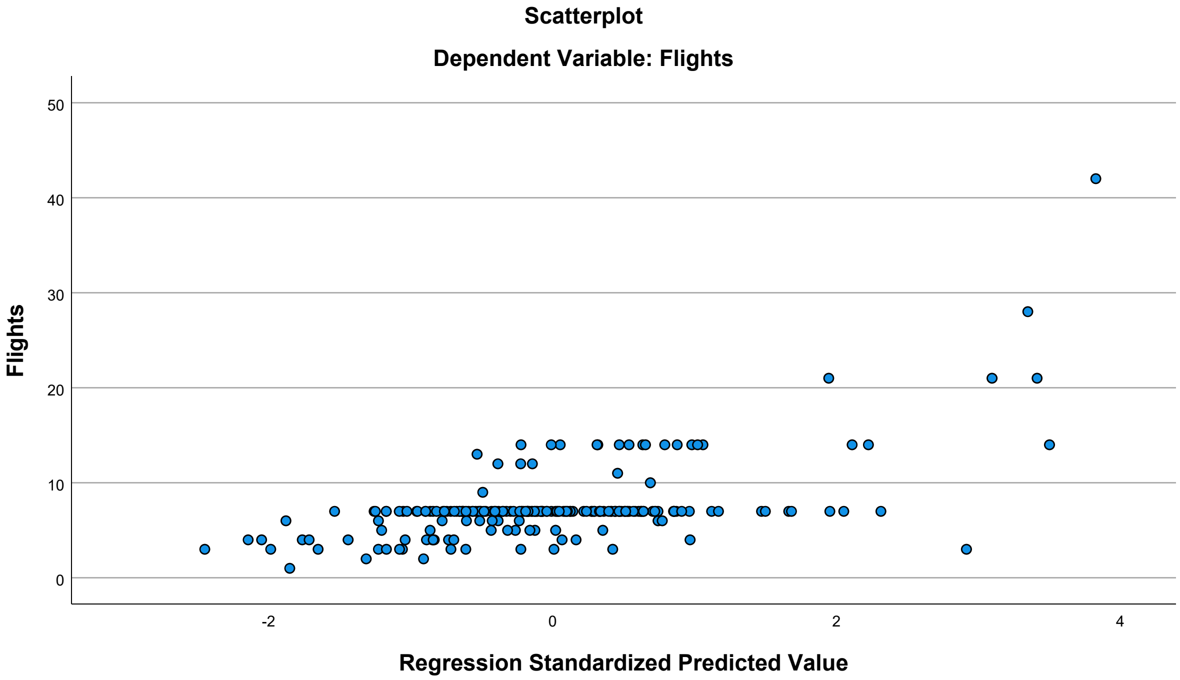
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.42	16.97	7.49	2.478	217
Residual	-11.712	25.029	.000	3.280	217
Std. Predicted Value	-2.451	3.827	.000	1.000	217
Std. Residual	-3.487	7.452	.000	.977	217

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -1.19E-15
Std. Dev. = 0.977
N = 217
Frequency
0
20
40
60
-4
-2
0
2
4
6
8
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
50
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet7] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Alliances
\2002 Oneworld.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.53	8.327	58
HomeConcentration	3.6006146552	2.4502691824	58
Congestion	4.57	.840	58
GLHR	.36	.485	58
GJFK	.16	.365	58
PartnerConcentration	1.6365996897	2.0361765875	58
Seasonality	.55252776297	.13088099956	58
Distance	4.14862	.686926	58
Language	4.27701852	4.028052677	58
Ethnicity	.65388131	.652156500	58
Urban	18.28	3.631	58

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.026	.269	.477
	HomeConcentration	.026	1.000	-.048	-.089
	Congestion	.269	-.048	1.000	.131
	GLHR	.477	-.089	.131	1.000
	GJFK	.318	-.317	.565	-.125
	PartnerConcentration	.164	-.227	-.034	.104
	Seasonality	-.005	.228	.045	-.194
	Distance	-.276	.297	-.094	-.153
	Language	.439	-.203	.078	.301
	Ethnicity	.164	-.153	.069	.114
	Urban	.426	-.022	.517	.460
Sig. (1-tailed)	Flights	.	.422	.020	<.001
	HomeConcentration	.422	.	.361	.254
	Congestion	.020	.361	.	.163
	GLHR	.000	.254	.163	.
	GJFK	.007	.008	.000	.175
	PartnerConcentration	.110	.043	.401	.219
	Seasonality	.484	.043	.368	.073
	Distance	.018	.012	.242	.126
	Language	.000	.063	.280	.011
	Ethnicity	.110	.126	.304	.197
	Urban	.000	.434	.000	.000
N	Flights	58	58	58	58
	HomeConcentration	58	58	58	58

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.318	.164	-.005	-.276
	HomeConcentration	-.317	-.227	.228	.297
	Congestion	.565	-.034	.045	-.094
	GLHR	-.125	.104	-.194	-.153
	GJFK	1.000	-.024	-.058	-.393
	PartnerConcentration	-.024	1.000	-.154	-.036
	Seasonality	-.058	-.154	1.000	-.066
	Distance	-.393	-.036	-.066	1.000
	Language	.307	.208	.075	-.433
	Ethnicity	.225	.012	-.062	-.360
	Urban	.205	.268	-.300	.021
Sig. (1-tailed)	Flights	.007	.110	.484	.018
	HomeConcentration	.008	.043	.043	.012
	Congestion	.000	.401	.368	.242
	GLHR	.175	.219	.073	.126
	GJFK	.	.430	.334	.001
	PartnerConcentration	.430	.	.125	.394
	Seasonality	.334	.125	.	.312
	Distance	.001	.394	.312	.
	Language	.010	.059	.288	.000
	Ethnicity	.044	.464	.322	.003
	Urban	.061	.021	.011	.437
N	Flights	58	58	58	58
	HomeConcentration	58	58	58	58

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.439	.164	.426
	HomeConcentration	-.203	-.153	-.022
	Congestion	.078	.069	.517
	GLHR	.301	.114	.460
	GJFK	.307	.225	.205
	PartnerConcentration	.208	.012	.268
	Seasonality	.075	-.062	-.300
	Distance	-.433	-.360	.021
	Language	1.000	.600	.041
	Ethnicity	.600	1.000	.009
	Urban	.041	.009	1.000
Sig. (1-tailed)	Flights	<.001	.110	<.001
	HomeConcentration	.063	.126	.434
	Congestion	.280	.304	.000
	GLHR	.011	.197	.000
	GJFK	.010	.044	.061
	PartnerConcentration	.059	.464	.021
	Seasonality	.288	.322	.011
	Distance	.000	.003	.437
	Language	.	.000	.379
	Ethnicity	.000	.	.473
	Urban	.379	.473	.
N	Flights	58	58	58
	HomeConcentration	58	58	58

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	58	58	58	58
	GLHR	58	58	58	58
	GJFK	58	58	58	58
	PartnerConcentration	58	58	58	58
	Seasonality	58	58	58	58
	Distance	58	58	58	58
	Language	58	58	58	58
	Ethnicity	58	58	58	58
	Urban	58	58	58	58

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	58	58	58	58
	GLHR	58	58	58	58
	GJFK	58	58	58	58
	PartnerConcentration	58	58	58	58
	Seasonality	58	58	58	58
	Distance	58	58	58	58
	Language	58	58	58	58
	Ethnicity	58	58	58	58
	Urban	58	58	58	58

Correlations

		Language	Ethnicity	Urban
	Congestion	58	58	58
	GLHR	58	58	58
	GJFK	58	58	58
	PartnerConcentration	58	58	58
	Seasonality	58	58	58
	Distance	58	58	58
	Language	58	58	58
	Ethnicity	58	58	58
	Urban	58	58	58

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, HomeConcentration, PartnerConcentration, Seasonality, GJFK, Distance, GLHR, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.715[a]	.511	.407	6.414	.511	4.908

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	47	<.001

a. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, PartnerConcentration, Seasonality, GJFK, Distance, GLHR, Co Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2019.087	10	201.909	4.908	<.001[b]
	Residual	1933.344	47	41.135		
	Total	3952.431	57			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, PartnerConcentration, Seasonality, GJFK, Distance, GLHR, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-2.329	9.632		-.242	.810
	HomeConcentration	.803	.404	.236	1.988	.053
	Congestion	-1.437	1.534	-.145	-.937	.354
	GLHR	6.704	2.438	.390	2.749	.008
	GJFK	9.124	3.747	.400	2.435	.019
	PartnerConcentration	.316	.485	.077	.651	.518
	Seasonality	6.501	7.628	.102	.852	.398
	Distance	-.759	1.533	-.063	-.495	.623
	Language	.528	.325	.255	1.627	.111
	Ethnicity	-1.244	1.709	-.097	-.728	.470
	Urban	.563	.356	.245	1.581	.121

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.737	1.357
	Congestion	.435	2.301
	GLHR	.516	1.936
	GJFK	.385	2.595
	PartnerConcentration	.739	1.354
	Seasonality	.724	1.381
	Distance	.650	1.537
	Language	.422	2.369
	Ethnicity	.581	1.721
	Urban	.431	2.318

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Congestion
1	1	7.770	1.000	.00	.00	.00
	2	1.025	2.753	.00	.03	.00
	3	.752	3.215	.00	.03	.00
	4	.584	3.649	.00	.01	.00
	5	.453	4.142	.00	.00	.00
	6	.189	6.407	.00	.43	.00
	7	.153	7.127	.00	.45	.00
	8	.041	13.807	.00	.00	.00
	9	.018	20.976	.01	.01	.15
	10	.010	27.728	.01	.00	.85
	11	.006	36.601	.97	.03	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.00	.20	.00	.00	.00	.02
	3	.18	.04	.08	.00	.00	.03
	4	.07	.00	.55	.00	.00	.01
	5	.24	.12	.01	.00	.00	.04
	6	.00	.02	.01	.00	.00	.34
	7	.06	.09	.15	.03	.00	.29
	8	.14	.03	.09	.60	.06	.22
	9	.29	.38	.04	.00	.42	.03
	10	.01	.11	.05	.10	.01	.00
	11	.00	.00	.00	.26	.50	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.02	.00
	3	.01	.00
	4	.05	.00
	5	.23	.00
	6	.26	.00
	7	.31	.00
	8	.05	.05
	9	.02	.28
	10	.00	.53
	11	.04	.14

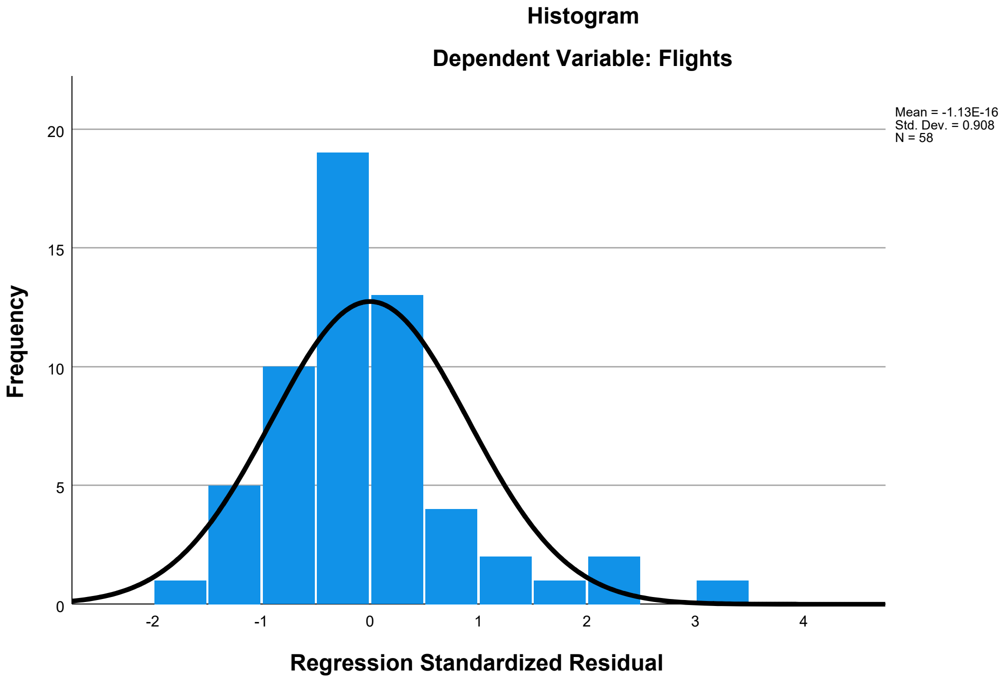
a. Dependent Variable: Flights

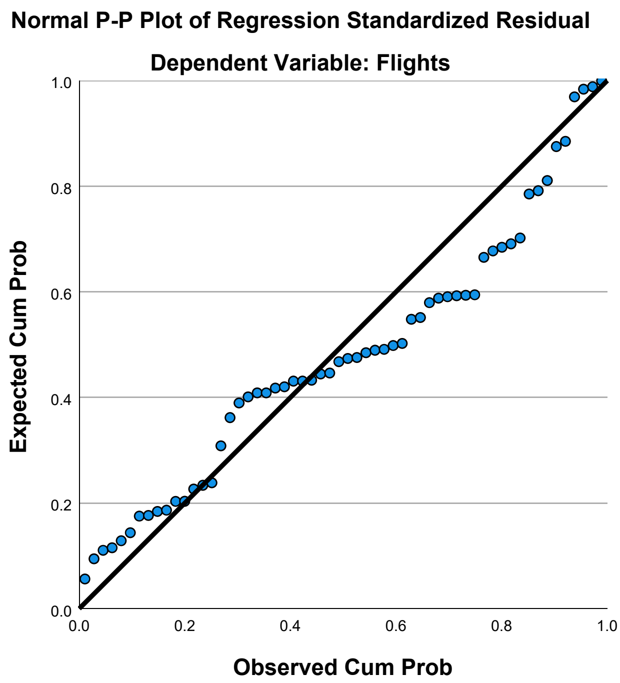
Residuals Statistics[a]

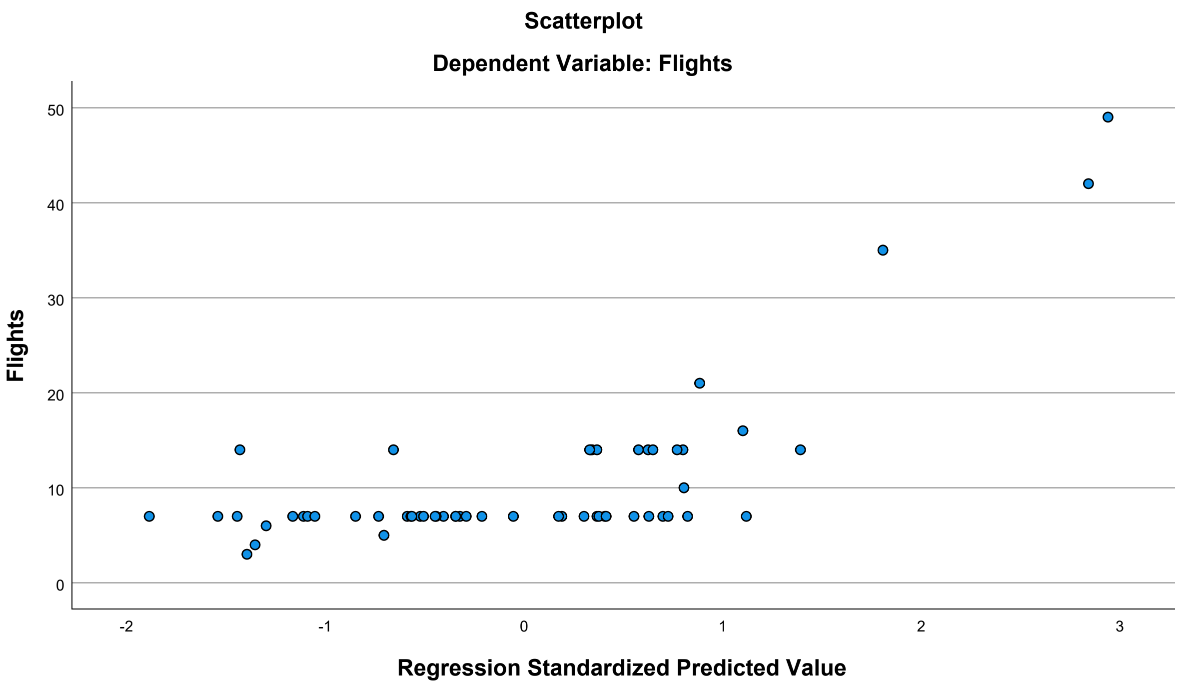
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.70	28.03	10.53	5.952	58
Residual	-10.192	20.969	.000	5.824	58
Std. Predicted Value	-1.887	2.940	.000	1.000	58
Std. Residual	-1.589	3.269	.000	.908	58

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -1.13E-16
Std. Dev. = 0.908
N = 58
Frequency
20
15
10
5
0
-2
-1
0
1
2
3
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
50
40
30
20
10
0
-2
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

```
[DataSet8] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Alliances
\2007 Oneworld.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.63	8.620	64
HomeConcentration	3.7397028750	2.8507091220	64
Congestion	4.78	1.000	64
GLHR	.36	.484	64
GJFK	.17	.380	64
PartnerConcentration	1.2269996250	2.2412550373	64
Seasonality	.60736877547	.18769623140	64
Distance	4.30148	.833221	64
Language	3.10868952	3.724505176	64
Ethnicity	.56090222	.638956146	64
Urban	17.70	3.837	64

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.068	.305	.551
	HomeConcentration	.068	1.000	.048	.034
	Congestion	.305	.048	1.000	.001
	GLHR	.551	.034	.001	1.000
	GJFK	.243	-.357	.435	-.169
	PartnerConcentration	.211	-.145	-.026	.105
	Seasonality	-.290	-.230	-.112	-.342
	Distance	-.254	.130	-.225	-.152
	Language	.628	.013	.185	.492
	Ethnicity	.266	.086	.301	.274
	Urban	.563	.107	.579	.332
Sig. (1-tailed)	Flights	.	.297	.007	<.001
	HomeConcentration	.297	.	.354	.395
	Congestion	.007	.354	.	.497
	GLHR	.000	.395	.497	.
	GJFK	.027	.002	.000	.091
	PartnerConcentration	.047	.126	.418	.204
	Seasonality	.010	.034	.189	.003
	Distance	.021	.153	.037	.115
	Language	.000	.459	.072	.000
	Ethnicity	.017	.249	.008	.014
	Urban	.000	.201	.000	.004
N	Flights	64	64	64	64
	HomeConcentration	64	64	64	64

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.243	.211	-.290	-.254
	HomeConcentration	-.357	-.145	-.230	.130
	Congestion	.435	-.026	-.112	-.225
	GLHR	-.169	.105	-.342	-.152
	GJFK	1.000	-.072	-.085	-.192
	PartnerConcentration	-.072	1.000	-.208	.079
	Seasonality	-.085	-.208	1.000	-.016
	Distance	-.192	.079	-.016	1.000
	Language	.056	.137	-.232	-.371
	Ethnicity	.038	-.131	.048	-.270
	Urban	.318	.205	-.352	-.271
Sig. (1-tailed)	Flights	.027	.047	.010	.021
	HomeConcentration	.002	.126	.034	.153
	Congestion	.000	.418	.189	.037
	GLHR	.091	.204	.003	.115
	GJFK	.	.287	.253	.064
	PartnerConcentration	.287	.	.049	.267
	Seasonality	.253	.049	.	.449
	Distance	.064	.267	.449	.
	Language	.330	.140	.033	.001
	Ethnicity	.384	.151	.354	.015
	Urban	.005	.052	.002	.015
N	Flights	64	64	64	64
	HomeConcentration	64	64	64	64

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.628	.266	.563
	HomeConcentration	.013	.086	.107
	Congestion	.185	.301	.579
	GLHR	.492	.274	.332
	GJFK	.056	.038	.318
	PartnerConcentration	.137	-.131	.205
	Seasonality	-.232	.048	-.352
	Distance	-.371	-.270	-.271
	Language	1.000	.516	.181
	Ethnicity	.516	1.000	.150
	Urban	.181	.150	1.000
Sig. (1-tailed)	Flights	<.001	.017	<.001
	HomeConcentration	.459	.249	.201
	Congestion	.072	.008	.000
	GLHR	.000	.014	.004
	GJFK	.330	.384	.005
	PartnerConcentration	.140	.151	.052
	Seasonality	.033	.354	.002
	Distance	.001	.015	.015
	Language	.	.000	.077
	Ethnicity	.000	.	.119
	Urban	.077	.119	.
N	Flights	64	64	64
	HomeConcentration	64	64	64

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	64	64	64	64
	GLHR	64	64	64	64
	GJFK	64	64	64	64
	PartnerConcentration	64	64	64	64
	Seasonality	64	64	64	64
	Distance	64	64	64	64
	Language	64	64	64	64
	Ethnicity	64	64	64	64
	Urban	64	64	64	64

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	64	64	64	64
	GLHR	64	64	64	64
	GJFK	64	64	64	64
	PartnerConcentration	64	64	64	64
	Seasonality	64	64	64	64
	Distance	64	64	64	64
	Language	64	64	64	64
	Ethnicity	64	64	64	64
	Urban	64	64	64	64

Correlations

		Language	Ethnicity	Urban
	Congestion	64	64	64
	GLHR	64	64	64
	GJFK	64	64	64
	PartnerConcentration	64	64	64
	Seasonality	64	64	64
	Distance	64	64	64
	Language	64	64	64
	Ethnicity	64	64	64
	Urban	64	64	64

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, Ethnicity, PartnerConcentration, GLHR, Distance, Seasonality, GJFK, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.825[a]	.681	.620	5.311	.681	11.298

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	53	<.001

a. Predictors: (Constant), Urban, HomeConcentration, Ethnicity, PartnerConcentration, GLHR, Distance, Seasonality, GJFK, Co
Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3186.269	10	318.627	11.298	<.001[b]
	Residual	1494.731	53	28.202		
	Total	4681.000	63			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, Ethnicity, PartnerConcentration, GLHR, Distance, Seasonality, GJFK, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-16.288	7.569		-2.152	.036
	HomeConcentration	.450	.294	.149	1.528	.133
	Congestion	-.514	.948	-.060	-.543	.590
	GLHR	5.125	1.942	.288	2.639	.011
	GJFK	5.766	2.407	.254	2.396	.020
	PartnerConcentration	.296	.347	.077	.852	.398
	Seasonality	6.140	4.354	.134	1.410	.164
	Distance	.670	.939	.065	.714	.479
	Language	1.203	.260	.520	4.633	<.001
	Ethnicity	-1.628	1.342	-.121	-1.213	.230
	Urban	.850	.273	.379	3.111	.003

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.635	1.574
	Congestion	.499	2.004
	GLHR	.508	1.970
	GJFK	.534	1.871
	PartnerConcentration	.740	1.352
	Seasonality	.670	1.492
	Distance	.732	1.367
	Language	.478	2.090
	Ethnicity	.609	1.642
	Urban	.407	2.457

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.345	1.000	.00	.00	.00
	2	1.001	2.708	.00	.00	.00
	3	.869	2.906	.00	.02	.00
	4	.807	3.018	.00	.04	.00
	5	.396	4.309	.00	.00	.00
	6	.269	5.222	.00	.47	.00
	7	.206	5.964	.00	.08	.00
	8	.047	12.486	.00	.35	.10
	9	.040	13.485	.00	.02	.04
	10	.013	23.666	.02	.02	.86
	11	.006	35.439	.97	.00	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.08	.23	.02	.00	.00	.03
	3	.03	.11	.08	.00	.00	.07
	4	.00	.05	.48	.00	.00	.01
	5	.40	.03	.10	.00	.00	.03
	6	.03	.08	.00	.04	.00	.11
	7	.10	.07	.11	.02	.00	.60
	8	.18	.39	.12	.51	.00	.00
	9	.00	.03	.01	.17	.42	.01
	10	.17	.00	.05	.00	.00	.02
	11	.01	.01	.02	.25	.58	.13

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.01	.00
	3	.07	.00
	4	.02	.00
	5	.30	.00
	6	.09	.00
	7	.40	.00
	8	.00	.08
	9	.05	.06
	10	.04	.55
	11	.01	.31

a. Dependent Variable: Flights

Residuals Statistics[a]

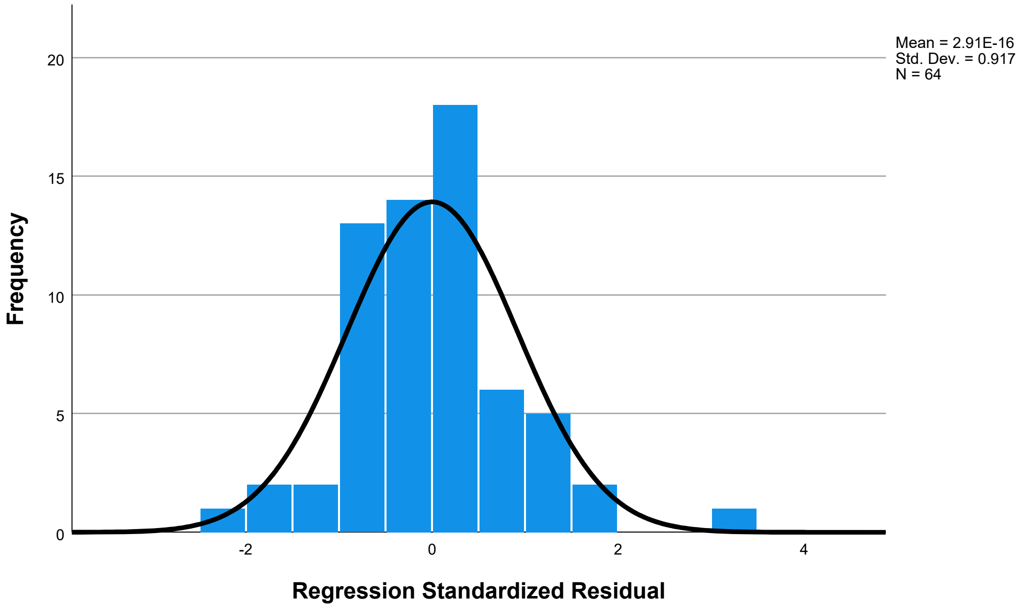
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-1.99	32.91	10.63	7.112	64
Residual	-12.253	18.088	.000	4.871	64
Std. Predicted Value	-1.774	3.134	.000	1.000	64
Std. Residual	-2.307	3.406	.000	.917	64

a. Dependent Variable: Flights

Charts

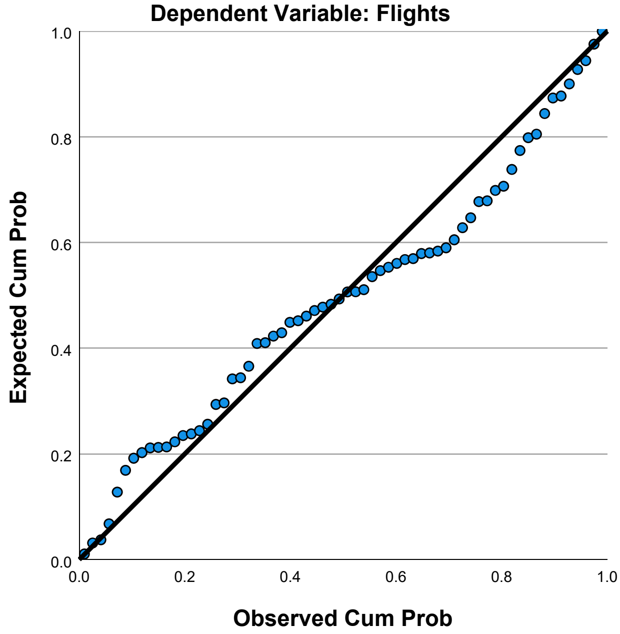
Histogram

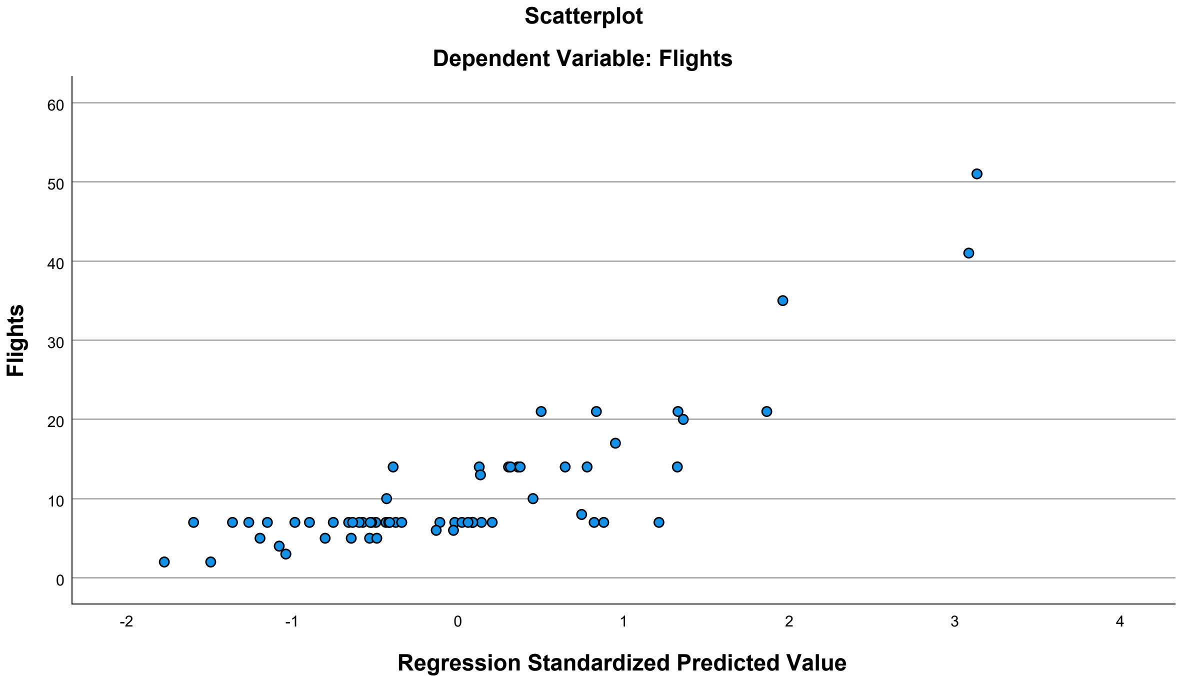
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights




Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
-1
0
1
2
3
4
Regression Standardized Predicted Value

Regression

```
[DataSet9] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Alliances
\2012 Oneworld.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.00	8.456	73
HomeConcentration	3.0900612603	2.4395806881	73
Congestion	4.71	.935	73
GLHR	.40	.493	73
GJFK	.22	.417	73
PartnerConcentration	1.3809013973	2.0012144023	73
Seasonality	.60976739578	.20298343094	73
Distance	4.40888	.792412	73
Language	2.70307166	3.733125708	73
Ethnicity	.58467107	.691356696	73
Urban	18.85	3.117	73

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.226	.209	.523
	HomeConcentration	.226	1.000	-.207	.317
	Congestion	.209	-.207	1.000	-.110
	GLHR	.523	.317	-.110	1.000
	GJFK	.181	-.385	.592	-.295
	PartnerConcentration	.151	.043	-.149	.173
	Seasonality	-.023	-.177	.064	-.298
	Distance	-.375	.090	-.423	-.122
	Language	.601	.090	.115	.523
	Ethnicity	.174	-.121	.359	.104
	Urban	.528	.198	.500	.329
Sig. (1-tailed)	Flights	.	.027	.038	<.001
	HomeConcentration	.027	.	.039	.003
	Congestion	.038	.039	.	.177
	GLHR	.000	.003	.177	.
	GJFK	.062	.000	.000	.006
	PartnerConcentration	.101	.358	.104	.072
	Seasonality	.425	.067	.294	.005
	Distance	.001	.224	.000	.152
	Language	.000	.225	.166	.000
	Ethnicity	.070	.155	.001	.192
	Urban	.000	.047	.000	.002
N	Flights	73	73	73	73
	HomeConcentration	73	73	73	73

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.181	.151	-.023	-.375
	HomeConcentration	-.385	.043	-.177	.090
	Congestion	.592	-.149	.064	-.423
	GLHR	-.295	.173	-.298	-.122
	GJFK	1.000	-.095	-.047	-.388
	PartnerConcentration	-.095	1.000	-.129	.080
	Seasonality	-.047	-.129	1.000	.054
	Distance	-.388	.080	.054	1.000
	Language	.081	.061	-.115	-.407
	Ethnicity	.327	-.167	.063	-.306
	Urban	.293	.201	-.216	-.419
Sig. (1-tailed)	Flights	.062	.101	.425	<.001
	HomeConcentration	.000	.358	.067	.224
	Congestion	.000	.104	.294	.000
	GLHR	.006	.072	.005	.152
	GJFK	.	.213	.348	.000
	PartnerConcentration	.213	.	.139	.251
	Seasonality	.348	.139	.	.325
	Distance	.000	.251	.325	.
	Language	.249	.305	.166	.000
	Ethnicity	.002	.079	.299	.004
	Urban	.006	.044	.033	.000
N	Flights	73	73	73	73
	HomeConcentration	73	73	73	73

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.601	.174	.528
	HomeConcentration	.090	-.121	.198
	Congestion	.115	.359	.500
	GLHR	.523	.104	.329
	GJFK	.081	.327	.293
	PartnerConcentration	.061	-.167	.201
	Seasonality	-.115	.063	-.216
	Distance	-.407	-.306	-.419
	Language	1.000	.442	.262
	Ethnicity	.442	1.000	.160
	Urban	.262	.160	1.000
Sig. (1-tailed)	Flights	<.001	.070	<.001
	HomeConcentration	.225	.155	.047
	Congestion	.166	.001	.000
	GLHR	.000	.192	.002
	GJFK	.249	.002	.006
	PartnerConcentration	.305	.079	.044
	Seasonality	.166	.299	.033
	Distance	.000	.004	.000
	Language	.	.000	.013
	Ethnicity	.000	.	.089
	Urban	.013	.089	.
N	Flights	73	73	73
	HomeConcentration	73	73	73

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	73	73	73	73
	GLHR	73	73	73	73
	GJFK	73	73	73	73
	PartnerConcentration	73	73	73	73
	Seasonality	73	73	73	73
	Distance	73	73	73	73
	Language	73	73	73	73
	Ethnicity	73	73	73	73
	Urban	73	73	73	73

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	73	73	73	73
GLHR	73	73	73	73
GJFK	73	73	73	73
PartnerConcentration	73	73	73	73
Seasonality	73	73	73	73
Distance	73	73	73	73
Language	73	73	73	73
Ethnicity	73	73	73	73
Urban	73	73	73	73

Correlations

	Language	Ethnicity	Urban
Congestion	73	73	73
GLHR	73	73	73
GJFK	73	73	73
PartnerConcentration	73	73	73
Seasonality	73	73	73
Distance	73	73	73
Language	73	73	73
Ethnicity	73	73	73
Urban	73	73	73

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, Seasonality, HomeConcentration, PartnerConcentration, GLHR, Distance, Language, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.795[a]	.632	.572	5.531	.632	10.630

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	10	62	<.001

a. Predictors: (Constant), Urban, Ethnicity, Seasonality, HomeConcentration, PartnerConcentration, GLHR, Distance, Language Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3251.568	10	325.157	10.630	<.001[b]
	Residual	1896.432	62	30.588		
	Total	5148.000	72			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, Seasonality, HomeConcentration, PartnerConcentration, GLHR, Distance, Language, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-12.784	8.461		-1.511	.136
	HomeConcentration	.580	.319	.167	1.817	.074
	Congestion	-.521	1.045	-.058	-.498	.620
	GLHR	5.863	1.922	.342	3.050	.003
	GJFK	6.585	2.321	.324	2.837	.006
	PartnerConcentration	.150	.358	.036	.420	.676
	Seasonality	10.375	3.536	.249	2.934	.005
	Distance	-.415	1.042	-.039	-.399	.692
	Language	.911	.246	.402	3.702	<.001
	Ethnicity	-2.060	1.164	-.168	-1.769	.082
	Urban	.727	.312	.268	2.328	.023

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.702	1.424
	Congestion	.445	2.246
	GLHR	.474	2.112
	GJFK	.454	2.200
	PartnerConcentration	.830	1.205
	Seasonality	.825	1.213
	Distance	.624	1.603
	Language	.503	1.988
	Ethnicity	.656	1.524
	Urban	.448	2.233

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.438	1.000	.00	.00	.00
	2	1.138	2.557	.00	.02	.00
	3	.899	2.876	.00	.00	.00
	4	.629	3.438	.00	.04	.00
	5	.327	4.769	.00	.05	.00
	6	.244	5.520	.00	.68	.00
	7	.219	5.828	.00	.03	.00
	8	.059	11.266	.01	.09	.01
	9	.032	15.184	.00	.01	.15
	10	.010	27.482	.02	.07	.81
	11	.004	41.601	.97	.01	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.04	.16	.04	.00	.00	.00
	3	.06	.00	.03	.00	.00	.16
	4	.00	.06	.64	.00	.00	.01
	5	.11	.29	.11	.01	.00	.00
	6	.06	.04	.06	.03	.00	.02
	7	.47	.01	.00	.01	.00	.68
	8	.15	.12	.02	.88	.04	.03
	9	.03	.31	.00	.00	.29	.02
	10	.05	.00	.07	.01	.03	.01
	11	.01	.00	.02	.05	.64	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.04	.00
	3	.07	.00
	4	.01	.00
	5	.50	.00
	6	.15	.00
	7	.20	.00
	8	.00	.01
	9	.01	.07
	10	.02	.56
	11	.00	.36

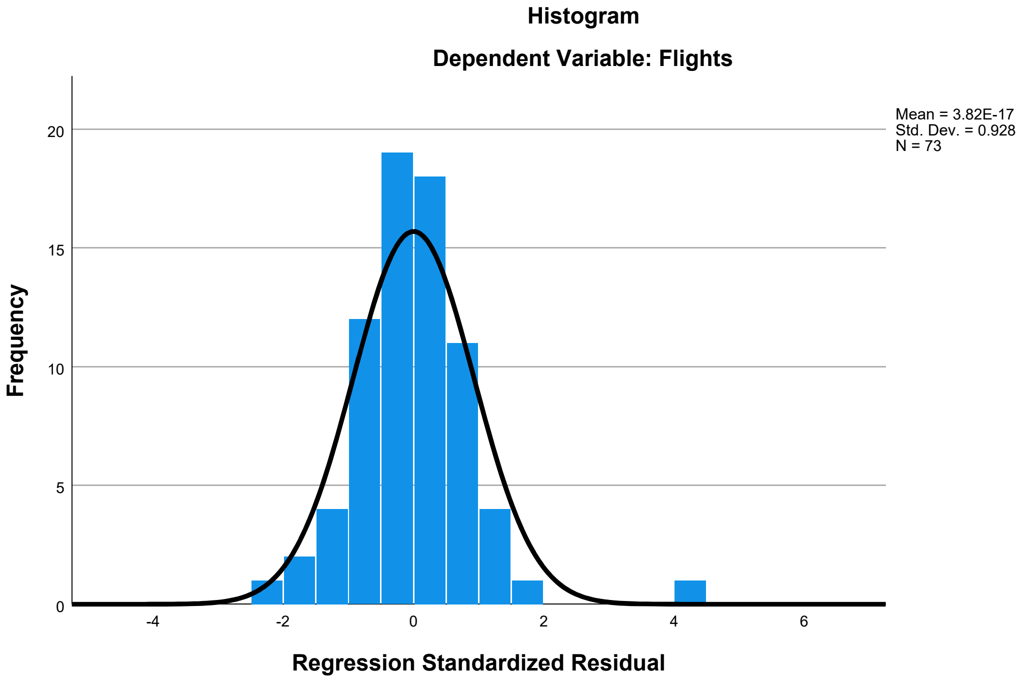
a. Dependent Variable: Flights

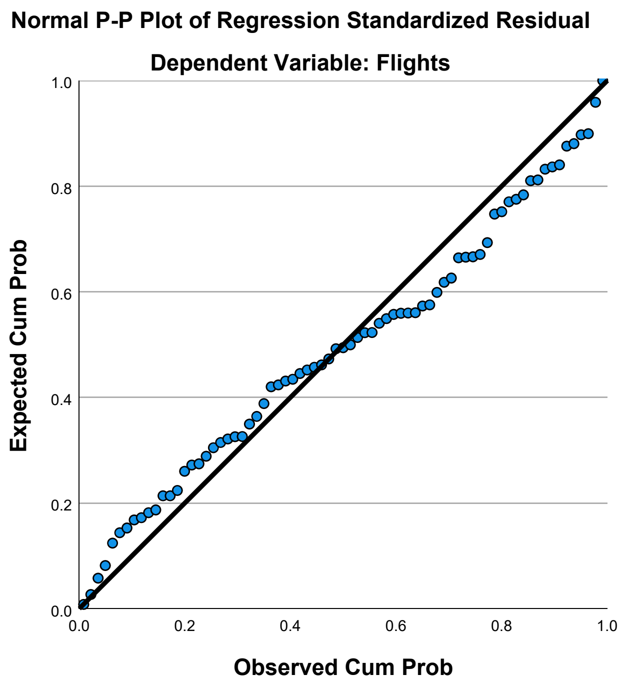
Residuals Statistics[a]

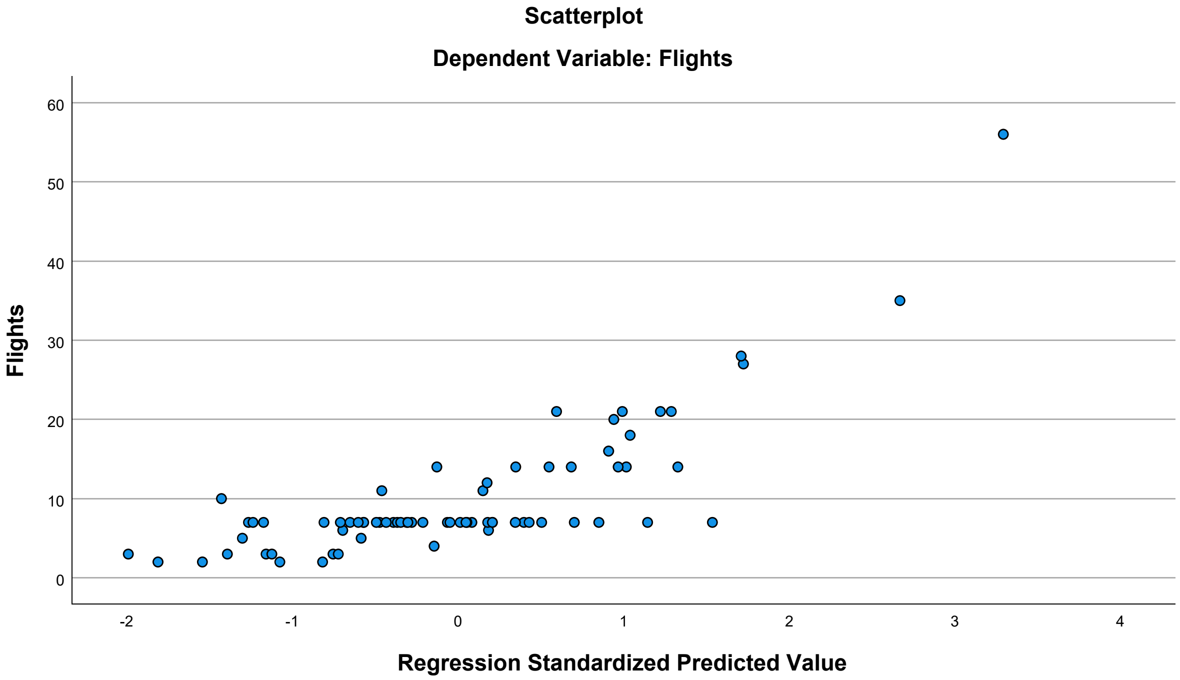
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-3.39	32.13	10.00	6.720	73
Residual	-13.322	23.870	.000	5.132	73
Std. Predicted Value	-1.992	3.293	.000	1.000	73
Std. Residual	-2.409	4.316	.000	.928	73

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 3.82E-17
Std. Dev. = 0.928
N = 73
Frequency
20
15
10
5
0
-4
-2
0
2
4
6
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
-1
0
1
2
3
4
Regression Standardized Predicted Value

Regression

```
[DataSet10] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Alliance
s\2017 Oneworld.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.68	6.178	121
HomeConcentration	3.8493067769	2.5532832362	121
Congestion	4.40	.927	121
GLHR	.27	.447	121
GJFK	.17	.373	121
PartnerConcentration	1.3298452397	2.0220937062	121
Seasonality	.67912242315	.21679832686	121
Distance	4.59121	1.093823	121
Language	2.22111936	3.604045311	121
Ethnicity	.45142479339	.60155051114	121
Urban	17.34	3.621	121

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.118	.263	.475
	HomeConcentration	.118	1.000	-.336	.243
	Congestion	.263	-.336	1.000	.073
	GLHR	.475	.243	.073	1.000
	GJFK	.222	-.414	.624	-.173
	PartnerConcentration	.222	-.008	-.072	.238
	Seasonality	-.253	.026	-.044	-.422
	Distance	-.211	.007	-.383	-.135
	Language	.453	-.078	.265	.416
	Ethnicity	.167	-.175	.421	.102
	Urban	.452	-.169	.629	.318
Sig. (1-tailed)	Flights	.	.099	.002	<.001
	HomeConcentration	.099	.	.000	.004
	Congestion	.002	.000	.	.213
	GLHR	.000	.004	.213	.
	GJFK	.007	.000	.000	.029
	PartnerConcentration	.007	.466	.215	.004
	Seasonality	.003	.388	.314	.000
	Distance	.010	.470	.000	.070
	Language	.000	.197	.002	.000
	Ethnicity	.034	.027	.000	.132
	Urban	.000	.032	.000	.000
N	Flights	121	121	121	121
	HomeConcentration	121	121	121	121

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.222	.222	-.253	-.211
	HomeConcentration	-.414	-.008	.026	.007
	Congestion	.624	-.072	-.044	-.383
	GLHR	-.173	.238	-.422	-.135
	GJFK	1.000	-.052	-.026	-.265
	PartnerConcentration	-.052	1.000	-.190	.142
	Seasonality	-.026	-.190	1.000	-.070
	Distance	-.265	.142	-.070	1.000
	Language	.288	.041	-.116	-.414
	Ethnicity	.360	-.123	.004	-.319
	Urban	.396	.197	-.350	-.210
Sig. (1-tailed)	Flights	.007	.007	.003	.010
	HomeConcentration	.000	.466	.388	.470
	Congestion	.000	.215	.314	.000
	GLHR	.029	.004	.000	.070
	GJFK	.	.284	.389	.002
	PartnerConcentration	.284	.	.019	.061
	Seasonality	.389	.019	.	.224
	Distance	.002	.061	.224	.
	Language	.001	.328	.102	.000
	Ethnicity	.000	.089	.484	.000
	Urban	.000	.015	.000	.011
N	Flights	121	121	121	121
	HomeConcentration	121	121	121	121

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.453	.167	.452
	HomeConcentration	-.078	-.175	-.169
	Congestion	.265	.421	.629
	GLHR	.416	.102	.318
	GJFK	.288	.360	.396
	PartnerConcentration	.041	-.123	.197
	Seasonality	-.116	.004	-.350
	Distance	-.414	-.319	-.210
	Language	1.000	.442	.272
	Ethnicity	.442	1.000	.205
	Urban	.272	.205	1.000
Sig. (1-tailed)	Flights	<.001	.034	<.001
	HomeConcentration	.197	.027	.032
	Congestion	.002	.000	.000
	GLHR	.000	.132	.000
	GJFK	.001	.000	.000
	PartnerConcentration	.328	.089	.015
	Seasonality	.102	.484	.000
	Distance	.000	.000	.011
	Language	.	.000	.001
	Ethnicity	.000	.	.012
	Urban	.001	.012	.
N	Flights	121	121	121
	HomeConcentration	121	121	121

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	121	121	121	121
	GLHR	121	121	121	121
	GJFK	121	121	121	121
	PartnerConcentration	121	121	121	121
	Seasonality	121	121	121	121
	Distance	121	121	121	121
	Language	121	121	121	121
	Ethnicity	121	121	121	121
	Urban	121	121	121	121

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	121	121	121	121
GLHR	121	121	121	121
GJFK	121	121	121	121
PartnerConcentration	121	121	121	121
Seasonality	121	121	121	121
Distance	121	121	121	121
Language	121	121	121	121
Ethnicity	121	121	121	121
Urban	121	121	121	121

Correlations

	Language	Ethnicity	Urban
Congestion	121	121	121
GLHR	121	121	121
GJFK	121	121	121
PartnerConcentration	121	121	121
Seasonality	121	121	121
Distance	121	121	121
Language	121	121	121
Ethnicity	121	121	121
Urban	121	121	121

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, PartnerConcentration, Language, Seasonality, Distance, Ethnicity, GJFK, GLHR, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.656[a]	.431	.379	4.869	.431	8.319

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	10	110	<.001

a. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, Language, Seasonality, Distance, Ethnicity, GJFK, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1972.356	10	197.236	8.319	<.001[b]
	Residual	2608.073	110	23.710		
	Total	4580.430	120			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, Language, Seasonality, Distance, Ethnicity, GJFK, GLHR, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.273	4.951		-.459	.647
	HomeConcentration	.456	.203	.189	2.253	.026
	Congestion	-.136	.818	-.020	-.166	.868
	GLHR	3.577	1.415	.259	2.528	.013
	GJFK	3.426	1.734	.207	1.976	.051
	PartnerConcentration	.324	.239	.106	1.355	.178
	Seasonality	-.231	2.447	-.008	-.095	.925
	Distance	-.025	.484	-.004	-.052	.958
	Language	.428	.167	.250	2.568	.012
	Ethnicity	-.431	.898	-.042	-.480	.632
	Urban	.423	.184	.248	2.297	.024

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.739	1.354
	Congestion	.344	2.910
	GLHR	.493	2.027
	GJFK	.472	2.117
	PartnerConcentration	.844	1.184
	Seasonality	.702	1.424
	Distance	.704	1.420
	Language	.547	1.828
	Ethnicity	.677	1.477
	Urban	.444	2.251

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.143	1.000	.00	.00	.00
	2	1.234	2.406	.00	.02	.00
	3	.976	2.706	.00	.00	.00
	4	.665	3.277	.00	.03	.00
	5	.370	4.396	.00	.01	.00
	6	.294	4.927	.00	.00	.00
	7	.190	6.124	.00	.83	.00
	8	.066	10.428	.00	.02	.00
	9	.045	12.578	.00	.00	.07
	10	.011	26.055	.02	.01	.62
	11	.006	33.783	.97	.08	.31

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.01	.14	.03	.00	.00	.05
	3	.18	.02	.03	.00	.00	.10
	4	.00	.08	.61	.00	.00	.01
	5	.09	.20	.18	.00	.00	.01
	6	.33	.07	.02	.01	.00	.69
	7	.04	.15	.06	.01	.01	.00
	8	.25	.03	.02	.66	.10	.06
	9	.10	.21	.00	.02	.41	.01
	10	.00	.02	.04	.18	.00	.01
	11	.00	.07	.00	.12	.48	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.07	.00
	3	.00	.00
	4	.04	.00
	5	.66	.00
	6	.14	.00
	7	.02	.00
	8	.00	.02
	9	.02	.10
	10	.03	.85
	11	.00	.03

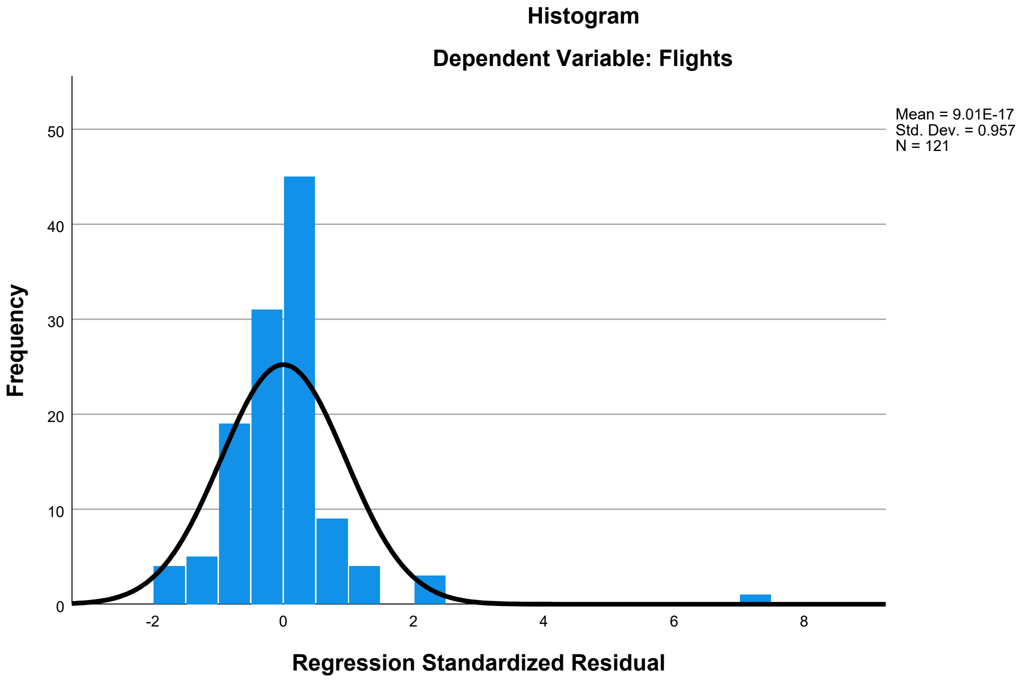
a. Dependent Variable: Flights

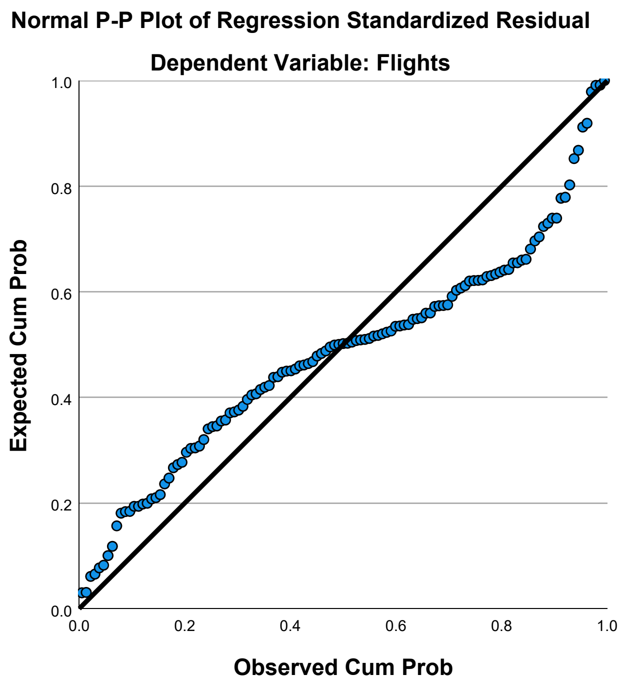
Residuals Statistics[a]

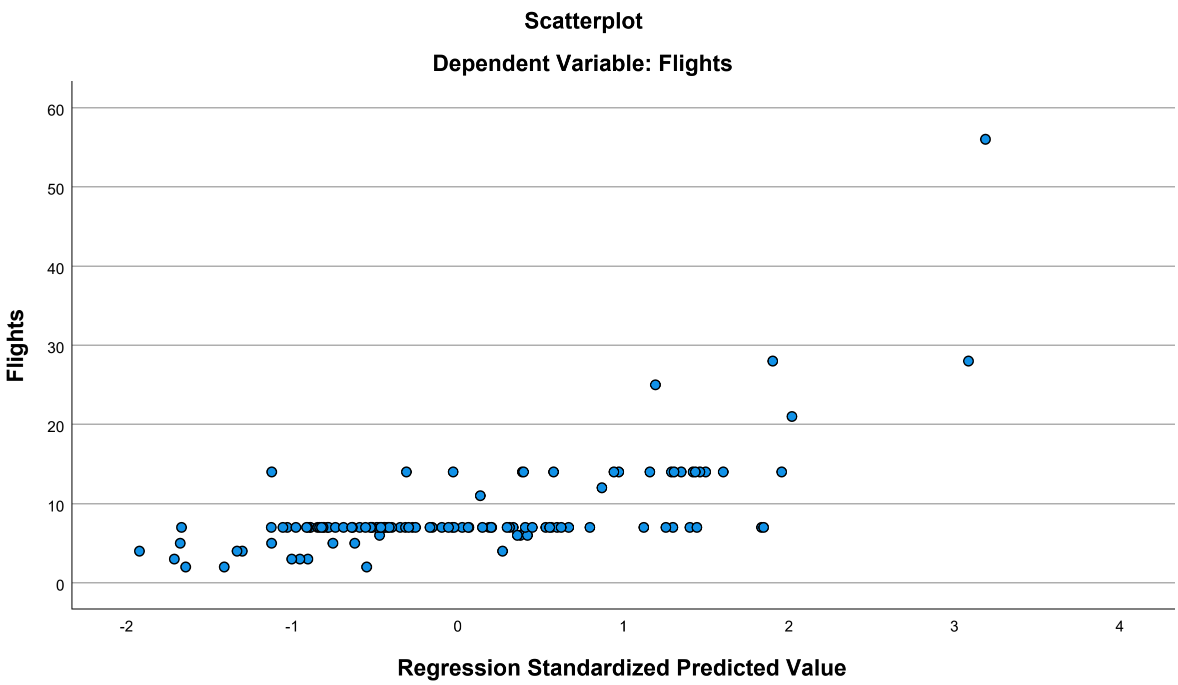
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.88	21.60	8.68	4.054	121
Residual	-9.165	34.399	.000	4.662	121
Std. Predicted Value	-1.924	3.188	.000	1.000	121
Std. Residual	-1.882	7.065	.000	.957	121

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 9.01E-17
Std. Dev. = 0.957
N = 121
Frequency
0
10
20
30
40
50
-2
0
2
4
6
8
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
-1
0
1
2
3
4
Regression Standardized Predicted Value

Regression

```
[DataSet11] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Alliance
s\2002 Sky.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.43	4.967	58
HomeConcentration	5.4667536897	4.5733067751	58
Congestion	4.74	1.001	58
GLHR	.00	.000	58
GJFK	.29	.459	58
PartnerConcentration	.93294750000	2.1613821850	58
Seasonality	.60389027144	.17253754385	58
Distance	4.24629	.499714	58
Language	.83011400	2.219125755	58
Ethnicity	.71536298	.857206017	58
Urban	18.34	3.452	58

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.109	.044	.
	HomeConcentration	.109	1.000	-.715	.
	Congestion	.044	-.715	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.067	-.605	.702	.
	PartnerConcentration	.184	.017	-.111	.
	Seasonality	-.035	-.104	.128	.
	Distance	-.115	.256	-.125	.
	Language	.075	.333	-.387	.
	Ethnicity	-.038	-.210	.144	.
	Urban	.331	-.325	.620	.
Sig. (1-tailed)	Flights	.	.207	.372	.000
	HomeConcentration	.207	.	.000	.000
	Congestion	.372	.000	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.309	.000	.000	.000
	PartnerConcentration	.084	.451	.203	.000
	Seasonality	.398	.218	.169	.000
	Distance	.194	.026	.176	.000
	Language	.288	.005	.001	.000
	Ethnicity	.388	.057	.141	.000
	Urban	.006	.006	.000	.000
N	Flights	58	58	58	58
	HomeConcentration	58	58	58	58
	Congestion	58	58	58	58
	GLHR	58	58	58	58
	GJFK	58	58	58	58
	PartnerConcentration	58	58	58	58
	Seasonality	58	58	58	58
	Distance	58	58	58	58
	Language	58	58	58	58
	Ethnicity	58	58	58	58
	Urban	58	58	58	58

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.067	.184	-.035	-.115
	HomeConcentration	-.605	.017	-.104	.256
	Congestion	.702	-.111	.128	-.125
	GLHR	.	.	.	.
	GJFK	1.000	-.053	-.036	-.231
	PartnerConcentration	-.053	1.000	.181	-.014
	Seasonality	-.036	.181	1.000	.025
	Distance	-.231	-.014	.025	1.000
	Language	-.198	-.148	-.161	-.230
	Ethnicity	.261	-.076	-.138	-.191
	Urban	.323	-.059	-.034	-.103
Sig. (1-tailed)	Flights	.309	.084	.398	.194
	HomeConcentration	.000	.451	.218	.026
	Congestion	.000	.203	.169	.176
	GLHR	.000	.000	.000	.000
	GJFK	.	.346	.395	.041
	PartnerConcentration	.346	.	.088	.460
	Seasonality	.395	.088	.	.428
	Distance	.041	.460	.428	.
	Language	.068	.133	.113	.041
	Ethnicity	.024	.285	.151	.075
	Urban	.007	.330	.401	.220
N	Flights	58	58	58	58
	HomeConcentration	58	58	58	58
	Congestion	58	58	58	58
	GLHR	58	58	58	58
	GJFK	58	58	58	58
	PartnerConcentration	58	58	58	58
	Seasonality	58	58	58	58
	Distance	58	58	58	58
	Language	58	58	58	58
	Ethnicity	58	58	58	58
	Urban	58	58	58	58

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.075	-.038	.331
	HomeConcentration	.333	-.210	-.325
	Congestion	-.387	.144	.620
	GLHR	.	.	.
	GJFK	-.198	.261	.323
	PartnerConcentration	-.148	-.076	-.059
	Seasonality	-.161	-.138	-.034
	Distance	-.230	-.191	-.103
	Language	1.000	.163	-.288
	Ethnicity	.163	1.000	-.120
	Urban	-.288	-.120	1.000
Sig. (1-tailed)	Flights	.288	.388	.006
	HomeConcentration	.005	.057	.006
	Congestion	.001	.141	.000
	GLHR	.000	.000	.000
	GJFK	.068	.024	.007
	PartnerConcentration	.133	.285	.330
	Seasonality	.113	.151	.401
	Distance	.041	.075	.220
	Language	.	.111	.014
	Ethnicity	.111	.	.186
	Urban	.014	.186	.
N	Flights	58	58	58
	HomeConcentration	58	58	58
	Congestion	58	58	58
	GLHR	58	58	58
	GJFK	58	58	58
	PartnerConcentration	58	58	58
	Seasonality	58	58	58
	Distance	58	58	58
	Language	58	58	58
	Ethnicity	58	58	58
	Urban	58	58	58

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, Distance, PartnerConcentration, Ethnicity, Language, GJFK, HomeConcentration, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change
1	.502[a]	.252	.112	4.681	.252	1.797

Model Summary[b]

Model	Change Statistics: df1	Change Statistics: df2	Change Statistics: Sig. F Change
1	9	48	.093

a. Predictors: (Constant), Urban, Seasonality, Distance, PartnerConcentration, Ethnicity, Language, GJFK, HomeConcentration, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	354.361	9	39.373	1.797	.093[b]
	Residual	1051.863	48	21.914		
	Total	1406.224	57			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, Distance, PartnerConcentration, Ethnicity, Language, GJFK, HomeConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-1.456	8.452		-.172	.864
	HomeConcentration	.271	.212	.250	1.278	.207
	Congestion	-.767	1.352	-.155	-.568	.573
	GJFK	1.926	2.062	.178	.934	.355
	PartnerConcentration	.500	.303	.218	1.651	.105
	Seasonality	.626	3.900	.022	.160	.873
	Distance	-.677	1.404	-.068	-.482	.632
	Language	.279	.340	.125	.819	.417
	Ethnicity	.207	.808	.036	.257	.798
	Urban	.716	.254	.497	2.819	.007

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.407	2.454
	Congestion	.210	4.762
	GJFK	.429	2.331
	PartnerConcentration	.897	1.115
	Seasonality	.849	1.178
	Distance	.781	1.280
	Language	.674	1.483
	Ethnicity	.801	1.248
	Urban	.501	1.997

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.535	1.000	.00	.00	.00
	2	1.181	2.353	.00	.03	.00
	3	.974	2.590	.00	.01	.00
	4	.646	3.180	.00	.01	.00
	5	.401	4.038	.00	.01	.00
	6	.174	6.121	.00	.54	.00
	7	.058	10.630	.00	.02	.01
	8	.020	18.154	.02	.14	.01
	9	.007	31.497	.00	.23	.93
	10	.004	40.925	.97	.01	.05

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.01
	2	.08	.01	.00	.00	.22	.00
	3	.04	.41	.00	.00	.08	.07
	4	.02	.48	.00	.00	.19	.14
	5	.17	.01	.00	.00	.27	.66
	6	.38	.00	.04	.00	.09	.01
	7	.07	.03	.75	.00	.00	.00
	8	.02	.00	.09	.26	.00	.04
	9	.22	.03	.08	.09	.00	.03
	10	.00	.02	.04	.64	.16	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.06
	8	.31
	9	.56
	10	.07

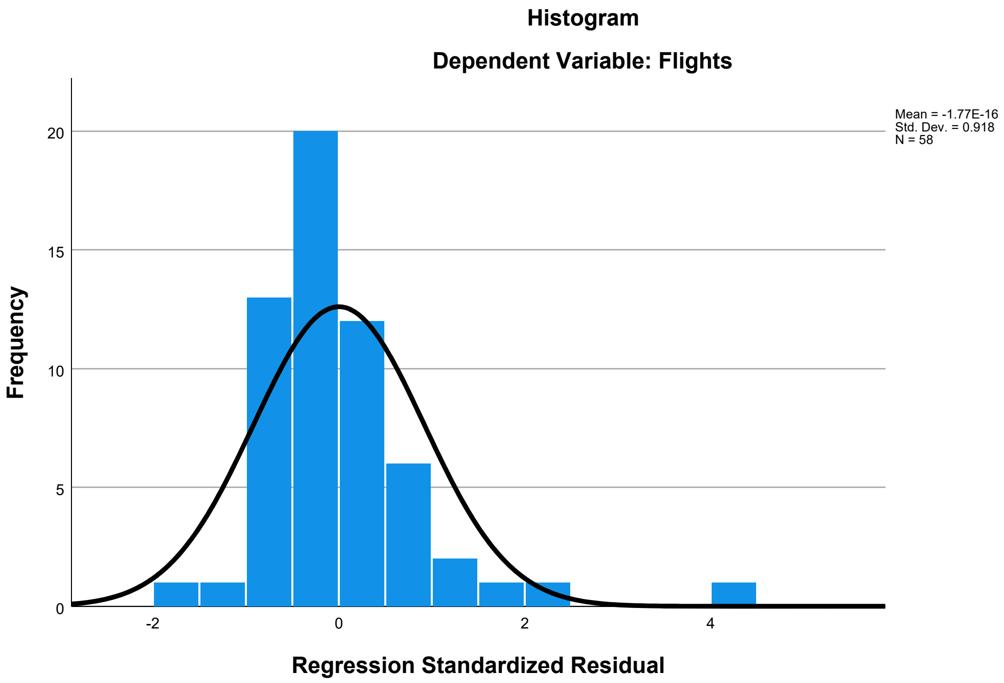
a. Dependent Variable: Flights

Residuals Statistics[a]

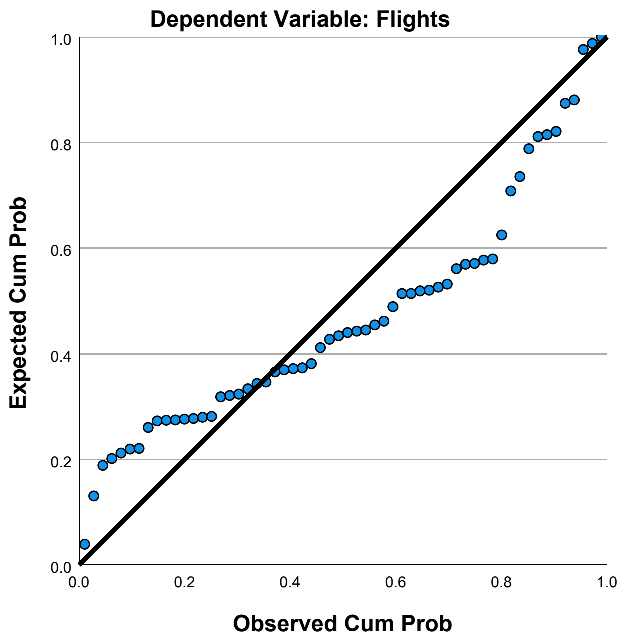
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.70	14.86	8.43	2.493	58
Residual	-8.230	20.860	.000	4.296	58
Std. Predicted Value	-2.300	2.577	.000	1.000	58
Std. Residual	-1.758	4.456	.000	.918	58

a. Dependent Variable: Flights

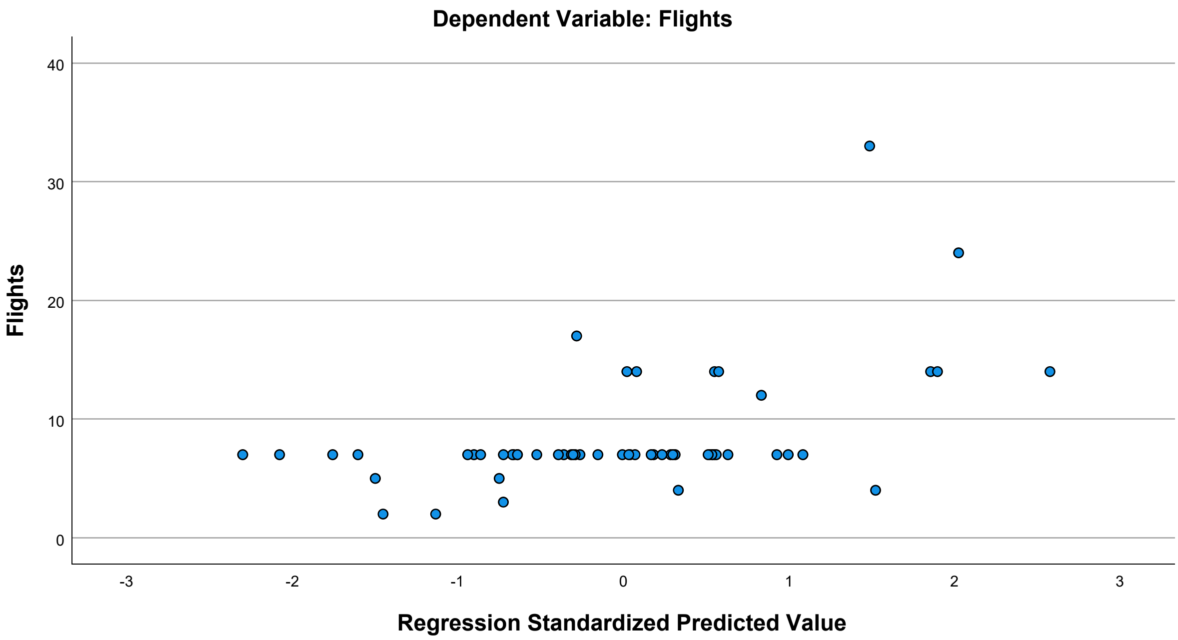
Charts



Normal P-P Plot of Regression Standardized Residual



Scatterplot



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.43	4.967	58
HomeConcentration	5.4667536897	4.5733067751	58
Congestion	4.74	1.001	58
GLHR	.00	.000	58
GJFK	.29	.459	58
PartnerConcentration	.93294750000	2.1613821850	58
Distance	4.24629	.499714	58
Language	.83011400	2.219125755	58
Ethnicity	.71536298	.857206017	58
Urban	18.34	3.452	58

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.109	.044	.
	HomeConcentration	.109	1.000	-.715	.
	Congestion	.044	-.715	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.067	-.605	.702	.
	PartnerConcentration	.184	.017	-.111	.
	Distance	-.115	.256	-.125	.
	Language	.075	.333	-.387	.
	Ethnicity	-.038	-.210	.144	.
	Urban	.331	-.325	.620	.
Sig. (1-tailed)	Flights	.	.207	.372	.000
	HomeConcentration	.207	.	.000	.000
	Congestion	.372	.000	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.309	.000	.000	.000
	PartnerConcentration	.084	.451	.203	.000
	Distance	.194	.026	.176	.000
	Language	.288	.005	.001	.000
	Ethnicity	.388	.057	.141	.000
	Urban	.006	.006	.000	.000
N	Flights	58	58	58	58
	HomeConcentration	58	58	58	58

Correlations

		GJFK	PartnerConcentration	Distance	Language
Pearson Correlation	Flights	.067	.184	-.115	.075
	HomeConcentration	-.605	.017	.256	.333
	Congestion	.702	-.111	-.125	-.387
	GLHR	.	.	.	.
	GJFK	1.000	-.053	-.231	-.198
	PartnerConcentration	-.053	1.000	-.014	-.148
	Distance	-.231	-.014	1.000	-.230
	Language	-.198	-.148	-.230	1.000
	Ethnicity	.261	-.076	-.191	.163
	Urban	.323	-.059	-.103	-.288
Sig. (1-tailed)	Flights	.309	.084	.194	.288
	HomeConcentration	.000	.451	.026	.005
	Congestion	.000	.203	.176	.001
	GLHR	.000	.000	.000	.000
	GJFK	.	.346	.041	.068
	PartnerConcentration	.346	.	.460	.133
	Distance	.041	.460	.	.041
	Language	.068	.133	.041	.
	Ethnicity	.024	.285	.075	.111
	Urban	.007	.330	.220	.014
N	Flights	58	58	58	58
	HomeConcentration	58	58	58	58

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	-.038	.331
	HomeConcentration	-.210	-.325
	Congestion	.144	.620
	GLHR	.	.
	GJFK	.261	.323
	PartnerConcentration	-.076	-.059
	Distance	-.191	-.103
	Language	.163	-.288
	Ethnicity	1.000	-.120
	Urban	-.120	1.000
Sig. (1-tailed)	Flights	.388	.006
	HomeConcentration	.057	.006
	Congestion	.141	.000
	GLHR	.000	.000
	GJFK	.024	.007
	PartnerConcentration	.285	.330
	Distance	.075	.220
	Language	.111	.014
	Ethnicity	.	.186
	Urban	.186	.
N	Flights	58	58
	HomeConcentration	58	58

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	58	58	58	58
	GLHR	58	58	58	58
	GJFK	58	58	58	58
	PartnerConcentration	58	58	58	58
	Distance	58	58	58	58
	Language	58	58	58	58
	Ethnicity	58	58	58	58
	Urban	58	58	58	58

Correlations

	GJFK	PartnerConcentration	Distance	Language
Congestion	58	58	58	58
GLHR	58	58	58	58
GJFK	58	58	58	58
PartnerConcentration	58	58	58	58
Distance	58	58	58	58
Language	58	58	58	58
Ethnicity	58	58	58	58
Urban	58	58	58	58

Correlations

	Ethnicity	Urban
Congestion	58	58
GLHR	58	58
GJFK	58	58
PartnerConcentration	58	58
Distance	58	58
Language	58	58
Ethnicity	58	58
Urban	58	58

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, Ethnicity, Language, GJFK, HomeConcentration, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.502[a]	.252	.129	4.634	.252	2.059

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	49	.058

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, Ethnicity, Language, GJFK, HomeConcentration, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	353.797	8	44.225	2.059	.058[b]
	Residual	1052.428	49	21.478		
	Total	1406.224	57			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, Ethnicity, Language, GJFK, HomeConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-1.105	8.081		-.137	.892
	HomeConcentration	.271	.210	.250	1.291	.203
	Congestion	-.711	1.292	-.143	-.550	.585
	GJFK	1.861	2.001	.172	.930	.357
	PartnerConcentration	.509	.294	.222	1.730	.090
	Distance	-.687	1.389	-.069	-.495	.623
	Language	.276	.336	.123	.821	.416
	Ethnicity	.187	.790	.032	.237	.814
	Urban	.706	.245	.491	2.887	.006

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.407	2.454
	Congestion	.225	4.440
	GJFK	.446	2.240
	PartnerConcentration	.931	1.075
	Distance	.782	1.278
	Language	.676	1.479
	Ethnicity	.822	1.217
	Urban	.529	1.892

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	5.628	1.000	.00	.00	.00
	2	1.180	2.184	.00	.03	.00
	3	.966	2.414	.00	.01	.00
	4	.633	2.981	.00	.02	.00
	5	.401	3.749	.00	.00	.00
	6	.160	5.933	.00	.57	.00
	7	.021	16.262	.02	.10	.01
	8	.007	28.147	.00	.25	.86
	9	.004	37.333	.98	.02	.13

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.01	.00
	2	.09	.01	.00	.22	.00	.00
	3	.04	.47	.00	.07	.07	.00
	4	.02	.45	.00	.21	.15	.00
	5	.18	.01	.00	.26	.68	.00
	6	.46	.00	.00	.08	.02	.01
	7	.03	.00	.20	.00	.03	.41
	8	.18	.01	.18	.00	.02	.55
	9	.01	.04	.62	.16	.02	.03

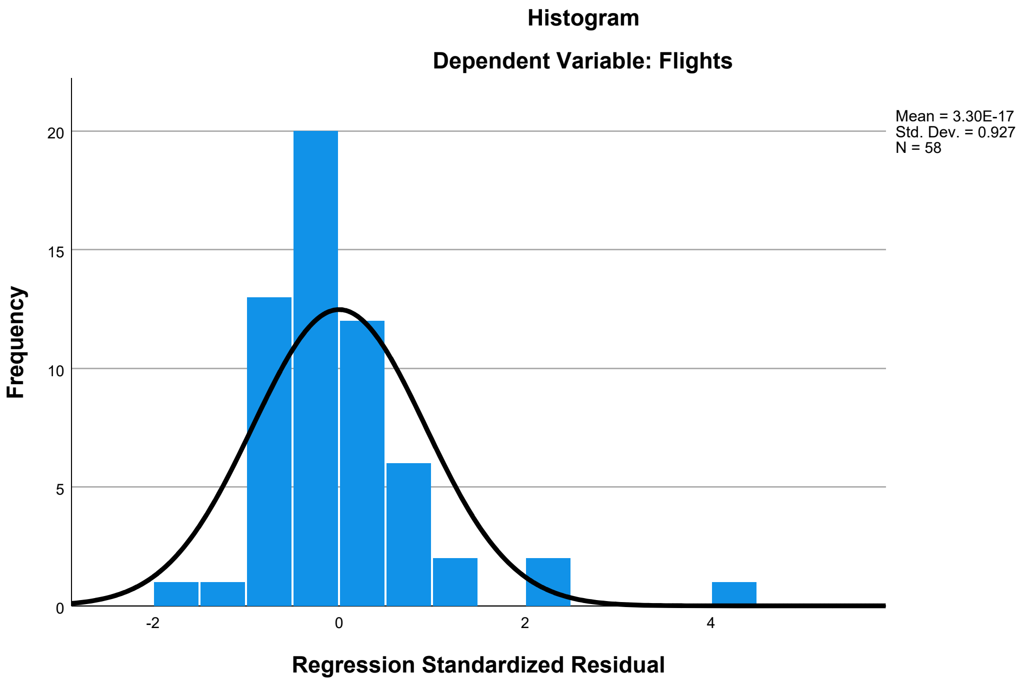
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.52	14.90	8.43	2.491	58
Residual	-8.194	20.852	.000	4.297	58
Std. Predicted Value	-2.371	2.596	.000	1.000	58
Std. Residual	-1.768	4.499	.000	.927	58

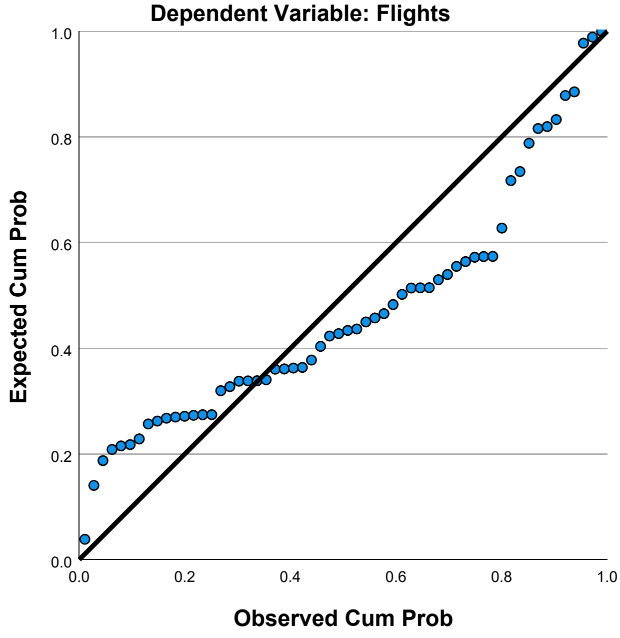
a. Dependent Variable: Flights

Charts



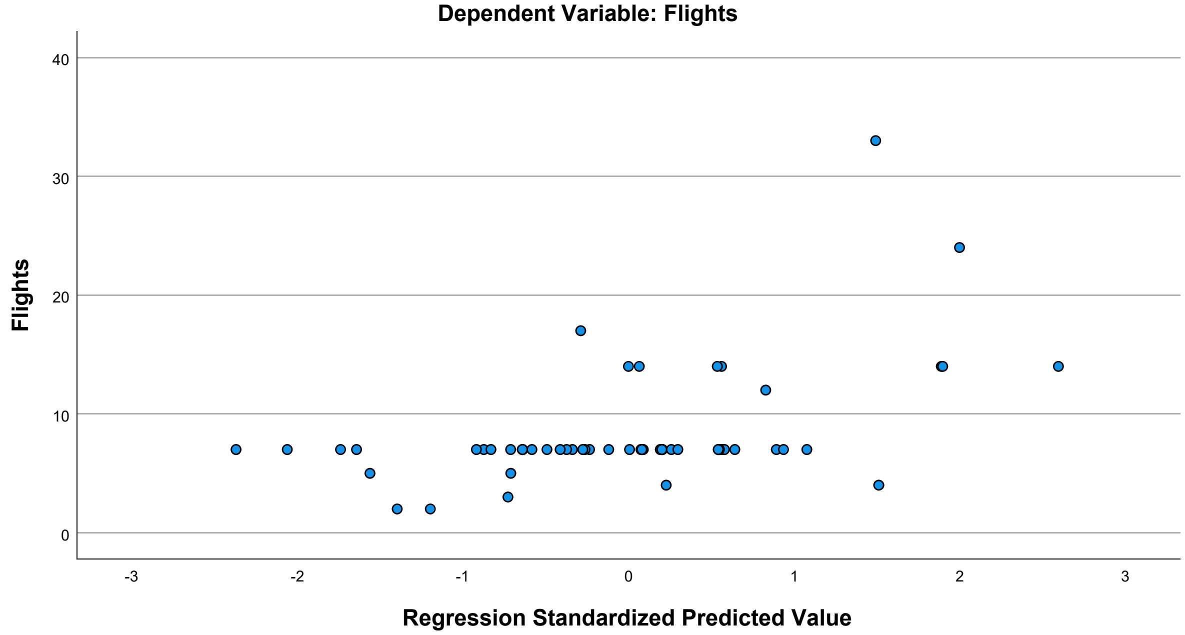
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.43	4.967	58
HomeConcentration	5.4667536897	4.5733067751	58
Congestion	4.74	1.001	58
GLHR	.00	.000	58
GJFK	.29	.459	58
PartnerConcentration	.93294750000	2.1613821850	58
Distance	4.24629	.499714	58
Language	.83011400	2.219125755	58
Urban	18.34	3.452	58

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.109	.044	.
	HomeConcentration	.109	1.000	-.715	.
	Congestion	.044	-.715	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.067	-.605	.702	.
	PartnerConcentration	.184	.017	-.111	.
	Distance	-.115	.256	-.125	.
	Language	.075	.333	-.387	.
	Urban	.331	-.325	.620	.
Sig. (1-tailed)	Flights	.	.207	.372	.000
	HomeConcentration	.207	.	.000	.000
	Congestion	.372	.000	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.309	.000	.000	.000
	PartnerConcentration	.084	.451	.203	.000
	Distance	.194	.026	.176	.000
	Language	.288	.005	.001	.000
	Urban	.006	.006	.000	.000
N	Flights	58	58	58	58
	HomeConcentration	58	58	58	58
	Congestion	58	58	58	58
	GLHR	58	58	58	58
	GJFK	58	58	58	58
	PartnerConcentration	58	58	58	58
	Distance	58	58	58	58
	Language	58	58	58	58
	Urban	58	58	58	58

Correlations

		GJFK	PartnerConcentration	Distance	Language
Pearson Correlation	Flights	.067	.184	-.115	.075
	HomeConcentration	-.605	.017	.256	.333
	Congestion	.702	-.111	-.125	-.387
	GLHR	.	.	.	.
	GJFK	1.000	-.053	-.231	-.198
	PartnerConcentration	-.053	1.000	-.014	-.148
	Distance	-.231	-.014	1.000	-.230
	Language	-.198	-.148	-.230	1.000
	Urban	.323	-.059	-.103	-.288
Sig. (1-tailed)	Flights	.309	.084	.194	.288
	HomeConcentration	.000	.451	.026	.005
	Congestion	.000	.203	.176	.001
	GLHR	.000	.000	.000	.000
	GJFK	.	.346	.041	.068
	PartnerConcentration	.346	.	.460	.133
	Distance	.041	.460	.	.041
	Language	.068	.133	.041	.
	Urban	.007	.330	.220	.014
N	Flights	58	58	58	58
	HomeConcentration	58	58	58	58
	Congestion	58	58	58	58
	GLHR	58	58	58	58
	GJFK	58	58	58	58
	PartnerConcentration	58	58	58	58
	Distance	58	58	58	58
	Language	58	58	58	58
	Urban	58	58	58	58

Correlations

		Urban
Pearson Correlation	Flights	.331
	HomeConcentration	-.325
	Congestion	.620
	GLHR	.
	GJFK	.323
	PartnerConcentration	-.059
	Distance	-.103
	Language	-.288
	Urban	1.000
Sig. (1-tailed)	Flights	.006
	HomeConcentration	.006
	Congestion	.000
	GLHR	.000
	GJFK	.007
	PartnerConcentration	.330
	Distance	.220
	Language	.014
	Urban	.
N	Flights	58
	HomeConcentration	58
	Congestion	58
	GLHR	58
	GJFK	58
	PartnerConcentration	58
	Distance	58
	Language	58
	Urban	58

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, GJFK, Language, HomeConcentration, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.501[a]	.251	.146	4.590	.251	2.390

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	7	50	.034

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, GJFK, Language, HomeConcentration, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	352.593	7	50.370	2.390	.034[b]
	Residual	1053.631	50	21.073		
	Total	1406.224	57			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, GJFK, Language, HomeConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.760	7.873		-.097	.924
	HomeConcentration	.267	.208	.246	1.288	.204
	Congestion	-.684	1.275	-.138	-.537	.594
	GJFK	1.924	1.964	.178	.979	.332
	PartnerConcentration	.507	.291	.221	1.739	.088
	Distance	-.713	1.371	-.072	-.520	.605
	Language	.290	.328	.130	.886	.380
	Urban	.694	.236	.482	2.933	.005

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.410	2.438
	Congestion	.227	4.406
	GJFK	.454	2.201
	PartnerConcentration	.932	1.073
	Distance	.788	1.270
	Language	.699	1.431
	Urban	.555	1.802

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Congestion
1	1	5.164	1.000	.00	.00	.00
	2	1.176	2.096	.00	.03	.00
	3	.895	2.402	.00	.01	.00
	4	.569	3.012	.00	.03	.00
	5	.162	5.653	.00	.56	.00
	6	.022	15.302	.02	.09	.00
	7	.007	26.678	.00	.26	.82
	8	.004	35.391	.98	.02	.17

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions				
		GJFK	PartnerConcentration	Distance	Language	Urban
1	1	.00	.01	.00	.00	.00
	2	.08	.02	.00	.24	.00
	3	.06	.63	.00	.05	.00
	4	.11	.30	.00	.45	.00
	5	.51	.00	.00	.06	.01
	6	.02	.00	.18	.00	.44
	7	.20	.01	.21	.00	.54
	8	.01	.04	.60	.19	.01

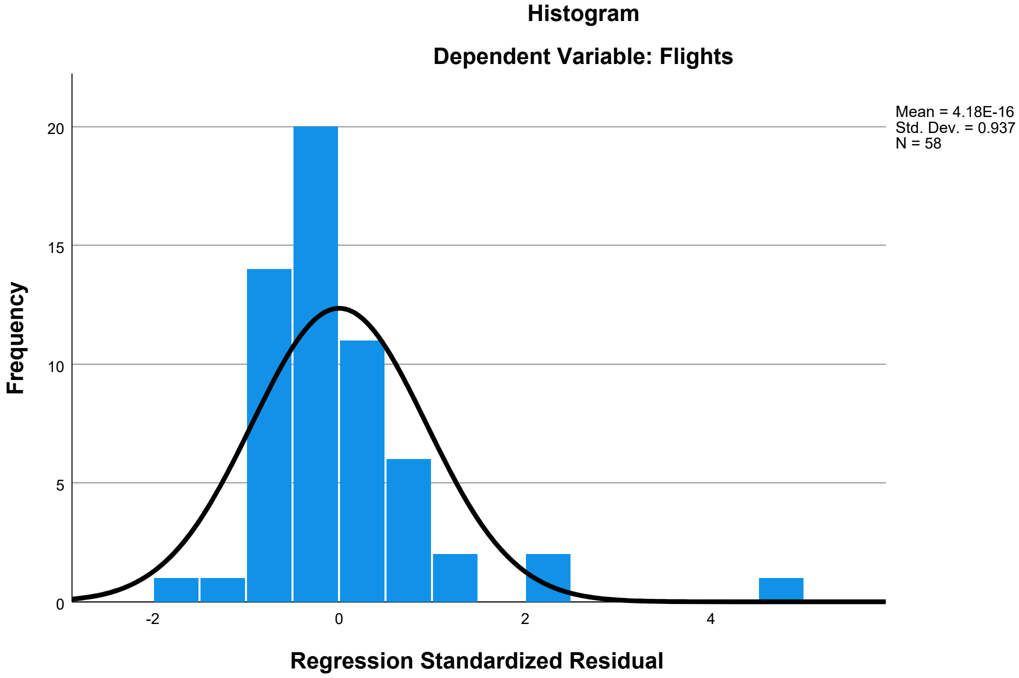
a. Dependent Variable: Flights

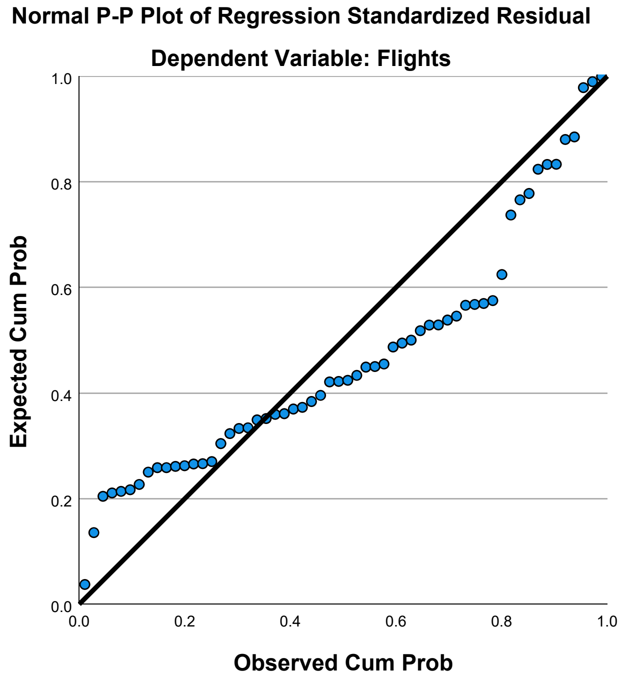
Residuals Statistics[a]

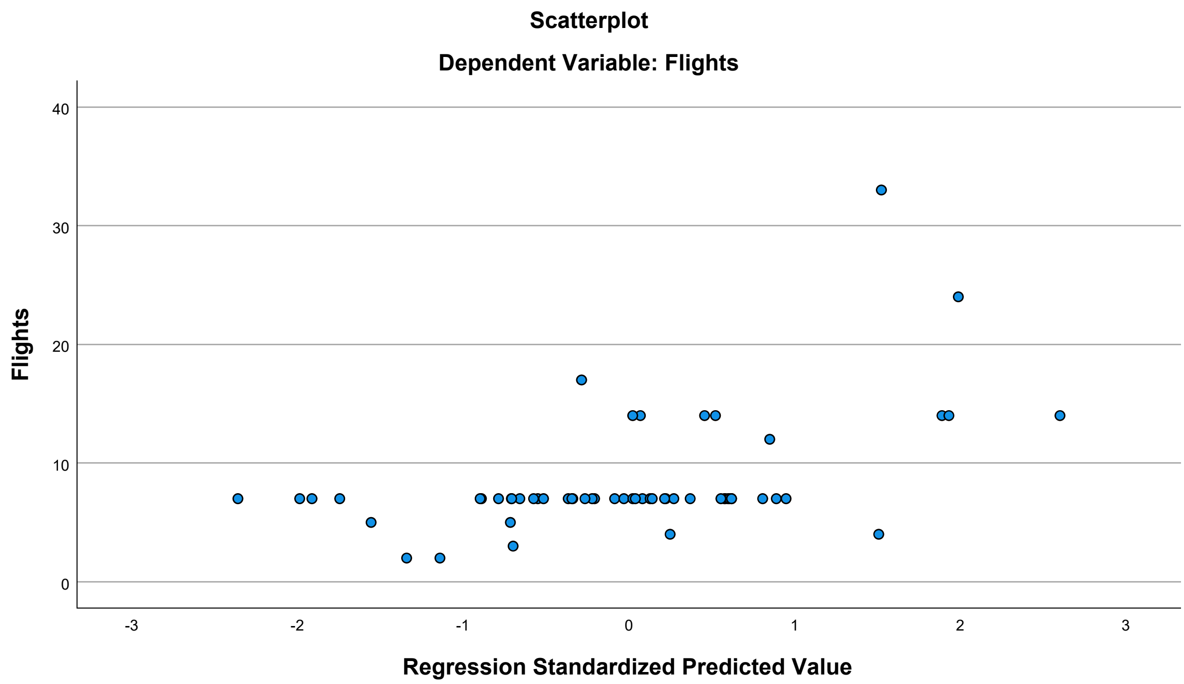
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.56	14.90	8.43	2.487	58
Residual	-8.181	20.779	.000	4.299	58
Std. Predicted Value	-2.361	2.602	.000	1.000	58
Std. Residual	-1.782	4.526	.000	.937	58

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.43	4.967	58
HomeConcentration	5.4667536897	4.5733067751	58
GLHR	.00	.000	58
GJFK	.29	.459	58
PartnerConcentration	.93294750000	2.1613821850	58
Distance	4.24629	.499714	58
Language	.83011400	2.219125755	58
Urban	18.34	3.452	58

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.109	.	.067
	HomeConcentration	.109	1.000	.	-.605
	GLHR	.	.	1.000	.
	GJFK	.067	-.605	.	1.000
	PartnerConcentration	.184	.017	.	-.053
	Distance	-.115	.256	.	-.231
	Language	.075	.333	.	-.198
	Urban	.331	-.325	.	.323
Sig. (1-tailed)	Flights	.	.207	.000	.309
	HomeConcentration	.207	.	.000	.000
	GLHR	.000	.000	.	.000
	GJFK	.309	.000	.000	.
	PartnerConcentration	.084	.451	.000	.346
	Distance	.194	.026	.000	.041
	Language	.288	.005	.000	.068
	Urban	.006	.006	.000	.007
N	Flights	58	58	58	58
	HomeConcentration	58	58	58	58
	GLHR	58	58	58	58
	GJFK	58	58	58	58
	PartnerConcentration	58	58	58	58
	Distance	58	58	58	58
	Language	58	58	58	58
	Urban	58	58	58	58

Correlations

		PartnerConcentration	Distance	Language	Urban
Pearson Correlation	Flights	.184	-.115	.075	.331
	HomeConcentration	.017	.256	.333	-.325
	GLHR	.	.	.	.
	GJFK	-.053	-.231	-.198	.323
	PartnerConcentration	1.000	-.014	-.148	-.059
	Distance	-.014	1.000	-.230	-.103
	Language	-.148	-.230	1.000	-.288
	Urban	-.059	-.103	-.288	1.000
Sig. (1-tailed)	Flights	.084	.194	.288	.006
	HomeConcentration	.451	.026	.005	.006
	GLHR	.000	.000	.000	.000
	GJFK	.346	.041	.068	.007
	PartnerConcentration	.	.460	.133	.330
	Distance	.460	.	.041	.220
	Language	.133	.041	.	.014
	Urban	.330	.220	.014	.
N	Flights	58	58	58	58
	HomeConcentration	58	58	58	58
	GLHR	58	58	58	58
	GJFK	58	58	58	58
	PartnerConcentration	58	58	58	58
	Distance	58	58	58	58
	Language	58	58	58	58
	Urban	58	58	58	58

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, GJFK, Language, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.496[a]	.246	.158	4.558	.246	2.780

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	51	.020

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, GJFK, Language, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	346.526	6	57.754	2.780	.020[b]
	Residual	1059.698	51	20.778		
	Total	1406.224	57			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, GJFK, Language, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-2.469	7.150		-.345	.731
	HomeConcentration	.323	.179	.297	1.806	.077
	GJFK	1.393	1.685	.129	.827	.412
	PartnerConcentration	.531	.286	.231	1.858	.069
	Distance	-.808	1.350	-.081	-.599	.552
	Language	.317	.322	.141	.983	.330
	Urban	.621	.193	.432	3.217	.002

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.545	1.834
	GJFK	.609	1.642
	PartnerConcentration	.955	1.048
	Distance	.801	1.249
	Language	.714	1.400
	Urban	.820	1.220

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	4.230	1.000	.00	.01	.01
	2	1.149	1.919	.00	.03	.12
	3	.882	2.189	.00	.01	.12
	4	.565	2.735	.00	.04	.13
	5	.147	5.357	.00	.82	.61
	6	.022	13.922	.02	.08	.01
	7	.004	30.851	.98	.01	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Distance	Language	Urban
1	1	.01	.00	.01	.00
	2	.04	.00	.25	.00
	3	.60	.00	.04	.00
	4	.32	.00	.47	.00
	5	.00	.00	.05	.02
	6	.00	.17	.00	.75
	7	.02	.83	.18	.23

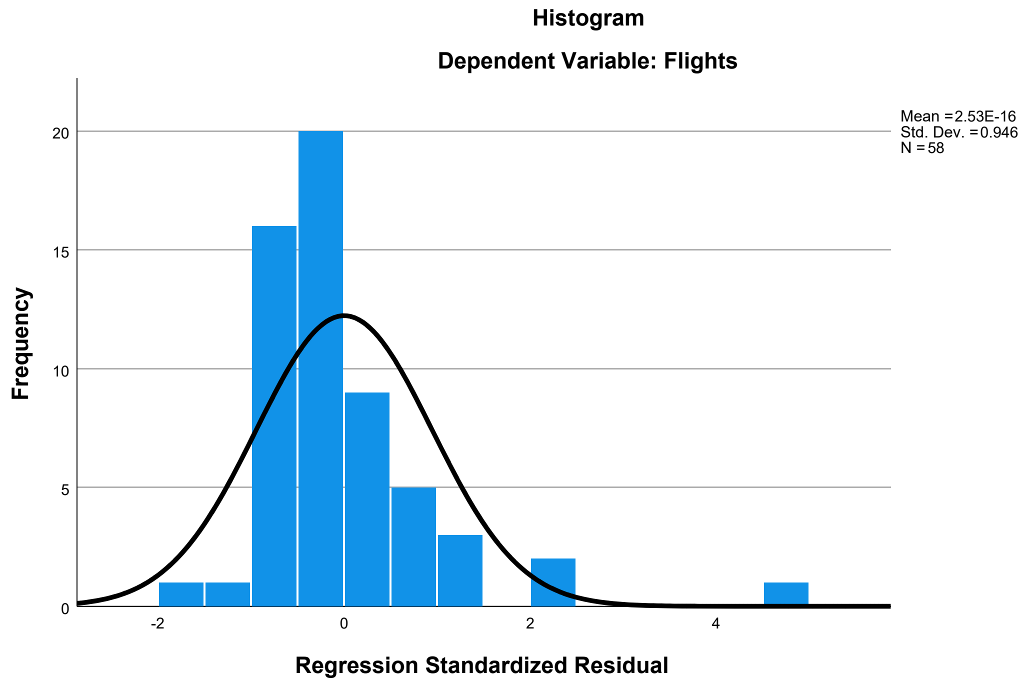
a. Dependent Variable: Flights

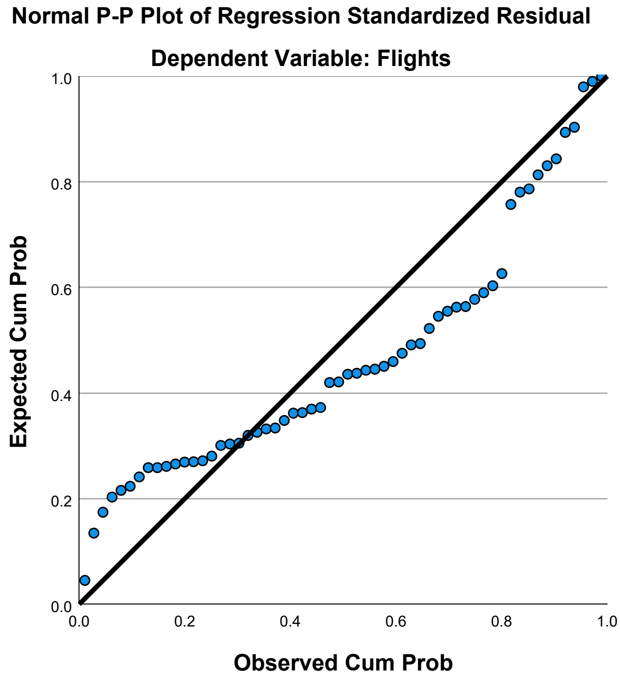
Residuals Statistics[a]

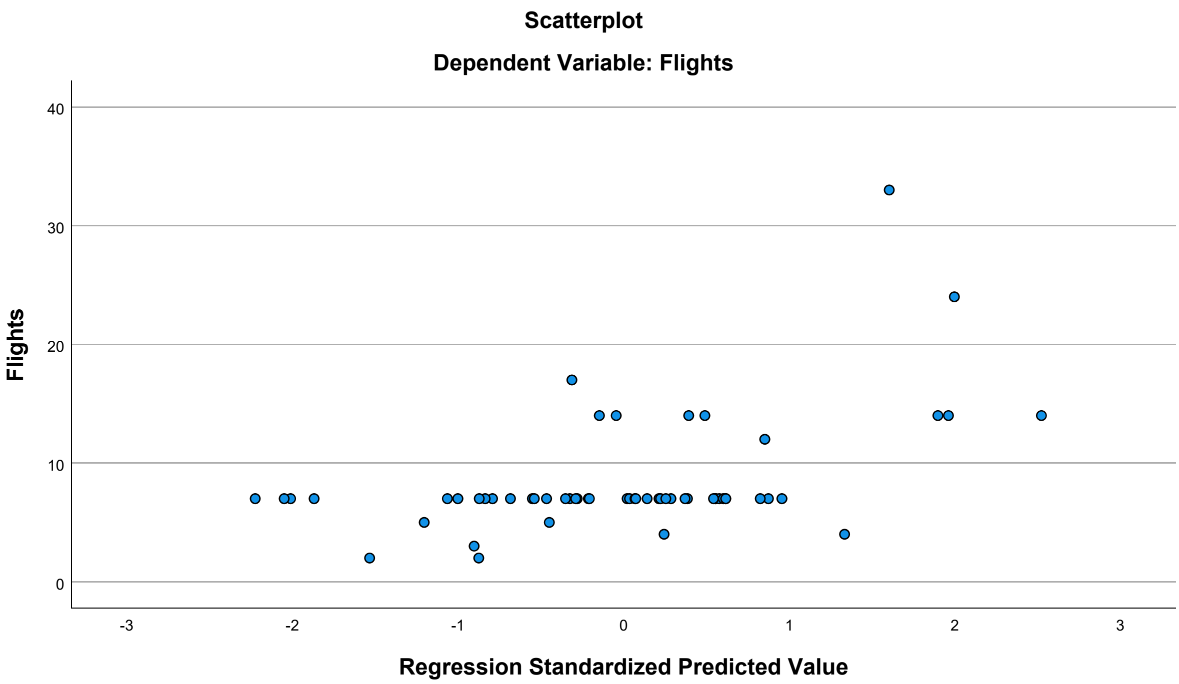
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.95	14.65	8.43	2.466	58
Residual	-7.720	20.615	.000	4.312	58
Std. Predicted Value	-2.225	2.523	.000	1.000	58
Std. Residual	-1.694	4.522	.000	.946	58

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
-3
-2
-1
0
1
2
3

Regression

```
[DataSet12] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Alliance
s\2007 Sky.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.92	5.286	143
HomeConcentration	5.2616336643	3.5241243837	143
Congestion	4.66	.943	143
GLHR	.00	.000	143
GJFK	.21	.409	143
PartnerConcentration	1.2748763077	2.4147657714	143
Seasonality	.61819398174	.16361254223	143
Distance	4.27104	.806154	143
Language	1.39909231	3.157803265	143
Ethnicity	.56551763	.758786011	143
Urban	17.10	3.718	143

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.081	-.003	.
	HomeConcentration	.081	1.000	-.597	.
	Congestion	-.003	-.597	1.000	.
	GLHR	.	.	.	1.000
	GJFK	-.032	-.567	.590	.
	PartnerConcentration	.141	-.099	-.110	.
	Seasonality	-.070	-.002	-.247	.
	Distance	-.178	.197	-.115	.
	Language	.047	-.033	-.067	.
	Ethnicity	.030	-.271	.213	.
	Urban	.172	-.296	.651	.
Sig. (1-tailed)	Flights	.	.169	.488	.000
	HomeConcentration	.169	.	.000	.000
	Congestion	.488	.000	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.354	.000	.000	.000
	PartnerConcentration	.047	.119	.096	.000
	Seasonality	.204	.489	.001	.000
	Distance	.017	.009	.086	.000
	Language	.290	.347	.214	.000
	Ethnicity	.359	.001	.005	.000
	Urban	.020	.000	.000	.000
N	Flights	143	143	143	143
	HomeConcentration	143	143	143	143
	Congestion	143	143	143	143
	GLHR	143	143	143	143
	GJFK	143	143	143	143
	PartnerConcentration	143	143	143	143
	Seasonality	143	143	143	143
	Distance	143	143	143	143
	Language	143	143	143	143
	Ethnicity	143	143	143	143
	Urban	143	143	143	143

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	-.032	.141	-.070	-.178
	HomeConcentration	-.567	-.099	-.002	.197
	Congestion	.590	-.110	-.247	-.115
	GLHR	.	.	.	.
	GJFK	1.000	-.113	-.015	-.062
	PartnerConcentration	-.113	1.000	-.141	-.009
	Seasonality	-.015	-.141	1.000	.073
	Distance	-.062	-.009	.073	1.000
	Language	.138	-.228	.007	-.332
	Ethnicity	.324	-.103	.065	-.269
	Urban	.268	.048	-.321	-.117
Sig. (1-tailed)	Flights	.354	.047	.204	.017
	HomeConcentration	.000	.119	.489	.009
	Congestion	.000	.096	.001	.086
	GLHR	.000	.000	.000	.000
	GJFK	.	.089	.430	.233
	PartnerConcentration	.089	.	.046	.458
	Seasonality	.430	.046	.	.193
	Distance	.233	.458	.193	.
	Language	.050	.003	.466	.000
	Ethnicity	.000	.110	.220	.001
	Urban	.001	.286	.000	.082
N	Flights	143	143	143	143
	HomeConcentration	143	143	143	143
	Congestion	143	143	143	143
	GLHR	143	143	143	143
	GJFK	143	143	143	143
	PartnerConcentration	143	143	143	143
	Seasonality	143	143	143	143
	Distance	143	143	143	143
	Language	143	143	143	143
	Ethnicity	143	143	143	143
	Urban	143	143	143	143

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.047	.030	.172
	HomeConcentration	-.033	-.271	-.296
	Congestion	-.067	.213	.651
	GLHR	.	.	.
	GJFK	.138	.324	.268
	PartnerConcentration	-.228	-.103	.048
	Seasonality	.007	.065	-.321
	Distance	-.332	-.269	-.117
	Language	1.000	.253	-.142
	Ethnicity	.253	1.000	.009
	Urban	-.142	.009	1.000
Sig. (1-tailed)	Flights	.290	.359	.020
	HomeConcentration	.347	.001	.000
	Congestion	.214	.005	.000
	GLHR	.000	.000	.000
	GJFK	.050	.000	.001
	PartnerConcentration	.003	.110	.286
	Seasonality	.466	.220	.000
	Distance	.000	.001	.082
	Language	.	.001	.046
	Ethnicity	.001	.	.460
	Urban	.046	.460	.
N	Flights	143	143	143
	HomeConcentration	143	143	143
	Congestion	143	143	143
	GLHR	143	143	143
	GJFK	143	143	143
	PartnerConcentration	143	143	143
	Seasonality	143	143	143
	Distance	143	143	143
	Language	143	143	143
	Ethnicity	143	143	143
	Urban	143	143	143

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, PartnerConcentration, Distance, Seasonality, GJFK, Language, HomeConcentration, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.336[a]	.113	.053	5.144	.113	1.886

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	9	133	.059

a. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, Distance, Seasonality, GJFK, Language, HomeConcentration, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	449.192	9	49.910	1.886	.059[b]
	Residual	3518.962	133	26.458		
	Total	3968.154	142			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, Distance, Seasonality, GJFK, Language, HomeConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	6.449	5.555		1.161	.248
	HomeConcentration	.295	.175	.197	1.691	.093
	Congestion	-.460	.840	-.082	-.547	.585
	GJFK	.609	1.468	.047	.415	.679
	PartnerConcentration	.354	.198	.162	1.786	.076
	Seasonality	.850	2.917	.026	.292	.771
	Distance	-1.084	.603	-.165	-1.799	.074
	Language	.082	.158	.049	.520	.604
	Ethnicity	.292	.640	.042	.456	.649
	Urban	.369	.163	.259	2.261	.025

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.492	2.034
	Congestion	.297	3.363
	GJFK	.518	1.931
	PartnerConcentration	.811	1.233
	Seasonality	.818	1.222
	Distance	.789	1.267
	Language	.748	1.336
	Ethnicity	.789	1.267
	Urban	.507	1.973

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.580	1.000	.00	.00	.00
	2	1.215	2.327	.00	.01	.00
	3	.856	2.772	.00	.03	.00
	4	.622	3.253	.00	.00	.00
	5	.451	3.820	.00	.00	.00
	6	.151	6.594	.00	.60	.01
	7	.078	9.165	.00	.02	.02
	8	.030	14.752	.00	.10	.00
	9	.011	24.523	.04	.04	.47
	10	.005	37.798	.95	.20	.50

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.01
	2	.09	.11	.00	.00	.13	.07
	3	.15	.18	.00	.00	.19	.01
	4	.03	.51	.00	.00	.35	.02
	5	.14	.01	.00	.00	.15	.81
	6	.46	.05	.01	.00	.01	.02
	7	.02	.01	.43	.00	.00	.01
	8	.01	.00	.25	.62	.02	.02
	9	.02	.01	.03	.17	.02	.04
	10	.08	.12	.28	.20	.13	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.01
	7	.07
	8	.10
	9	.82
	10	.00

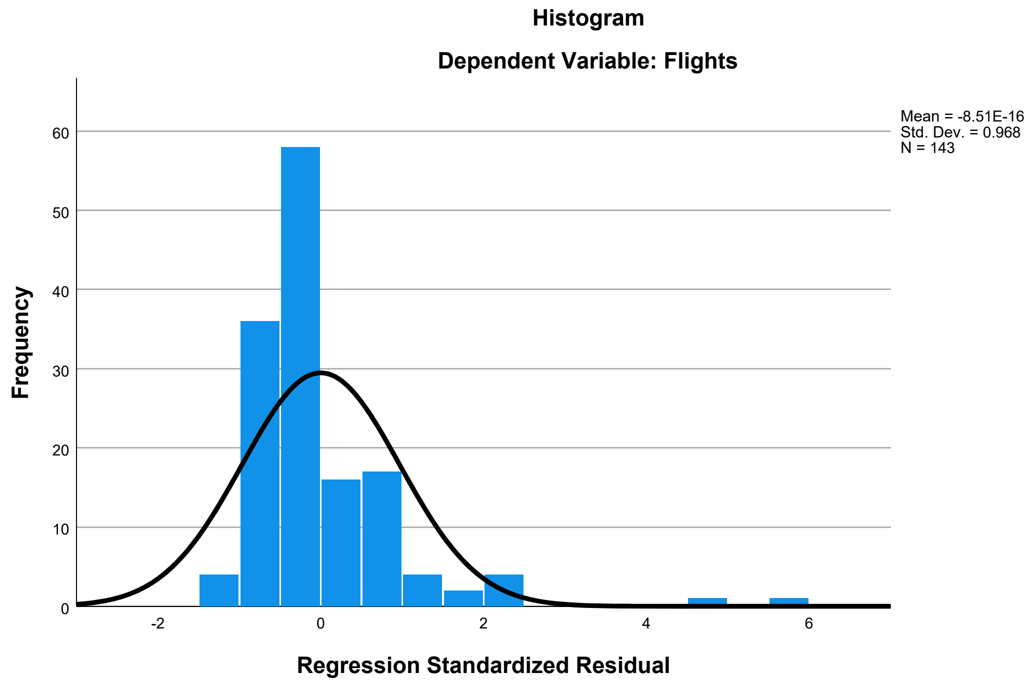
a. Dependent Variable: Flights

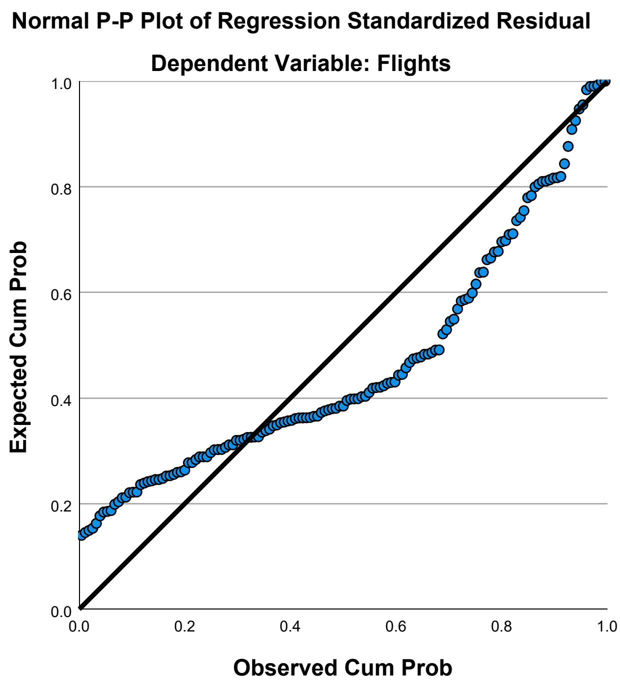
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.33	12.66	8.92	1.779	143
Residual	-5.557	30.847	.000	4.978	143
Std. Predicted Value	-2.582	2.103	.000	1.000	143
Std. Residual	-1.080	5.997	.000	.968	143

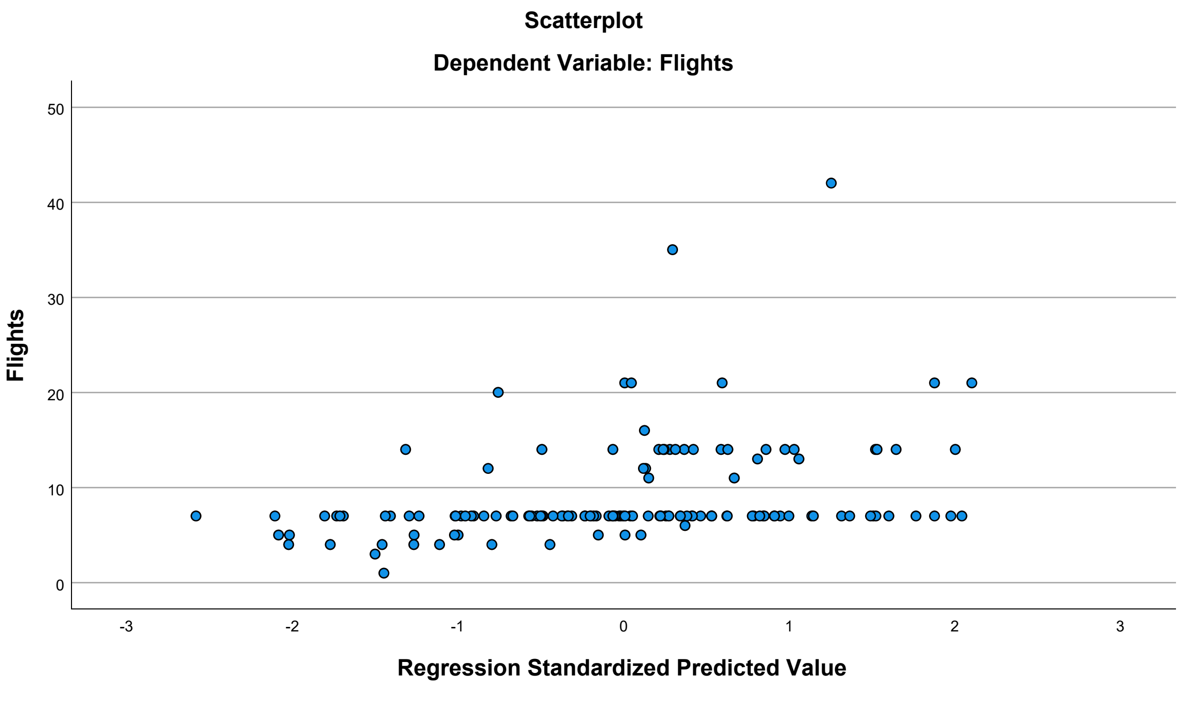
a. Dependent Variable: Flights

Charts





Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Scatterplot
Dependent Variable: Flights
Flights
50
40
30
20
10
0
-3
-2
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.92	5.286	143
HomeConcentration	5.2616336643	3.5241243837	143
Congestion	4.66	.943	143
GJFK	.21	.409	143
PartnerConcentration	1.2748763077	2.4147657714	143
Distance	4.27104	.806154	143
Language	1.39909231	3.157803265	143
Ethnicity	.56551763	.758786011	143
Urban	17.10	3.718	143

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.081	-.003	-.032
	HomeConcentration	.081	1.000	-.597	-.567
	Congestion	-.003	-.597	1.000	.590
	GJFK	-.032	-.567	.590	1.000
	PartnerConcentration	.141	-.099	-.110	-.113
	Distance	-.178	.197	-.115	-.062
	Language	.047	-.033	-.067	.138
	Ethnicity	.030	-.271	.213	.324
	Urban	.172	-.296	.651	.268
Sig. (1-tailed)	Flights	.	.169	.488	.354
	HomeConcentration	.169	.	.000	.000
	Congestion	.488	.000	.	.000
	GJFK	.354	.000	.000	.
	PartnerConcentration	.047	.119	.096	.089
	Distance	.017	.009	.086	.233
	Language	.290	.347	.214	.050
	Ethnicity	.359	.001	.005	.000
	Urban	.020	.000	.000	.001
N	Flights	143	143	143	143
	HomeConcentration	143	143	143	143
	Congestion	143	143	143	143
	GJFK	143	143	143	143
	PartnerConcentration	143	143	143	143
	Distance	143	143	143	143
	Language	143	143	143	143
	Ethnicity	143	143	143	143
	Urban	143	143	143	143

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
Pearson Correlation	Flights	.141	-.178	.047	.030
	HomeConcentration	-.099	.197	-.033	-.271
	Congestion	-.110	-.115	-.067	.213
	GJFK	-.113	-.062	.138	.324
	PartnerConcentration	1.000	-.009	-.228	-.103
	Distance	-.009	1.000	-.332	-.269
	Language	-.228	-.332	1.000	.253
	Ethnicity	-.103	-.269	.253	1.000
	Urban	.048	-.117	-.142	.009
Sig. (1-tailed)	Flights	.047	.017	.290	.359
	HomeConcentration	.119	.009	.347	.001
	Congestion	.096	.086	.214	.005
	GJFK	.089	.233	.050	.000
	PartnerConcentration	.	.458	.003	.110
	Distance	.458	.	.000	.001
	Language	.003	.000	.	.001
	Ethnicity	.110	.001	.001	.
	Urban	.286	.082	.046	.460
N	Flights	143	143	143	143
	HomeConcentration	143	143	143	143
	Congestion	143	143	143	143
	GJFK	143	143	143	143
	PartnerConcentration	143	143	143	143
	Distance	143	143	143	143
	Language	143	143	143	143
	Ethnicity	143	143	143	143
	Urban	143	143	143	143

Correlations

		Urban
Pearson Correlation	Flights	.172
	HomeConcentration	-.296
	Congestion	.651
	GJFK	.268
	PartnerConcentration	.048
	Distance	-.117
	Language	-.142
	Ethnicity	.009
	Urban	1.000
Sig. (1-tailed)	Flights	.020
	HomeConcentration	.000
	Congestion	.000
	GJFK	.001
	PartnerConcentration	.286
	Distance	.082
	Language	.046
	Ethnicity	.460
	Urban	.
N	Flights	143
	HomeConcentration	143
	Congestion	143
	GJFK	143
	PartnerConcentration	143
	Distance	143
	Language	143
	Ethnicity	143
	Urban	143

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, PartnerConcentration, Distance, HomeConcentration, Language, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.336[a]	.113	.060	5.126	.113	2.126

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	134	.037

a. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, Distance, HomeConcentration, Language, GJFK, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	446.942	8	55.868	2.126	.037[b]
	Residual	3521.212	134	26.278		
	Total	3968.154	142			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, Distance, HomeConcentration, Language, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.365	4.567		1.612	.109
	HomeConcentration	.286	.171	.191	1.671	.097
	Congestion	-.513	.817	-.091	-.627	.532
	GJFK	.637	1.460	.049	.436	.663
	PartnerConcentration	.343	.194	.157	1.769	.079
	Distance	-1.077	.600	-.164	-1.795	.075
	Language	.077	.157	.046	.493	.623
	Ethnicity	.305	.637	.044	.479	.633
	Urban	.362	.161	.255	2.250	.026

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.509	1.965
	Congestion	.312	3.206
	GJFK	.520	1.923
	PartnerConcentration	.846	1.182
	Distance	.790	1.265
	Language	.757	1.321
	Ethnicity	.793	1.261
	Urban	.517	1.933

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	5.668	1.000	.00	.00	.00
	2	1.210	2.164	.00	.01	.00
	3	.852	2.580	.00	.03	.00
	4	.615	3.037	.00	.01	.00
	5	.451	3.546	.00	.00	.00
	6	.148	6.195	.00	.58	.01
	7	.039	12.024	.01	.17	.01
	8	.011	22.359	.11	.03	.37
	9	.006	30.400	.88	.18	.60

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.01	.00
	2	.09	.12	.00	.13	.06	.00
	3	.15	.16	.00	.20	.01	.00
	4	.03	.54	.00	.35	.02	.00
	5	.14	.01	.00	.15	.81	.00
	6	.49	.07	.00	.01	.02	.02
	7	.00	.00	.40	.01	.00	.19
	8	.01	.01	.32	.04	.05	.76
	9	.09	.09	.28	.12	.02	.04

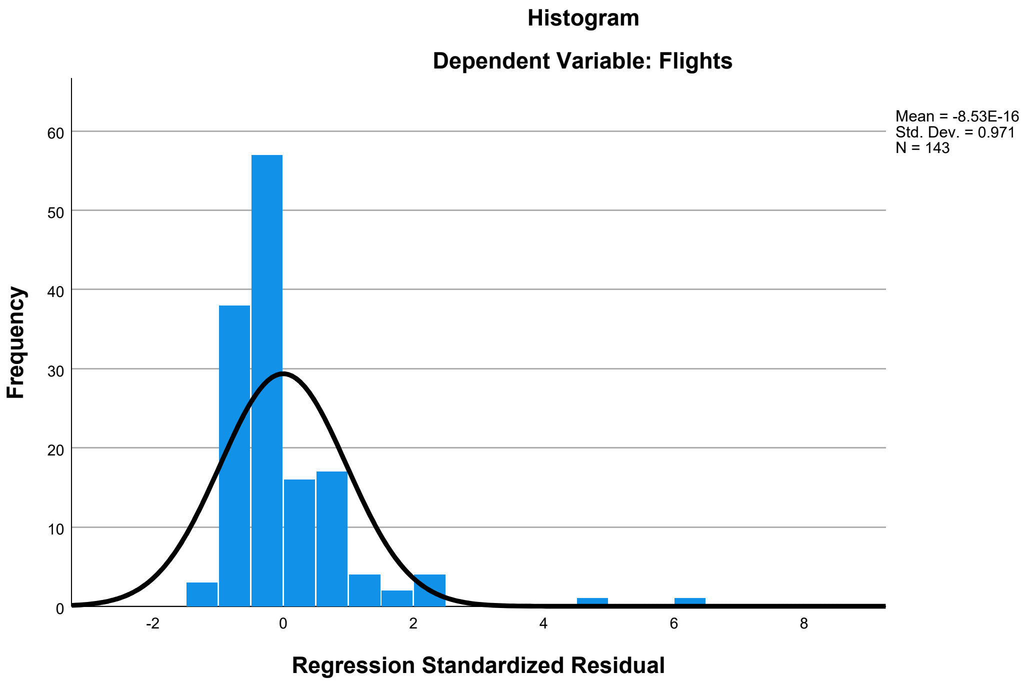
a. Dependent Variable: Flights

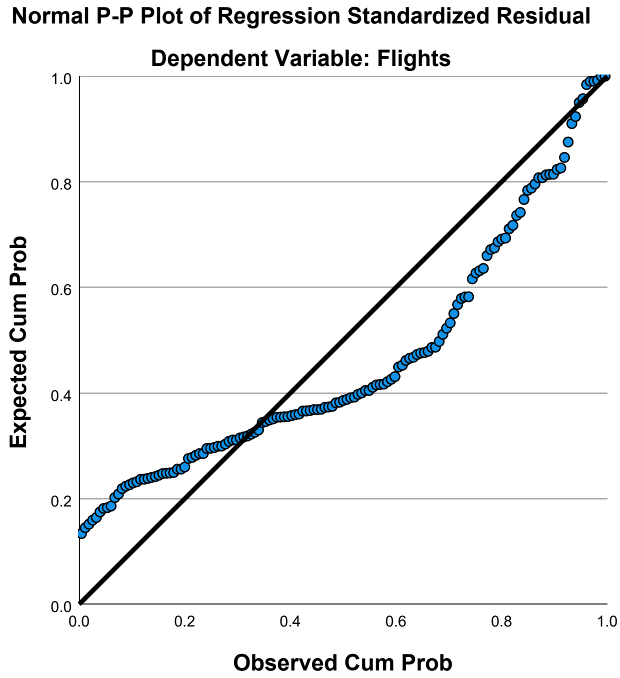
Residuals Statistics[a]

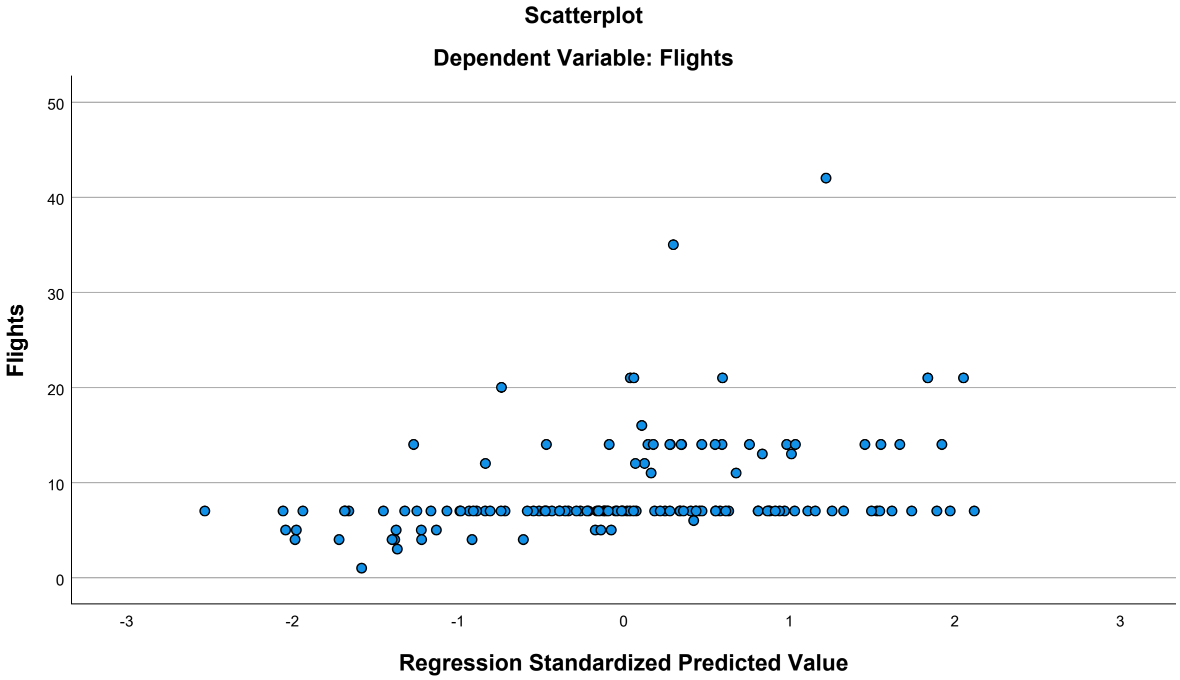
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.44	12.68	8.92	1.774	143
Residual	-5.680	30.908	.000	4.980	143
Std. Predicted Value	-2.529	2.118	.000	1.000	143
Std. Residual	-1.108	6.029	.000	.971	143

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-3
-2
-1
0
1
2
3

Regression

```
[DataSet13] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Alliance
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.35	5.125	108
HomeConcentration	3.7844269630	2.9579032932	108
Congestion	4.77	.963	108
GLHR	.05	.211	108
GJFK	.32	.470	108
PartnerConcentration	1.2103666852	2.0192526272	108
Seasonality	.65587028221	.21356904831	108
Distance	4.46704	.927093	108
Language	.96211356	2.899998540	108
Ethnicity	.50330643	.751750570	108
Urban	18.17	3.077	108

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.141	.072	.183
	HomeConcentration	.141	1.000	-.501	.020
	Congestion	.072	-.501	1.000	-.085
	GLHR	.183	.020	-.085	1.000
	GJFK	-.017	-.543	.725	-.058
	PartnerConcentration	.187	-.142	-.222	-.133
	Seasonality	.090	-.168	.188	-.114
	Distance	-.252	.241	-.310	-.174
	Language	.160	-.008	.034	.515
	Ethnicity	.119	-.147	.259	.086
	Urban	.309	-.082	.423	.161
Sig. (1-tailed)	Flights	.	.073	.231	.029
	HomeConcentration	.073	.	.000	.418
	Congestion	.231	.000	.	.192
	GLHR	.029	.418	.192	.
	GJFK	.432	.000	.000	.274
	PartnerConcentration	.027	.071	.011	.086
	Seasonality	.178	.041	.026	.121
	Distance	.004	.006	.001	.036
	Language	.049	.466	.362	.000
	Ethnicity	.110	.064	.003	.188
	Urban	.001	.198	.000	.048
N	Flights	108	108	108	108
	HomeConcentration	108	108	108	108

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	-.017	.187	.090	-.252
	HomeConcentration	-.543	-.142	-.168	.241
	Congestion	.725	-.222	.188	-.310
	GLHR	-.058	-.133	-.114	-.174
	GJFK	1.000	-.177	.145	-.263
	PartnerConcentration	-.177	1.000	-.108	-.109
	Seasonality	.145	-.108	1.000	-.163
	Distance	-.263	-.109	-.163	1.000
	Language	.141	-.193	-.037	-.240
	Ethnicity	.279	-.152	.115	-.286
	Urban	.227	-.056	-.167	-.132
Sig. (1-tailed)	Flights	.432	.027	.178	.004
	HomeConcentration	.000	.071	.041	.006
	Congestion	.000	.011	.026	.001
	GLHR	.274	.086	.121	.036
	GJFK	.	.034	.067	.003
	PartnerConcentration	.034	.	.133	.130
	Seasonality	.067	.133	.	.046
	Distance	.003	.130	.046	.
	Language	.073	.022	.353	.006
	Ethnicity	.002	.059	.118	.001
	Urban	.009	.283	.042	.086
N	Flights	108	108	108	108
	HomeConcentration	108	108	108	108

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.160	.119	.309
	HomeConcentration	-.008	-.147	-.082
	Congestion	.034	.259	.423
	GLHR	.515	.086	.161
	GJFK	.141	.279	.227
	PartnerConcentration	-.193	-.152	-.056
	Seasonality	-.037	.115	-.167
	Distance	-.240	-.286	-.132
	Language	1.000	.339	.017
	Ethnicity	.339	1.000	.042
	Urban	.017	.042	1.000
Sig. (1-tailed)	Flights	.049	.110	<.001
	HomeConcentration	.466	.064	.198
	Congestion	.362	.003	.000
	GLHR	.000	.188	.048
	GJFK	.073	.002	.009
	PartnerConcentration	.022	.059	.283
	Seasonality	.353	.118	.042
	Distance	.006	.001	.086
	Language	.	.000	.429
	Ethnicity	.000	.	.332
	Urban	.429	.332	.
N	Flights	108	108	108
	HomeConcentration	108	108	108

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	108	108	108	108
	GLHR	108	108	108	108
	GJFK	108	108	108	108
	PartnerConcentration	108	108	108	108
	Seasonality	108	108	108	108
	Distance	108	108	108	108
	Language	108	108	108	108
	Ethnicity	108	108	108	108
	Urban	108	108	108	108

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	108	108	108	108
GLHR	108	108	108	108
GJFK	108	108	108	108
PartnerConcentration	108	108	108	108
Seasonality	108	108	108	108
Distance	108	108	108	108
Language	108	108	108	108
Ethnicity	108	108	108	108
Urban	108	108	108	108

Correlations

	Language	Ethnicity	Urban
Congestion	108	108	108
GLHR	108	108	108
GJFK	108	108	108
PartnerConcentration	108	108	108
Seasonality	108	108	108
Distance	108	108	108
Language	108	108	108
Ethnicity	108	108	108
Urban	108	108	108

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, HomeConcentration, Seasonality, PartnerConcentration, Ethnicity, Distance, GLHR, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.554[a]	.307	.236	4.480	.307	4.302

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	10	97	<.001

a. Predictors: (Constant), Urban, Language, HomeConcentration, Seasonality, PartnerConcentration, Ethnicity, Distance, GLHR Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	863.484	10	86.348	4.302	<.001[b]
	Residual	1947.145	97	20.074		
	Total	2810.630	107			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, HomeConcentration, Seasonality, PartnerConcentration, Ethnicity, Distance, GLHR, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-7.206	5.394		-1.336	.185
	HomeConcentration	.566	.192	.327	2.943	.004
	Congestion	.510	.789	.096	.646	.520
	GLHR	2.788	2.567	.115	1.086	.280
	GJFK	-.157	1.449	-.014	-.109	.914
	PartnerConcentration	.826	.249	.325	3.310	.001
	Seasonality	4.877	2.194	.203	2.223	.029
	Distance	-.699	.543	-.126	-1.287	.201
	Language	.197	.192	.111	1.024	.308
	Ethnicity	.513	.652	.075	.788	.433
	Urban	.516	.170	.310	3.038	.003

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.579	1.727
	Congestion	.325	3.080
	GLHR	.639	1.566
	GJFK	.404	2.473
	PartnerConcentration	.740	1.352
	Seasonality	.854	1.171
	Distance	.741	1.350
	Language	.604	1.654
	Ethnicity	.782	1.279
	Urban	.686	1.458

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.616	1.000	.00	.00	.00
	2	1.505	2.096	.00	.00	.00
	3	.995	2.579	.00	.03	.00
	4	.686	3.106	.00	.06	.00
	5	.538	3.508	.00	.02	.00
	6	.373	4.212	.00	.01	.00
	7	.158	6.465	.00	.62	.00
	8	.078	9.213	.00	.14	.00
	9	.035	13.652	.00	.00	.06
	10	.011	24.618	.03	.03	.53
	11	.005	36.608	.97	.09	.41

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.15	.00	.04	.00	.00	.15
	3	.11	.12	.03	.00	.00	.00
	4	.03	.01	.57	.00	.00	.01
	5	.17	.10	.04	.00	.00	.06
	6	.40	.01	.00	.00	.00	.70
	7	.02	.41	.10	.10	.01	.04
	8	.02	.05	.03	.64	.06	.01
	9	.04	.14	.01	.01	.48	.00
	10	.04	.10	.01	.14	.01	.00
	11	.02	.07	.17	.10	.44	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.02	.00
	3	.08	.00
	4	.00	.00
	5	.48	.00
	6	.36	.00
	7	.01	.00
	8	.01	.03
	9	.03	.13
	10	.01	.81
	11	.01	.03

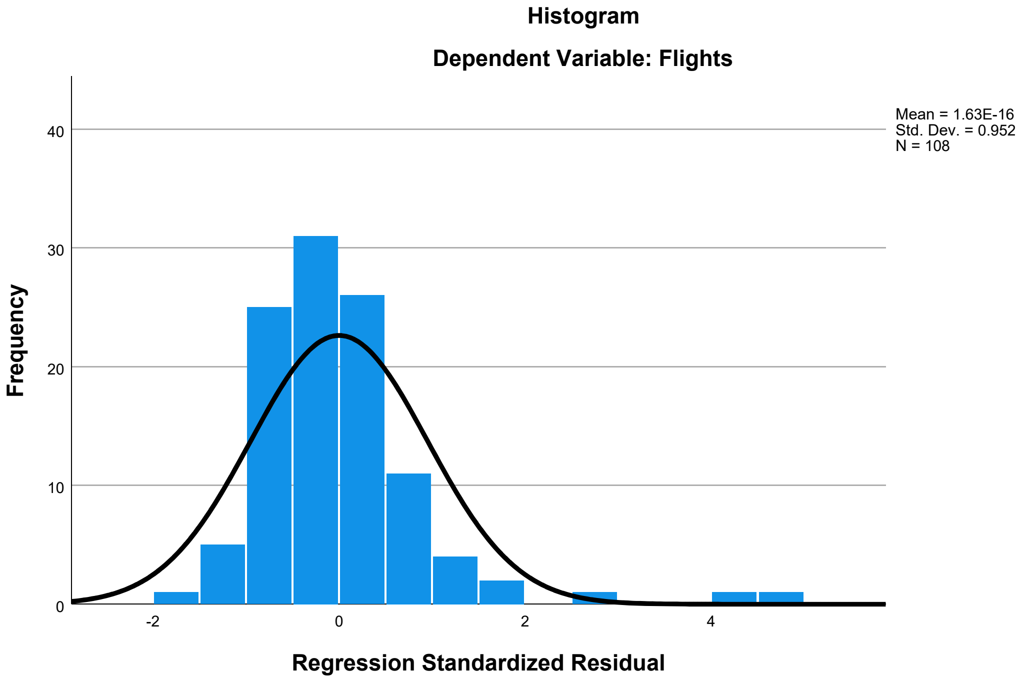
a. Dependent Variable: Flights

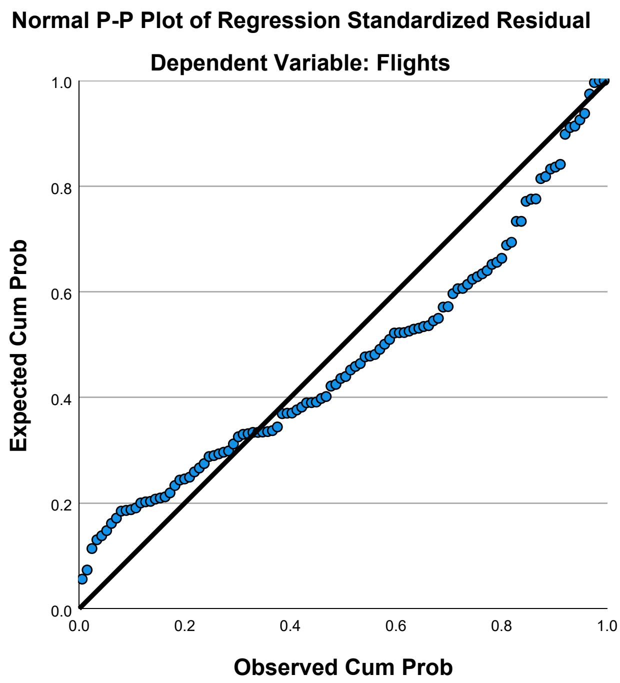
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.39	16.52	8.35	2.841	108
Residual	-7.129	22.079	.000	4.266	108
Std. Predicted Value	-2.450	2.876	.000	1.000	108
Std. Residual	-1.591	4.928	.000	.952	108

a. Dependent Variable: Flights

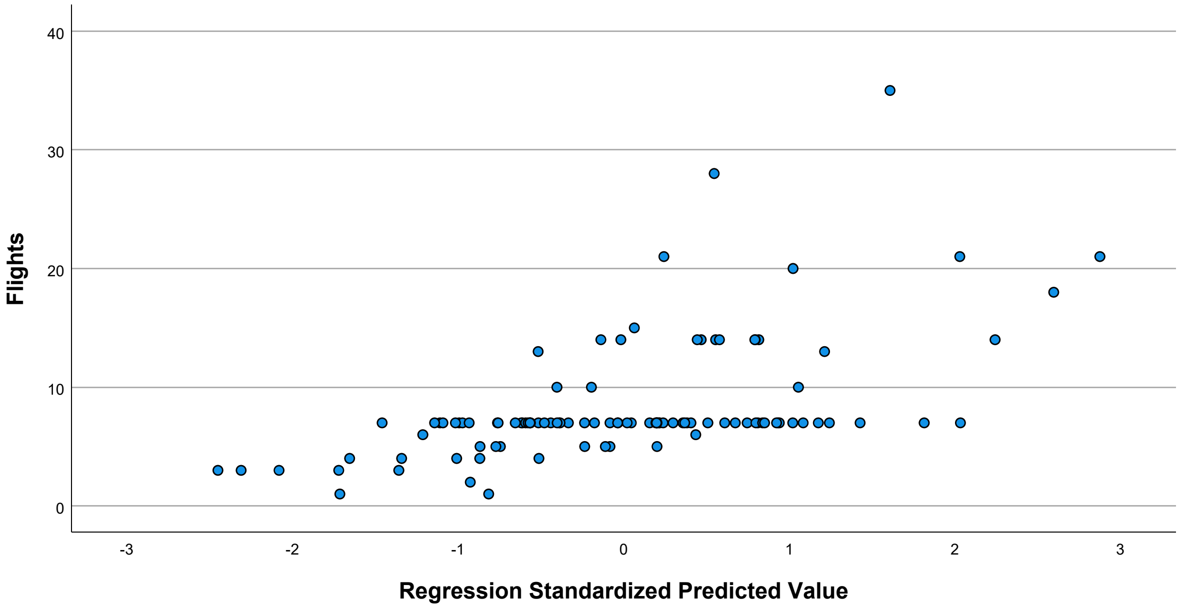
Charts


Histogram
Dependent Variable: Flights
Mean = 1.63E-16
Std. Dev. = 0.952
N = 108
Frequency
40
30
20
10
0
-2
0
2
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob

Scatterplot

Dependent Variable: Flights



Regression

```
[DataSet14] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Alliance
s\2017 Sky.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.58	4.889	122
HomeConcentration	4.5585292951	3.1867697942	122
Congestion	4.75	.932	122
GLHR	.07	.249	122
GJFK	.30	.462	122
PartnerConcentration	1.4095340328	2.0868103931	122
Seasonality	.71450080007	.21387581371	122
Distance	4.40146	.971667	122
Language	1.02702286	2.927810931	122
Ethnicity	.44539101	.654046723	122
Urban	17.82	3.209	122

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.164	.064	.152
	HomeConcentration	.164	1.000	-.405	-.021
	Congestion	.064	-.405	1.000	-.142
	GLHR	.152	-.021	-.142	1.000
	GJFK	.027	-.356	.718	-.103
	PartnerConcentration	.261	-.132	-.141	-.150
	Seasonality	-.050	.023	-.025	-.072
	Distance	-.179	.156	-.153	-.110
	Language	.134	-.031	-.001	.459
	Ethnicity	.107	-.067	.236	.080
	Urban	.237	-.197	.471	.036
Sig. (1-tailed)	Flights	.	.036	.243	.047
	HomeConcentration	.036	.	.000	.410
	Congestion	.243	.000	.	.060
	GLHR	.047	.410	.060	.
	GJFK	.382	.000	.000	.130
	PartnerConcentration	.002	.073	.061	.050
	Seasonality	.293	.399	.390	.214
	Distance	.025	.043	.046	.113
	Language	.070	.365	.494	.000
	Ethnicity	.121	.231	.004	.190
	Urban	.004	.015	.000	.348
N	Flights	122	122	122	122
	HomeConcentration	122	122	122	122

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.027	.261	-.050	-.179
	HomeConcentration	-.356	-.132	.023	.156
	Congestion	.718	-.141	-.025	-.153
	GLHR	-.103	-.150	-.072	-.110
	GJFK	1.000	-.148	.058	-.263
	PartnerConcentration	-.148	1.000	-.089	-.044
	Seasonality	.058	-.089	1.000	-.210
	Distance	-.263	-.044	-.210	1.000
	Language	.184	-.215	.094	-.310
	Ethnicity	.258	-.153	.098	-.237
	Urban	.366	-.012	-.271	-.093
Sig. (1-tailed)	Flights	.382	.002	.293	.025
	HomeConcentration	.000	.073	.399	.043
	Congestion	.000	.061	.390	.046
	GLHR	.130	.050	.214	.113
	GJFK	.	.052	.262	.002
	PartnerConcentration	.052	.	.166	.315
	Seasonality	.262	.166	.	.010
	Distance	.002	.315	.010	.
	Language	.021	.009	.152	.000
	Ethnicity	.002	.046	.143	.004
	Urban	.000	.450	.001	.153
N	Flights	122	122	122	122
	HomeConcentration	122	122	122	122

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.134	.107	.237
	HomeConcentration	-.031	-.067	-.197
	Congestion	-.001	.236	.471
	GLHR	.459	.080	.036
	GJFK	.184	.258	.366
	PartnerConcentration	-.215	-.153	-.012
	Seasonality	.094	.098	-.271
	Distance	-.310	-.237	-.093
	Language	1.000	.313	.036
	Ethnicity	.313	1.000	.049
	Urban	.036	.049	1.000
Sig. (1-tailed)	Flights	.070	.121	.004
	HomeConcentration	.365	.231	.015
	Congestion	.494	.004	.000
	GLHR	.000	.190	.348
	GJFK	.021	.002	.000
	PartnerConcentration	.009	.046	.450
	Seasonality	.152	.143	.001
	Distance	.000	.004	.153
	Language	.	.000	.347
	Ethnicity	.000	.	.297
	Urban	.347	.297	.
N	Flights	122	122	122
	HomeConcentration	122	122	122

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	122	122	122	122
	GLHR	122	122	122	122
	GJFK	122	122	122	122
	PartnerConcentration	122	122	122	122
	Seasonality	122	122	122	122
	Distance	122	122	122	122
	Language	122	122	122	122
	Ethnicity	122	122	122	122
	Urban	122	122	122	122

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	122	122	122	122
GLHR	122	122	122	122
GJFK	122	122	122	122
PartnerConcentration	122	122	122	122
Seasonality	122	122	122	122
Distance	122	122	122	122
Language	122	122	122	122
Ethnicity	122	122	122	122
Urban	122	122	122	122

Correlations

	Language	Ethnicity	Urban
Congestion	122	122	122
GLHR	122	122	122
GJFK	122	122	122
PartnerConcentration	122	122	122
Seasonality	122	122	122
Distance	122	122	122
Language	122	122	122
Ethnicity	122	122	122
Urban	122	122	122

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, GLHR, HomeConcentration, Ethnicity, Seasonality, Language, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.532[a]	.283	.218	4.323	.283	4.375

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	111	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, GLHR, HomeConcentration, Ethnicity, Seasonality, Language Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	817.487	10	81.749	4.375	<.001[b]
	Residual	2074.194	111	18.686		
	Total	2891.680	121			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, GLHR, HomeConcentration, Ethnicity, Seasonality, Language, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-3.810	4.795		-.795	.429
	HomeConcentration	.519	.140	.338	3.693	<.001
	Congestion	.919	.687	.175	1.337	.184
	GLHR	3.296	1.867	.168	1.765	.080
	GJFK	-.592	1.313	-.056	-.451	.653
	PartnerConcentration	.886	.205	.378	4.317	<.001
	Seasonality	.399	2.005	.017	.199	.843
	Distance	-.566	.455	-.113	-1.243	.217
	Language	.151	.171	.090	.884	.379
	Ethnicity	.594	.664	.079	.895	.373
	Urban	.346	.147	.227	2.347	.021

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.771	1.298
	Congestion	.376	2.656
	GLHR	.717	1.395
	GJFK	.420	2.379
	PartnerConcentration	.843	1.187
	Seasonality	.840	1.191
	Distance	.788	1.268
	Language	.617	1.621
	Ethnicity	.819	1.221
	Urban	.690	1.450

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.760	1.000	.00	.00	.00
	2	1.438	2.168	.00	.00	.00
	3	.940	2.682	.00	.02	.00
	4	.613	3.320	.00	.08	.00
	5	.516	3.618	.00	.01	.00
	6	.412	4.048	.00	.03	.00
	7	.186	6.029	.00	.75	.00
	8	.082	9.081	.00	.00	.00
	9	.034	14.140	.00	.01	.03
	10	.013	23.202	.01	.03	.63
	11	.005	35.873	.99	.07	.33

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.16	.00	.05	.00	.00	.16
	3	.19	.14	.04	.00	.00	.00
	4	.02	.03	.62	.00	.00	.03
	5	.09	.14	.06	.00	.00	.02
	6	.42	.00	.01	.00	.00	.67
	7	.07	.26	.12	.03	.01	.03
	8	.03	.01	.00	.62	.05	.04
	9	.01	.16	.02	.00	.63	.01
	10	.00	.12	.00	.10	.05	.01
	11	.01	.14	.07	.25	.25	.04

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.02	.00
	3	.08	.00
	4	.00	.00
	5	.60	.00
	6	.24	.00
	7	.00	.00
	8	.00	.03
	9	.01	.20
	10	.03	.63
	11	.00	.14

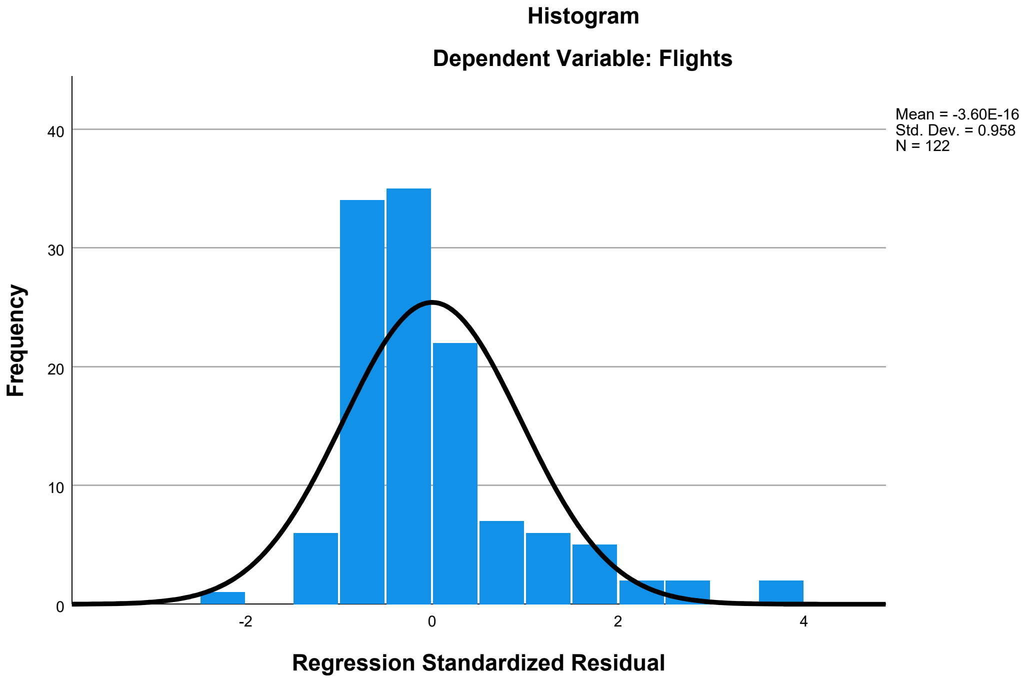
a. Dependent Variable: Flights

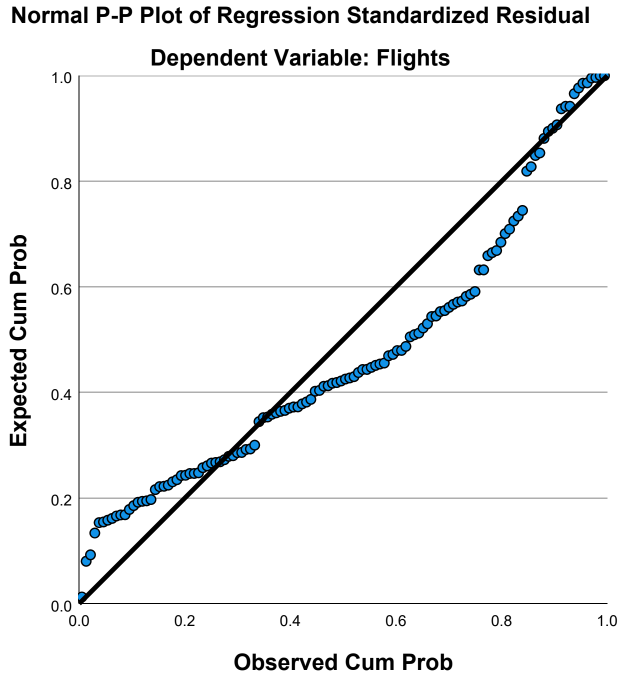
Residuals Statistics[a]

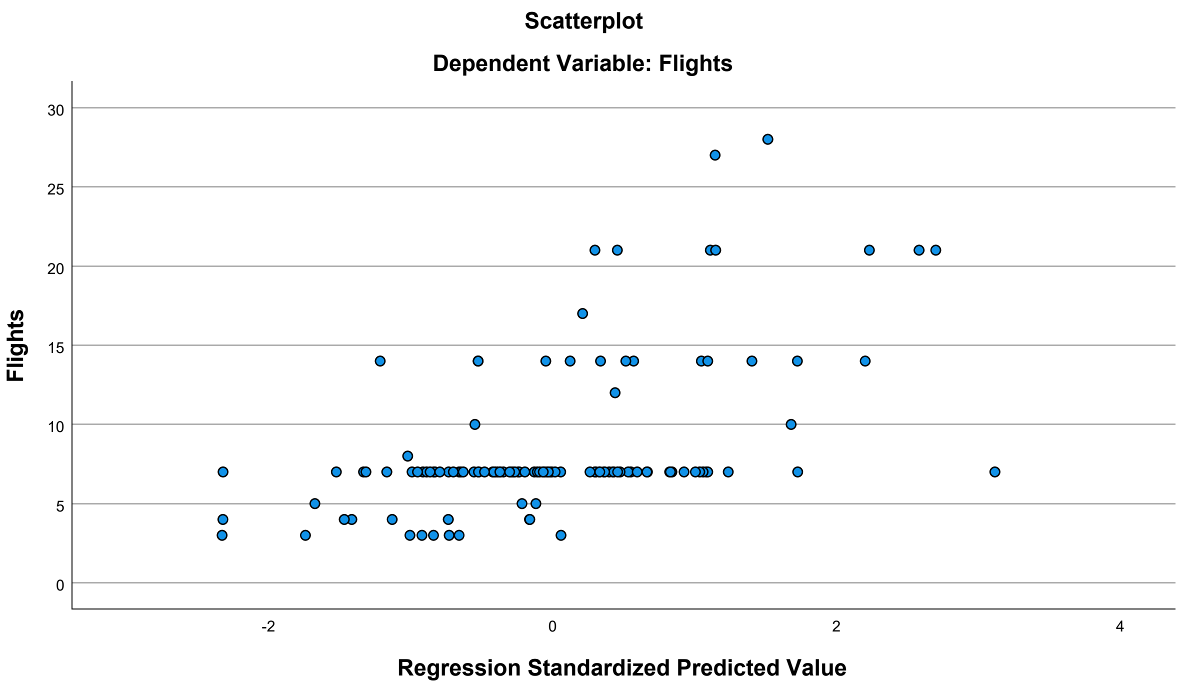
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.53	16.68	8.58	2.599	122
Residual	-9.680	15.478	.000	4.140	122
Std. Predicted Value	-2.330	3.116	.000	1.000	122
Std. Residual	-2.239	3.581	.000	.958	122

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -3.60E-16
Std. Dev. = 0.958
N = 122
Frequency
0
10
20
30
40
-2
0
2
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
30
25
20
15
10
5
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet16] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\JVs\1997
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Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.43	2.619	21
HomeConcentration	3.5792723810	2.1426718335	21
Congestion	4.48	.814	21
GLHR	.00	.000	21
GJFK	.05	.218	21
PartnerConcentration	1.321495	2.1437491	21
Seasonality	.59563829028	.14523656098	21
Distance	4.16419	.603019	21
Language	.61618071	2.021460949	21
Ethnicity	.32229190	.480900943	21
Urban	17.00	3.017	21

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.281	-.007	.
	HomeConcentration	.281	1.000	-.262	.
	Congestion	-.007	-.262	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.313	-.069	.429	.
	PartnerConcentration	.056	-.225	-.295	.
	Seasonality	.117	.023	.084	.
	Distance	-.180	.008	-.009	.
	Language	.392	.437	-.180	.
	Ethnicity	.718	.554	-.123	.
	Urban	-.076	-.434	.570	.
Sig. (1-tailed)	Flights	.	.109	.488	.000
	HomeConcentration	.109	.	.126	.000
	Congestion	.488	.126	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.084	.383	.026	.000
	PartnerConcentration	.404	.164	.097	.000
	Seasonality	.307	.460	.358	.000
	Distance	.217	.486	.485	.000
	Language	.039	.024	.217	.000
	Ethnicity	.000	.005	.297	.000
	Urban	.372	.025	.003	.000
N	Flights	21	21	21	21
	HomeConcentration	21	21	21	21
	Congestion	21	21	21	21
	GLHR	21	21	21	21
	GJFK	21	21	21	21
	PartnerConcentration	21	21	21	21
	Seasonality	21	21	21	21
	Distance	21	21	21	21
	Language	21	21	21	21
	Ethnicity	21	21	21	21
	Urban	21	21	21	21

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.313	.056	.117	-.180
	HomeConcentration	-.069	-.225	.023	.008
	Congestion	.429	-.295	.084	-.009
	GLHR	.	.	.	.
	GJFK	1.000	-.141	-.038	-.201
	PartnerConcentration	-.141	1.000	.221	-.277
	Seasonality	-.038	.221	1.000	-.103
	Distance	-.201	-.277	-.103	1.000
	Language	-.069	-.196	-.010	-.173
	Ethnicity	-.029	-.127	.043	-.170
	Urban	.380	-.230	.178	-.004
Sig. (1-tailed)	Flights	.084	.404	.307	.217
	HomeConcentration	.383	.164	.460	.486
	Congestion	.026	.097	.358	.485
	GLHR	.000	.000	.000	.000
	GJFK	.	.271	.435	.191
	PartnerConcentration	.271	.	.168	.112
	Seasonality	.435	.168	.	.328
	Distance	.191	.112	.328	.
	Language	.384	.197	.483	.227
	Ethnicity	.450	.292	.426	.231
	Urban	.045	.158	.220	.493
N	Flights	21	21	21	21
	HomeConcentration	21	21	21	21
	Congestion	21	21	21	21
	GLHR	21	21	21	21
	GJFK	21	21	21	21
	PartnerConcentration	21	21	21	21
	Seasonality	21	21	21	21
	Distance	21	21	21	21
	Language	21	21	21	21
	Ethnicity	21	21	21	21
	Urban	21	21	21	21

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.392	.718	-.076
	HomeConcentration	.437	.554	-.434
	Congestion	-.180	-.123	.570
	GLHR	.	.	.
	GJFK	-.069	-.029	.380
	PartnerConcentration	-.196	-.127	-.230
	Seasonality	-.010	.043	.178
	Distance	-.173	-.170	-.004
	Language	1.000	.291	-.069
	Ethnicity	.291	1.000	-.283
	Urban	-.069	-.283	1.000
Sig. (1-tailed)	Flights	.039	<.001	.372
	HomeConcentration	.024	.005	.025
	Congestion	.217	.297	.003
	GLHR	.000	.000	.000
	GJFK	.384	.450	.045
	PartnerConcentration	.197	.292	.158
	Seasonality	.483	.426	.220
	Distance	.227	.231	.493
	Language	.	.100	.383
	Ethnicity	.100	.	.107
	Urban	.383	.107	.
N	Flights	21	21	21
	HomeConcentration	21	21	21
	Congestion	21	21	21
	GLHR	21	21	21
	GJFK	21	21	21
	PartnerConcentration	21	21	21
	Seasonality	21	21	21
	Distance	21	21	21
	Language	21	21	21
	Ethnicity	21	21	21
	Urban	21	21	21

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Language, Seasonality, Ethnicity, GJFK, PartnerConcentration, Congestion, HomeConcentr...[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.892[a]	.796	.629	1.594	.796	4.772	9	11	.009

a. Predictors: (Constant), Urban, Distance, Language, Seasonality, Ethnicity, GJFK, PartnerConcentration, Congestion, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	109.181	9	12.131	4.772	.009[b]
	Residual	27.961	11	2.542		
	Total	137.143	20			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Language, Seasonality, Ethnicity, GJFK, PartnerConcentration, Congestion, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.649	4.685		.779	.452
	HomeConcentration	-.352	.248	-.288	-1.417	.184
	Congestion	.031	.586	.010	.053	.959
	GJFK	5.356	1.944	.446	2.754	.019
	PartnerConcentration	.317	.215	.259	1.474	.169
	Seasonality	1.520	2.720	.084	.559	.587
	Distance	.867	.679	.200	1.276	.228
	Language	.509	.211	.393	2.409	.035
	Ethnicity	4.468	.920	.821	4.859	<.001
	Urban	-.061	.175	-.071	-.351	.732

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.449	2.228
	Congestion	.558	1.791
	GJFK	.706	1.417
	PartnerConcentration	.599	1.671
	Seasonality	.815	1.228
	Distance	.758	1.320
	Language	.696	1.437
	Ethnicity	.650	1.539
	Urban	.457	2.187

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.500	1.000	.00	.00	.00
	2	1.188	2.339	.00	.01	.00
	3	1.011	2.536	.00	.00	.00
	4	.556	3.418	.00	.00	.00
	5	.534	3.489	.00	.00	.00
	6	.138	6.871	.00	.63	.00
	7	.040	12.780	.01	.00	.01
	8	.018	19.055	.00	.16	.39
	9	.011	24.561	.00	.10	.48
	10	.004	39.096	.99	.10	.12

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.02	.06	.00	.00	.28	.06
	3	.54	.08	.00	.00	.00	.00
	4	.10	.32	.00	.00	.42	.07
	5	.05	.14	.00	.00	.09	.47
	6	.02	.01	.00	.00	.08	.32
	7	.00	.08	.85	.05	.01	.01
	8	.23	.02	.08	.39	.02	.03
	9	.02	.00	.06	.07	.09	.00
	10	.01	.28	.00	.49	.02	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.01
	7	.00
	8	.03
	9	.77
	10	.19

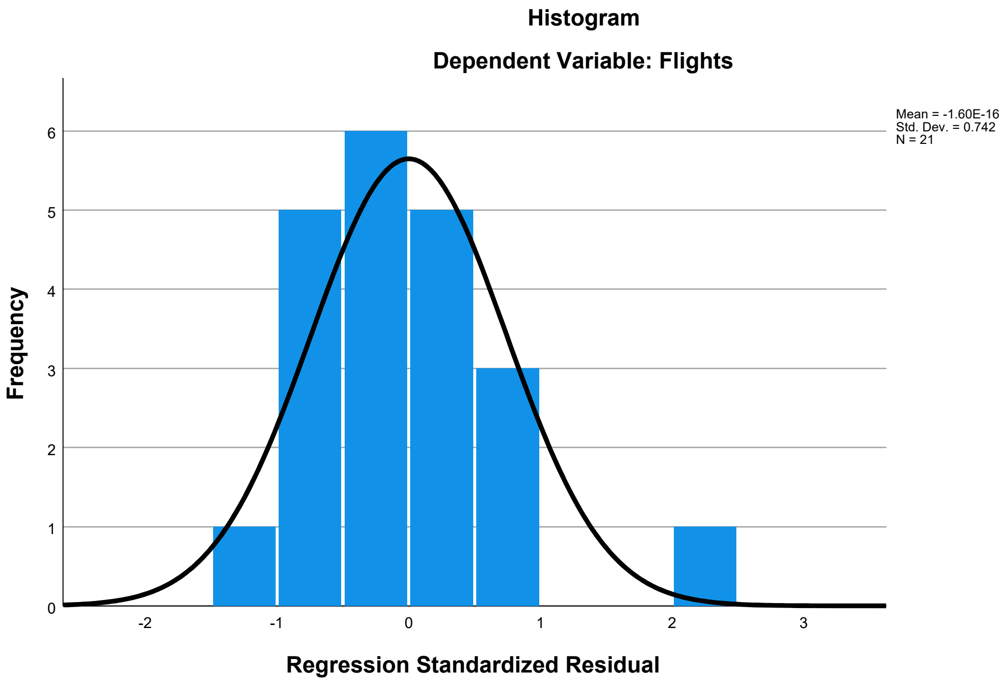
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.56	14.82	8.43	2.336	21
Residual	-1.705	3.435	.000	1.182	21
Std. Predicted Value	-1.229	2.733	.000	1.000	21
Std. Residual	-1.069	2.154	.000	.742	21

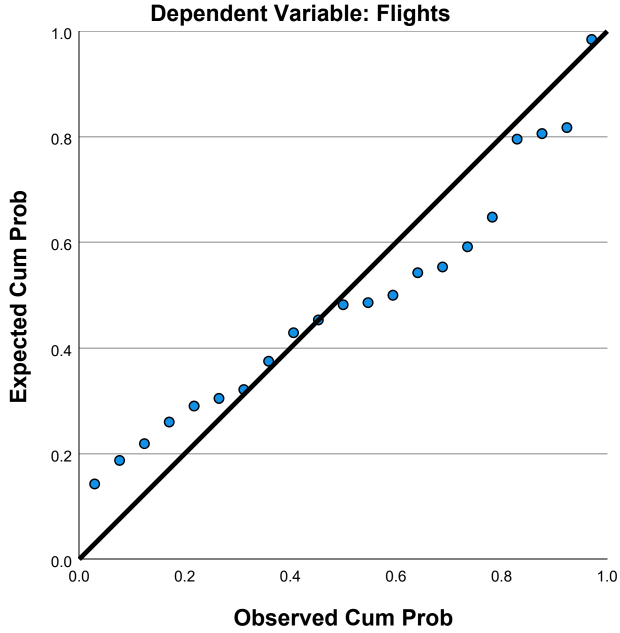
a. Dependent Variable: Flights

Charts



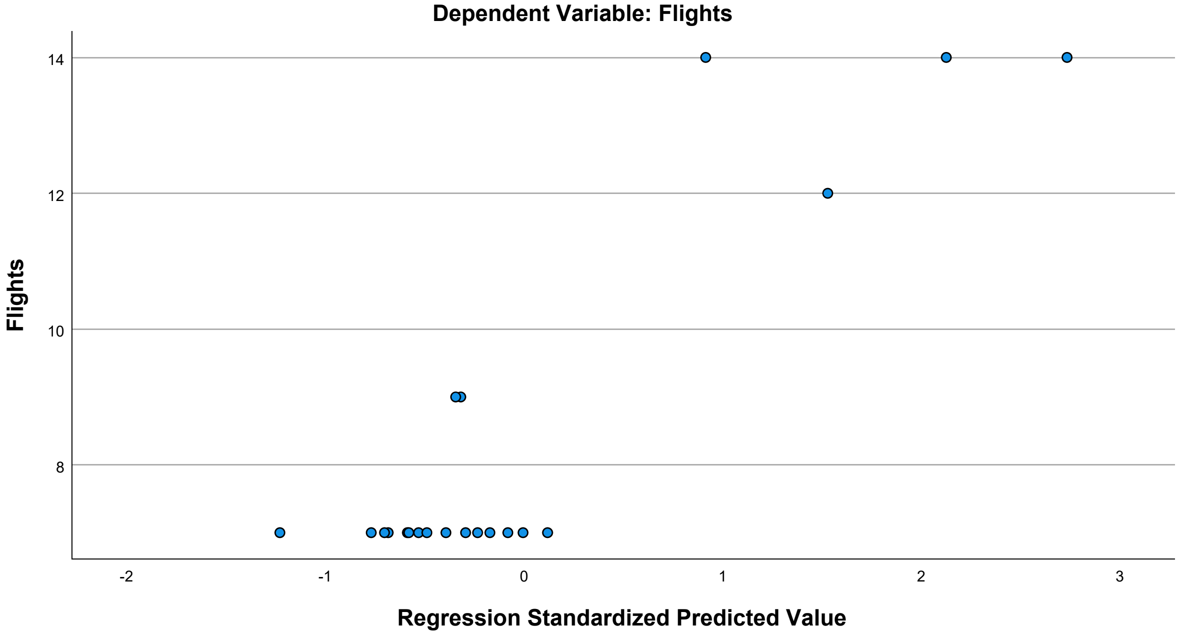
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

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[DataSet17] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\JVs\2002
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Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.91	3.260	23
HomeConcentration	3.8697808696	2.5816201342	23
Congestion	4.52	.790	23
GLHR	.00	.000	23
GJFK	.09	.288	23
PartnerConcentration	2.0886604783	2.3868759882	23
Seasonality	.61747491639	.21271472848	23
Distance	4.20178	.616892	23
Language	.56433674	1.935024837	23
Ethnicity	.32644409	.460187941	23
Urban	16.57	3.540	23

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.345	-.229	.
	HomeConcentration	.345	1.000	-.235	.
	Congestion	-.229	-.235	1.000	.
	GLHR	.	.	.	1.000
	GJFK	-.185	-.227	.590	.
	PartnerConcentration	.226	-.459	-.315	.
	Seasonality	-.129	-.062	-.005	.
	Distance	-.013	.044	-.013	.
	Language	-.085	.354	-.194	.
	Ethnicity	.013	.503	-.152	.
	Urban	-.200	-.486	.377	.
Sig. (1-tailed)	Flights	.	.054	.147	.000
	HomeConcentration	.054	.	.140	.000
	Congestion	.147	.140	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.199	.149	.002	.000
	PartnerConcentration	.150	.014	.072	.000
	Seasonality	.279	.390	.492	.000
	Distance	.476	.421	.477	.000
	Language	.350	.049	.188	.000
	Ethnicity	.477	.007	.245	.000
	Urban	.180	.009	.038	.000
N	Flights	23	23	23	23
	HomeConcentration	23	23	23	23
	Congestion	23	23	23	23
	GLHR	23	23	23	23
	GJFK	23	23	23	23
	PartnerConcentration	23	23	23	23
	Seasonality	23	23	23	23
	Distance	23	23	23	23
	Language	23	23	23	23
	Ethnicity	23	23	23	23
	Urban	23	23	23	23

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	-.185	.226	-.129	-.013
	HomeConcentration	-.227	-.459	-.062	.044
	Congestion	.590	-.315	-.005	-.013
	GLHR	.	.	.	.
	GJFK	1.000	-.010	.058	-.290
	PartnerConcentration	-.010	1.000	.203	-.052
	Seasonality	.058	.203	1.000	-.110
	Distance	-.290	-.052	-.110	1.000
	Language	-.090	-.265	-.125	-.179
	Ethnicity	-.045	-.277	.012	-.174
	Urban	.484	.012	.005	-.016
Sig. (1-tailed)	Flights	.199	.150	.279	.476
	HomeConcentration	.149	.014	.390	.421
	Congestion	.002	.072	.492	.477
	GLHR	.000	.000	.000	.000
	GJFK	.	.482	.397	.089
	PartnerConcentration	.482	.	.177	.408
	Seasonality	.397	.177	.	.309
	Distance	.089	.408	.309	.
	Language	.341	.111	.285	.207
	Ethnicity	.420	.100	.479	.213
	Urban	.010	.479	.491	.471
N	Flights	23	23	23	23
	HomeConcentration	23	23	23	23
	Congestion	23	23	23	23
	GLHR	23	23	23	23
	GJFK	23	23	23	23
	PartnerConcentration	23	23	23	23
	Seasonality	23	23	23	23
	Distance	23	23	23	23
	Language	23	23	23	23
	Ethnicity	23	23	23	23
	Urban	23	23	23	23

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	-.085	.013	-.200
	HomeConcentration	.354	.503	-.486
	Congestion	-.194	-.152	.377
	GLHR	.	.	.
	GJFK	-.090	-.045	.484
	PartnerConcentration	-.265	-.277	.012
	Seasonality	-.125	.012	.005
	Distance	-.179	-.174	-.016
	Language	1.000	.286	-.024
	Ethnicity	.286	1.000	-.304
	Urban	-.024	-.304	1.000
Sig. (1-tailed)	Flights	.350	.477	.180
	HomeConcentration	.049	.007	.009
	Congestion	.188	.245	.038
	GLHR	.000	.000	.000
	GJFK	.341	.420	.010
	PartnerConcentration	.111	.100	.479
	Seasonality	.285	.479	.491
	Distance	.207	.213	.471
	Language	.	.093	.456
	Ethnicity	.093	.	.079
	Urban	.456	.079	.
N	Flights	23	23	23
	HomeConcentration	23	23	23
	Congestion	23	23	23
	GLHR	23	23	23
	GJFK	23	23	23
	PartnerConcentration	23	23	23
	Seasonality	23	23	23
	Distance	23	23	23
	Language	23	23	23
	Ethnicity	23	23	23
	Urban	23	23	23

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, Distance, PartnerConcentration, Language, Ethnicity, Congestion, GJFK, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.667[a]	.445	.061	3.158	.445	1.160

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	13	.392

a. Predictors: (Constant), Urban, Seasonality, Distance, PartnerConcentration, Language, Ethnicity, Congestion, GJFK, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	104.138	9	11.571	1.160	.392[b]
	Residual	129.688	13	9.976		
	Total	233.826	22			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, Distance, PartnerConcentration, Language, Ethnicity, Congestion, GJFK, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.686	9.467		.284	.781
	HomeConcentration	1.072	.403	.849	2.663	.020
	Congestion	.639	1.297	.155	.493	.630
	GJFK	-2.834	3.502	-.250	-.809	.433
	PartnerConcentration	.818	.400	.599	2.043	.062
	Seasonality	-3.546	3.288	-.231	-1.078	.300
	Distance	-.937	1.234	-.177	-.760	.461
	Language	-.400	.407	-.237	-.982	.344
	Ethnicity	-.916	1.781	-.129	-.514	.616
	Urban	.204	.262	.221	.779	.450

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.420	2.384
	Congestion	.432	2.316
	GJFK	.446	2.244
	PartnerConcentration	.497	2.013
	Seasonality	.927	1.079
	Distance	.783	1.278
	Language	.730	1.369
	Ethnicity	.675	1.481
	Urban	.528	1.895

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.587	1.000	.00	.00	.00
	2	1.287	2.262	.00	.01	.00
	3	.886	2.727	.00	.00	.00
	4	.581	3.368	.00	.01	.00
	5	.397	4.073	.00	.01	.00
	6	.143	6.784	.00	.59	.00
	7	.084	8.869	.00	.00	.00
	8	.019	18.840	.00	.12	.19
	9	.012	22.976	.01	.07	.29
	10	.004	41.851	.99	.18	.51

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.04	.03	.00	.00	.22	.06
	3	.37	.03	.00	.00	.04	.01
	4	.00	.07	.00	.00	.56	.24
	5	.01	.31	.00	.00	.01	.40
	6	.09	.13	.01	.00	.01	.21
	7	.00	.04	.93	.01	.01	.02
	8	.01	.00	.00	.05	.10	.00
	9	.30	.06	.03	.82	.02	.01
	10	.18	.32	.02	.12	.02	.05

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.01
	7	.01
	8	.75
	9	.03
	10	.20

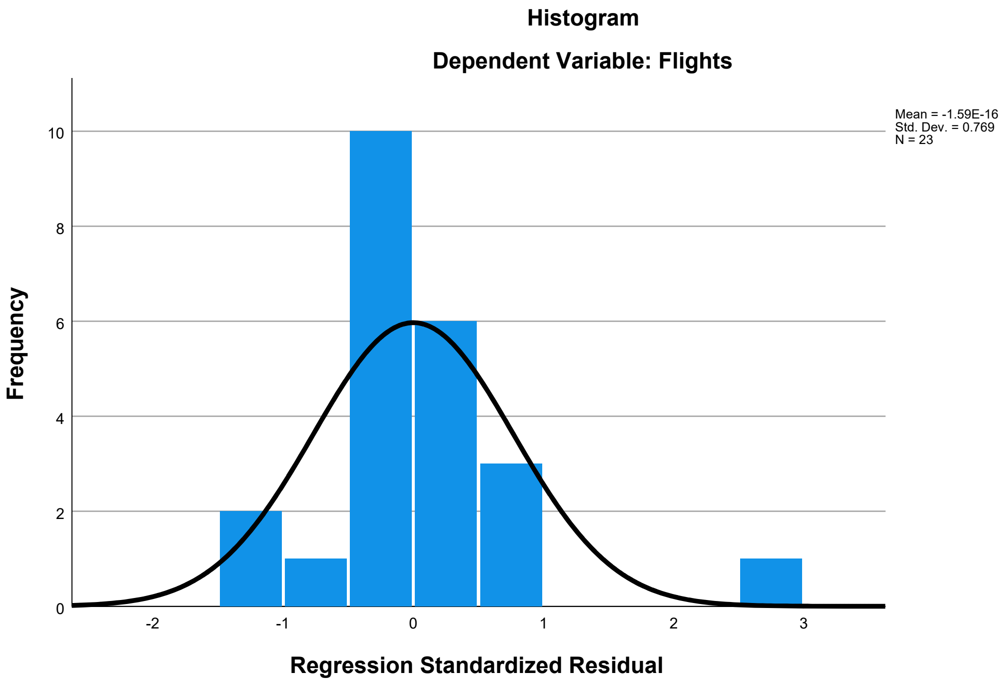
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.29	12.97	7.91	2.176	23
Residual	-4.706	8.061	.000	2.428	23
Std. Predicted Value	-1.665	2.326	.000	1.000	23
Std. Residual	-1.490	2.552	.000	.769	23

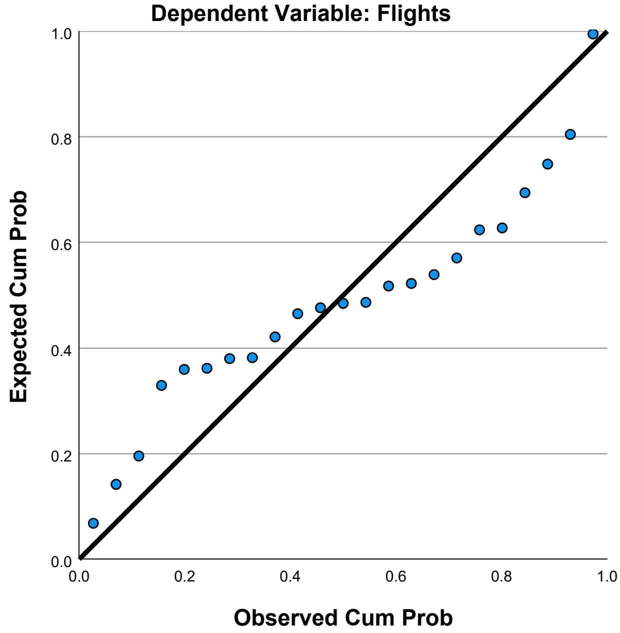
a. Dependent Variable: Flights

Charts



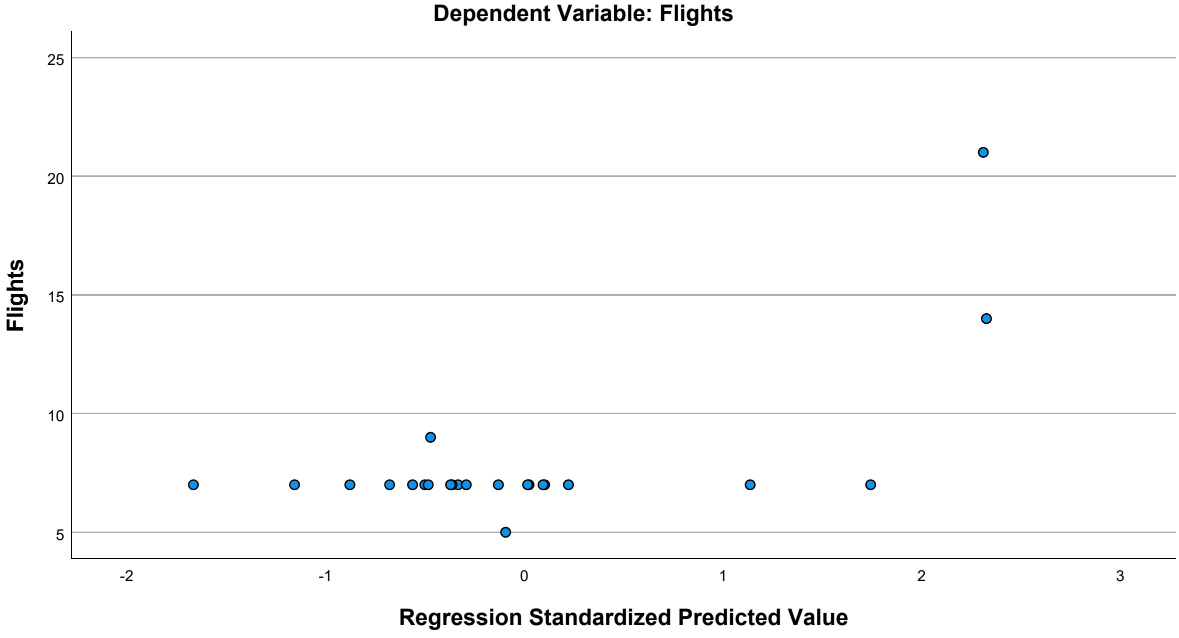
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.91	3.260	23
HomeConcentration	3.8697808696	2.5816201342	23
GLHR	.00	.000	23
GJFK	.09	.288	23
PartnerConcentration	2.0886604783	2.3868759882	23
Seasonality	.61747491639	.21271472848	23
Distance	4.20178	.616892	23
Language	.56433674	1.935024837	23
Ethnicity	.32644409	.460187941	23
Urban	16.57	3.540	23

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.345	.	-.185
	HomeConcentration	.345	1.000	.	-.227
	GLHR	.	.	1.000	.
	GJFK	-.185	-.227	.	1.000
	PartnerConcentration	.226	-.459	.	-.010
	Seasonality	-.129	-.062	.	.058
	Distance	-.013	.044	.	-.290
	Language	-.085	.354	.	-.090
	Ethnicity	.013	.503	.	-.045
	Urban	-.200	-.486	.	.484
Sig. (1-tailed)	Flights	.	.054	.000	.199
	HomeConcentration	.054	.	.000	.149
	GLHR	.000	.000	.	.000
	GJFK	.199	.149	.000	.
	PartnerConcentration	.150	.014	.000	.482
	Seasonality	.279	.390	.000	.397
	Distance	.476	.421	.000	.089
	Language	.350	.049	.000	.341
	Ethnicity	.477	.007	.000	.420
	Urban	.180	.009	.000	.010
N	Flights	23	23	23	23
	HomeConcentration	23	23	23	23

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.226	-.129	-.013	-.085
	HomeConcentration	-.459	-.062	.044	.354
	GLHR	.	.	.	.
	GJFK	-.010	.058	-.290	-.090
	PartnerConcentration	1.000	.203	-.052	-.265
	Seasonality	.203	1.000	-.110	-.125
	Distance	-.052	-.110	1.000	-.179
	Language	-.265	-.125	-.179	1.000
	Ethnicity	-.277	.012	-.174	.286
	Urban	.012	.005	-.016	-.024
Sig. (1-tailed)	Flights	.150	.279	.476	.350
	HomeConcentration	.014	.390	.421	.049
	GLHR	.000	.000	.000	.000
	GJFK	.482	.397	.089	.341
	PartnerConcentration	.	.177	.408	.111
	Seasonality	.177	.	.309	.285
	Distance	.408	.309	.	.207
	Language	.111	.285	.207	.
	Ethnicity	.100	.479	.213	.093
	Urban	.479	.491	.471	.456
N	Flights	23	23	23	23
	HomeConcentration	23	23	23	23

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.013	-.200
	HomeConcentration	.503	-.486
	GLHR	.	.
	GJFK	-.045	.484
	PartnerConcentration	-.277	.012
	Seasonality	.012	.005
	Distance	-.174	-.016
	Language	.286	-.024
	Ethnicity	1.000	-.304
	Urban	-.304	1.000
Sig. (1-tailed)	Flights	.477	.180
	HomeConcentration	.007	.009
	GLHR	.000	.000
	GJFK	.420	.010
	PartnerConcentration	.100	.479
	Seasonality	.479	.491
	Distance	.213	.471
	Language	.093	.456
	Ethnicity	.	.079
	Urban	.079	.
N	Flights	23	23
	HomeConcentration	23	23

Correlations

		Flights	HomeConcentration	GLHR	GJFK
	GLHR	23	23	23	23
	GJFK	23	23	23	23
	PartnerConcentration	23	23	23	23
	Seasonality	23	23	23	23
	Distance	23	23	23	23
	Language	23	23	23	23
	Ethnicity	23	23	23	23
	Urban	23	23	23	23

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	GLHR	23	23	23	23
	GJFK	23	23	23	23
	PartnerConcentration	23	23	23	23
	Seasonality	23	23	23	23
	Distance	23	23	23	23
	Language	23	23	23	23
	Ethnicity	23	23	23	23
	Urban	23	23	23	23

Correlations

		Ethnicity	Urban
	GLHR	23	23
	GJFK	23	23
	PartnerConcentration	23	23
	Seasonality	23	23
	Distance	23	23
	Language	23	23
	Ethnicity	23	23
	Urban	23	23

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, Distance, PartnerConcentration, Language, Ethnicity, GJFK, HomeConcentr...[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.660[a]	.435	.112	3.072	.435	1.347

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	14	.299

a. Predictors: (Constant), Urban, Seasonality, Distance, PartnerConcentration, Language, Ethnicity, GJFK, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	101.714	8	12.714	1.347	.299[b]
	Residual	132.112	14	9.437		
	Total	233.826	22			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, Distance, PartnerConcentration, Language, Ethnicity, GJFK, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	5.665	7.087		.799	.437
	HomeConcentration	1.020	.378	.807	2.700	.017
	GJFK	-1.857	2.807	-.164	-.662	.519
	PartnerConcentration	.713	.330	.522	2.162	.048
	Seasonality	-3.444	3.192	-.225	-1.079	.299
	Distance	-.855	1.189	-.162	-.719	.484
	Language	-.434	.390	-.258	-1.113	.284
	Ethnicity	-1.012	1.721	-.143	-.588	.566
	Urban	.197	.254	.214	.776	.451

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.451	2.216
	GJFK	.656	1.525
	PartnerConcentration	.692	1.445
	Seasonality	.930	1.075
	Distance	.797	1.254
	Language	.753	1.329
	Ethnicity	.684	1.463
	Urban	.529	1.890

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	5.643	1.000	.00	.00	.00
	2	1.276	2.103	.00	.01	.06
	3	.884	2.526	.00	.00	.55
	4	.581	3.118	.00	.01	.00
	5	.376	3.873	.00	.02	.01
	6	.137	6.408	.00	.63	.11
	7	.081	8.333	.00	.00	.00
	8	.016	18.900	.01	.24	.27
	9	.006	30.625	.99	.09	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.01	.00	.00	.00	.01	.00
	2	.05	.00	.00	.23	.06	.00
	3	.04	.00	.00	.04	.01	.00
	4	.09	.00	.00	.58	.25	.00
	5	.44	.00	.00	.01	.43	.00
	6	.24	.03	.00	.01	.18	.02
	7	.03	.90	.02	.01	.02	.02
	8	.03	.00	.47	.11	.00	.68
	9	.08	.06	.51	.00	.04	.27

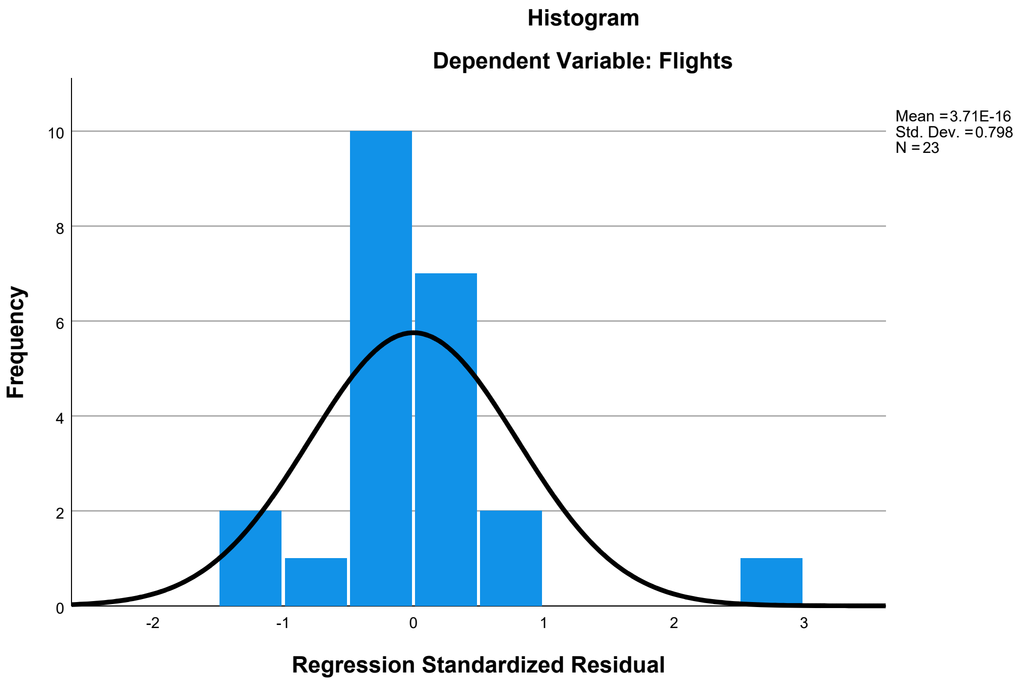
a. Dependent Variable: Flights

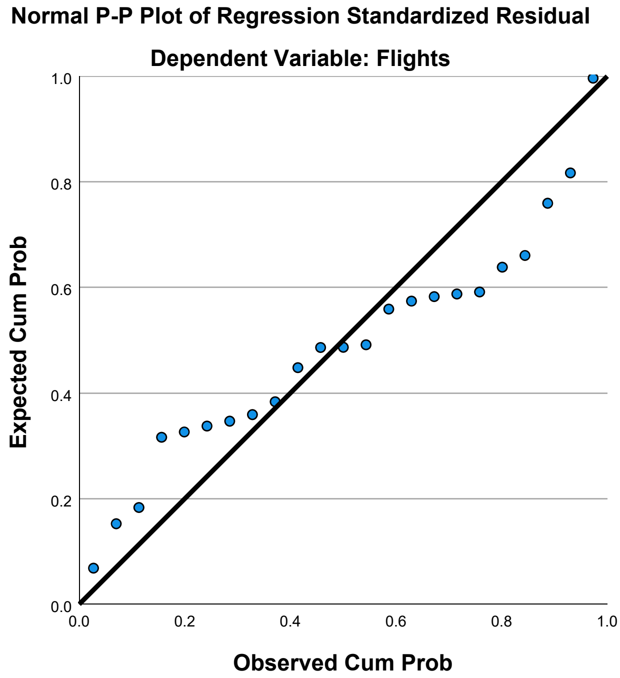
Residuals Statistics[a]

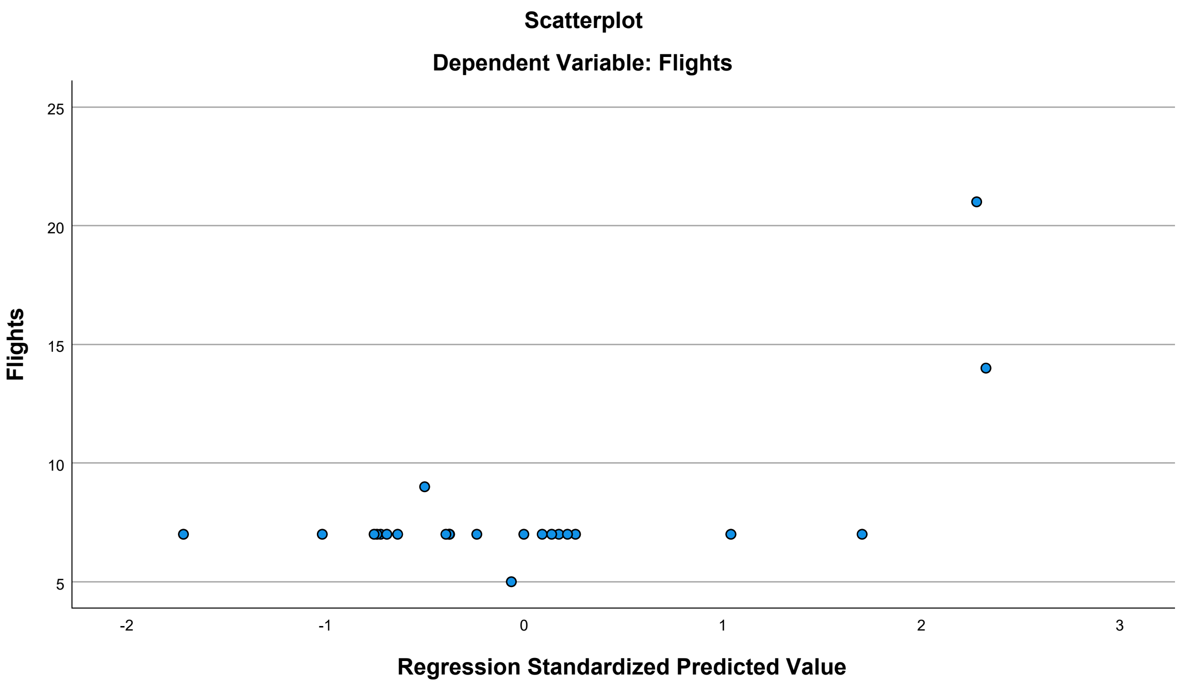
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.22	12.91	7.91	2.150	23
Residual	-4.572	8.187	.000	2.451	23
Std. Predicted Value	-1.715	2.325	.000	1.000	23
Std. Residual	-1.488	2.665	.000	.798	23

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.91	3.260	23
HomeConcentration	3.8697808696	2.5816201342	23
GLHR	.00	.000	23
GJFK	.09	.288	23
PartnerConcentration	2.0886604783	2.3868759882	23
Seasonality	.61747491639	.21271472848	23
Distance	4.20178	.616892	23
Language	.56433674	1.935024837	23
Urban	16.57	3.540	23

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.345	.	-.185
	HomeConcentration	.345	1.000	.	-.227
	GLHR	.	.	1.000	.
	GJFK	-.185	-.227	.	1.000
	PartnerConcentration	.226	-.459	.	-.010
	Seasonality	-.129	-.062	.	.058
	Distance	-.013	.044	.	-.290
	Language	-.085	.354	.	-.090
	Urban	-.200	-.486	.	.484
Sig. (1-tailed)	Flights	.	.054	.000	.199
	HomeConcentration	.054	.	.000	.149
	GLHR	.000	.000	.	.000
	GJFK	.199	.149	.000	.
	PartnerConcentration	.150	.014	.000	.482
	Seasonality	.279	.390	.000	.397
	Distance	.476	.421	.000	.089
	Language	.350	.049	.000	.341
	Urban	.180	.009	.000	.010
N	Flights	23	23	23	23
	HomeConcentration	23	23	23	23
	GLHR	23	23	23	23
	GJFK	23	23	23	23
	PartnerConcentration	23	23	23	23
	Seasonality	23	23	23	23
	Distance	23	23	23	23
	Language	23	23	23	23
	Urban	23	23	23	23

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.226	-.129	-.013	-.085
	HomeConcentration	-.459	-.062	.044	.354
	GLHR	.	.	.	.
	GJFK	-.010	.058	-.290	-.090
	PartnerConcentration	1.000	.203	-.052	-.265
	Seasonality	.203	1.000	-.110	-.125
	Distance	-.052	-.110	1.000	-.179
	Language	-.265	-.125	-.179	1.000
	Urban	.012	.005	-.016	-.024
Sig. (1-tailed)	Flights	.150	.279	.476	.350
	HomeConcentration	.014	.390	.421	.049
	GLHR	.000	.000	.000	.000
	GJFK	.482	.397	.089	.341
	PartnerConcentration	.	.177	.408	.111
	Seasonality	.177	.	.309	.285
	Distance	.408	.309	.	.207
	Language	.111	.285	.207	.
	Urban	.479	.491	.471	.456
N	Flights	23	23	23	23
	HomeConcentration	23	23	23	23
	GLHR	23	23	23	23
	GJFK	23	23	23	23
	PartnerConcentration	23	23	23	23
	Seasonality	23	23	23	23
	Distance	23	23	23	23
	Language	23	23	23	23
	Urban	23	23	23	23

Correlations

		Urban
Pearson Correlation	Flights	-.200
	HomeConcentration	-.486
	GLHR	.
	GJFK	.484
	PartnerConcentration	.012
	Seasonality	.005
	Distance	-.016
	Language	-.024
	Urban	1.000
Sig. (1-tailed)	Flights	.180
	HomeConcentration	.009
	GLHR	.000
	GJFK	.010
	PartnerConcentration	.479
	Seasonality	.491
	Distance	.471
	Language	.456
	Urban	.
N	Flights	23
	HomeConcentration	23
	GLHR	23
	GJFK	23
	PartnerConcentration	23
	Seasonality	23
	Distance	23
	Language	23
	Urban	23

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, Distance, PartnerConcentration, Language, GJFK, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.649[a]	.421	.151	3.004	.421	1.558

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	7	15	.222

a. Predictors: (Constant), Urban, Seasonality, Distance, PartnerConcentration, Language, GJFK, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	98.454	7	14.065	1.558	.222[b]
	Residual	135.373	15	9.025		
	Total	233.826	22			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, Distance, PartnerConcentration, Language, GJFK, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.820	6.786		.710	.488
	HomeConcentration	.953	.352	.755	2.705	.016
	GJFK	-1.988	2.736	-.176	-.727	.479
	PartnerConcentration	.731	.321	.535	2.276	.038
	Seasonality	-3.548	3.117	-.231	-1.138	.273
	Distance	-.743	1.148	-.141	-.647	.527
	Language	-.462	.379	-.274	-1.219	.242
	Urban	.219	.246	.237	.888	.388

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.496	2.016
	GJFK	.660	1.515
	PartnerConcentration	.698	1.433
	Seasonality	.933	1.071
	Distance	.818	1.222
	Language	.763	1.310
	Urban	.540	1.851

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	5.241	1.000	.00	.00	.00
	2	1.136	2.148	.00	.01	.11
	3	.874	2.449	.00	.00	.50
	4	.484	3.291	.00	.05	.00
	5	.159	5.735	.00	.51	.11
	6	.083	7.966	.00	.01	.00
	7	.016	18.215	.01	.26	.27
	8	.006	28.874	.99	.15	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language	Urban
1	1	.01	.00	.00	.00	.00
	2	.04	.00	.00	.35	.00
	3	.05	.00	.00	.11	.00
	4	.42	.00	.00	.39	.00
	5	.35	.01	.00	.02	.03
	6	.03	.91	.02	.01	.02
	7	.03	.00	.48	.11	.70
	8	.07	.07	.49	.01	.26

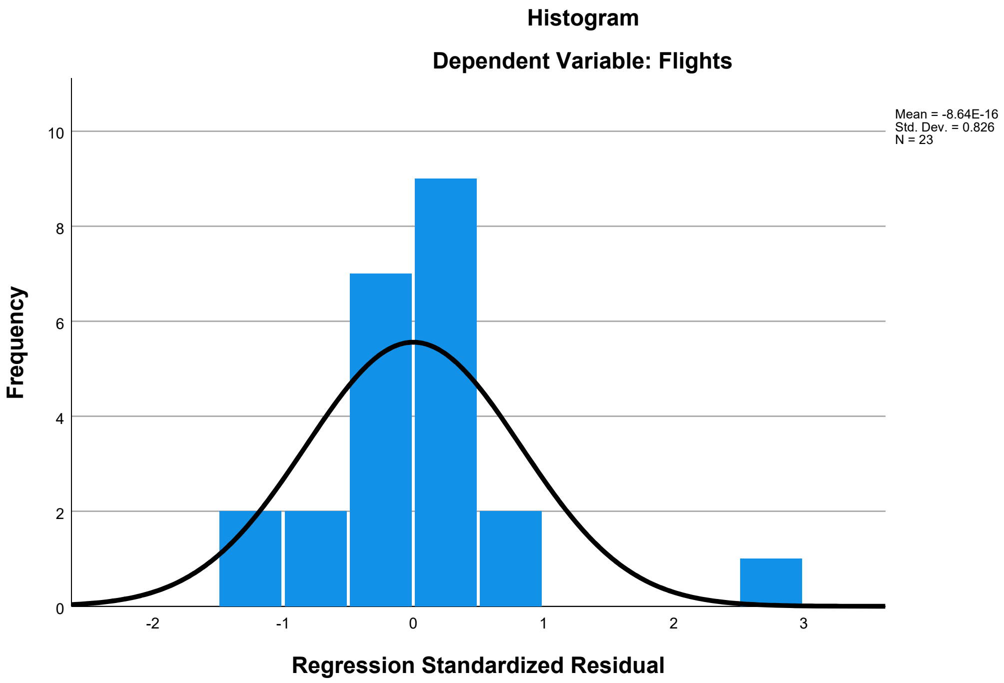
a. Dependent Variable: Flights

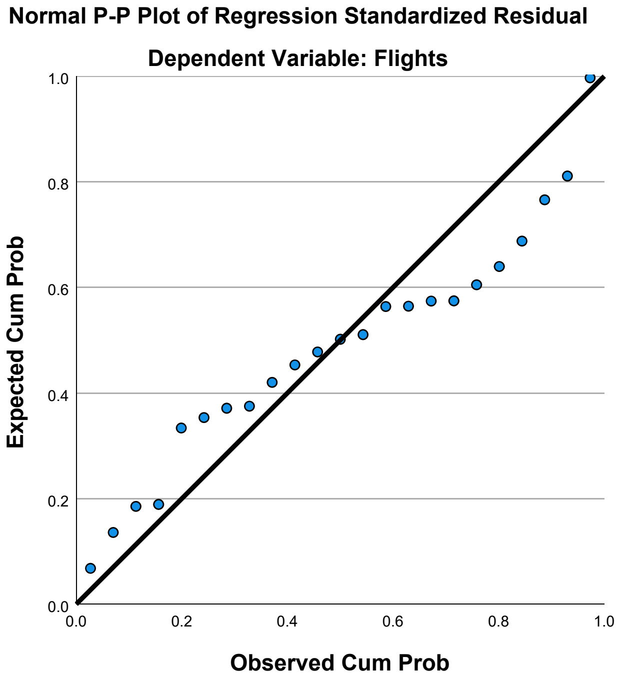
Residuals Statistics[a]

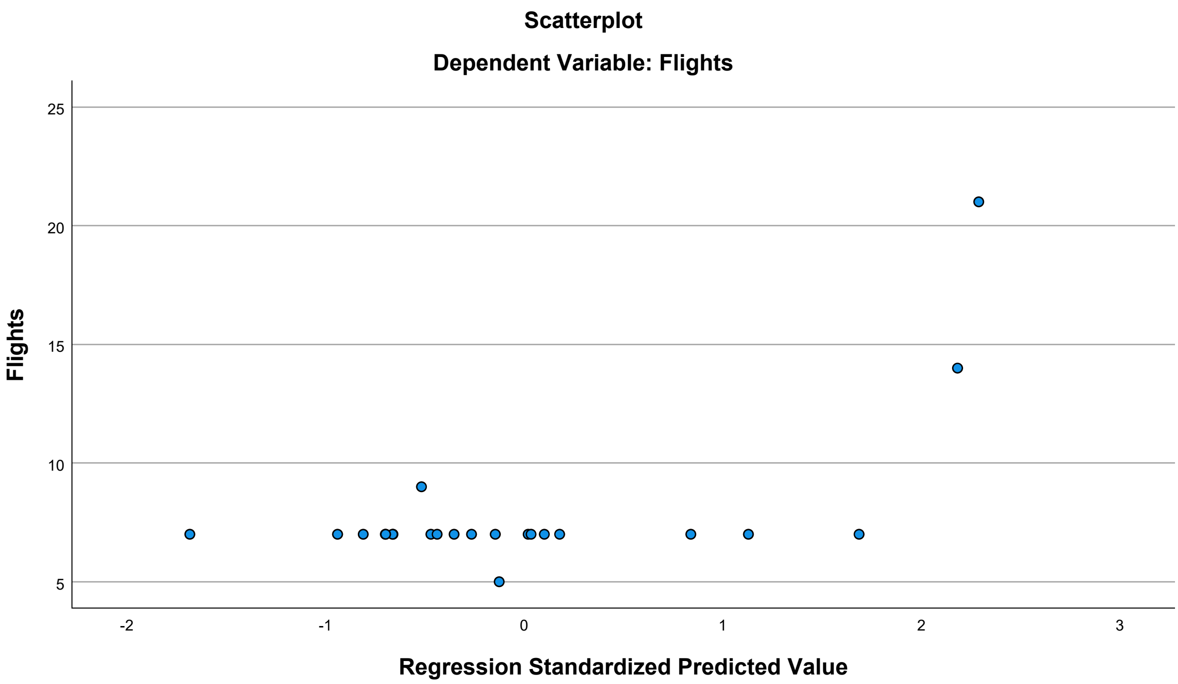
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.35	12.76	7.91	2.115	23
Residual	-4.481	8.245	.000	2.481	23
Std. Predicted Value	-1.683	2.289	.000	1.000	23
Std. Residual	-1.491	2.744	.000	.826	23

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.91	3.260	23
HomeConcentration	3.8697808696	2.5816201342	23
GLHR	.00	.000	23
GJFK	.09	.288	23
PartnerConcentration	2.0886604783	2.3868759882	23
Seasonality	.61747491639	.21271472848	23
Language	.56433674	1.935024837	23
Urban	16.57	3.540	23

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.345	.	-.185
	HomeConcentration	.345	1.000	.	-.227
	GLHR	.	.	1.000	.
	GJFK	-.185	-.227	.	1.000
	PartnerConcentration	.226	-.459	.	-.010
	Seasonality	-.129	-.062	.	.058
	Language	-.085	.354	.	-.090
	Urban	-.200	-.486	.	.484
Sig. (1-tailed)	Flights	.	.054	.000	.199
	HomeConcentration	.054	.	.000	.149
	GLHR	.000	.000	.	.000
	GJFK	.199	.149	.000	.
	PartnerConcentration	.150	.014	.000	.482
	Seasonality	.279	.390	.000	.397
	Language	.350	.049	.000	.341
	Urban	.180	.009	.000	.010
N	Flights	23	23	23	23
	HomeConcentration	23	23	23	23
	GLHR	23	23	23	23
	GJFK	23	23	23	23
	PartnerConcentration	23	23	23	23
	Seasonality	23	23	23	23
	Language	23	23	23	23
	Urban	23	23	23	23

Correlations

		PartnerConcentration	Seasonality	Language	Urban
Pearson Correlation	Flights	.226	-.129	-.085	-.200
	HomeConcentration	-.459	-.062	.354	-.486
	GLHR	.	.	.	.
	GJFK	-.010	.058	-.090	.484
	PartnerConcentration	1.000	.203	-.265	.012
	Seasonality	.203	1.000	-.125	.005
	Language	-.265	-.125	1.000	-.024
	Urban	.012	.005	-.024	1.000
Sig. (1-tailed)	Flights	.150	.279	.350	.180
	HomeConcentration	.014	.390	.049	.009
	GLHR	.000	.000	.000	.000
	GJFK	.482	.397	.341	.010
	PartnerConcentration	.	.177	.111	.479
	Seasonality	.177	.	.285	.491
	Language	.111	.285	.	.456
	Urban	.479	.491	.456	.
N	Flights	23	23	23	23
	HomeConcentration	23	23	23	23
	GLHR	23	23	23	23
	GJFK	23	23	23	23
	PartnerConcentration	23	23	23	23
	Seasonality	23	23	23	23
	Language	23	23	23	23
	Urban	23	23	23	23

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, Language, PartnerConcentration, GJFK, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.636[a]	.405	.182	2.949	.405	1.814

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	6	16	.160

a. Predictors: (Constant), Urban, Seasonality, Language, PartnerConcentration, GJFK, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	94.675	6	15.779	1.814	.160[b]
	Residual	139.151	16	8.697		
	Total	233.826	22			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, Language, PartnerConcentration, GJFK, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.057	5.178		.397	.696
	HomeConcentration	.928	.344	.735	2.699	.016
	GJFK	-1.363	2.513	-.120	-.542	.595
	PartnerConcentration	.740	.315	.542	2.349	.032
	Seasonality	-3.320	3.040	-.217	-1.092	.291
	Language	-.394	.358	-.234	-1.103	.286
	Urban	.188	.237	.204	.792	.440

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.502	1.991
	GJFK	.754	1.326
	PartnerConcentration	.699	1.430
	Seasonality	.945	1.058
	Language	.826	1.211
	Urban	.561	1.782

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	GJFK
1	1	4.292	1.000	.00	.01	.00
	2	1.136	1.944	.00	.01	.13
	3	.864	2.229	.00	.00	.57
	4	.473	3.012	.00	.07	.00
	5	.152	5.320	.00	.48	.15
	6	.073	7.653	.02	.01	.01
	7	.009	21.852	.98	.42	.13

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions			
		PartnerConcentration	Seasonality	Language	Urban
1	1	.01	.00	.00	.00
	2	.04	.00	.38	.00
	3	.06	.00	.11	.00
	4	.39	.00	.44	.00
	5	.38	.05	.02	.03
	6	.02	.90	.02	.07
	7	.10	.04	.03	.90

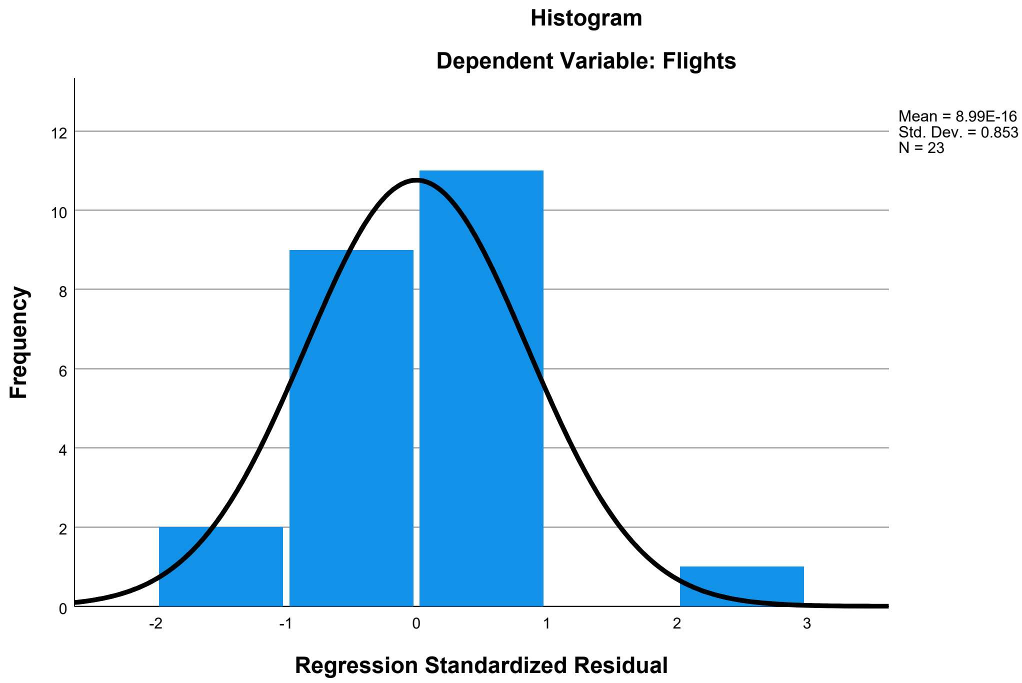
a. Dependent Variable: Flights

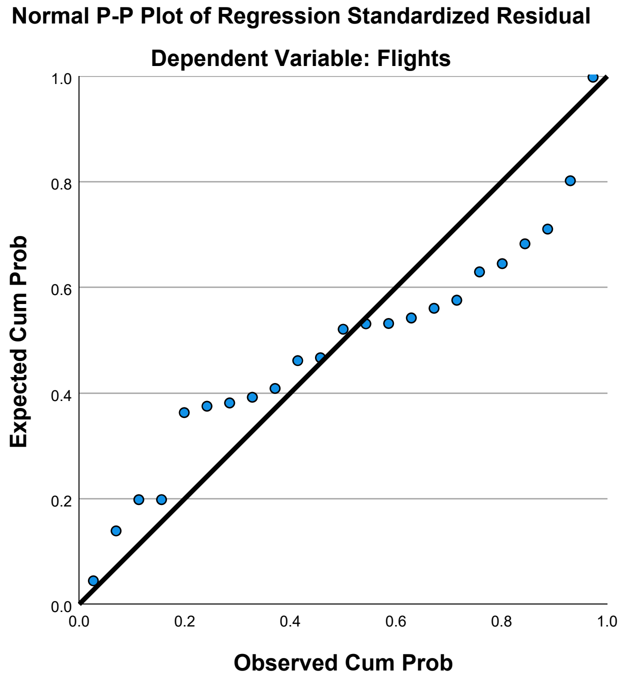
Residuals Statistics[a]

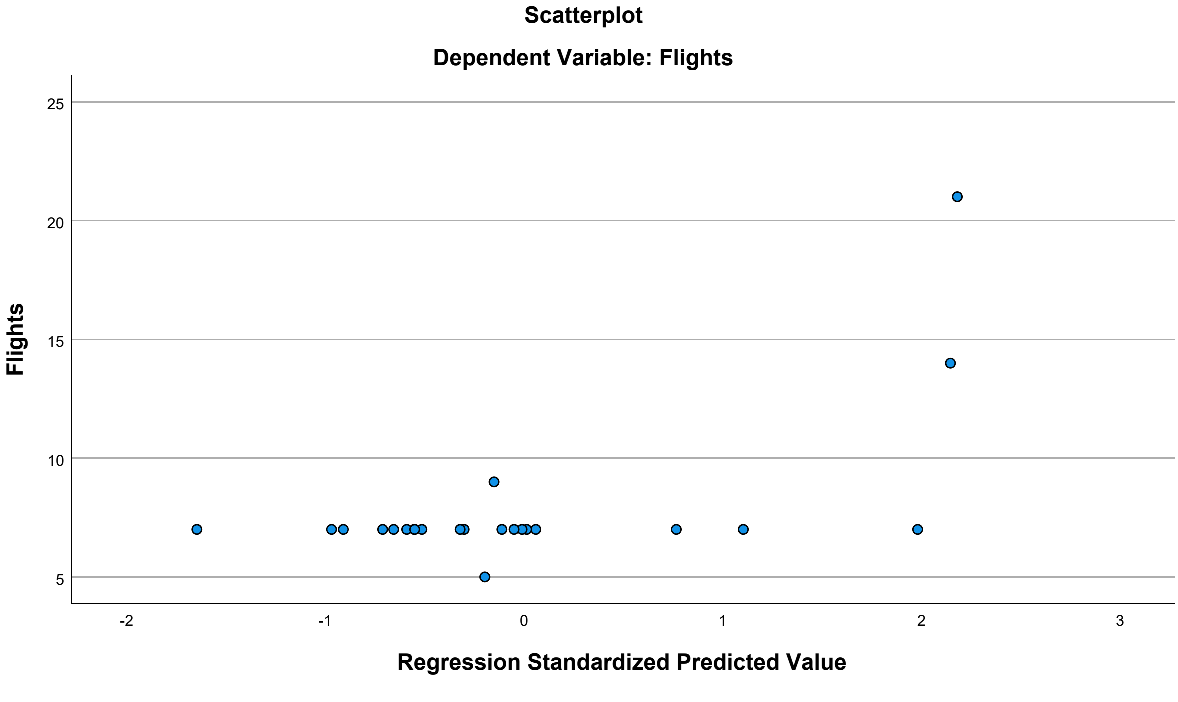
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.50	12.44	7.91	2.074	23
Residual	-5.022	8.564	.000	2.515	23
Std. Predicted Value	-1.647	2.180	.000	1.000	23
Std. Residual	-1.703	2.904	.000	.853	23

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
25
20
15
10
5
-2
-1
0
1
2
3

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.91	3.260	23
HomeConcentration	3.8697808696	2.5816201342	23
PartnerConcentration	2.0886604783	2.3868759882	23
Seasonality	.61747491639	.21271472848	23
Language	.56433674	1.935024837	23
Urban	16.57	3.540	23

Correlations

		Flights	HomeConcentration	PartnerConcentration	Seasonality
Pearson Correlation	Flights	1.000	.345	.226	-.129
	HomeConcentration	.345	1.000	-.459	-.062
	PartnerConcentration	.226	-.459	1.000	.203
	Seasonality	-.129	-.062	.203	1.000
	Language	-.085	.354	-.265	-.125
	Urban	-.200	-.486	.012	.005
Sig. (1-tailed)	Flights	.	.054	.150	.279
	HomeConcentration	.054	.	.014	.390
	PartnerConcentration	.150	.014	.	.177
	Seasonality	.279	.390	.177	.
	Language	.350	.049	.111	.285
	Urban	.180	.009	.479	.491
N	Flights	23	23	23	23
	HomeConcentration	23	23	23	23
	PartnerConcentration	23	23	23	23
	Seasonality	23	23	23	23
	Language	23	23	23	23
	Urban	23	23	23	23

Correlations

		Language	Urban
Pearson Correlation	Flights	-.085	-.200
	HomeConcentration	.354	-.486
	PartnerConcentration	-.265	.012
	Seasonality	-.125	.005
	Language	1.000	-.024
	Urban	-.024	1.000
Sig. (1-tailed)	Flights	.350	.180
	HomeConcentration	.049	.009
	PartnerConcentration	.111	.479
	Seasonality	.285	.491
	Language	.	.456
	Urban	.456	.
N	Flights	23	23
	HomeConcentration	23	23
	PartnerConcentration	23	23
	Seasonality	23	23
	Language	23	23
	Urban	23	23

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, Language, PartnerConcentration, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.628[a]	.394	.216	2.887	.394	2.210

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	5	17	.101

a. Predictors: (Constant), Urban, Seasonality, Language, PartnerConcentration, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	92.117	5	18.423	2.210	.101[b]
	Residual	141.709	17	8.336		
	Total	233.826	22			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, Language, PartnerConcentration, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.916	4.826		.604	.554
	HomeConcentration	.922	.336	.730	2.742	.014
	PartnerConcentration	.746	.308	.546	2.419	.027
	Seasonality	-3.417	2.971	-.223	-1.150	.266
	Language	-.375	.348	-.223	-1.077	.296
	Urban	.132	.209	.144	.632	.536

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.503	1.989
	PartnerConcentration	.700	1.428
	Seasonality	.949	1.054
	Language	.834	1.199
	Urban	.689	1.451

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	PartnerConcentration
1	1	4.189	1.000	.00	.01	.01
	2	1.074	1.975	.00	.01	.08
	3	.474	2.973	.00	.07	.41
	4	.178	4.853	.00	.43	.35
	5	.074	7.509	.02	.02	.03
	6	.010	20.204	.98	.47	.13

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Language	Urban
1	1	.01	.01	.00
	2	.00	.49	.00
	3	.00	.43	.00
	4	.02	.03	.04
	5	.93	.02	.08
	6	.04	.02	.88

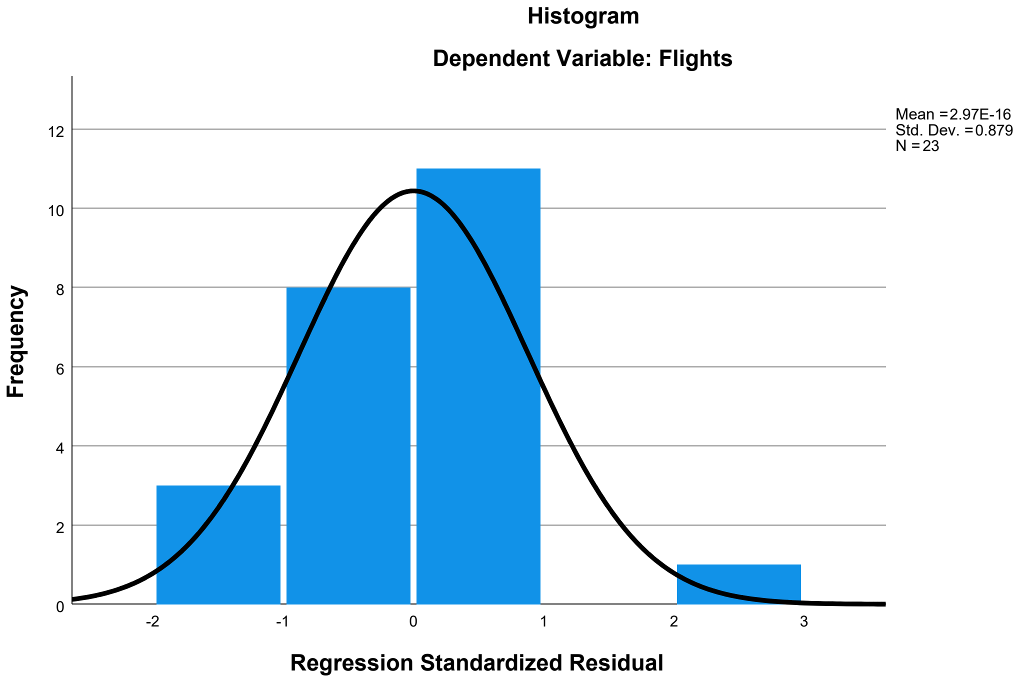
a. Dependent Variable: Flights

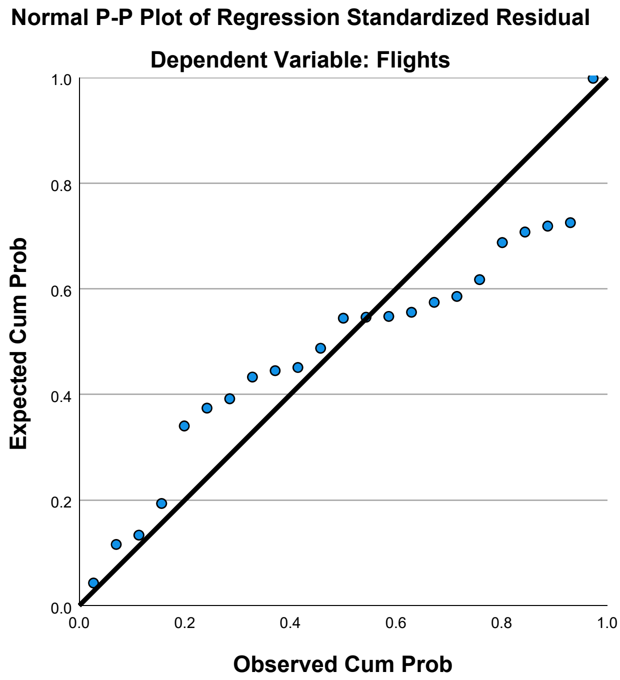
Residuals Statistics[a]

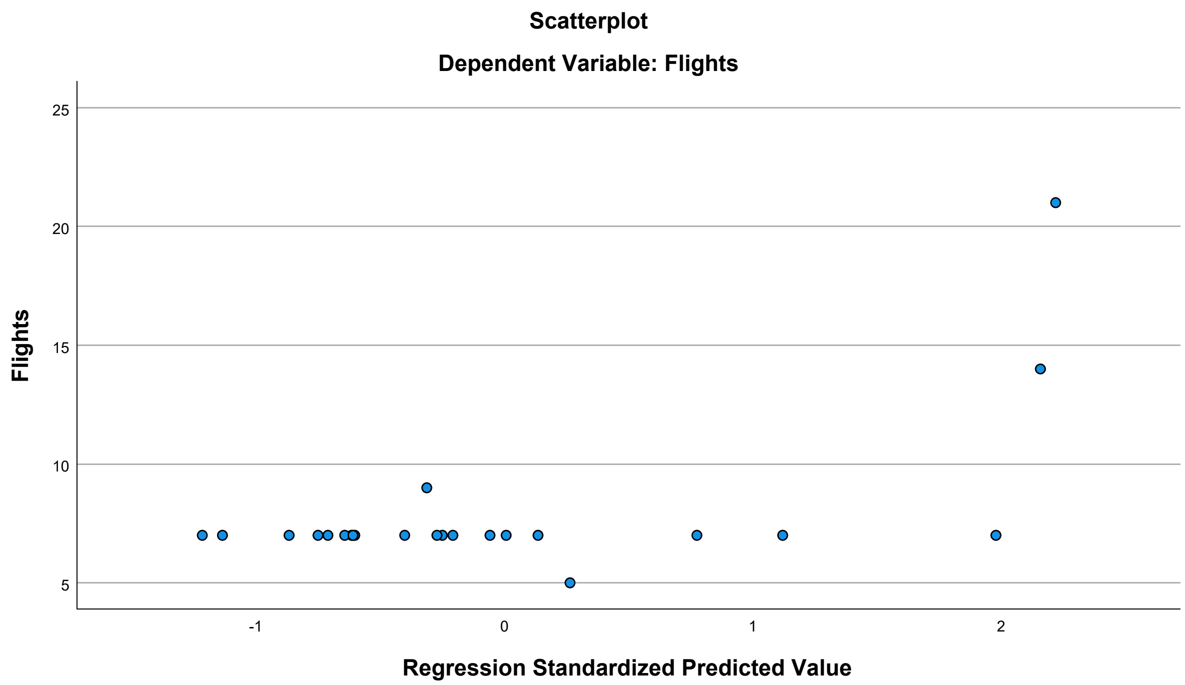
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.42	12.45	7.91	2.046	23
Residual	-4.962	8.546	.000	2.538	23
Std. Predicted Value	-1.217	2.219	.000	1.000	23
Std. Residual	-1.719	2.960	.000	.879	23

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean =2.97E-16
Std. Dev. =0.879
N =23
Frequency
12
10
8
6
4
2
0
-2
-1
0
1
2
3
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.91	3.260	23
HomeConcentration	3.8697808696	2.5816201342	23
PartnerConcentration	2.0886604783	2.3868759882	23
Seasonality	.61747491639	.21271472848	23
Language	.56433674	1.935024837	23

Correlations

		Flights	HomeConcentration	PartnerConcentration	Seasonality
Pearson Correlation	Flights	1.000	.345	.226	-.129
	HomeConcentration	.345	1.000	-.459	-.062
	PartnerConcentration	.226	-.459	1.000	.203
	Seasonality	-.129	-.062	.203	1.000
	Language	-.085	.354	-.265	-.125
Sig. (1-tailed)	Flights	.	.054	.150	.279
	HomeConcentration	.054	.	.014	.390
	PartnerConcentration	.150	.014	.	.177
	Seasonality	.279	.390	.177	.
	Language	.350	.049	.111	.285
N	Flights	23	23	23	23
	HomeConcentration	23	23	23	23
	PartnerConcentration	23	23	23	23
	Seasonality	23	23	23	23
	Language	23	23	23	23

Correlations

		Language
Pearson Correlation	Flights	-.085
	HomeConcentration	.354
	PartnerConcentration	-.265
	Seasonality	-.125
	Language	1.000
Sig. (1-tailed)	Flights	.350
	HomeConcentration	.049
	PartnerConcentration	.111
	Seasonality	.285
	Language	.
N	Flights	23
	HomeConcentration	23
	PartnerConcentration	23
	Seasonality	23
	Language	23

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Language, Seasonality, PartnerConcentration, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.616[a]	.380	.242	2.839	.380	2.755

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	4	18	.060

a. Predictors: (Constant), Language, Seasonality, PartnerConcentration, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	88.785	4	22.196	2.755	.060[b]
	Residual	145.041	18	8.058		
	Total	233.826	22			

a. Dependent Variable: Flights

b. Predictors: (Constant), Language, Seasonality, PartnerConcentration, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	5.606	2.238		2.505	.022
	HomeConcentration	.804	.275	.636	2.927	.009
	PartnerConcentration	.695	.293	.509	2.375	.029
	Seasonality	-3.341	2.919	-.218	-1.145	.267
	Language	-.341	.338	-.202	-1.007	.327

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.729	1.372
	PartnerConcentration	.750	1.332
	Seasonality	.950	1.052
	Language	.855	1.170

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions PartnerConcentration
1	1	3.281	1.000	.01	.02	.02
	2	1.069	1.752	.00	.01	.09
	3	.471	2.639	.00	.11	.40
	4	.134	4.949	.04	.71	.45
	5	.045	8.507	.96	.15	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Variance Proportions Language
1	1	.01	.01
	2	.00	.50
	3	.00	.45
	4	.25	.04
	5	.74	.00

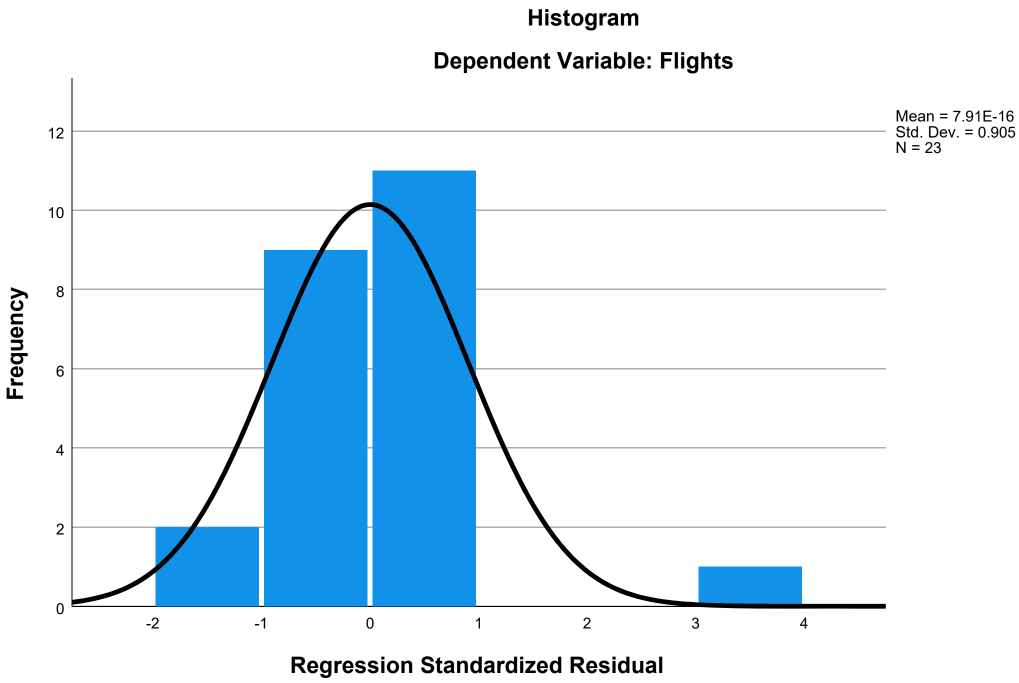
a. Dependent Variable: Flights

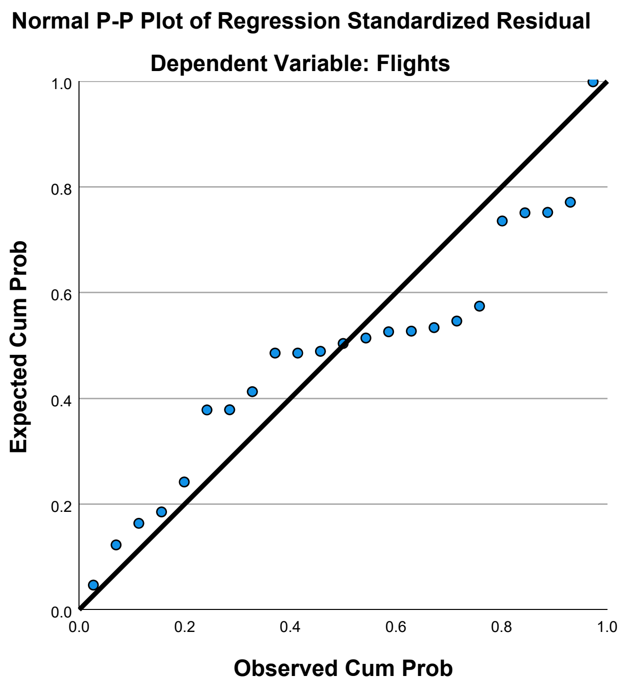
Residuals Statistics[a]

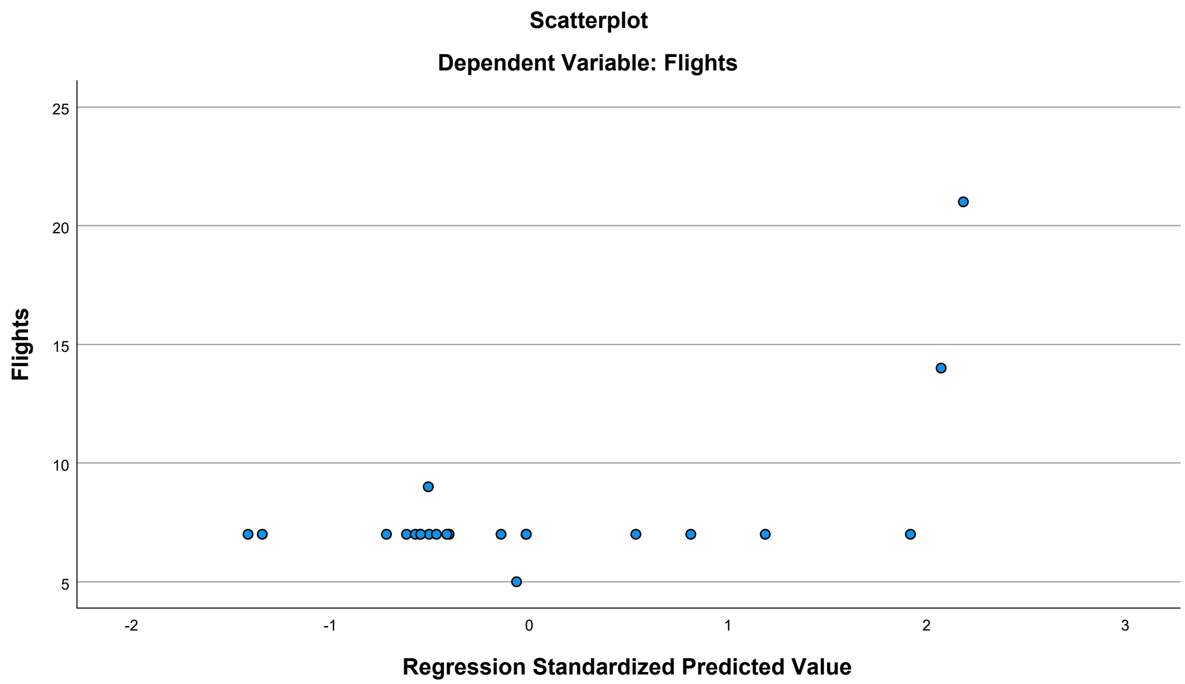
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.07	12.30	7.91	2.009	23
Residual	-4.767	8.699	.000	2.568	23
Std. Predicted Value	-1.416	2.184	.000	1.000	23
Std. Residual	-1.679	3.065	.000	.905	23

a. Dependent Variable: Flights

Charts







Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.91	3.260	23
HomeConcentration	3.8697808696	2.5816201342	23
PartnerConcentration	2.0886604783	2.3868759882	23
Seasonality	.61747491639	.21271472848	23

Correlations

		Flights	HomeConcentration	PartnerConcentration	Seasonality
Pearson Correlation	Flights	1.000	.345	.226	-.129
	HomeConcentration	.345	1.000	-.459	-.062
	PartnerConcentration	.226	-.459	1.000	.203
	Seasonality	-.129	-.062	.203	1.000
Sig. (1-tailed)	Flights	.	.054	.150	.279
	HomeConcentration	.054	.	.014	.390
	PartnerConcentration	.150	.014	.	.177
	Seasonality	.279	.390	.177	.
N	Flights	23	23	23	23
	HomeConcentration	23	23	23	23
	PartnerConcentration	23	23	23	23
	Seasonality	23	23	23	23

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Seasonality, HomeConcentration, PartnerConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change
1	.587[a]	.345	.241	2.840	.345	3.332

Model Summary[b]

Model	Change Statistics: df1	Change Statistics: df2	Change Statistics: Sig. F Change
1	3	19	.041

a. Predictors: (Constant), Seasonality, HomeConcentration, PartnerConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	80.607	3	26.869	3.332	.041[b]
	Residual	153.219	19	8.064		
	Total	233.826	22			

a. Dependent Variable: Flights

b. Predictors: (Constant), Seasonality, HomeConcentration, PartnerConcentration

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	5.483	2.236		2.453	.024
	HomeConcentration	.728	.264	.576	2.755	.013
	PartnerConcentration	.726	.291	.531	2.493	.022
	Seasonality	-3.081	2.908	-.201	-1.059	.303

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.788	1.269
	PartnerConcentration	.759	1.318
	Seasonality	.958	1.044

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	PartnerConcentration
1	1	3.175	1.000	.01	.02	.02
	2	.641	2.226	.00	.12	.43
	3	.138	4.795	.04	.68	.51
	4	.045	8.359	.96	.18	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Seasonality
1	1	.01
	2	.00
	3	.26
	4	.73

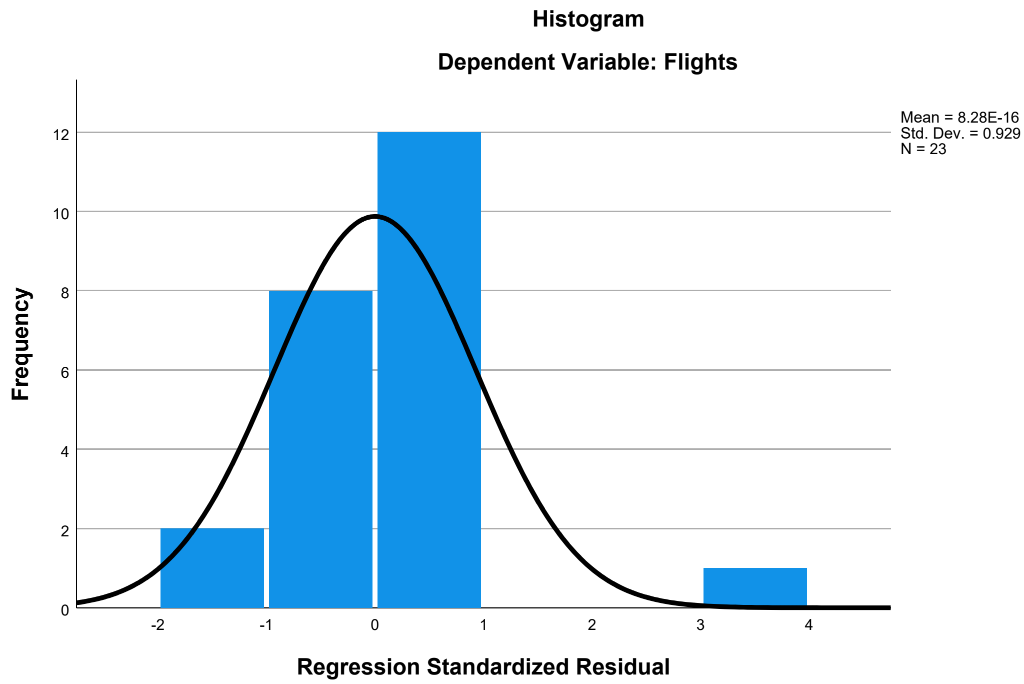
a. Dependent Variable: Flights

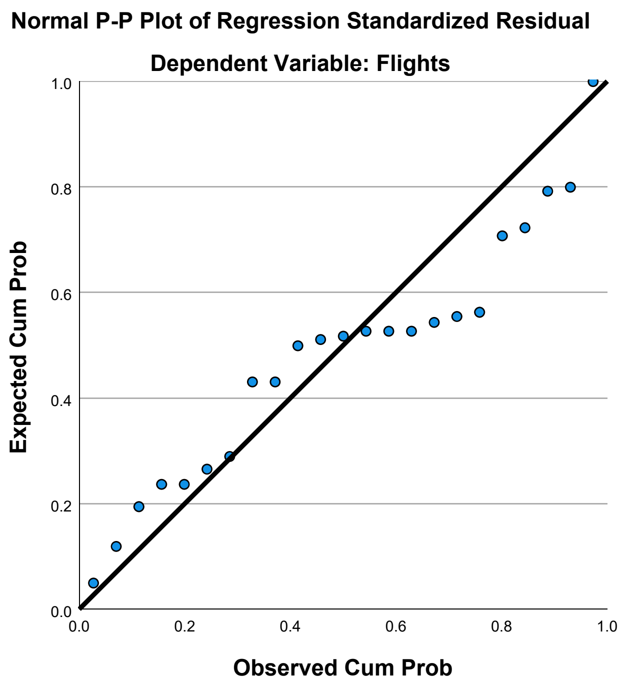
Residuals Statistics[a]

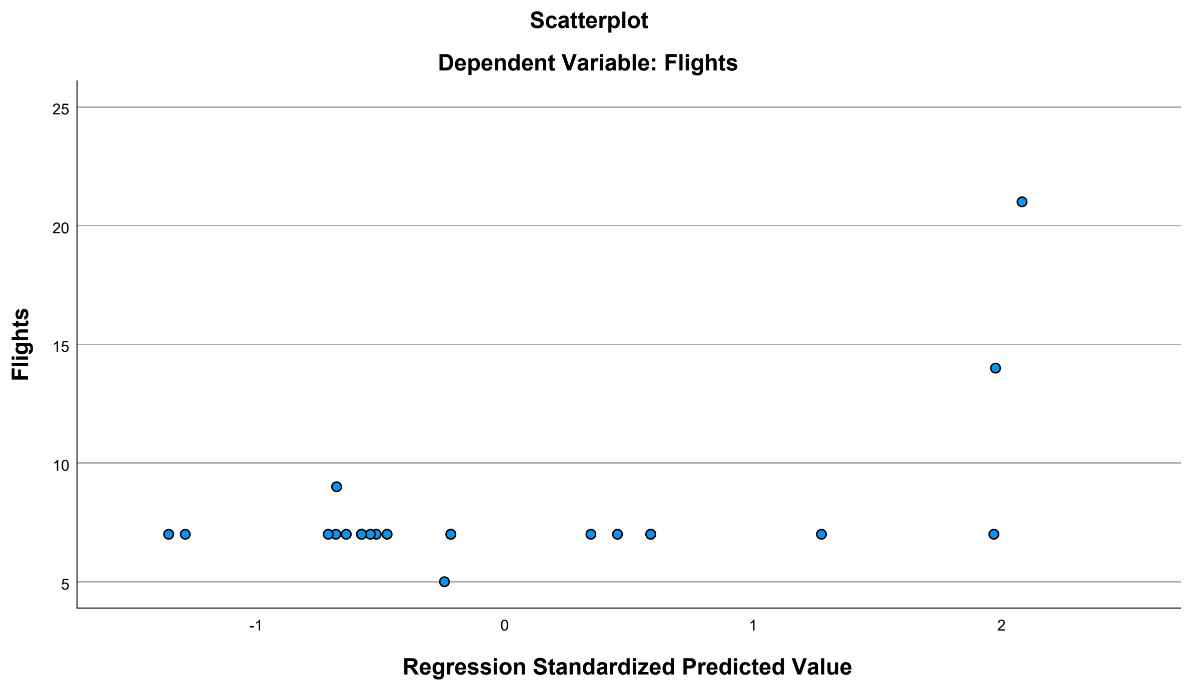
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.32	11.90	7.91	1.914	23
Residual	-4.681	9.101	.000	2.639	23
Std. Predicted Value	-1.352	2.082	.000	1.000	23
Std. Residual	-1.649	3.205	.000	.929	23

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
5
10
15
20
25
-1
0
1
2

Regression

```
[DataSet18] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\JVs\1997
 Star.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.52	3.887	27
HomeConcentration	3.6421644444	1.7633746582	27
Congestion	4.93	.874	27
GLHR	.22	.424	27
GJFK	.11	.320	27
PartnerConcentration	1.0977822222	1.8366261229	27
Seasonality	.56493065811	.11326116307	27
Distance	4.42326	.778155	27
Language	1.58328141	3.316507599	27
Ethnicity	.80181530	.734762488	27
Urban	19.59	2.275	27

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.049	-.158	.465
	HomeConcentration	.049	1.000	.150	-.094
	Congestion	-.158	.150	1.000	.046
	GLHR	.465	-.094	.046	1.000
	GJFK	.199	-.382	.443	.094
	PartnerConcentration	-.232	-.173	.321	-.228
	Seasonality	.213	-.059	-.109	-.099
	Distance	-.197	.080	-.183	-.143
	Language	.441	-.129	.190	.878
	Ethnicity	-.012	-.030	.586	-.079
	Urban	.242	-.099	.216	.656
Sig. (1-tailed)	Flights	.	.405	.215	.007
	HomeConcentration	.405	.	.227	.321
	Congestion	.215	.227	.	.410
	GLHR	.007	.321	.410	.
	GJFK	.160	.025	.010	.320
	PartnerConcentration	.123	.193	.051	.126
	Seasonality	.143	.384	.294	.312
	Distance	.162	.346	.181	.239
	Language	.011	.261	.171	.000
	Ethnicity	.477	.440	.001	.347
	Urban	.112	.312	.139	.000
N	Flights	27	27	27	27
	HomeConcentration	27	27	27	27

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.199	-.232	.213	-.197
	HomeConcentration	-.382	-.173	-.059	.080
	Congestion	.443	.321	-.109	-.183
	GLHR	.094	-.228	-.099	-.143
	GJFK	1.000	-.126	-.187	-.344
	PartnerConcentration	-.126	1.000	.008	.365
	Seasonality	-.187	.008	1.000	.038
	Distance	-.344	.365	.038	1.000
	Language	.298	-.197	-.057	-.286
	Ethnicity	.497	.392	-.103	-.243
	Urban	.329	-.249	-.233	-.201
Sig. (1-tailed)	Flights	.160	.123	.143	.162
	HomeConcentration	.025	.193	.384	.346
	Congestion	.010	.051	.294	.181
	GLHR	.320	.126	.312	.239
	GJFK	.	.265	.175	.040
	PartnerConcentration	.265	.	.484	.030
	Seasonality	.175	.484	.	.425
	Distance	.040	.030	.425	.
	Language	.066	.162	.388	.074
	Ethnicity	.004	.022	.305	.111
	Urban	.047	.105	.121	.157
N	Flights	27	27	27	27
	HomeConcentration	27	27	27	27

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.441	-.012	.242
	HomeConcentration	-.129	-.030	-.099
	Congestion	.190	.586	.216
	GLHR	.878	-.079	.656
	GJFK	.298	.497	.329
	PartnerConcentration	-.197	.392	-.249
	Seasonality	-.057	-.103	-.233
	Distance	-.286	-.243	-.201
	Language	1.000	.010	.637
	Ethnicity	.010	1.000	-.051
	Urban	.637	-.051	1.000
Sig. (1-tailed)	Flights	.011	.477	.112
	HomeConcentration	.261	.440	.312
	Congestion	.171	.001	.139
	GLHR	.000	.347	.000
	GJFK	.066	.004	.047
	PartnerConcentration	.162	.022	.105
	Seasonality	.388	.305	.121
	Distance	.074	.111	.157
	Language	.	.481	.000
	Ethnicity	.481	.	.401
	Urban	.000	.401	.
N	Flights	27	27	27
	HomeConcentration	27	27	27

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	27	27	27	27
	GLHR	27	27	27	27
	GJFK	27	27	27	27
	PartnerConcentration	27	27	27	27
	Seasonality	27	27	27	27
	Distance	27	27	27	27
	Language	27	27	27	27
	Ethnicity	27	27	27	27
	Urban	27	27	27	27

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	27	27	27	27
	GLHR	27	27	27	27
	GJFK	27	27	27	27
	PartnerConcentration	27	27	27	27
	Seasonality	27	27	27	27
	Distance	27	27	27	27
	Language	27	27	27	27
	Ethnicity	27	27	27	27
	Urban	27	27	27	27

Correlations

		Language	Ethnicity	Urban
	Congestion	27	27	27
	GLHR	27	27	27
	GJFK	27	27	27
	PartnerConcentration	27	27	27
	Seasonality	27	27	27
	Distance	27	27	27
	Language	27	27	27
	Ethnicity	27	27	27
	Urban	27	27	27

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, HomeConcentration, Seasonality, Distance, GLHR, PartnerConcentration, Congestion, GJFK, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.792[a]	.627	.394	3.025	.627	2.693

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	10	16	.038

a. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Seasonality, Distance, GLHR, PartnerConcentration, Congestic
Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	246.372	10	24.637	2.693	.038[b]
	Residual	146.369	16	9.148		
	Total	392.741	26			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Seasonality, Distance, GLHR, PartnerConcentration, Congestion, GJFK, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	19.462	10.319		1.886	.078
	HomeConcentration	1.593	.526	.723	3.027	.008
	Congestion	-3.202	1.097	-.720	-2.918	.010
	GLHR	8.775	3.840	.956	2.285	.036
	GJFK	12.324	3.954	1.016	3.117	.007
	PartnerConcentration	1.260	.610	.595	2.067	.055
	Seasonality	13.616	5.674	.397	2.400	.029
	Distance	-1.604	1.043	-.321	-1.538	.144
	Language	-.415	.475	-.354	-.873	.395
	Ethnicity	-1.421	1.433	-.269	-.992	.336
	Urban	-.177	.400	-.104	-.443	.663

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.409	2.447
	Congestion	.383	2.614
	GLHR	.133	7.521
	GJFK	.219	4.558
	PartnerConcentration	.281	3.563
	Seasonality	.852	1.174
	Distance	.534	1.872
	Language	.142	7.049
	Ethnicity	.318	3.149
	Urban	.425	2.354

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.305	1.000	.00	.00	.00
	2	1.586	2.146	.00	.00	.00
	3	1.013	2.685	.00	.00	.00
	4	.658	3.332	.00	.01	.00
	5	.220	5.759	.00	.07	.00
	6	.102	8.444	.00	.22	.00
	7	.068	10.386	.00	.17	.00
	8	.021	18.587	.01	.27	.03
	9	.017	20.562	.00	.00	.21
	10	.007	31.971	.02	.22	.73
	11	.002	57.613	.96	.03	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.02	.01	.02	.00	.00	.03
	3	.01	.12	.00	.00	.00	.00
	4	.01	.02	.21	.00	.00	.01
	5	.01	.07	.05	.01	.00	.00
	6	.23	.03	.07	.01	.00	.30
	7	.28	.21	.09	.13	.01	.31
	8	.23	.33	.13	.72	.01	.14
	9	.08	.00	.05	.02	.50	.18
	10	.00	.10	.32	.01	.27	.01
	11	.13	.11	.07	.11	.20	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.00	.00
	3	.03	.00
	4	.01	.00
	5	.33	.00
	6	.12	.00
	7	.14	.00
	8	.08	.04
	9	.18	.01
	10	.00	.24
	11	.12	.70

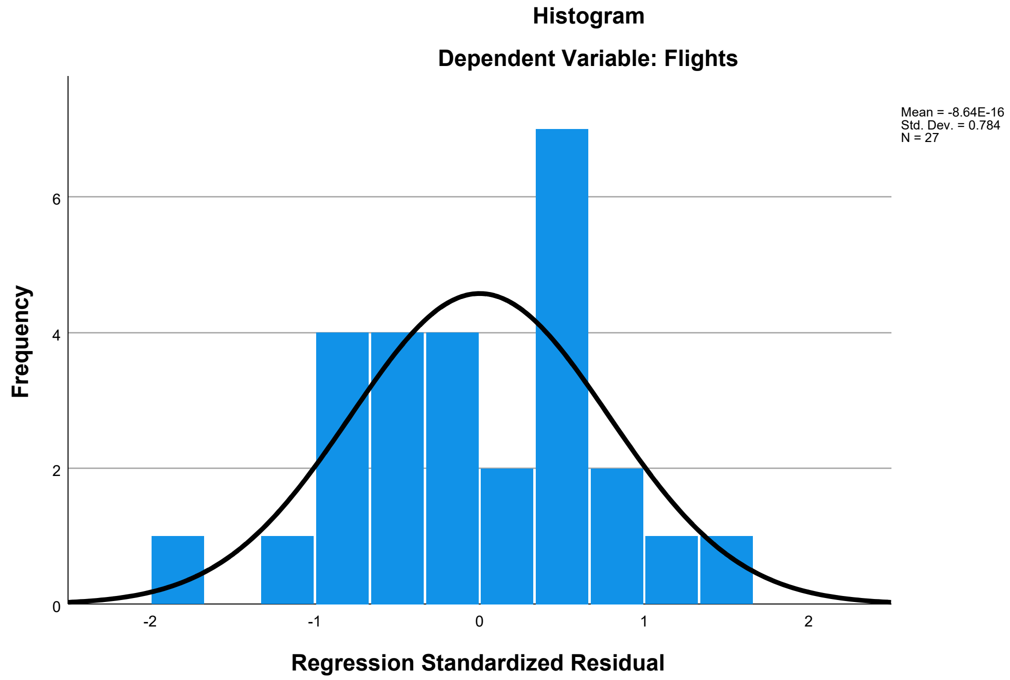
a. Dependent Variable: Flights

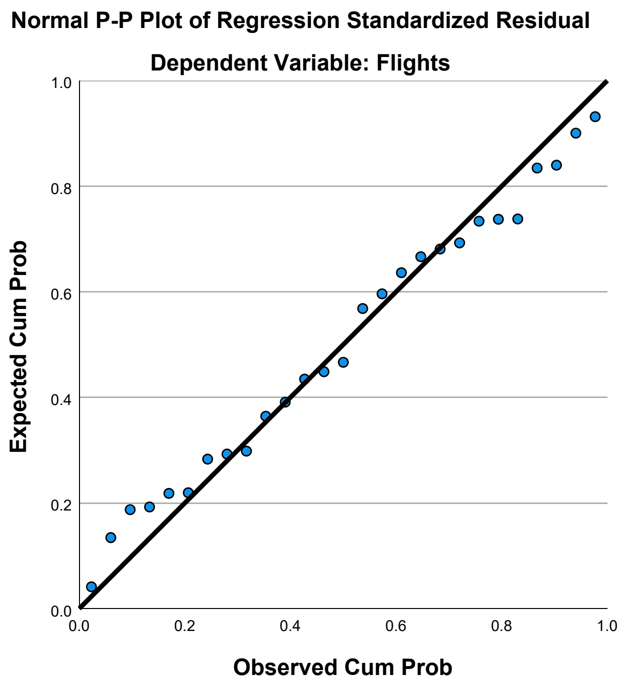
Residuals Statistics[a]

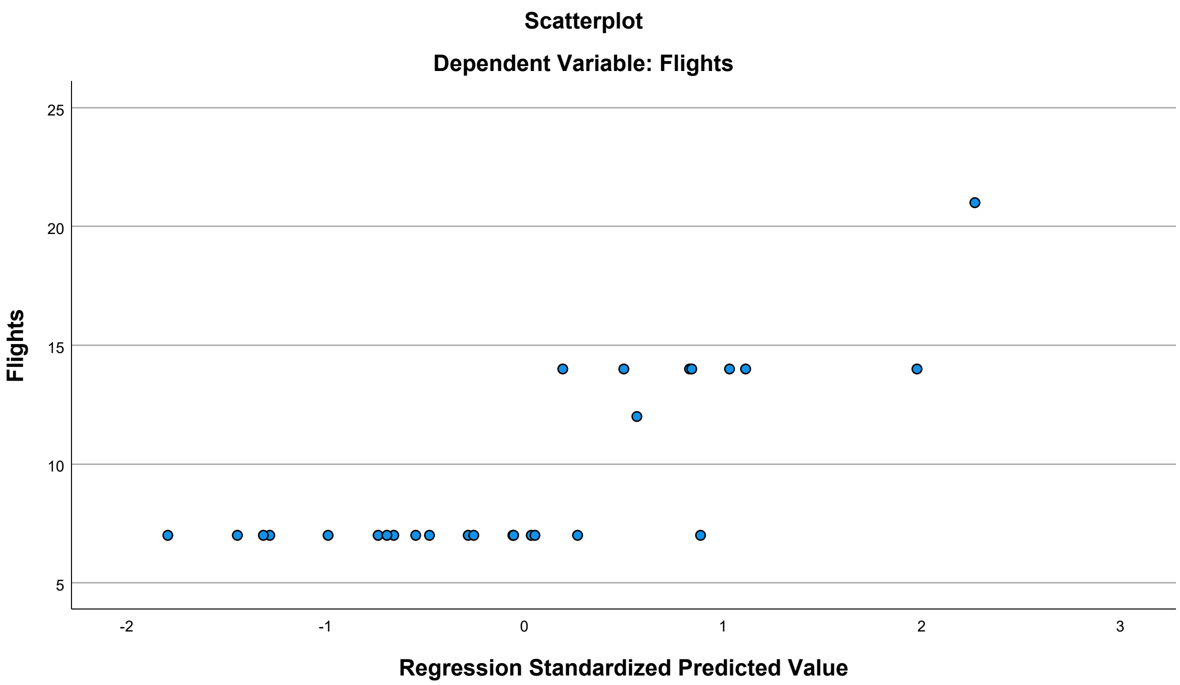
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.00	16.50	9.52	3.078	27
Residual	-5.250	4.500	.000	2.373	27
Std. Predicted Value	-1.794	2.268	.000	1.000	27
Std. Residual	-1.736	1.488	.000	.784	27

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -8.64E-16
Std. Dev. = 0.784
N = 27
Frequency
0
2
4
6
-2
-1
0
1
2
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.52	3.887	27
HomeConcentration	3.6421644444	1.7633746582	27
Congestion	4.93	.874	27
GJFK	.11	.320	27
PartnerConcentration	1.0977822222	1.8366261229	27
Seasonality	.56493065811	.11326116307	27
Distance	4.42326	.778155	27
Language	1.58328141	3.316507599	27
Ethnicity	.80181530	.734762488	27
Urban	19.59	2.275	27

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.049	-.158	.199
	HomeConcentration	.049	1.000	.150	-.382
	Congestion	-.158	.150	1.000	.443
	GJFK	.199	-.382	.443	1.000
	PartnerConcentration	-.232	-.173	.321	-.126
	Seasonality	.213	-.059	-.109	-.187
	Distance	-.197	.080	-.183	-.344
	Language	.441	-.129	.190	.298
	Ethnicity	-.012	-.030	.586	.497
	Urban	.242	-.099	.216	.329
Sig. (1-tailed)	Flights	.	.405	.215	.160
	HomeConcentration	.405	.	.227	.025
	Congestion	.215	.227	.	.010
	GJFK	.160	.025	.010	.
	PartnerConcentration	.123	.193	.051	.265
	Seasonality	.143	.384	.294	.175
	Distance	.162	.346	.181	.040
	Language	.011	.261	.171	.066
	Ethnicity	.477	.440	.001	.004
	Urban	.112	.312	.139	.047
N	Flights	27	27	27	27
	HomeConcentration	27	27	27	27
	Congestion	27	27	27	27
	GJFK	27	27	27	27
	PartnerConcentration	27	27	27	27
	Seasonality	27	27	27	27
	Distance	27	27	27	27
	Language	27	27	27	27
	Ethnicity	27	27	27	27
	Urban	27	27	27	27

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	-.232	.213	-.197	.441
	HomeConcentration	-.173	-.059	.080	-.129
	Congestion	.321	-.109	-.183	.190
	GJFK	-.126	-.187	-.344	.298
	PartnerConcentration	1.000	.008	.365	-.197
	Seasonality	.008	1.000	.038	-.057
	Distance	.365	.038	1.000	-.286
	Language	-.197	-.057	-.286	1.000
	Ethnicity	.392	-.103	-.243	.010
	Urban	-.249	-.233	-.201	.637
Sig. (1-tailed)	Flights	.123	.143	.162	.011
	HomeConcentration	.193	.384	.346	.261
	Congestion	.051	.294	.181	.171
	GJFK	.265	.175	.040	.066
	PartnerConcentration	.	.484	.030	.162
	Seasonality	.484	.	.425	.388
	Distance	.030	.425	.	.074
	Language	.162	.388	.074	.
	Ethnicity	.022	.305	.111	.481
	Urban	.105	.121	.157	.000
N	Flights	27	27	27	27
	HomeConcentration	27	27	27	27
	Congestion	27	27	27	27
	GJFK	27	27	27	27
	PartnerConcentration	27	27	27	27
	Seasonality	27	27	27	27
	Distance	27	27	27	27
	Language	27	27	27	27
	Ethnicity	27	27	27	27
	Urban	27	27	27	27

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	-.012	.242
	HomeConcentration	-.030	-.099
	Congestion	.586	.216
	GJFK	.497	.329
	PartnerConcentration	.392	-.249
	Seasonality	-.103	-.233
	Distance	-.243	-.201
	Language	.010	.637
	Ethnicity	1.000	-.051
	Urban	-.051	1.000
Sig. (1-tailed)	Flights	.477	.112
	HomeConcentration	.440	.312
	Congestion	.001	.139
	GJFK	.004	.047
	PartnerConcentration	.022	.105
	Seasonality	.305	.121
	Distance	.111	.157
	Language	.481	.000
	Ethnicity	.	.401
	Urban	.401	.
N	Flights	27	27
	HomeConcentration	27	27
	Congestion	27	27
	GJFK	27	27
	PartnerConcentration	27	27
	Seasonality	27	27
	Distance	27	27
	Language	27	27
	Ethnicity	27	27
	Urban	27	27

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, HomeConcentration, Seasonality, Distance, PartnerConcentration, Language, Congestion, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.711[a]	.506	.244	3.379	.506	1.932

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	17	.116

a. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Seasonality, Distance, PartnerConcentration, Language, Conge
GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	198.596	9	22.066	1.932	.116[b]
	Residual	194.144	17	11.420		
	Total	392.741	26			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Seasonality, Distance, PartnerConcentration, Language, Congestion, GJFK

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	12.253	10.977		1.116	.280
	HomeConcentration	1.228	.560	.557	2.192	.043
	Congestion	-3.172	1.226	-.713	-2.587	.019
	GJFK	7.701	3.796	.635	2.029	.058
	PartnerConcentration	.748	.633	.353	1.180	.254
	Seasonality	11.453	6.250	.334	1.832	.084
	Distance	-.790	1.095	-.158	-.721	.481
	Language	.521	.269	.445	1.940	.069
	Ethnicity	-.181	1.481	-.034	-.122	.904
	Urban	.158	.416	.092	.379	.710

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.450	2.221
	Congestion	.383	2.613
	GJFK	.297	3.365
	PartnerConcentration	.325	3.081
	Seasonality	.876	1.141
	Distance	.605	1.653
	Language	.554	1.807
	Ethnicity	.371	2.697
	Urban	.491	2.038

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.026	1.000	.00	.00	.00
	2	1.204	2.416	.00	.00	.00
	3	.869	2.844	.00	.01	.00
	4	.546	3.586	.00	.01	.00
	5	.217	5.696	.00	.08	.00
	6	.084	9.169	.00	.46	.00
	7	.028	15.841	.00	.14	.00
	8	.018	19.806	.00	.06	.24
	9	.007	31.352	.02	.25	.73
	10	.003	52.807	.97	.00	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.11	.02	.00	.00	.11	.00
	3	.05	.10	.00	.00	.08	.04
	4	.05	.14	.00	.00	.41	.00
	5	.11	.05	.01	.01	.03	.36
	6	.30	.19	.07	.00	.00	.34
	7	.13	.09	.69	.10	.01	.10
	8	.08	.00	.03	.45	.12	.10
	9	.14	.37	.01	.31	.06	.00
	10	.03	.02	.19	.13	.19	.05

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.03
	8	.03
	9	.28
	10	.66

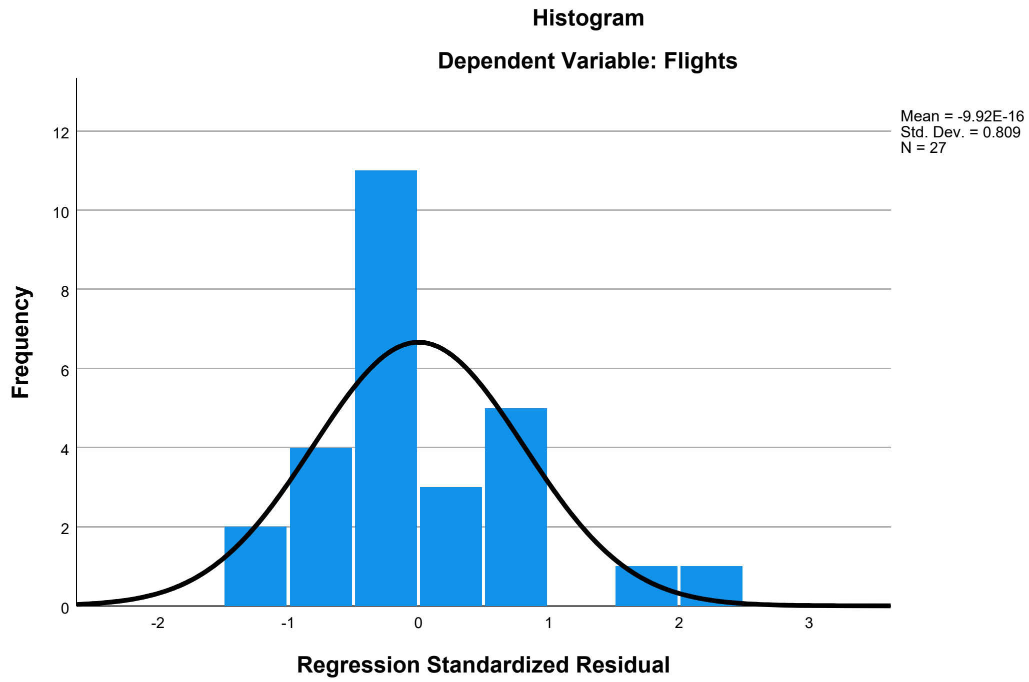
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.68	15.66	9.52	2.764	27
Residual	-4.453	6.812	.000	2.733	27
Std. Predicted Value	-1.751	2.223	.000	1.000	27
Std. Residual	-1.318	2.016	.000	.809	27

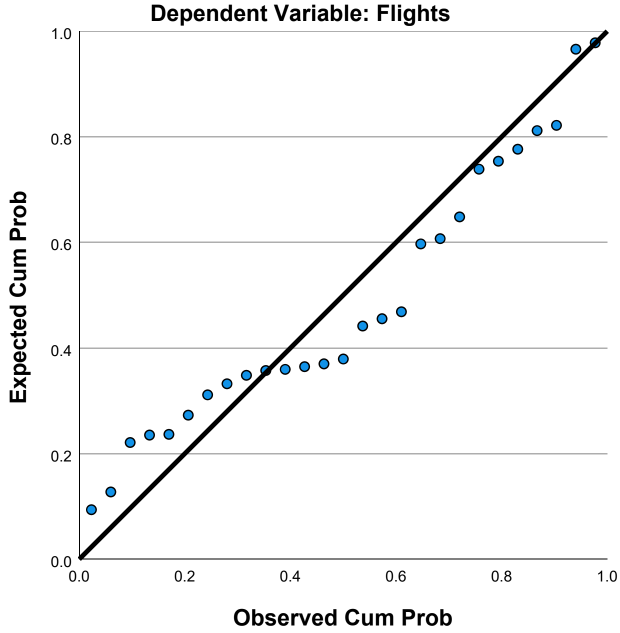
a. Dependent Variable: Flights

Charts



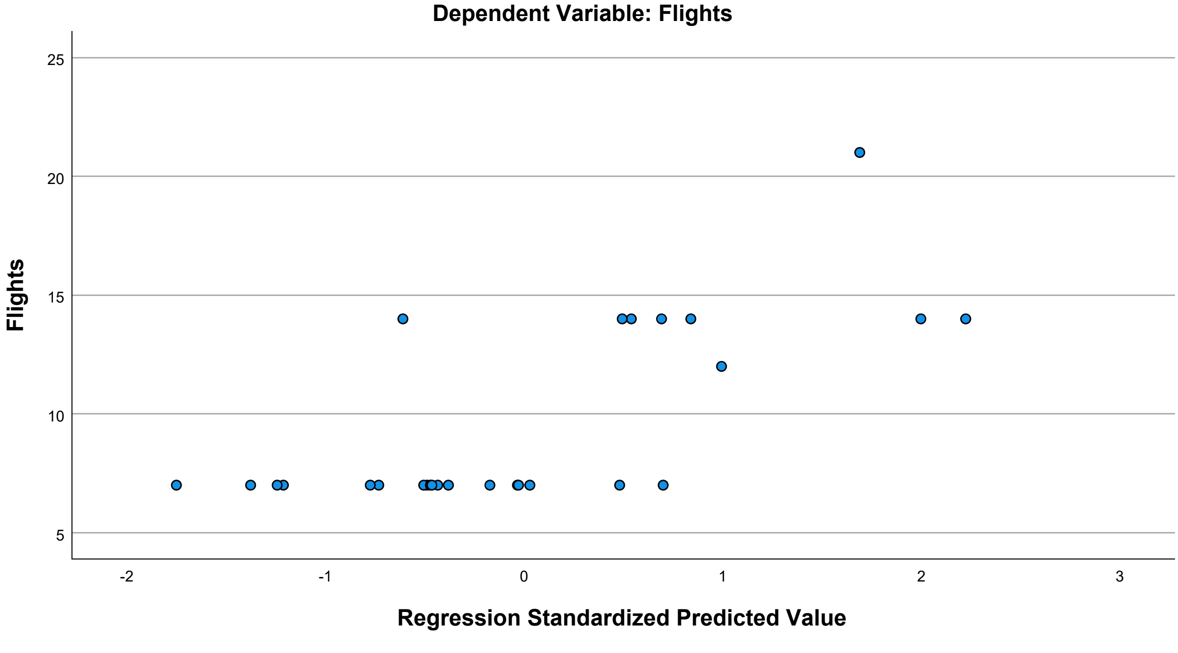
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.52	3.887	27
HomeConcentration	3.6421644444	1.7633746582	27
Congestion	4.93	.874	27
GJFK	.11	.320	27
PartnerConcentration	1.0977822222	1.8366261229	27
Seasonality	.56493065811	.11326116307	27
Distance	4.42326	.778155	27
Language	1.58328141	3.316507599	27
Urban	19.59	2.275	27

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.049	-.158	.199
	HomeConcentration	.049	1.000	.150	-.382
	Congestion	-.158	.150	1.000	.443
	GJFK	.199	-.382	.443	1.000
	PartnerConcentration	-.232	-.173	.321	-.126
	Seasonality	.213	-.059	-.109	-.187
	Distance	-.197	.080	-.183	-.344
	Language	.441	-.129	.190	.298
	Urban	.242	-.099	.216	.329
Sig. (1-tailed)	Flights	.	.405	.215	.160
	HomeConcentration	.405	.	.227	.025
	Congestion	.215	.227	.	.010
	GJFK	.160	.025	.010	.
	PartnerConcentration	.123	.193	.051	.265
	Seasonality	.143	.384	.294	.175
	Distance	.162	.346	.181	.040
	Language	.011	.261	.171	.066
	Urban	.112	.312	.139	.047
N	Flights	27	27	27	27
	HomeConcentration	27	27	27	27
	Congestion	27	27	27	27
	GJFK	27	27	27	27
	PartnerConcentration	27	27	27	27
	Seasonality	27	27	27	27
	Distance	27	27	27	27
	Language	27	27	27	27
	Urban	27	27	27	27

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	-.232	.213	-.197	.441
	HomeConcentration	-.173	-.059	.080	-.129
	Congestion	.321	-.109	-.183	.190
	GJFK	-.126	-.187	-.344	.298
	PartnerConcentration	1.000	.008	.365	-.197
	Seasonality	.008	1.000	.038	-.057
	Distance	.365	.038	1.000	-.286
	Language	-.197	-.057	-.286	1.000
	Urban	-.249	-.233	-.201	.637
Sig. (1-tailed)	Flights	.123	.143	.162	.011
	HomeConcentration	.193	.384	.346	.261
	Congestion	.051	.294	.181	.171
	GJFK	.265	.175	.040	.066
	PartnerConcentration	.	.484	.030	.162
	Seasonality	.484	.	.425	.388
	Distance	.030	.425	.	.074
	Language	.162	.388	.074	.
	Urban	.105	.121	.157	.000
N	Flights	27	27	27	27
	HomeConcentration	27	27	27	27
	Congestion	27	27	27	27
	GJFK	27	27	27	27
	PartnerConcentration	27	27	27	27
	Seasonality	27	27	27	27
	Distance	27	27	27	27
	Language	27	27	27	27
	Urban	27	27	27	27

Correlations

		Urban
Pearson Correlation	Flights	.242
	HomeConcentration	-.099
	Congestion	.216
	GJFK	.329
	PartnerConcentration	-.249
	Seasonality	-.233
	Distance	-.201
	Language	.637
	Urban	1.000
Sig. (1-tailed)	Flights	.112
	HomeConcentration	.312
	Congestion	.139
	GJFK	.047
	PartnerConcentration	.105
	Seasonality	.121
	Distance	.157
	Language	.000
	Urban	.
N	Flights	27
	HomeConcentration	27
	Congestion	27
	GJFK	27
	PartnerConcentration	27
	Seasonality	27
	Distance	27
	Language	27
	Urban	27

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, Distance, Seasonality, Congestion, Language, PartnerConcentration, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.711[a]	.505	.285	3.286	.505	2.298

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	18	.068

a. Predictors: (Constant), Urban, HomeConcentration, Distance, Seasonality, Congestion, Language, PartnerConcentration, GJ

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	198.427	8	24.803	2.298	.068[b]
	Residual	194.314	18	10.795		
	Total	392.741	26			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, Distance, Seasonality, Congestion, Language, PartnerConcentration, GJFK

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.960	10.414		1.148	.266
	HomeConcentration	1.206	.517	.547	2.333	.031
	Congestion	-3.185	1.188	-.716	-2.682	.015
	GJFK	7.455	3.124	.614	2.386	.028
	PartnerConcentration	.708	.527	.334	1.343	.196
	Seasonality	11.444	6.076	.333	1.883	.076
	Distance	-.741	.992	-.148	-.747	.465
	Language	.523	.261	.446	2.003	.060
	Urban	.165	.400	.097	.413	.684

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.500	2.002
	Congestion	.386	2.593
	GJFK	.415	2.412
	PartnerConcentration	.443	2.255
	Seasonality	.877	1.141
	Distance	.697	1.434
	Language	.555	1.803
	Urban	.502	1.991

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

				Variance Proportions		
Model	Dimension	Eigenvalue	Condition Index	(Constant)	HomeConcentration	Congestion
1	1	6.382	1.000	.00	.00	.00
	2	1.191	2.315	.00	.00	.00
	3	.704	3.010	.00	.01	.00
	4	.543	3.427	.00	.00	.00
	5	.119	7.319	.00	.52	.00
	6	.031	14.311	.00	.03	.00
	7	.019	18.175	.01	.17	.20
	8	.007	29.855	.03	.26	.75
	9	.003	49.101	.96	.00	.04

Collinearity Diagnostics[a]

		Variance Proportions					
Model	Dimension	GJFK	PartnerConcentration	Seasonality	Distance	Language	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.14	.04	.00	.00	.13	.00
	3	.16	.24	.00	.00	.04	.00
	4	.11	.15	.00	.00	.44	.00
	5	.07	.06	.04	.01	.01	.00
	6	.01	.02	.62	.18	.00	.02
	7	.33	.02	.12	.38	.10	.04
	8	.18	.47	.01	.34	.05	.28
	9	.00	.00	.21	.09	.21	.65

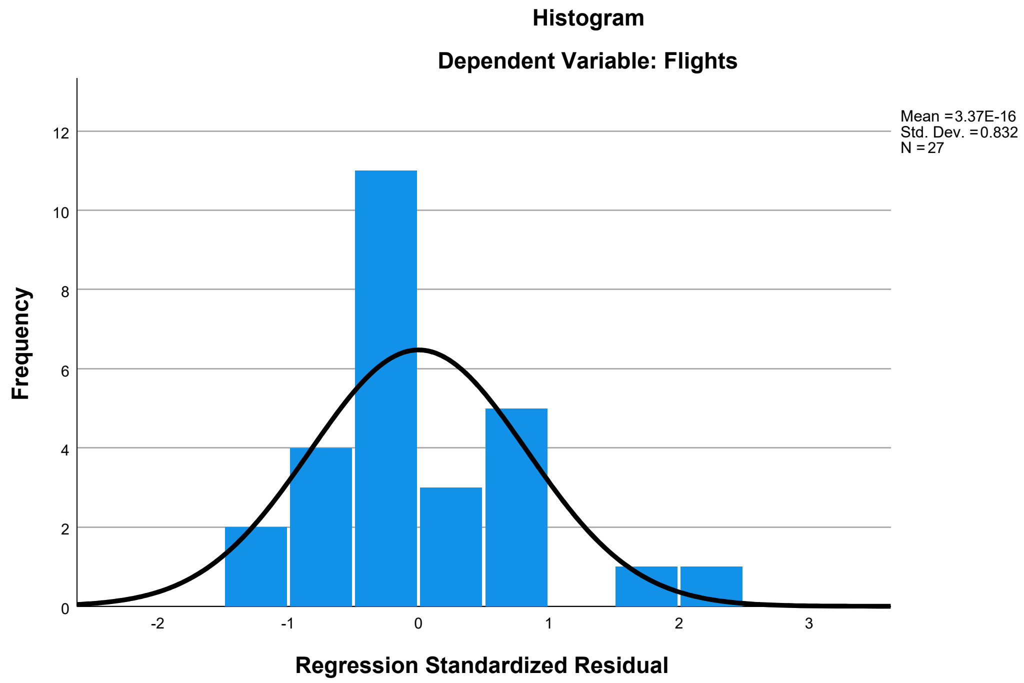
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.62	15.62	9.52	2.763	27
Residual	-4.565	6.748	.000	2.734	27
Std. Predicted Value	-1.773	2.210	.000	1.000	27
Std. Residual	-1.389	2.054	.000	.832	27

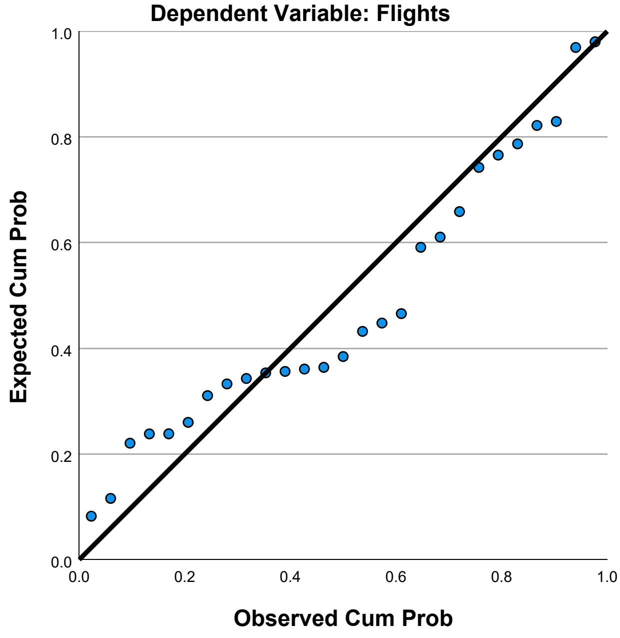
a. Dependent Variable: Flights

Charts



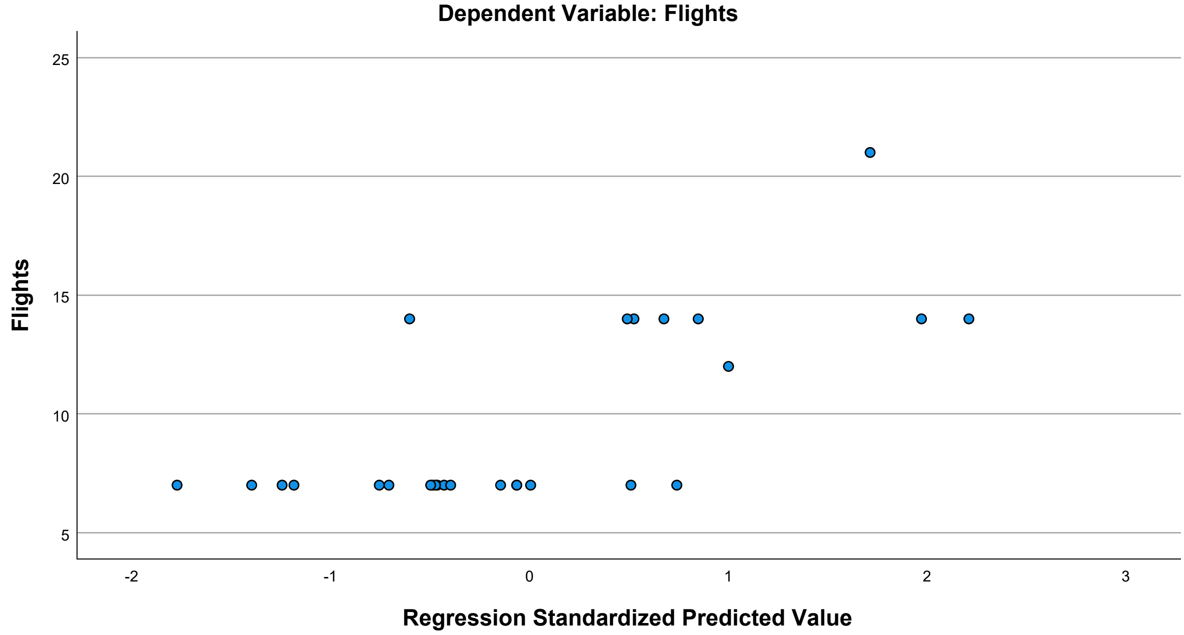
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.52	3.887	27
HomeConcentration	3.6421644444	1.7633746582	27
Congestion	4.93	.874	27
GJFK	.11	.320	27
PartnerConcentration	1.0977822222	1.8366261229	27
Seasonality	.56493065811	.11326116307	27
Distance	4.42326	.778155	27
Language	1.58328141	3.316507599	27

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.049	-.158	.199
	HomeConcentration	.049	1.000	.150	-.382
	Congestion	-.158	.150	1.000	.443
	GJFK	.199	-.382	.443	1.000
	PartnerConcentration	-.232	-.173	.321	-.126
	Seasonality	.213	-.059	-.109	-.187
	Distance	-.197	.080	-.183	-.344
	Language	.441	-.129	.190	.298
Sig. (1-tailed)	Flights	.	.405	.215	.160
	HomeConcentration	.405	.	.227	.025
	Congestion	.215	.227	.	.010
	GJFK	.160	.025	.010	.
	PartnerConcentration	.123	.193	.051	.265
	Seasonality	.143	.384	.294	.175
	Distance	.162	.346	.181	.040
	Language	.011	.261	.171	.066
N	Flights	27	27	27	27
	HomeConcentration	27	27	27	27
	Congestion	27	27	27	27
	GJFK	27	27	27	27
	PartnerConcentration	27	27	27	27
	Seasonality	27	27	27	27
	Distance	27	27	27	27
	Language	27	27	27	27

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	-.232	.213	-.197	.441
	HomeConcentration	-.173	-.059	.080	-.129
	Congestion	.321	-.109	-.183	.190
	GJFK	-.126	-.187	-.344	.298
	PartnerConcentration	1.000	.008	.365	-.197
	Seasonality	.008	1.000	.038	-.057
	Distance	.365	.038	1.000	-.286
	Language	-.197	-.057	-.286	1.000
Sig. (1-tailed)	Flights	.123	.143	.162	.011
	HomeConcentration	.193	.384	.346	.261
	Congestion	.051	.294	.181	.171
	GJFK	.265	.175	.040	.066
	PartnerConcentration	.	.484	.030	.162
	Seasonality	.484	.	.425	.388
	Distance	.030	.425	.	.074
	Language	.162	.388	.074	.
N	Flights	27	27	27	27
	HomeConcentration	27	27	27	27
	Congestion	27	27	27	27
	GJFK	27	27	27	27
	PartnerConcentration	27	27	27	27
	Seasonality	27	27	27	27
	Distance	27	27	27	27
	Language	27	27	27	27

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Language, Seasonality, HomeConcentration, Congestion, Distance, PartnerConcentration, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.707[a]	.501	.317	3.213	.501	2.720

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	7	19	.039

a. Predictors: (Constant), Language, Seasonality, HomeConcentration, Congestion, Distance, PartnerConcentration, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	196.583	7	28.083	2.720	.039[b]
	Residual	196.158	19	10.324		
	Total	392.741	26			

a. Dependent Variable: Flights

b. Predictors: (Constant), Language, Seasonality, HomeConcentration, Congestion, Distance, PartnerConcentration, GJFK

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	14.893	7.453		1.998	.060
	HomeConcentration	1.175	.500	.533	2.349	.030
	Congestion	-3.083	1.136	-.693	-2.715	.014
	GJFK	7.421	3.055	.612	2.430	.025
	PartnerConcentration	.649	.496	.307	1.308	.207
	Seasonality	10.808	5.749	.315	1.880	.076
	Distance	-.687	.961	-.138	-.715	.484
	Language	.584	.209	.499	2.797	.011

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.510	1.960
	Congestion	.403	2.480
	GJFK	.415	2.410
	PartnerConcentration	.478	2.092
	Seasonality	.937	1.068
	Distance	.710	1.409
	Language	.827	1.209

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	5.404	1.000	.00	.00	.00
	2	1.190	2.131	.00	.00	.00
	3	.700	2.779	.00	.01	.00
	4	.541	3.159	.00	.00	.00
	5	.115	6.861	.00	.52	.00
	6	.029	13.693	.01	.02	.00
	7	.016	18.102	.04	.35	.41
	8	.005	34.189	.96	.09	.59

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.01
	2	.14	.04	.00	.00	.20
	3	.16	.25	.00	.00	.08
	4	.11	.17	.00	.00	.64
	5	.06	.07	.06	.01	.01
	6	.00	.03	.54	.37	.01
	7	.45	.13	.31	.14	.06
	8	.08	.30	.09	.48	.00

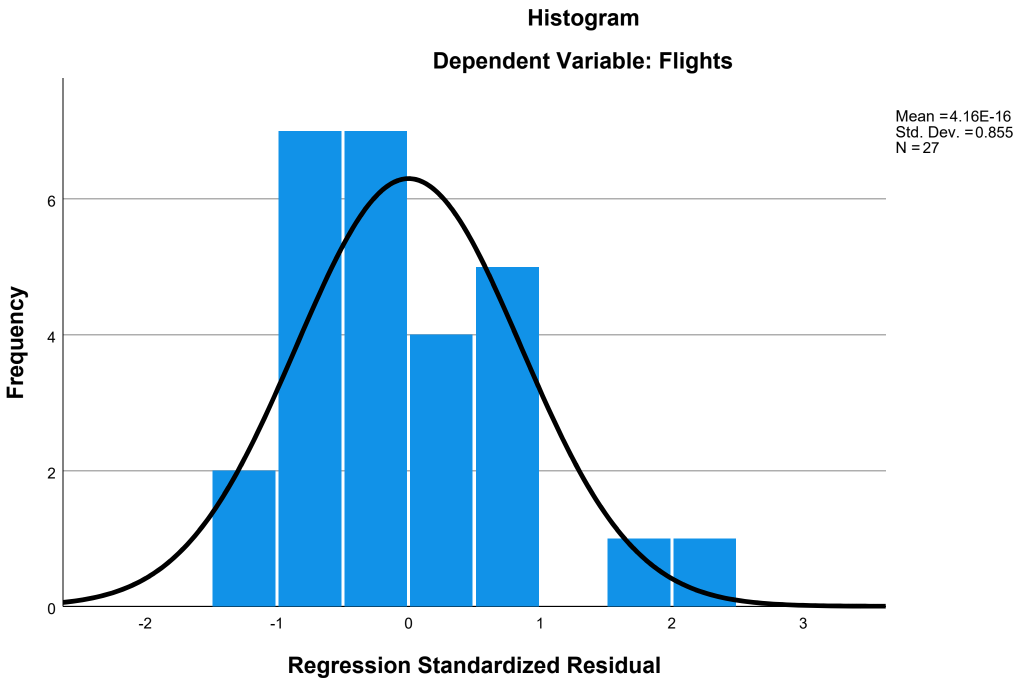
a. Dependent Variable: Flights

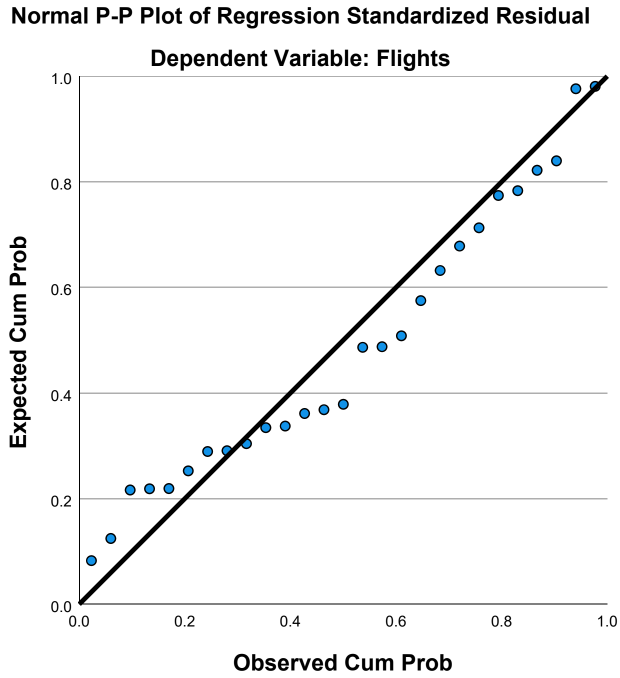
Residuals Statistics[a]

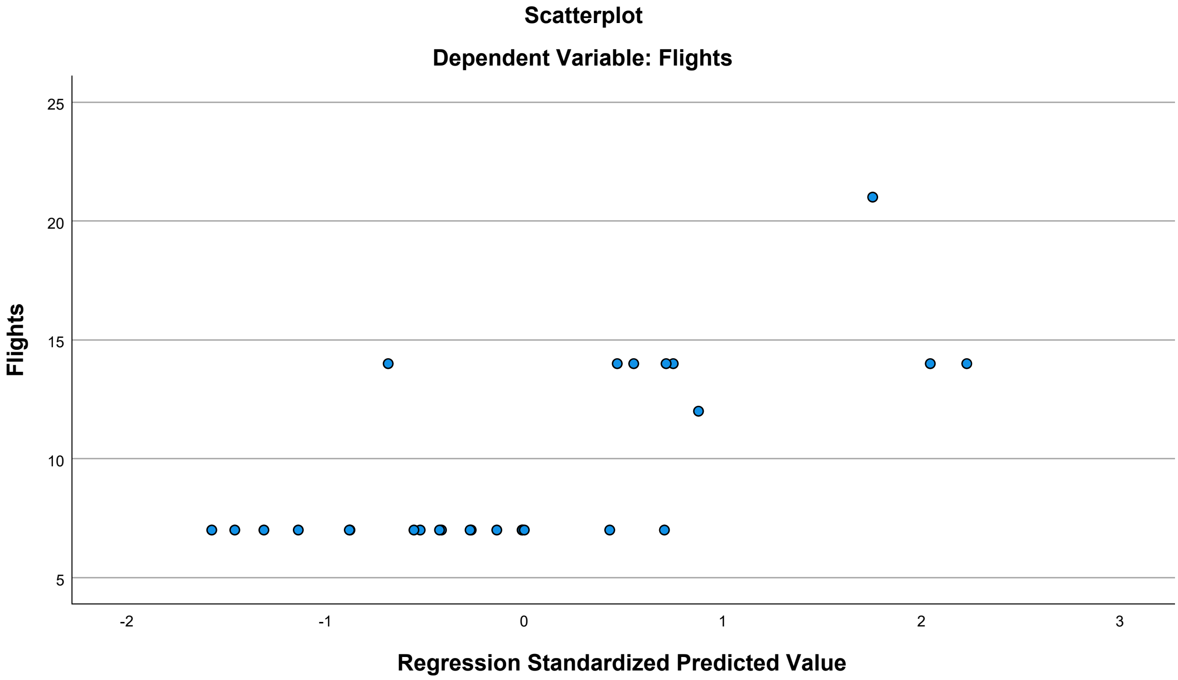
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.19	15.65	9.52	2.750	27
Residual	-4.460	6.656	.000	2.747	27
Std. Predicted Value	-1.573	2.229	.000	1.000	27
Std. Residual	-1.388	2.072	.000	.855	27

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
5
10
15
20
25
-2
-1
0
1
2
3

Regression

```
[DataSet19] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\JVs\2002
 Star.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.22	4.995	37
HomeConcentration	4.1253113514	1.6648427186	37
Congestion	4.65	.716	37
GLHR	.19	.397	37
GJFK	.08	.277	37
PartnerConcentration	1.4758924324	1.9312487027	37
Seasonality	.61604296604	.18155670491	37
Distance	4.43857	.783574	37
Language	1.29394849	2.958682100	37
Ethnicity	.77485727	.617590087	37
Urban	18.57	2.921	37

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.107	.123	.469
	HomeConcentration	.107	1.000	-.049	-.386
	Congestion	.123	-.049	1.000	.143
	GLHR	.469	-.386	.143	1.000
	GJFK	.288	-.225	.569	.109
	PartnerConcentration	-.051	-.103	.247	.015
	Seasonality	-.065	-.038	.017	-.249
	Distance	-.220	.231	.056	-.222
	Language	.482	-.345	.246	.883
	Ethnicity	.136	-.071	.282	-.060
	Urban	.370	-.164	.577	.552
Sig. (1-tailed)	Flights	.	.264	.234	.002
	HomeConcentration	.264	.	.386	.009
	Congestion	.234	.386	.	.200
	GLHR	.002	.009	.200	.
	GJFK	.042	.090	.000	.260
	PartnerConcentration	.382	.272	.070	.464
	Seasonality	.352	.413	.459	.069
	Distance	.095	.084	.372	.093
	Language	.001	.018	.071	.000
	Ethnicity	.211	.339	.046	.362
	Urban	.012	.167	.000	.000
N	Flights	37	37	37	37
	HomeConcentration	37	37	37	37

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.288	-.051	-.065	-.220
	HomeConcentration	-.225	-.103	-.038	.231
	Congestion	.569	.247	.017	.056
	GLHR	.109	.015	-.249	-.222
	GJFK	1.000	-.150	.139	-.254
	PartnerConcentration	-.150	1.000	-.223	.330
	Seasonality	.139	-.223	1.000	-.086
	Distance	-.254	.330	-.086	1.000
	Language	.308	.017	-.227	-.305
	Ethnicity	.507	.242	.089	-.191
	Urban	.320	.004	-.276	-.154
Sig. (1-tailed)	Flights	.042	.382	.352	.095
	HomeConcentration	.090	.272	.413	.084
	Congestion	.000	.070	.459	.372
	GLHR	.260	.464	.069	.093
	GJFK	.	.187	.206	.064
	PartnerConcentration	.187	.	.093	.023
	Seasonality	.206	.093	.	.306
	Distance	.064	.023	.306	.
	Language	.032	.461	.088	.033
	Ethnicity	.001	.075	.299	.129
	Urban	.027	.490	.049	.181
N	Flights	37	37	37	37
	HomeConcentration	37	37	37	37

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.482	.136	.370
	HomeConcentration	-.345	-.071	-.164
	Congestion	.246	.282	.577
	GLHR	.883	-.060	.552
	GJFK	.308	.507	.320
	PartnerConcentration	.017	.242	.004
	Seasonality	-.227	.089	-.276
	Distance	-.305	-.191	-.154
	Language	1.000	.023	.546
	Ethnicity	.023	1.000	-.141
	Urban	.546	-.141	1.000
Sig. (1-tailed)	Flights	.001	.211	.012
	HomeConcentration	.018	.339	.167
	Congestion	.071	.046	.000
	GLHR	.000	.362	.000
	GJFK	.032	.001	.027
	PartnerConcentration	.461	.075	.490
	Seasonality	.088	.299	.049
	Distance	.033	.129	.181
	Language	.	.447	.000
	Ethnicity	.447	.	.202
	Urban	.000	.202	.
N	Flights	37	37	37
	HomeConcentration	37	37	37

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	37	37	37	37
	GLHR	37	37	37	37
	GJFK	37	37	37	37
	PartnerConcentration	37	37	37	37
	Seasonality	37	37	37	37
	Distance	37	37	37	37
	Language	37	37	37	37
	Ethnicity	37	37	37	37
	Urban	37	37	37	37

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	37	37	37	37
	GLHR	37	37	37	37
	GJFK	37	37	37	37
	PartnerConcentration	37	37	37	37
	Seasonality	37	37	37	37
	Distance	37	37	37	37
	Language	37	37	37	37
	Ethnicity	37	37	37	37
	Urban	37	37	37	37

Correlations

		Language	Ethnicity	Urban
	Congestion	37	37	37
	GLHR	37	37	37
	GJFK	37	37	37
	PartnerConcentration	37	37	37
	Seasonality	37	37	37
	Distance	37	37	37
	Language	37	37	37
	Ethnicity	37	37	37
	Urban	37	37	37

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, HomeConcentration, Ethnicity, Seasonality, Distance, Language, GJFK, Congestion, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.699[a]	.488	.292	4.204	.488	2.481

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	26	.031

a. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Ethnicity, Seasonality, Distance, Language, GJFK, Congestion, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	438.654	10	43.865	2.481	.031[b]
	Residual	459.616	26	17.678		
	Total	898.270	36			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Ethnicity, Seasonality, Distance, Language, GJFK, Congestion, GLHR

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.250	9.679		.439	.664
	HomeConcentration	1.461	.509	.487	2.872	.008
	Congestion	-2.874	1.720	-.412	-1.671	.107
	GLHR	6.884	4.621	.547	1.490	.148
	GJFK	8.132	4.719	.450	1.723	.097
	PartnerConcentration	.529	.514	.205	1.031	.312
	Seasonality	3.894	4.463	.142	.873	.391
	Distance	-.521	1.131	-.082	-.461	.649
	Language	-.044	.608	-.026	-.073	.942
	Ethnicity	.445	1.733	.055	.256	.800
	Urban	.495	.436	.289	1.134	.267

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.685	1.460
	Congestion	.324	3.085
	GLHR	.146	6.856
	GJFK	.288	3.473
	PartnerConcentration	.499	2.003
	Seasonality	.748	1.337
	Distance	.626	1.598
	Language	.152	6.579
	Ethnicity	.429	2.333
	Urban	.302	3.308

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

				Variance Proportions		
Model	Dimension	Eigenvalue	Condition Index	(Constant)	HomeConcentration	Congestion
1	1	7.371	1.000	.00	.00	.00
	2	1.592	2.152	.00	.00	.00
	3	.983	2.738	.00	.00	.00
	4	.606	3.487	.00	.01	.00
	5	.192	6.190	.00	.00	.00
	6	.113	8.083	.00	.45	.00
	7	.072	10.093	.00	.04	.00
	8	.041	13.453	.01	.47	.01
	9	.020	19.134	.00	.01	.03
	10	.006	35.793	.25	.02	.78
	11	.003	47.485	.74	.00	.18

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.03	.01	.00	.00	.00	.03
	3	.01	.18	.02	.00	.00	.00
	4	.00	.00	.38	.00	.00	.00
	5	.02	.19	.14	.00	.00	.00
	6	.07	.00	.00	.12	.00	.15
	7	.45	.10	.00	.23	.00	.59
	8	.29	.13	.20	.43	.02	.12
	9	.00	.04	.03	.00	.61	.03
	10	.00	.26	.20	.00	.03	.01
	11	.12	.08	.02	.22	.32	.05

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.00	.00
	3	.02	.00
	4	.03	.00
	5	.57	.00
	6	.00	.00
	7	.00	.00
	8	.07	.02
	9	.00	.08
	10	.02	.10
	11	.29	.79

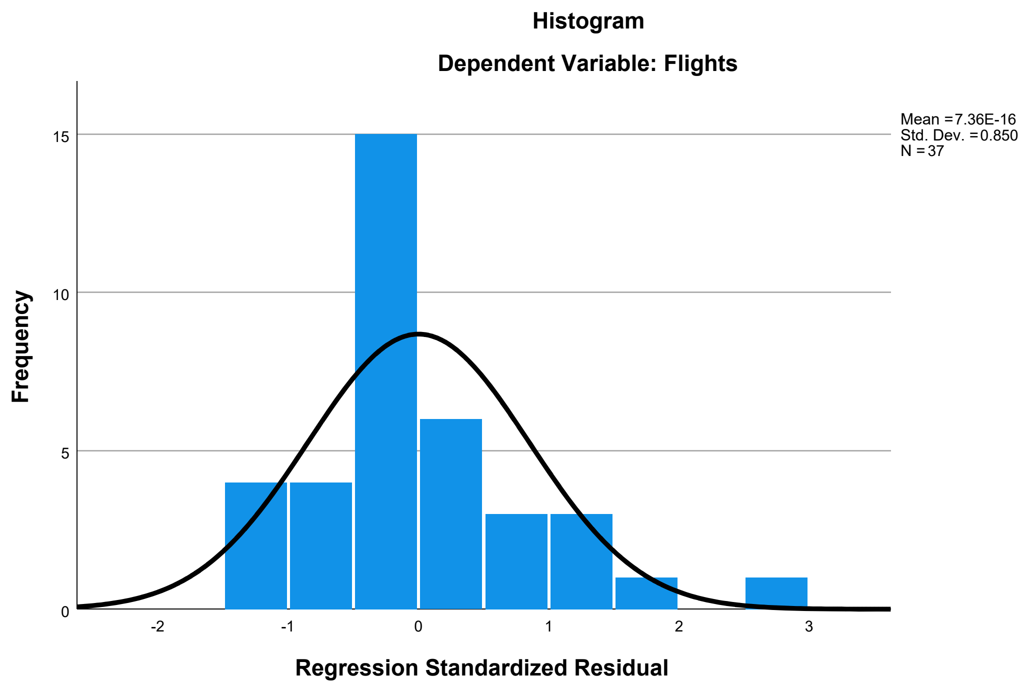
a. Dependent Variable: Flights

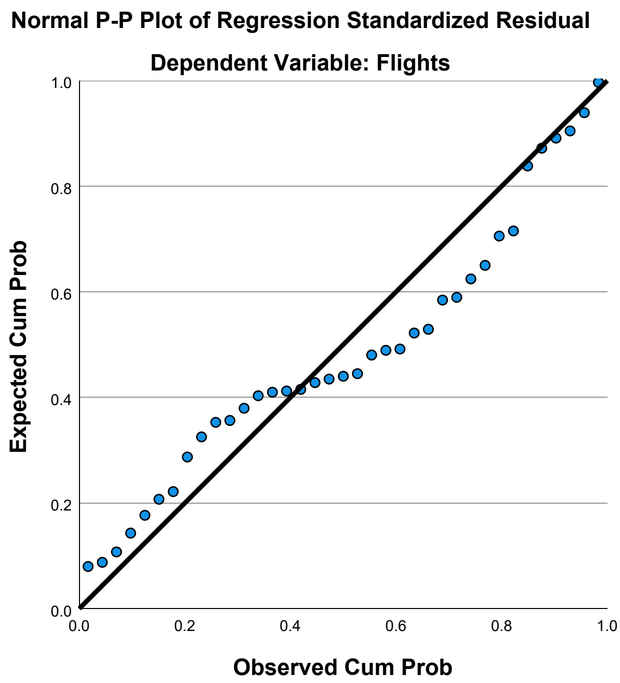
Residuals Statistics[a]

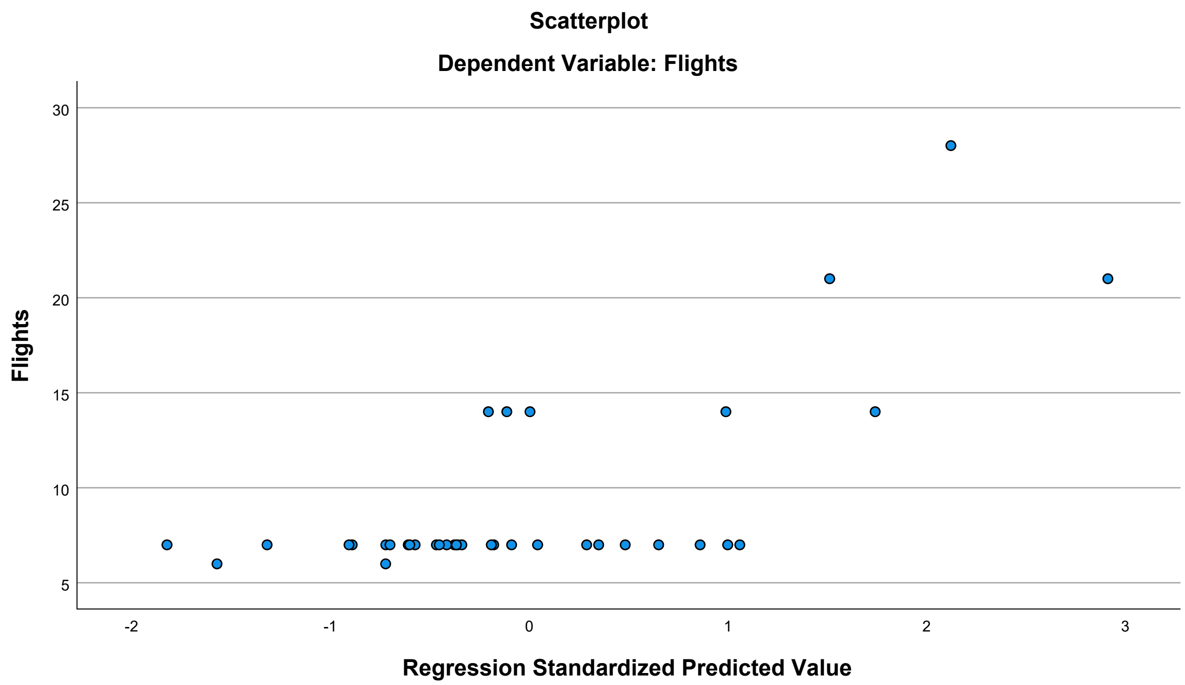
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.85	19.38	9.22	3.491	37
Residual	-5.913	11.379	.000	3.573	37
Std. Predicted Value	-1.824	2.912	.000	1.000	37
Std. Residual	-1.406	2.706	.000	.850	37

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean =7.36E-16
Std. Dev. =0.850
N =37
Frequency
15
10
5
0
-2
-1
0
1
2
3
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.22	4.995	37
HomeConcentration	4.1253113514	1.6648427186	37
Congestion	4.65	.716	37
GJFK	.08	.277	37
PartnerConcentration	1.4758924324	1.9312487027	37
Seasonality	.61604296604	.18155670491	37
Distance	4.43857	.783574	37
Language	1.29394849	2.958682100	37
Ethnicity	.77485727	.617590087	37
Urban	18.57	2.921	37

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.107	.123	.288
	HomeConcentration	.107	1.000	-.049	-.225
	Congestion	.123	-.049	1.000	.569
	GJFK	.288	-.225	.569	1.000
	PartnerConcentration	-.051	-.103	.247	-.150
	Seasonality	-.065	-.038	.017	.139
	Distance	-.220	.231	.056	-.254
	Language	.482	-.345	.246	.308
	Ethnicity	.136	-.071	.282	.507
	Urban	.370	-.164	.577	.320
Sig. (1-tailed)	Flights	.	.264	.234	.042
	HomeConcentration	.264	.	.386	.090
	Congestion	.234	.386	.	.000
	GJFK	.042	.090	.000	.
	PartnerConcentration	.382	.272	.070	.187
	Seasonality	.352	.413	.459	.206
	Distance	.095	.084	.372	.064
	Language	.001	.018	.071	.032
	Ethnicity	.211	.339	.046	.001
	Urban	.012	.167	.000	.027
N	Flights	37	37	37	37
	HomeConcentration	37	37	37	37
	Congestion	37	37	37	37
	GJFK	37	37	37	37
	PartnerConcentration	37	37	37	37
	Seasonality	37	37	37	37
	Distance	37	37	37	37
	Language	37	37	37	37
	Ethnicity	37	37	37	37
	Urban	37	37	37	37

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	-.051	-.065	-.220	.482
	HomeConcentration	-.103	-.038	.231	-.345
	Congestion	.247	.017	.056	.246
	GJFK	-.150	.139	-.254	.308
	PartnerConcentration	1.000	-.223	.330	.017
	Seasonality	-.223	1.000	-.086	-.227
	Distance	.330	-.086	1.000	-.305
	Language	.017	-.227	-.305	1.000
	Ethnicity	.242	.089	-.191	.023
	Urban	.004	-.276	-.154	.546
Sig. (1-tailed)	Flights	.382	.352	.095	.001
	HomeConcentration	.272	.413	.084	.018
	Congestion	.070	.459	.372	.071
	GJFK	.187	.206	.064	.032
	PartnerConcentration	.	.093	.023	.461
	Seasonality	.093	.	.306	.088
	Distance	.023	.306	.	.033
	Language	.461	.088	.033	.
	Ethnicity	.075	.299	.129	.447
	Urban	.490	.049	.181	.000
N	Flights	37	37	37	37
	HomeConcentration	37	37	37	37
	Congestion	37	37	37	37
	GJFK	37	37	37	37
	PartnerConcentration	37	37	37	37
	Seasonality	37	37	37	37
	Distance	37	37	37	37
	Language	37	37	37	37
	Ethnicity	37	37	37	37
	Urban	37	37	37	37

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.136	.370
	HomeConcentration	-.071	-.164
	Congestion	.282	.577
	GJFK	.507	.320
	PartnerConcentration	.242	.004
	Seasonality	.089	-.276
	Distance	-.191	-.154
	Language	.023	.546
	Ethnicity	1.000	-.141
	Urban	-.141	1.000
Sig. (1-tailed)	Flights	.211	.012
	HomeConcentration	.339	.167
	Congestion	.046	.000
	GJFK	.001	.027
	PartnerConcentration	.075	.490
	Seasonality	.299	.049
	Distance	.129	.181
	Language	.447	.000
	Ethnicity	.	.202
	Urban	.202	.
N	Flights	37	37
	HomeConcentration	37	37
	Congestion	37	37
	GJFK	37	37
	PartnerConcentration	37	37
	Seasonality	37	37
	Distance	37	37
	Language	37	37
	Ethnicity	37	37
	Urban	37	37

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, HomeConcentration, Ethnicity, Seasonality, Distance, Language, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change
1	.667[a]	.445	.260	4.298	.445	2.402

Model Summary[b]

Model	Change Statistics: df1	df2	Sig. F Change
1	9	27	.038

a. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Ethnicity, Seasonality, Distance, Language, GJFK, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	399.423	9	44.380	2.402	.038[b]
	Residual	498.847	27	18.476		
	Total	898.270	36			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Ethnicity, Seasonality, Distance, Language, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.636	9.579		.066	.948
	HomeConcentration	1.214	.492	.405	2.469	.020
	Congestion	-3.132	1.749	-.449	-1.790	.085
	GJFK	5.187	4.381	.287	1.184	.247
	PartnerConcentration	.370	.513	.143	.720	.478
	Seasonality	4.146	4.559	.151	.909	.371
	Distance	-.159	1.129	-.025	-.141	.889
	Language	.730	.321	.433	2.276	.031
	Ethnicity	1.156	1.703	.143	.679	.503
	Urban	.726	.417	.424	1.741	.093

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.766	1.305
	Congestion	.327	3.053
	GJFK	.349	2.863
	PartnerConcentration	.522	1.916
	Seasonality	.749	1.335
	Distance	.656	1.525
	Language	.569	1.757
	Ethnicity	.464	2.156
	Urban	.346	2.890

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.130	1.000	.00	.00	.00
	2	1.195	2.443	.00	.00	.00
	3	.713	3.162	.00	.00	.00
	4	.597	3.455	.00	.01	.00
	5	.182	6.258	.00	.00	.00
	6	.105	8.240	.00	.63	.00
	7	.048	12.139	.01	.32	.01
	8	.020	18.815	.00	.01	.03
	9	.006	35.202	.27	.02	.79
	10	.004	43.989	.72	.01	.17

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.15	.01	.00	.00	.12	.00
	3	.08	.07	.00	.00	.38	.02
	4	.02	.34	.00	.00	.04	.04
	5	.30	.15	.00	.00	.09	.62
	6	.04	.01	.19	.00	.01	.00
	7	.03	.17	.56	.03	.15	.05
	8	.04	.03	.00	.64	.15	.00
	9	.31	.21	.00	.03	.04	.02
	10	.02	.00	.24	.29	.02	.23

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.03
	8	.09
	9	.12
	10	.76

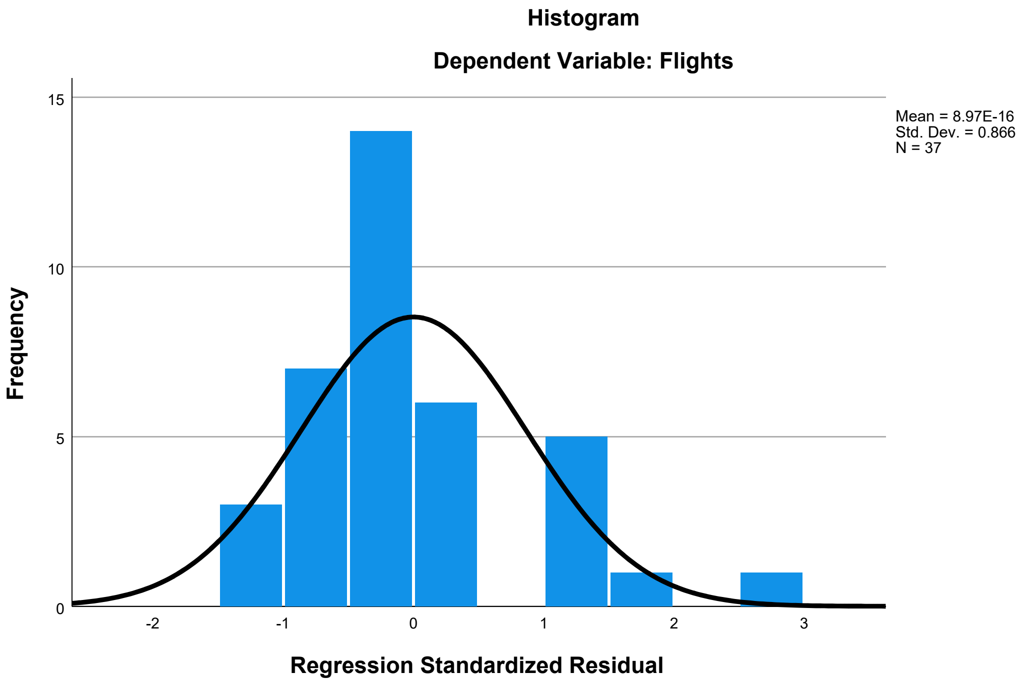
a. Dependent Variable: Flights

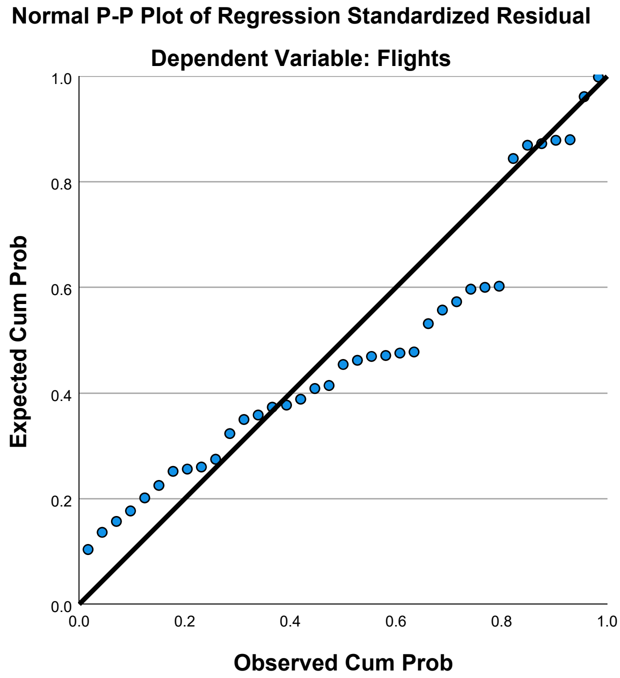
Residuals Statistics[a]

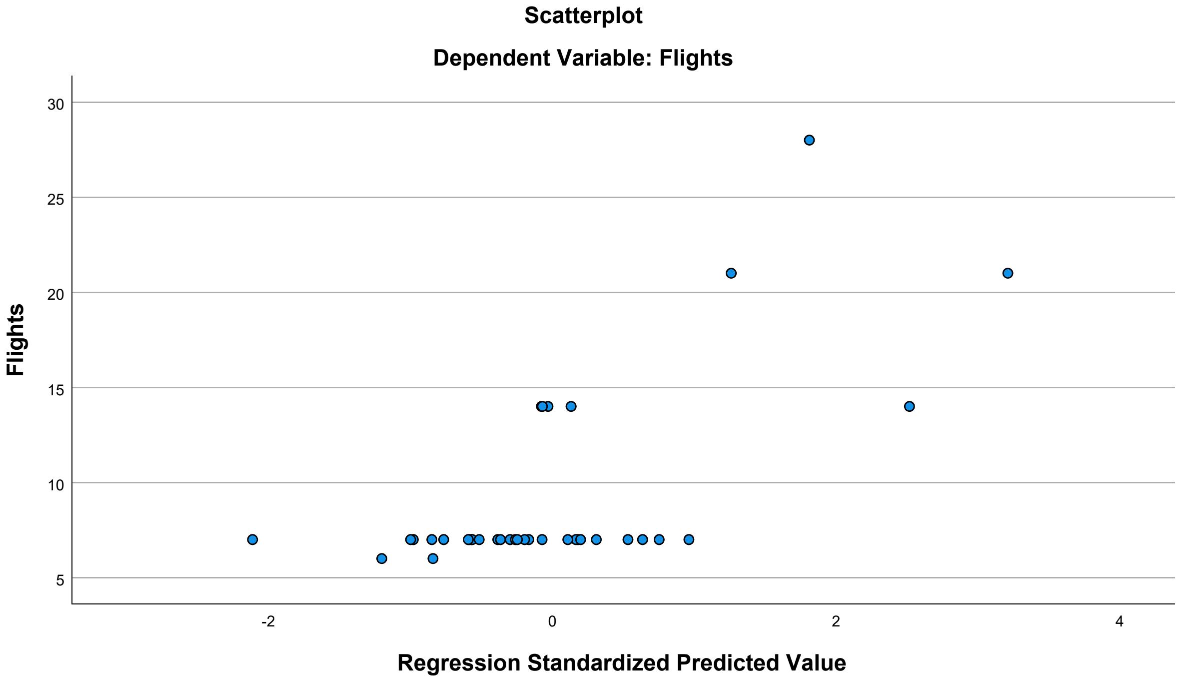
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.17	19.91	9.22	3.331	37
Residual	-5.420	12.753	.000	3.722	37
Std. Predicted Value	-2.114	3.210	.000	1.000	37
Std. Residual	-1.261	2.967	.000	.866	37

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
30
25
20
15
10
5
-2
0
2
4

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.00	4.889	42
HomeConcentration	4.1516825714	1.4201257971	42
Congestion	4.69	.924	42
GLHR	.10	.297	42
GJFK	.05	.216	42
PartnerConcentration	2.1105220952	2.1758436009	42
Seasonality	.57955060812	.15084384702	42
Distance	4.56207	.764053	42
Language	.58896671	1.856832763	42
Ethnicity	.88740736	.823436941	42
Urban	17.48	3.202	42

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.041	.157	.571
	HomeConcentration	.041	1.000	.145	-.219
	Congestion	.157	.145	1.000	.110
	GLHR	.571	-.219	.110	1.000
	GJFK	.231	.129	.321	-.073
	PartnerConcentration	-.101	.151	.059	-.101
	Seasonality	.029	-.016	-.208	-.134
	Distance	-.239	.111	-.198	.017
	Language	.602	-.136	.157	.910
	Ethnicity	.093	.229	.347	-.097
	Urban	.371	-.002	.727	.361
Sig. (1-tailed)	Flights	.	.399	.161	<.001
	HomeConcentration	.399	.	.181	.082
	Congestion	.161	.181	.	.244
	GLHR	.000	.082	.244	.
	GJFK	.070	.208	.019	.324
	PartnerConcentration	.262	.169	.356	.262
	Seasonality	.427	.460	.093	.198
	Distance	.063	.242	.104	.457
	Language	.000	.196	.160	.000
	Ethnicity	.280	.072	.012	.270
	Urban	.008	.494	.000	.009
N	Flights	42	42	42	42
	HomeConcentration	42	42	42	42
	Congestion	42	42	42	42
	GLHR	42	42	42	42

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.231	-.101	.029	-.239
	HomeConcentration	.129	.151	-.016	.111
	Congestion	.321	.059	-.208	-.198
	GLHR	-.073	-.101	-.134	.017
	GJFK	1.000	-.220	-.044	-.185
	PartnerConcentration	-.220	1.000	-.018	.296
	Seasonality	-.044	-.018	1.000	-.062
	Distance	-.185	.296	-.062	1.000
	Language	-.060	-.088	-.126	-.075
	Ethnicity	.351	.217	-.151	-.222
	Urban	.284	-.131	-.397	-.239
Sig. (1-tailed)	Flights	.070	.262	.427	.063
	HomeConcentration	.208	.169	.460	.242
	Congestion	.019	.356	.093	.104
	GLHR	.324	.262	.198	.457
	GJFK	.	.081	.390	.120
	PartnerConcentration	.081	.	.456	.029
	Seasonality	.390	.456	.	.348
	Distance	.120	.029	.348	.
	Language	.352	.290	.214	.318
	Ethnicity	.011	.084	.169	.079
	Urban	.034	.205	.005	.063
N	Flights	42	42	42	42
	HomeConcentration	42	42	42	42
	Congestion	42	42	42	42
	GLHR	42	42	42	42

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.602	.093	.371
	HomeConcentration	-.136	.229	-.002
	Congestion	.157	.347	.727
	GLHR	.910	-.097	.361
	GJFK	-.060	.351	.284
	PartnerConcentration	-.088	.217	-.131
	Seasonality	-.126	-.151	-.397
	Distance	-.075	-.222	-.239
	Language	1.000	-.052	.347
	Ethnicity	-.052	1.000	.120
	Urban	.347	.120	1.000
Sig. (1-tailed)	Flights	<.001	.280	.008
	HomeConcentration	.196	.072	.494
	Congestion	.160	.012	.000
	GLHR	.000	.270	.009
	GJFK	.352	.011	.034
	PartnerConcentration	.290	.084	.205
	Seasonality	.214	.169	.005
	Distance	.318	.079	.063
	Language	.	.371	.012
	Ethnicity	.371	.	.224
	Urban	.012	.224	.
N	Flights	42	42	42
	HomeConcentration	42	42	42
	Congestion	42	42	42
	GLHR	42	42	42

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	GJFK	42	42	42	42
	PartnerConcentration	42	42	42	42
	Seasonality	42	42	42	42
	Distance	42	42	42	42
	Language	42	42	42	42
	Ethnicity	42	42	42	42
	Urban	42	42	42	42

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
GJFK	42	42	42	42
PartnerConcentration	42	42	42	42
Seasonality	42	42	42	42
Distance	42	42	42	42
Language	42	42	42	42
Ethnicity	42	42	42	42
Urban	42	42	42	42

Correlations

	Language	Ethnicity	Urban
GJFK	42	42	42
PartnerConcentration	42	42	42
Seasonality	42	42	42
Distance	42	42	42
Language	42	42	42
Ethnicity	42	42	42
Urban	42	42	42

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, PartnerConcentration, Ethnicity, Language, Seasonality, Distance, GJFK, Congestion, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.735[a]	.540	.391	3.814	.540	3.638

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	31	.003

a. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, Ethnicity, Language, Seasonality, Distance, GJFK, Congestion, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	529.114	10	52.911	3.638	.003[b]
	Residual	450.886	31	14.545		
	Total	980.000	41			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, Ethnicity, Language, Seasonality, Distance, GJFK, Congestion, GLHR

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.912	8.057		.485	.631
	HomeConcentration	.520	.459	.151	1.133	.266
	Congestion	-1.545	1.087	-.292	-1.421	.165
	GLHR	3.665	5.349	.223	.685	.498
	GJFK	5.035	3.288	.222	1.531	.136
	PartnerConcentration	.188	.322	.084	.584	.563
	Seasonality	6.410	4.562	.198	1.405	.170
	Distance	-1.049	.940	-.164	-1.116	.273
	Language	1.001	.817	.380	1.226	.229
	Ethnicity	.334	.922	.056	.363	.719
	Urban	.536	.349	.351	1.536	.135

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.835	1.197
	Congestion	.352	2.840
	GLHR	.140	7.120
	GJFK	.706	1.416
	PartnerConcentration	.724	1.382
	Seasonality	.749	1.335
	Distance	.688	1.454
	Language	.154	6.484
	Ethnicity	.615	1.625
	Urban	.284	3.523

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.216	1.000	.00	.00	.00
	2	1.738	2.037	.00	.00	.00
	3	1.041	2.633	.00	.00	.00
	4	.466	3.935	.00	.00	.00
	5	.267	5.196	.00	.00	.00
	6	.095	8.697	.00	.35	.00
	7	.072	10.013	.00	.24	.00
	8	.064	10.656	.00	.30	.04
	9	.029	15.820	.01	.11	.05
	10	.008	29.555	.12	.00	.74
	11	.004	45.226	.87	.00	.17

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.03	.01	.00	.00	.00	.04
	3	.00	.53	.04	.00	.00	.00
	4	.00	.00	.38	.01	.00	.00
	5	.00	.37	.44	.00	.00	.00
	6	.33	.00	.00	.01	.00	.43
	7	.17	.01	.00	.33	.00	.22
	8	.26	.01	.00	.11	.00	.15
	9	.11	.03	.05	.12	.40	.13
	10	.01	.01	.07	.01	.16	.00
	11	.08	.04	.01	.41	.43	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.00	.00
	3	.01	.00
	4	.18	.00
	5	.54	.00
	6	.03	.00
	7	.02	.01
	8	.02	.03
	9	.05	.02
	10	.01	.29
	11	.13	.66

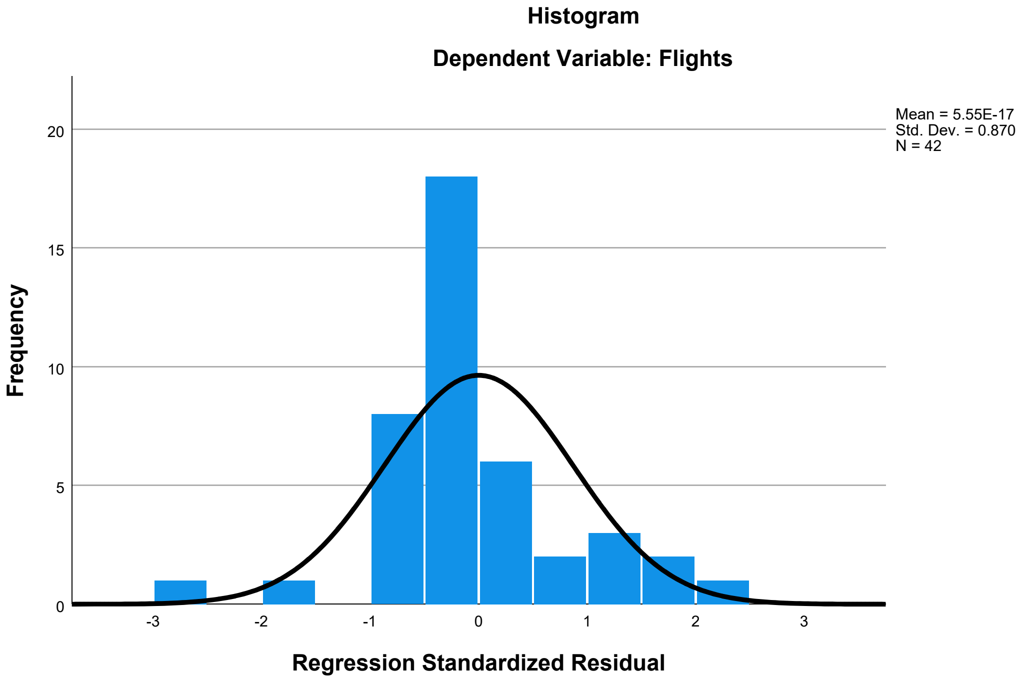
a. Dependent Variable: Flights

Residuals Statistics[a]

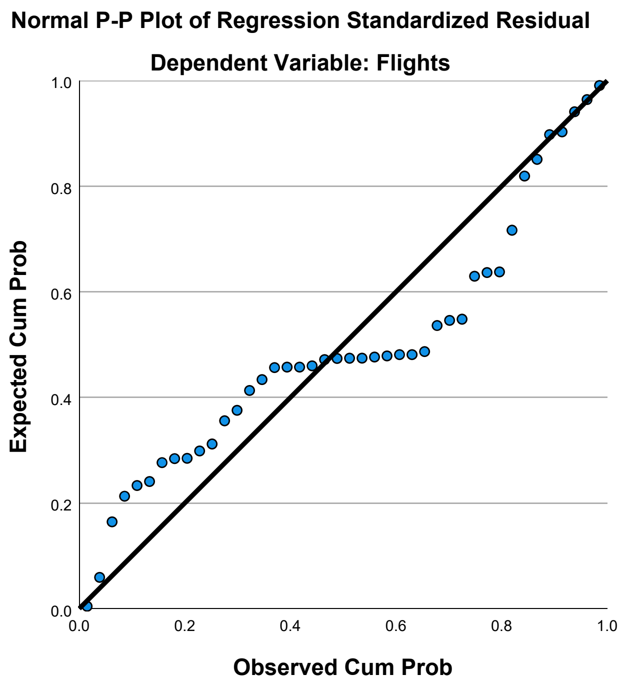
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.20	21.27	9.00	3.592	42
Residual	-10.028	8.958	.000	3.316	42
Std. Predicted Value	-1.613	3.416	.000	1.000	42
Std. Residual	-2.630	2.349	.000	.870	42

a. Dependent Variable: Flights

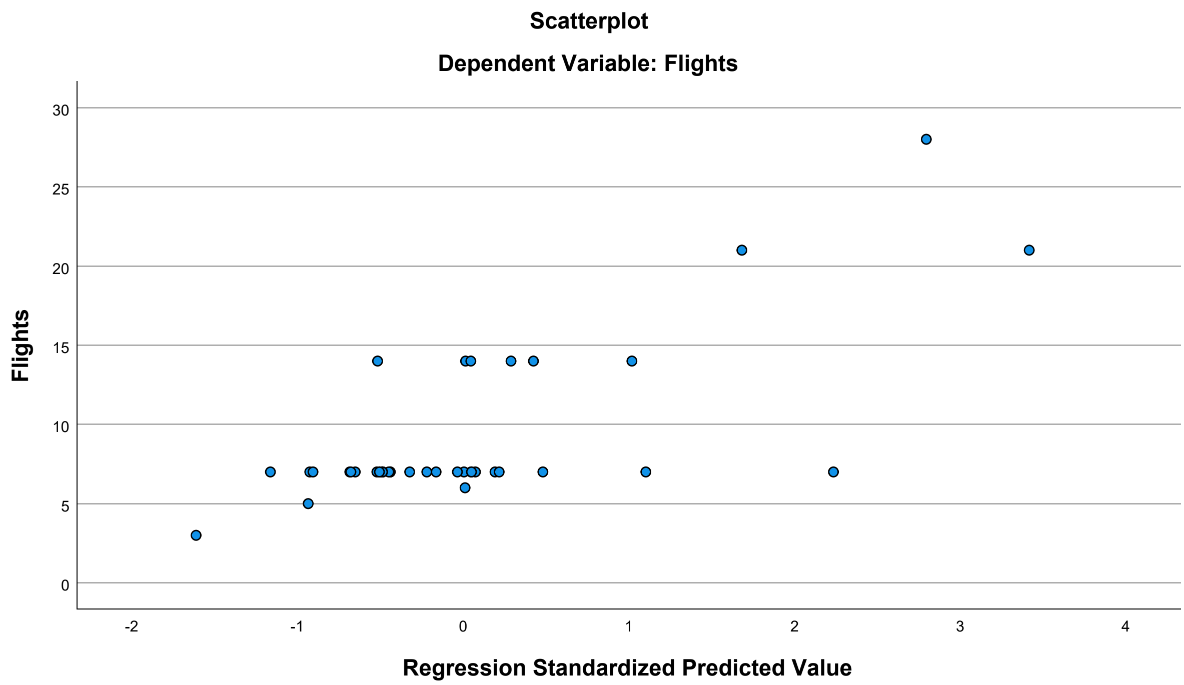
Charts



Histogram
Dependent Variable: Flights
Mean = 5.55E-17
Std. Dev. = 0.870
N = 42
Frequency
20
15
10
5
0
-3
-2
-1
0
1
2
3
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.00	4.889	42
HomeConcentration	4.1516825714	1.4201257971	42
Congestion	4.69	.924	42
GLHR	.10	.297	42
GJFK	.05	.216	42
PartnerConcentration	2.1105220952	2.1758436009	42
Seasonality	.57955060812	.15084384702	42
Distance	4.56207	.764053	42
Ethnicity	.88740736	.823436941	42
Urban	17.48	3.202	42

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.041	.157	.571
	HomeConcentration	.041	1.000	.145	-.219
	Congestion	.157	.145	1.000	.110
	GLHR	.571	-.219	.110	1.000
	GJFK	.231	.129	.321	-.073
	PartnerConcentration	-.101	.151	.059	-.101
	Seasonality	.029	-.016	-.208	-.134
	Distance	-.239	.111	-.198	.017
	Ethnicity	.093	.229	.347	-.097
	Urban	.371	-.002	.727	.361
Sig. (1-tailed)	Flights	.	.399	.161	<.001
	HomeConcentration	.399	.	.181	.082
	Congestion	.161	.181	.	.244
	GLHR	.000	.082	.244	.
	GJFK	.070	.208	.019	.324
	PartnerConcentration	.262	.169	.356	.262
	Seasonality	.427	.460	.093	.198
	Distance	.063	.242	.104	.457
	Ethnicity	.280	.072	.012	.270
	Urban	.008	.494	.000	.009
N	Flights	42	42	42	42
	HomeConcentration	42	42	42	42
	Congestion	42	42	42	42
	GLHR	42	42	42	42
	GJFK	42	42	42	42
	PartnerConcentration	42	42	42	42
	Seasonality	42	42	42	42
	Distance	42	42	42	42
	Ethnicity	42	42	42	42
	Urban	42	42	42	42

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.231	-.101	.029	-.239
	HomeConcentration	.129	.151	-.016	.111
	Congestion	.321	.059	-.208	-.198
	GLHR	-.073	-.101	-.134	.017
	GJFK	1.000	-.220	-.044	-.185
	PartnerConcentration	-.220	1.000	-.018	.296
	Seasonality	-.044	-.018	1.000	-.062
	Distance	-.185	.296	-.062	1.000
	Ethnicity	.351	.217	-.151	-.222
	Urban	.284	-.131	-.397	-.239
Sig. (1-tailed)	Flights	.070	.262	.427	.063
	HomeConcentration	.208	.169	.460	.242
	Congestion	.019	.356	.093	.104
	GLHR	.324	.262	.198	.457
	GJFK	.	.081	.390	.120
	PartnerConcentration	.081	.	.456	.029
	Seasonality	.390	.456	.	.348
	Distance	.120	.029	.348	.
	Ethnicity	.011	.084	.169	.079
	Urban	.034	.205	.005	.063
N	Flights	42	42	42	42
	HomeConcentration	42	42	42	42
	Congestion	42	42	42	42
	GLHR	42	42	42	42
	GJFK	42	42	42	42
	PartnerConcentration	42	42	42	42
	Seasonality	42	42	42	42
	Distance	42	42	42	42
	Ethnicity	42	42	42	42
	Urban	42	42	42	42

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.093	.371
	HomeConcentration	.229	-.002
	Congestion	.347	.727
	GLHR	-.097	.361
	GJFK	.351	.284
	PartnerConcentration	.217	-.131
	Seasonality	-.151	-.397
	Distance	-.222	-.239
	Ethnicity	1.000	.120
	Urban	.120	1.000
Sig. (1-tailed)	Flights	.280	.008
	HomeConcentration	.072	.494
	Congestion	.012	.000
	GLHR	.270	.009
	GJFK	.011	.034
	PartnerConcentration	.084	.205
	Seasonality	.169	.005
	Distance	.079	.063
	Ethnicity	.	.224
	Urban	.224	.
N	Flights	42	42
	HomeConcentration	42	42
	Congestion	42	42
	GLHR	42	42
	GJFK	42	42
	PartnerConcentration	42	42
	Seasonality	42	42
	Distance	42	42
	Ethnicity	42	42
	Urban	42	42

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, PartnerConcentration, Ethnicity, Seasonality, GLHR, Distance, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change
1	.719[a]	.518	.382	3.844	.518	3.815

Model Summary[b]

Model	Change Statistics: df1	Change Statistics: df2	Change Statistics: Sig. F Change
1	9	32	.002

a. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, Ethnicity, Seasonality, GLHR, Distance, GJFK, Co

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	507.259	9	56.362	3.815	.002[b]
	Residual	472.741	32	14.773		
	Total	980.000	41			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, Ethnicity, Seasonality, GLHR, Distance, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	5.101	8.061		.633	.531
	HomeConcentration	.620	.455	.180	1.363	.183
	Congestion	-1.358	1.084	-.257	-1.253	.219
	GLHR	9.580	2.328	.582	4.116	<.001
	GJFK	4.900	3.312	.216	1.479	.149
	PartnerConcentration	.202	.324	.090	.622	.538
	Seasonality	6.087	4.590	.188	1.326	.194
	Distance	-1.337	.917	-.209	-1.457	.155
	Ethnicity	.272	.928	.046	.293	.771
	Urban	.484	.349	.317	1.385	.176

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.862	1.160
	Congestion	.359	2.784
	GLHR	.753	1.327
	GJFK	.707	1.414
	PartnerConcentration	.725	1.380
	Seasonality	.752	1.331
	Distance	.734	1.363
	Ethnicity	.617	1.620
	Urban	.288	3.470

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.091	1.000	.00	.00	.00
	2	1.085	2.556	.00	.00	.00
	3	.913	2.786	.00	.00	.00
	4	.454	3.952	.00	.00	.00
	5	.267	5.152	.00	.00	.00
	6	.080	9.429	.00	.80	.00
	7	.066	10.370	.00	.13	.04
	8	.032	14.971	.01	.06	.06
	9	.008	29.282	.12	.00	.75
	10	.004	44.174	.87	.00	.15

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.11	.43	.01	.00	.00	.02
	3	.55	.10	.05	.00	.00	.00
	4	.08	.00	.36	.01	.00	.18
	5	.00	.37	.44	.00	.00	.55
	6	.02	.00	.00	.14	.00	.03
	7	.12	.01	.00	.31	.00	.02
	8	.00	.02	.05	.13	.41	.06
	9	.02	.01	.07	.01	.17	.01
	10	.09	.05	.01	.41	.41	.13

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.04
	8	.01
	9	.30
	10	.65

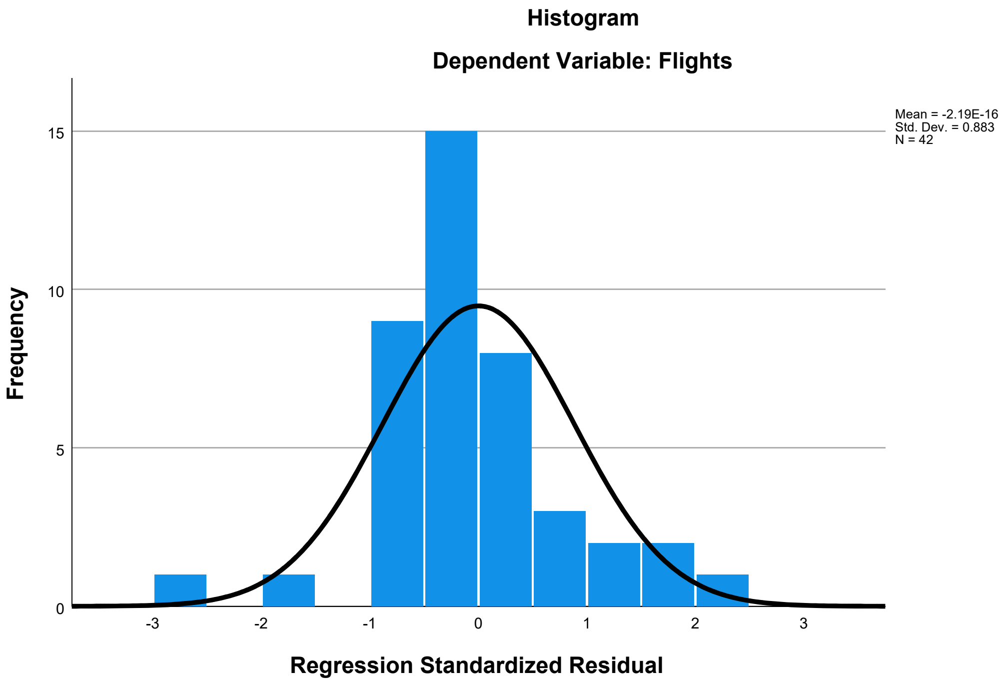
a. Dependent Variable: Flights

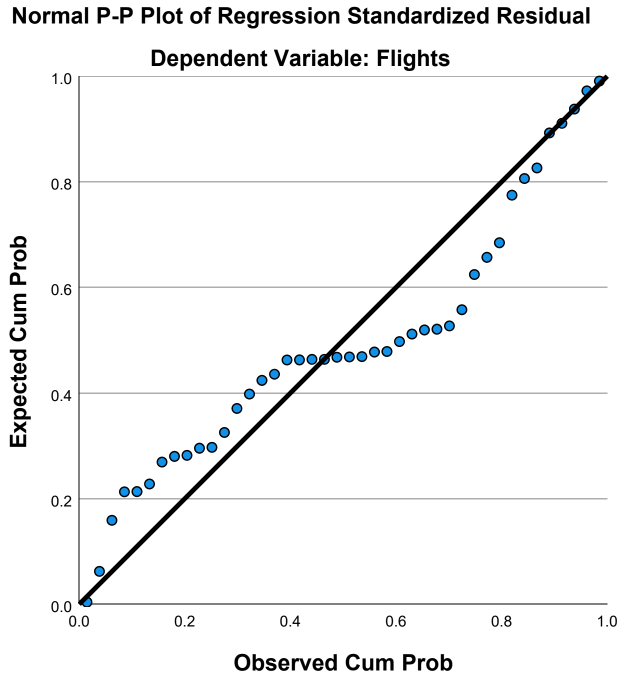
Residuals Statistics[a]

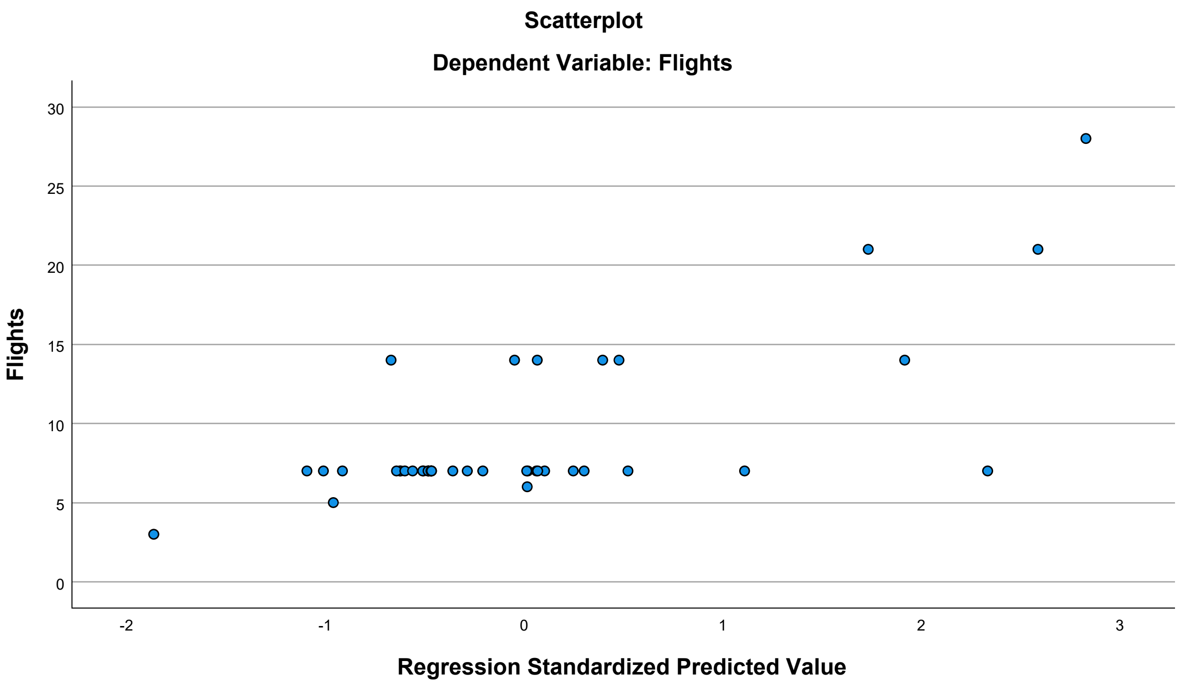
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.44	18.95	9.00	3.517	42
Residual	-10.209	9.050	.000	3.396	42
Std. Predicted Value	-1.865	2.829	.000	1.000	42
Std. Residual	-2.656	2.354	.000	.883	42

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
25
30
-2
-1
0
1
2
3

Regression

```
[DataSet21] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\JVs\2012
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.58	4.790	129
HomeConcentration	4.0438316589	1.7103723838	129
Congestion	5.01	.931	129
GLHR	.11	.312	129
GJFK	.04	.194	129
PartnerConcentration	1.7344301705	2.0781014628	129
Seasonality	.60539149153	.20281957744	129
Distance	4.28248	.898842	129
Language	1.13238540	2.384936648	129
Ethnicity	.62606243	.732868872	129
Urban	18.74	2.340	129

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.127	.064	.433
	HomeConcentration	.127	1.000	.124	-.260
	Congestion	.064	.124	1.000	-.084
	GLHR	.433	-.260	-.084	1.000
	GJFK	.051	-.135	.215	-.070
	PartnerConcentration	.082	-.079	.012	-.100
	Seasonality	-.043	-.044	.062	-.015
	Distance	-.095	.167	-.173	-.130
	Language	.364	-.086	-.010	.474
	Ethnicity	.236	.068	.076	.143
	Urban	.355	.291	.567	-.003
Sig. (1-tailed)	Flights	.	.076	.236	<.001
	HomeConcentration	.076	.	.080	.001
	Congestion	.236	.080	.	.173
	GLHR	.000	.001	.173	.
	GJFK	.282	.063	.007	.215
	PartnerConcentration	.179	.187	.448	.130
	Seasonality	.316	.310	.244	.434
	Distance	.142	.029	.025	.072
	Language	.000	.166	.455	.000
	Ethnicity	.004	.222	.195	.053
	Urban	.000	.000	.000	.485
N	Flights	129	129	129	129
	HomeConcentration	129	129	129	129

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.051	.082	-.043	-.095
	HomeConcentration	-.135	-.079	-.044	.167
	Congestion	.215	.012	.062	-.173
	GLHR	-.070	-.100	-.015	-.130
	GJFK	1.000	-.168	-.107	-.069
	PartnerConcentration	-.168	1.000	.042	.014
	Seasonality	-.107	.042	1.000	-.102
	Distance	-.069	.014	-.102	1.000
	Language	-.089	-.263	.064	-.330
	Ethnicity	.075	.272	.030	-.166
	Urban	.178	-.011	-.205	.049
Sig. (1-tailed)	Flights	.282	.179	.316	.142
	HomeConcentration	.063	.187	.310	.029
	Congestion	.007	.448	.244	.025
	GLHR	.215	.130	.434	.072
	GJFK	.	.028	.113	.220
	PartnerConcentration	.028	.	.318	.438
	Seasonality	.113	.318	.	.125
	Distance	.220	.438	.125	.
	Language	.158	.001	.237	.000
	Ethnicity	.200	.001	.368	.030
	Urban	.022	.451	.010	.292
N	Flights	129	129	129	129
	HomeConcentration	129	129	129	129

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.364	.236	.355
	HomeConcentration	-.086	.068	.291
	Congestion	-.010	.076	.567
	GLHR	.474	.143	-.003
	GJFK	-.089	.075	.178
	PartnerConcentration	-.263	.272	-.011
	Seasonality	.064	.030	-.205
	Distance	-.330	-.166	.049
	Language	1.000	.263	-.055
	Ethnicity	.263	1.000	.034
	Urban	-.055	.034	1.000
Sig. (1-tailed)	Flights	<.001	.004	<.001
	HomeConcentration	.166	.222	.000
	Congestion	.455	.195	.000
	GLHR	.000	.053	.485
	GJFK	.158	.200	.022
	PartnerConcentration	.001	.001	.451
	Seasonality	.237	.368	.010
	Distance	.000	.030	.292
	Language	.	.001	.268
	Ethnicity	.001	.	.351
	Urban	.268	.351	.
N	Flights	129	129	129
	HomeConcentration	129	129	129

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	129	129	129	129
	GLHR	129	129	129	129
	GJFK	129	129	129	129
	PartnerConcentration	129	129	129	129
	Seasonality	129	129	129	129
	Distance	129	129	129	129
	Language	129	129	129	129
	Ethnicity	129	129	129	129
	Urban	129	129	129	129

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	129	129	129	129
GLHR	129	129	129	129
GJFK	129	129	129	129
PartnerConcentration	129	129	129	129
Seasonality	129	129	129	129
Distance	129	129	129	129
Language	129	129	129	129
Ethnicity	129	129	129	129
Urban	129	129	129	129

Correlations

	Language	Ethnicity	Urban
Congestion	129	129	129
GLHR	129	129	129
GJFK	129	129	129
PartnerConcentration	129	129	129
Seasonality	129	129	129
Distance	129	129	129
Language	129	129	129
Ethnicity	129	129	129
Urban	129	129	129

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, GLHR, PartnerConcentration, Distance, Seasonality, GJFK, Ethnicity, HomeConcentration, Congestion, ...[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.673[a]	.452	.406	3.692	.452	9.748

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	118	<.001

a. Predictors: (Constant), Urban, GLHR, PartnerConcentration, Distance, Seasonality, GJFK, Ethnicity, HomeConcentration, Co
Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1328.858	10	132.886	9.748	<.001[b]
	Residual	1608.537	118	13.632		
	Total	2937.395	128			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, GLHR, PartnerConcentration, Distance, Seasonality, GJFK, Ethnicity, HomeConcentration, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-7.028	3.583		-1.961	.052
	HomeConcentration	.530	.222	.189	2.390	.018
	Congestion	-1.088	.457	-.211	-2.379	.019
	GLHR	5.467	1.255	.356	4.357	<.001
	GJFK	3.432	1.883	.139	1.823	.071
	PartnerConcentration	.535	.186	.232	2.883	.005
	Seasonality	1.293	1.699	.055	.761	.448
	Distance	-.148	.404	-.028	-.366	.715
	Language	.581	.180	.289	3.229	.002
	Ethnicity	.114	.517	.017	.220	.826
	Urban	.874	.189	.427	4.637	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.740	1.352
	Congestion	.587	1.702
	GLHR	.694	1.442
	GJFK	.800	1.250
	PartnerConcentration	.716	1.397
	Seasonality	.897	1.115
	Distance	.807	1.239
	Language	.578	1.731
	Ethnicity	.742	1.349
	Urban	.547	1.828

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.015	1.000	.00	.00	.00
	2	1.322	2.304	.00	.00	.00
	3	1.002	2.646	.00	.00	.00
	4	.640	3.310	.00	.01	.00
	5	.511	3.707	.00	.00	.00
	6	.268	5.120	.00	.02	.00
	7	.117	7.735	.00	.41	.00
	8	.070	10.046	.01	.49	.01
	9	.040	13.162	.00	.00	.20
	10	.010	26.382	.27	.01	.67
	11	.005	37.096	.73	.05	.12

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.21	.02	.02	.00	.00	.15
	3	.00	.68	.04	.00	.00	.00
	4	.02	.03	.25	.00	.00	.01
	5	.56	.01	.04	.00	.00	.25
	6	.09	.08	.49	.00	.00	.46
	7	.02	.03	.10	.38	.00	.04
	8	.07	.09	.04	.42	.08	.00
	9	.00	.06	.01	.02	.42	.06
	10	.01	.00	.01	.00	.44	.03
	11	.01	.00	.00	.17	.05	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.00	.00
	3	.00	.00
	4	.27	.00
	5	.16	.00
	6	.48	.00
	7	.05	.00
	8	.03	.01
	9	.00	.01
	10	.00	.16
	11	.00	.82

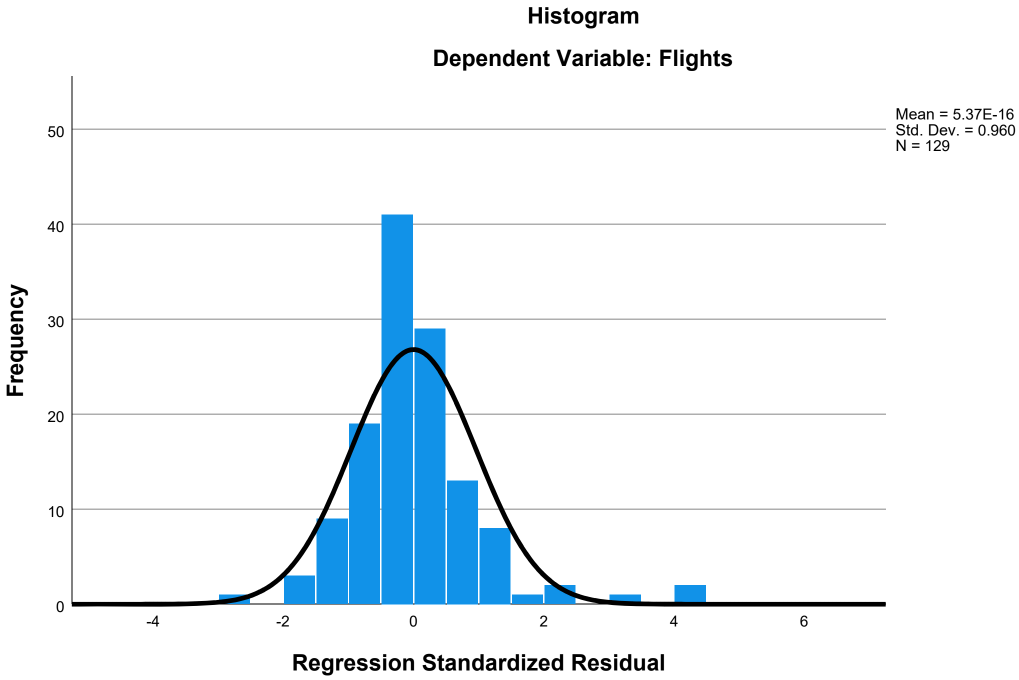
a. Dependent Variable: Flights

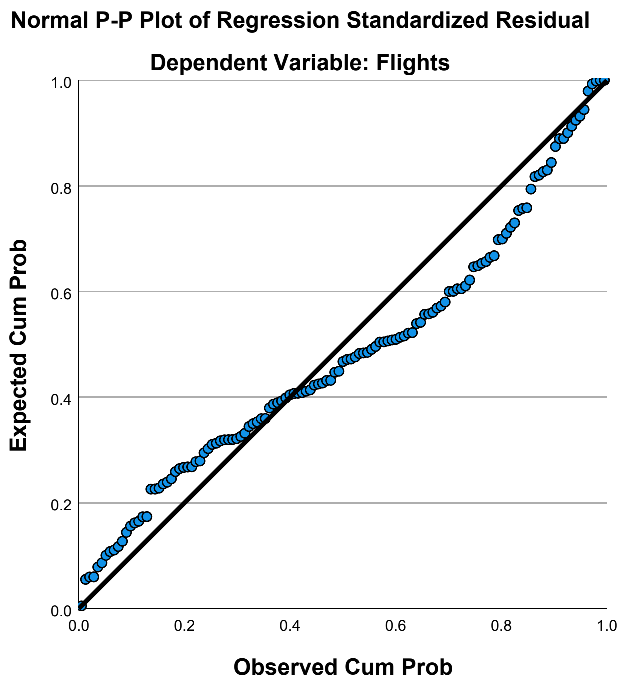
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.25	21.49	8.58	3.222	129
Residual	-9.615	14.995	.000	3.545	129
Std. Predicted Value	-1.964	4.007	.000	1.000	129
Std. Residual	-2.604	4.061	.000	.960	129

a. Dependent Variable: Flights

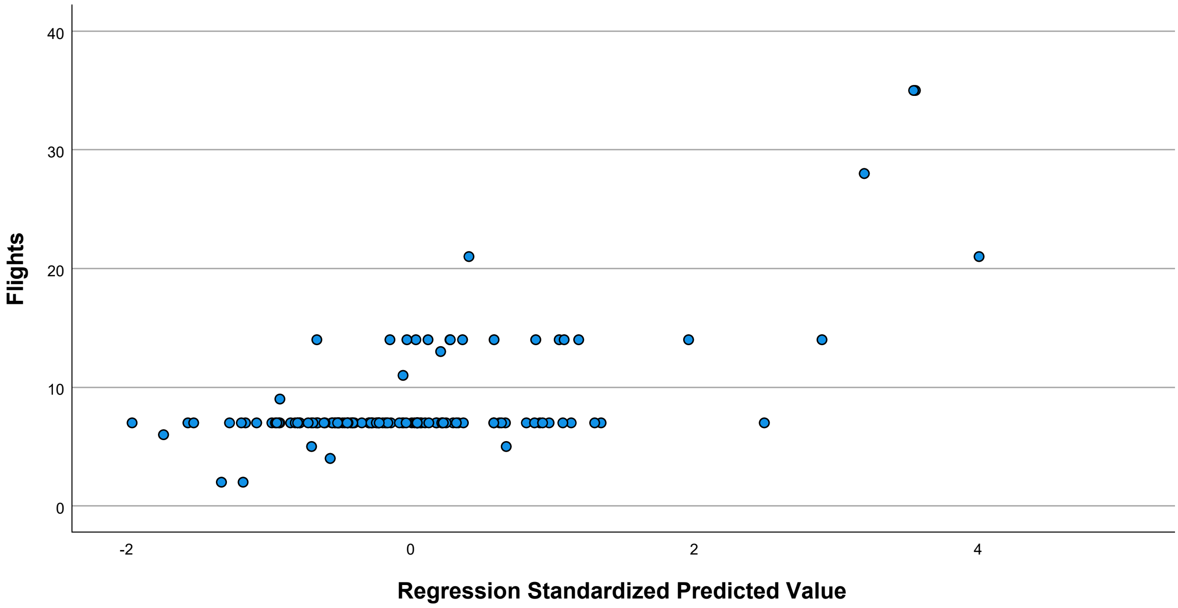
Charts


Histogram
Dependent Variable: Flights
Mean = 5.37E-16
Std. Dev. = 0.960
N = 129
Frequency
50
40
30
20
10
0
-4
-2
0
2
4
6
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob

Scatterplot

Dependent Variable: Flights



Regression

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[DataSet22] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\JVs\2017
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.84	4.329	166
HomeConcentration	3.6160425542	1.4216467377	166
Congestion	4.89	.802	166
GLHR	.08	.269	166
GJFK	.04	.187	166
PartnerConcentration	1.3405465542	1.9579252404	166
Seasonality	.72638621067	.22227605468	166
Distance	4.28672	.933446	166
Language	1.30898185	2.735208316	166
Ethnicity	.62958475301	.71117001866	166
Urban	17.87	3.213	166

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.156	-.014	.452
	HomeConcentration	.156	1.000	-.139	-.215
	Congestion	-.014	-.139	1.000	-.045
	GLHR	.452	-.215	-.045	1.000
	GJFK	.059	-.095	.269	-.056
	PartnerConcentration	.026	.022	.043	-.200
	Seasonality	-.247	-.173	.107	-.252
	Distance	-.080	.191	.049	-.112
	Language	.235	-.143	-.071	.328
	Ethnicity	.111	.089	.145	.105
	Urban	.386	.170	.329	.096
Sig. (1-tailed)	Flights	.	.023	.431	<.001
	HomeConcentration	.023	.	.037	.003
	Congestion	.431	.037	.	.284
	GLHR	.000	.003	.284	.
	GJFK	.224	.112	.000	.235
	PartnerConcentration	.368	.388	.290	.005
	Seasonality	.001	.013	.085	.001
	Distance	.152	.007	.264	.076
	Language	.001	.033	.183	.000
	Ethnicity	.077	.127	.031	.089
	Urban	.000	.014	.000	.109
N	Flights	166	166	166	166
	HomeConcentration	166	166	166	166

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.059	.026	-.247	-.080
	HomeConcentration	-.095	.022	-.173	.191
	Congestion	.269	.043	.107	.049
	GLHR	-.056	-.200	-.252	-.112
	GJFK	1.000	-.133	-.142	-.076
	PartnerConcentration	-.133	1.000	-.061	.153
	Seasonality	-.142	-.061	1.000	-.183
	Distance	-.076	.153	-.183	1.000
	Language	-.087	-.302	.023	-.335
	Ethnicity	.013	.043	.070	-.167
	Urban	.179	.119	-.249	.174
Sig. (1-tailed)	Flights	.224	.368	<.001	.152
	HomeConcentration	.112	.388	.013	.007
	Congestion	.000	.290	.085	.264
	GLHR	.235	.005	.001	.076
	GJFK	.	.044	.034	.166
	PartnerConcentration	.044	.	.219	.025
	Seasonality	.034	.219	.	.009
	Distance	.166	.025	.009	.
	Language	.133	.000	.383	.000
	Ethnicity	.435	.292	.186	.016
	Urban	.010	.064	.001	.013
N	Flights	166	166	166	166
	HomeConcentration	166	166	166	166

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.235	.111	.386
	HomeConcentration	-.143	.089	.170
	Congestion	-.071	.145	.329
	GLHR	.328	.105	.096
	GJFK	-.087	.013	.179
	PartnerConcentration	-.302	.043	.119
	Seasonality	.023	.070	-.249
	Distance	-.335	-.167	.174
	Language	1.000	.469	-.112
	Ethnicity	.469	1.000	-.085
	Urban	-.112	-.085	1.000
Sig. (1-tailed)	Flights	.001	.077	<.001
	HomeConcentration	.033	.127	.014
	Congestion	.183	.031	.000
	GLHR	.000	.089	.109
	GJFK	.133	.435	.010
	PartnerConcentration	.000	.292	.064
	Seasonality	.383	.186	.001
	Distance	.000	.016	.013
	Language	.	.000	.075
	Ethnicity	.000	.	.139
	Urban	.075	.139	.
N	Flights	166	166	166
	HomeConcentration	166	166	166

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	166	166	166	166
	GLHR	166	166	166	166
	GJFK	166	166	166	166
	PartnerConcentration	166	166	166	166
	Seasonality	166	166	166	166
	Distance	166	166	166	166
	Language	166	166	166	166
	Ethnicity	166	166	166	166
	Urban	166	166	166	166

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	166	166	166	166
	GLHR	166	166	166	166
	GJFK	166	166	166	166
	PartnerConcentration	166	166	166	166
	Seasonality	166	166	166	166
	Distance	166	166	166	166
	Language	166	166	166	166
	Ethnicity	166	166	166	166
	Urban	166	166	166	166

Correlations

		Language	Ethnicity	Urban
	Congestion	166	166	166
	GLHR	166	166	166
	GJFK	166	166	166
	PartnerConcentration	166	166	166
	Seasonality	166	166	166
	Distance	166	166	166
	Language	166	166	166
	Ethnicity	166	166	166
	Urban	166	166	166

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, PartnerConcentration, HomeConcentration, GJFK, Seasonality, Distance, GLHR, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.649[a]	.422	.385	3.396	.422	11.308

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	10	155	<.001

a. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, HomeConcentration, GJFK, Seasonality, Distance, GLHR, Co
Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1304.251	10	130.425	11.308	<.001[b]
	Residual	1787.676	155	11.533		
	Total	3091.928	165			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, HomeConcentration, GJFK, Seasonality, Distance, GLHR, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.251	2.734		-.092	.927
	HomeConcentration	.719	.217	.236	3.322	.001
	Congestion	-.432	.388	-.080	-1.114	.267
	GLHR	6.962	1.156	.433	6.020	<.001
	GJFK	2.362	1.585	.102	1.490	.138
	PartnerConcentration	.358	.154	.162	2.320	.022
	Seasonality	-.014	1.373	-.001	-.010	.992
	Distance	-.391	.314	-.084	-1.243	.216
	Language	.322	.131	.204	2.466	.015
	Ethnicity	-.208	.466	-.034	-.445	.657
	Urban	.442	.097	.328	4.539	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.738	1.356
	Congestion	.722	1.385
	GLHR	.720	1.389
	GJFK	.794	1.260
	PartnerConcentration	.767	1.305
	Seasonality	.751	1.332
	Distance	.812	1.231
	Language	.547	1.830
	Ethnicity	.635	1.574
	Urban	.715	1.398

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.899	1.000	.00	.00	.00
	2	1.344	2.265	.00	.00	.00
	3	1.005	2.620	.00	.00	.00
	4	.697	3.146	.00	.00	.00
	5	.543	3.564	.00	.01	.00
	6	.274	5.014	.00	.01	.00
	7	.129	7.307	.00	.43	.00
	8	.056	11.142	.00	.38	.02
	9	.030	15.099	.00	.00	.10
	10	.014	21.852	.01	.08	.65
	11	.008	30.167	.99	.09	.23

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.18	.01	.06	.00	.00	.13
	3	.00	.69	.05	.00	.00	.00
	4	.52	.00	.01	.00	.00	.13
	5	.06	.07	.55	.01	.00	.00
	6	.03	.03	.22	.00	.00	.57
	7	.00	.00	.01	.18	.00	.06
	8	.14	.07	.07	.42	.18	.00
	9	.03	.11	.01	.07	.61	.03
	10	.01	.00	.01	.10	.01	.01
	11	.03	.00	.01	.22	.20	.07

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.01	.00
	3	.00	.00
	4	.10	.00
	5	.11	.00
	6	.61	.00
	7	.02	.00
	8	.04	.02
	9	.00	.21
	10	.07	.69
	11	.02	.07

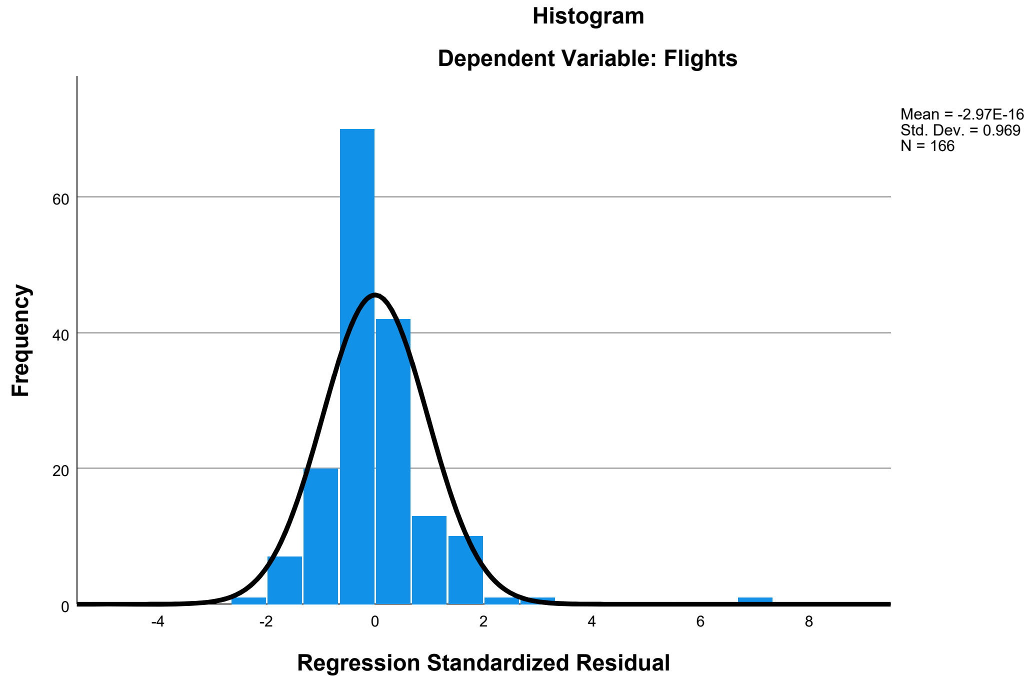
a. Dependent Variable: Flights

Residuals Statistics[a]

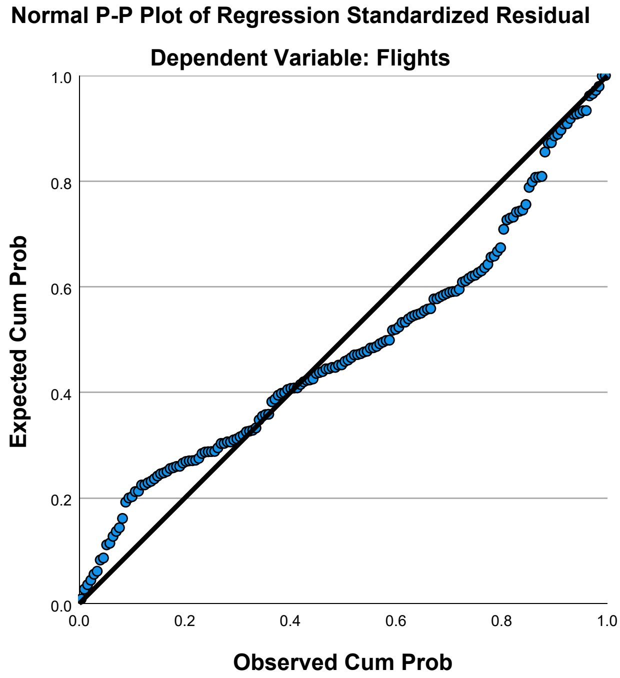
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.80	18.75	7.84	2.812	166
Residual	-8.050	23.253	.000	3.292	166
Std. Predicted Value	-2.506	3.878	.000	1.000	166
Std. Residual	-2.370	6.847	.000	.969	166

a. Dependent Variable: Flights

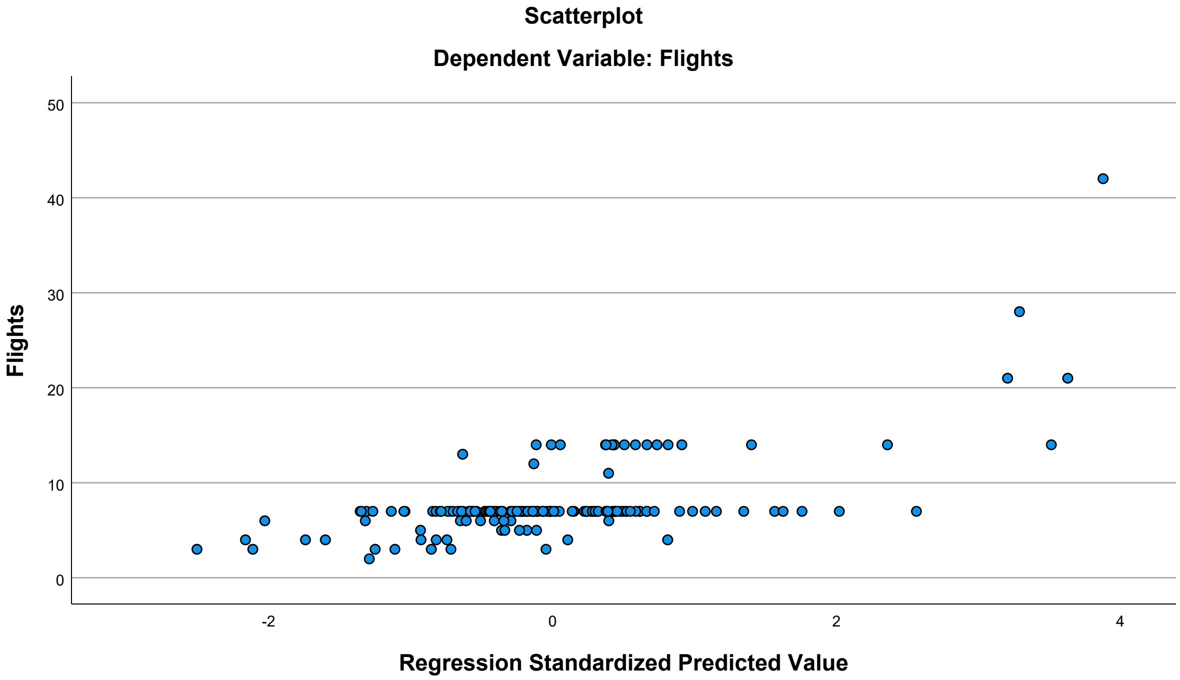
Charts



Histogram
Dependent Variable: Flights
Mean = -2.97E-16
Std. Dev. = 0.969
N = 166
Frequency
0
20
40
60
-4
-2
0
2
4
6
8
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Scatterplot
Dependent Variable: Flights
Flights
50
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet23] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\JVs\2007
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.90	8.278	29
HomeConcentration	4.4731454483	3.7571665264	29
Congestion	5.07	.998	29
GLHR	.17	.384	29
GJFK	.21	.412	29
PartnerConcentration	1.0668060000	1.7065559078	29
Seasonality	.62945212076	.21824444328	29
Distance	4.25197	.858442	29
Language	2.59573041	3.875377261	29
Ethnicity	.59650452	.719443072	29
Urban	18.00	3.645	29

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	-.070	.213	.702
	HomeConcentration	-.070	1.000	-.173	-.216
	Congestion	.213	-.173	1.000	-.032
	GLHR	.702	-.216	-.032	1.000
	GJFK	.247	-.474	.485	-.008
	PartnerConcentration	.603	-.231	-.206	.849
	Seasonality	-.242	-.299	.085	-.255
	Distance	-.163	.478	.019	-.078
	Language	.649	-.005	.078	.519
	Ethnicity	.155	.012	.230	.057
	Urban	.477	-.139	.452	.433
Sig. (1-tailed)	Flights	.	.358	.134	<.001
	HomeConcentration	.358	.	.185	.131
	Congestion	.134	.185	.	.434
	GLHR	.000	.131	.434	.
	GJFK	.098	.005	.004	.484
	PartnerConcentration	.000	.114	.142	.000
	Seasonality	.103	.058	.330	.091
	Distance	.199	.004	.461	.345
	Language	.000	.489	.344	.002
	Ethnicity	.211	.475	.115	.385
	Urban	.004	.236	.007	.009
N	Flights	29	29	29	29
	HomeConcentration	29	29	29	29

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.247	.603	-.242	-.163
	HomeConcentration	-.474	-.231	-.299	.478
	Congestion	.485	-.206	.085	.019
	GLHR	-.008	.849	-.255	-.078
	GJFK	1.000	-.066	-.059	-.250
	PartnerConcentration	-.066	1.000	-.293	-.078
	Seasonality	-.059	-.293	1.000	-.207
	Distance	-.250	-.078	-.207	1.000
	Language	-.046	.421	-.041	-.335
	Ethnicity	.093	-.077	.277	-.206
	Urban	.452	.341	-.302	.026
Sig. (1-tailed)	Flights	.098	<.001	.103	.199
	HomeConcentration	.005	.114	.058	.004
	Congestion	.004	.142	.330	.461
	GLHR	.484	.000	.091	.345
	GJFK	.	.366	.380	.096
	PartnerConcentration	.366	.	.062	.343
	Seasonality	.380	.062	.	.141
	Distance	.096	.343	.141	.
	Language	.407	.011	.416	.038
	Ethnicity	.316	.346	.073	.142
	Urban	.007	.035	.056	.447
N	Flights	29	29	29	29
	HomeConcentration	29	29	29	29

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.649	.155	.477
	HomeConcentration	-.005	.012	-.139
	Congestion	.078	.230	.452
	GLHR	.519	.057	.433
	GJFK	-.046	.093	.452
	PartnerConcentration	.421	-.077	.341
	Seasonality	-.041	.277	-.302
	Distance	-.335	-.206	.026
	Language	1.000	.365	-.026
	Ethnicity	.365	1.000	-.004
	Urban	-.026	-.004	1.000
Sig. (1-tailed)	Flights	<.001	.211	.004
	HomeConcentration	.489	.475	.236
	Congestion	.344	.115	.007
	GLHR	.002	.385	.009
	GJFK	.407	.316	.007
	PartnerConcentration	.011	.346	.035
	Seasonality	.416	.073	.056
	Distance	.038	.142	.447
	Language	.	.026	.446
	Ethnicity	.026	.	.493
	Urban	.446	.493	.
N	Flights	29	29	29
	HomeConcentration	29	29	29

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	29	29	29	29
	GLHR	29	29	29	29
	GJFK	29	29	29	29
	PartnerConcentration	29	29	29	29
	Seasonality	29	29	29	29
	Distance	29	29	29	29
	Language	29	29	29	29
	Ethnicity	29	29	29	29
	Urban	29	29	29	29

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	29	29	29	29
	GLHR	29	29	29	29
	GJFK	29	29	29	29
	PartnerConcentration	29	29	29	29
	Seasonality	29	29	29	29
	Distance	29	29	29	29
	Language	29	29	29	29
	Ethnicity	29	29	29	29
	Urban	29	29	29	29

Correlations

		Language	Ethnicity	Urban
	Congestion	29	29	29
	GLHR	29	29	29
	GJFK	29	29	29
	PartnerConcentration	29	29	29
	Seasonality	29	29	29
	Distance	29	29	29
	Language	29	29	29
	Ethnicity	29	29	29
	Urban	29	29	29

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, HomeConcentration, Language, Congestion, Seasonality, Distance, GJFK, PartnerConcentration, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.867[a]	.752	.615	5.138	.752	5.469

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	10	18	<.001

a. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Language, Congestion, Seasonality, Distance, GJFK, PartnerConcentration, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1443.562	10	144.356	5.469	<.001[b]
	Residual	475.128	18	26.396		
	Total	1918.690	28			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Language, Congestion, Seasonality, Distance, GJFK, PartnerConcentration, GLHR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-8.610	10.130		-.850	.406
	HomeConcentration	.564	.440	.256	1.282	.216
	Congestion	.469	1.469	.057	.319	.753
	GLHR	6.343	5.742	.295	1.105	.284
	GJFK	5.920	3.583	.295	1.652	.116
	PartnerConcentration	.986	1.235	.203	.798	.435
	Seasonality	2.763	5.830	.073	.474	.641
	Distance	-.295	1.555	-.031	-.189	.852
	Language	.955	.419	.447	2.278	.035
	Ethnicity	-.902	1.617	-.078	-.558	.584
	Urban	.434	.458	.191	.948	.356

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.345	2.894
	Congestion	.439	2.278
	GLHR	.193	5.169
	GJFK	.432	2.315
	PartnerConcentration	.212	4.709
	Seasonality	.582	1.717
	Distance	.529	1.891
	Language	.357	2.798
	Ethnicity	.697	1.435
	Urban	.339	2.950

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.087	1.000	.00	.00	.00
	2	1.543	2.143	.00	.00	.00
	3	.951	2.730	.00	.03	.00
	4	.689	3.208	.00	.00	.00
	5	.304	4.825	.00	.07	.00
	6	.238	5.455	.00	.19	.00
	7	.108	8.100	.00	.00	.00
	8	.041	13.127	.00	.42	.07
	9	.022	17.982	.00	.09	.03
	10	.011	25.463	.22	.12	.78
	11	.006	34.493	.78	.07	.12

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.04	.00	.03	.00	.00	.02
	3	.00	.27	.00	.00	.00	.00
	4	.00	.00	.02	.00	.00	.10
	5	.01	.10	.01	.01	.00	.29
	6	.04	.09	.00	.07	.00	.14
	7	.66	.02	.70	.00	.00	.00
	8	.07	.39	.01	.70	.02	.02
	9	.01	.09	.01	.02	.58	.02
	10	.00	.00	.21	.07	.00	.08
	11	.17	.03	.00	.13	.40	.32

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.00	.00
	3	.00	.00
	4	.31	.00
	5	.35	.00
	6	.21	.00
	7	.05	.00
	8	.05	.03
	9	.02	.17
	10	.01	.18
	11	.00	.62

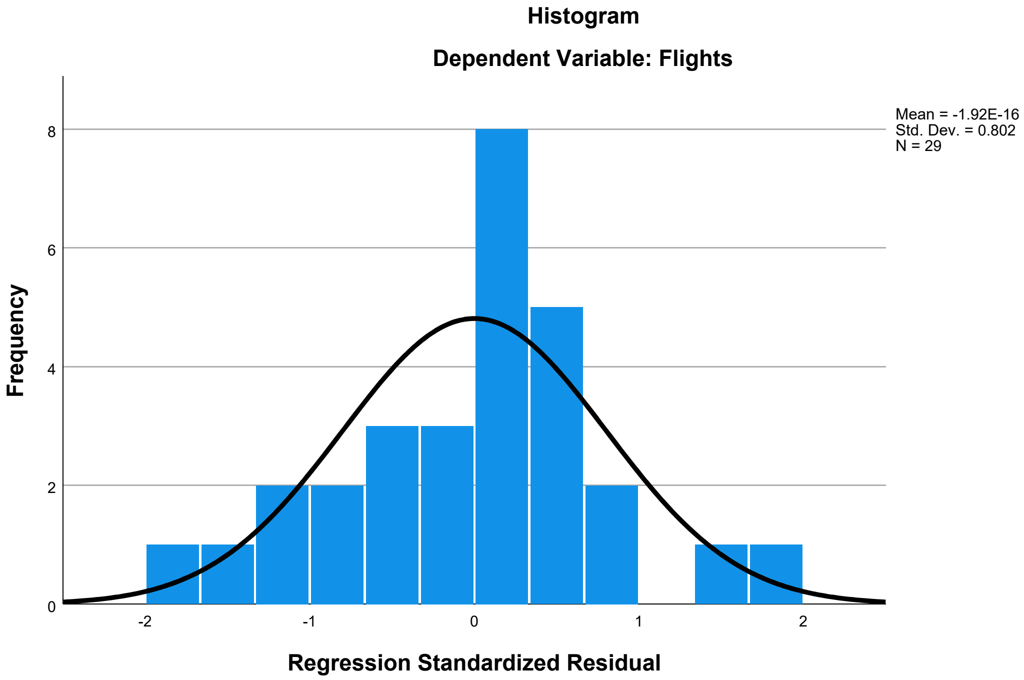
a. Dependent Variable: Flights

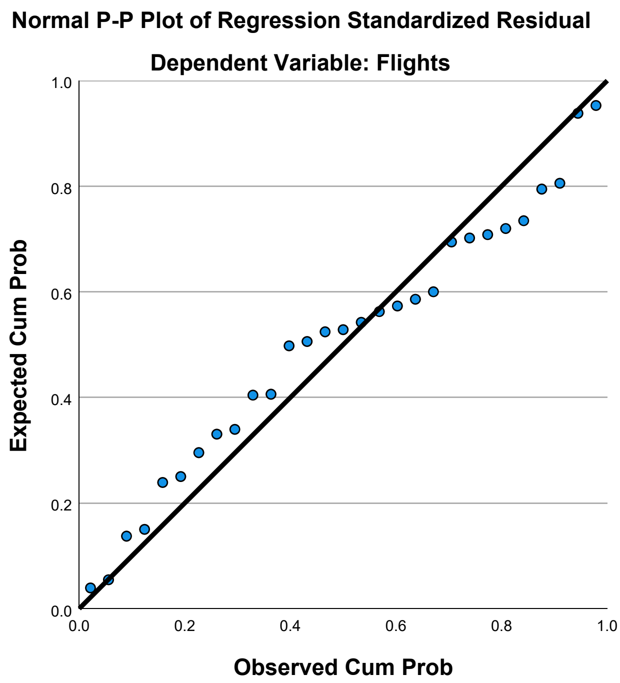
Residuals Statistics[a]

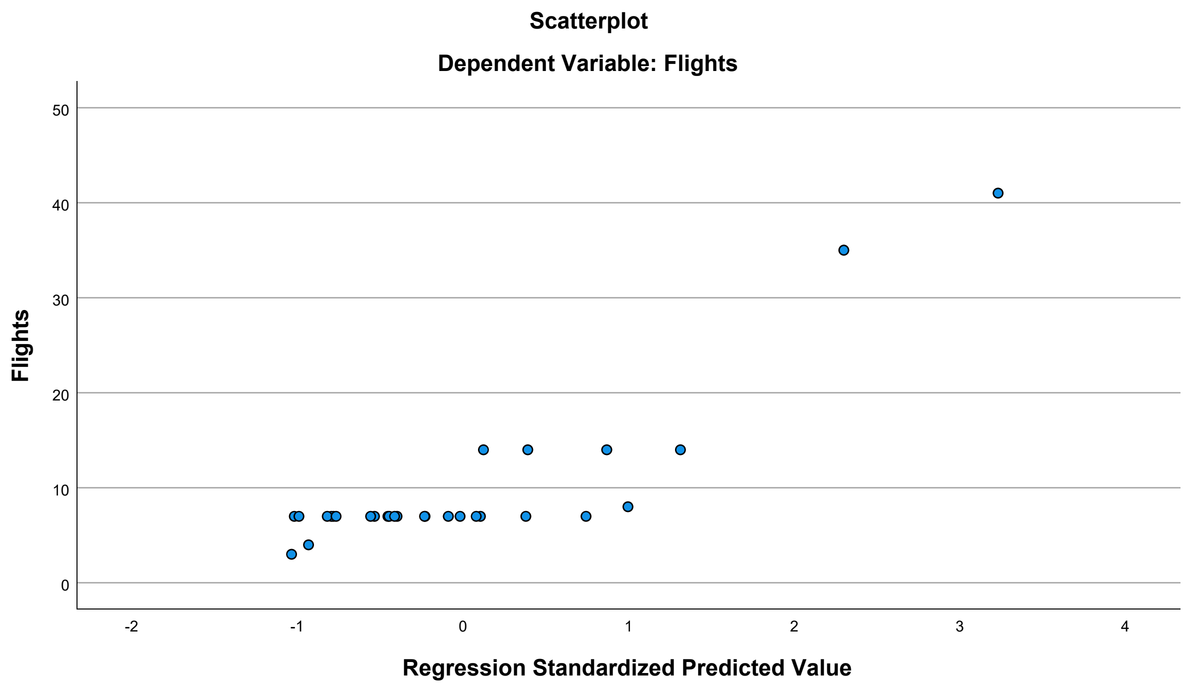
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.46	33.10	9.90	7.180	29
Residual	-9.046	8.592	.000	4.119	29
Std. Predicted Value	-1.036	3.231	.000	1.000	29
Std. Residual	-1.761	1.672	.000	.802	29

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -1.92E-16
Std. Dev. = 0.802
N = 29
Frequency
0
2
4
6
8
-2
-1
0
1
2
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.90	8.278	29
HomeConcentration	4.4731454483	3.7571665264	29
Congestion	5.07	.998	29
GJFK	.21	.412	29
PartnerConcentration	1.0668060000	1.7065559078	29
Seasonality	.62945212076	.21824444328	29
Distance	4.25197	.858442	29
Language	2.59573041	3.875377261	29
Ethnicity	.59650452	.719443072	29
Urban	18.00	3.645	29

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	-.070	.213	.247
	HomeConcentration	-.070	1.000	-.173	-.474
	Congestion	.213	-.173	1.000	.485
	GJFK	.247	-.474	.485	1.000
	PartnerConcentration	.603	-.231	-.206	-.066
	Seasonality	-.242	-.299	.085	-.059
	Distance	-.163	.478	.019	-.250
	Language	.649	-.005	.078	-.046
	Ethnicity	.155	.012	.230	.093
	Urban	.477	-.139	.452	.452
Sig. (1-tailed)	Flights	.	.358	.134	.098
	HomeConcentration	.358	.	.185	.005
	Congestion	.134	.185	.	.004
	GJFK	.098	.005	.004	.
	PartnerConcentration	.000	.114	.142	.366
	Seasonality	.103	.058	.330	.380
	Distance	.199	.004	.461	.096
	Language	.000	.489	.344	.407
	Ethnicity	.211	.475	.115	.316
	Urban	.004	.236	.007	.007
N	Flights	29	29	29	29
	HomeConcentration	29	29	29	29
	Congestion	29	29	29	29
	GJFK	29	29	29	29
	PartnerConcentration	29	29	29	29
	Seasonality	29	29	29	29
	Distance	29	29	29	29
	Language	29	29	29	29
	Ethnicity	29	29	29	29
	Urban	29	29	29	29

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.603	-.242	-.163	.649
	HomeConcentration	-.231	-.299	.478	-.005
	Congestion	-.206	.085	.019	.078
	GJFK	-.066	-.059	-.250	-.046
	PartnerConcentration	1.000	-.293	-.078	.421
	Seasonality	-.293	1.000	-.207	-.041
	Distance	-.078	-.207	1.000	-.335
	Language	.421	-.041	-.335	1.000
	Ethnicity	-.077	.277	-.206	.365
	Urban	.341	-.302	.026	-.026
Sig. (1-tailed)	Flights	<.001	.103	.199	<.001
	HomeConcentration	.114	.058	.004	.489
	Congestion	.142	.330	.461	.344
	GJFK	.366	.380	.096	.407
	PartnerConcentration	.	.062	.343	.011
	Seasonality	.062	.	.141	.416
	Distance	.343	.141	.	.038
	Language	.011	.416	.038	.
	Ethnicity	.346	.073	.142	.026
	Urban	.035	.056	.447	.446
N	Flights	29	29	29	29
	HomeConcentration	29	29	29	29
	Congestion	29	29	29	29
	GJFK	29	29	29	29
	PartnerConcentration	29	29	29	29
	Seasonality	29	29	29	29
	Distance	29	29	29	29
	Language	29	29	29	29
	Ethnicity	29	29	29	29
	Urban	29	29	29	29

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.155	.477
	HomeConcentration	.012	-.139
	Congestion	.230	.452
	GJFK	.093	.452
	PartnerConcentration	-.077	.341
	Seasonality	.277	-.302
	Distance	-.206	.026
	Language	.365	-.026
	Ethnicity	1.000	-.004
	Urban	-.004	1.000
Sig. (1-tailed)	Flights	.211	.004
	HomeConcentration	.475	.236
	Congestion	.115	.007
	GJFK	.316	.007
	PartnerConcentration	.346	.035
	Seasonality	.073	.056
	Distance	.142	.447
	Language	.026	.446
	Ethnicity	.	.493
	Urban	.493	.
N	Flights	29	29
	HomeConcentration	29	29
	Congestion	29	29
	GJFK	29	29
	PartnerConcentration	29	29
	Seasonality	29	29
	Distance	29	29
	Language	29	29
	Ethnicity	29	29
	Urban	29	29

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, HomeConcentration, Language, Congestion, Seasonality, Distance, GJFK, PartnerConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.858[a]	.736	.610	5.167	.736	5.873

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	19	<.001

a. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Language, Congestion, Seasonality, Distance, GJFK, PartnerConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1411.355	9	156.817	5.873	<.001[b]
	Residual	507.335	19	26.702		
	Total	1918.690	28			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Language, Congestion, Seasonality, Distance, GJFK, PartnerConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-12.363	9.598		-1.288	.213
	HomeConcentration	.446	.429	.202	1.039	.312
	Congestion	.334	1.472	.040	.227	.823
	GJFK	5.185	3.541	.258	1.464	.159
	PartnerConcentration	1.785	1.006	.368	1.775	.092
	Seasonality	2.371	5.853	.063	.405	.690
	Distance	.052	1.532	.005	.034	.973
	Language	1.149	.382	.538	3.006	.007
	Ethnicity	-.735	1.619	-.064	-.454	.655
	Urban	.630	.424	.277	1.484	.154

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.367	2.724
	Congestion	.442	2.262
	GJFK	.447	2.235
	PartnerConcentration	.324	3.089
	Seasonality	.585	1.711
	Distance	.551	1.814
	Language	.434	2.303
	Ethnicity	.703	1.423
	Urban	.399	2.508

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.815	1.000	.00	.00	.00
	2	.977	2.641	.00	.00	.00
	3	.936	2.698	.00	.05	.00
	4	.667	3.196	.00	.00	.00
	5	.299	4.775	.00	.12	.00
	6	.222	5.542	.00	.15	.00
	7	.044	12.513	.00	.40	.07
	8	.022	17.533	.00	.11	.02
	9	.011	24.969	.24	.13	.78
	10	.007	31.060	.75	.03	.12

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.12	.08	.00	.00	.09	.00
	3	.16	.04	.00	.00	.03	.00
	4	.00	.08	.00	.00	.06	.34
	5	.13	.06	.02	.00	.27	.27
	6	.07	.13	.07	.00	.19	.30
	7	.42	.17	.62	.02	.01	.03
	8	.08	.00	.04	.59	.04	.03
	9	.00	.32	.07	.00	.09	.01
	10	.01	.13	.18	.39	.23	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.04
	8	.21
	9	.21
	10	.54

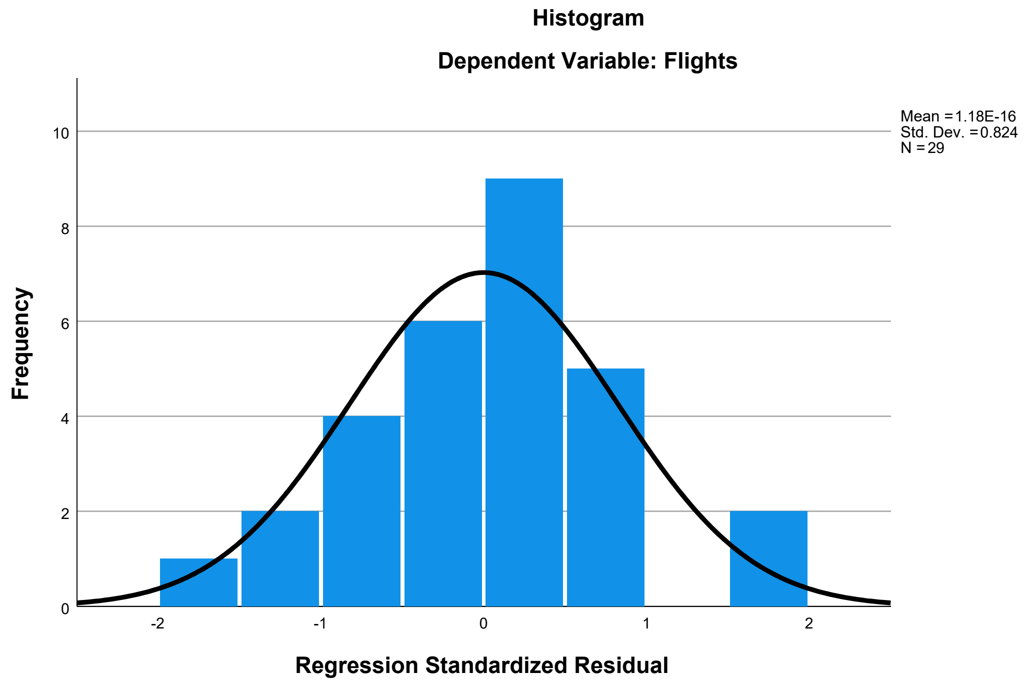
a. Dependent Variable: Flights

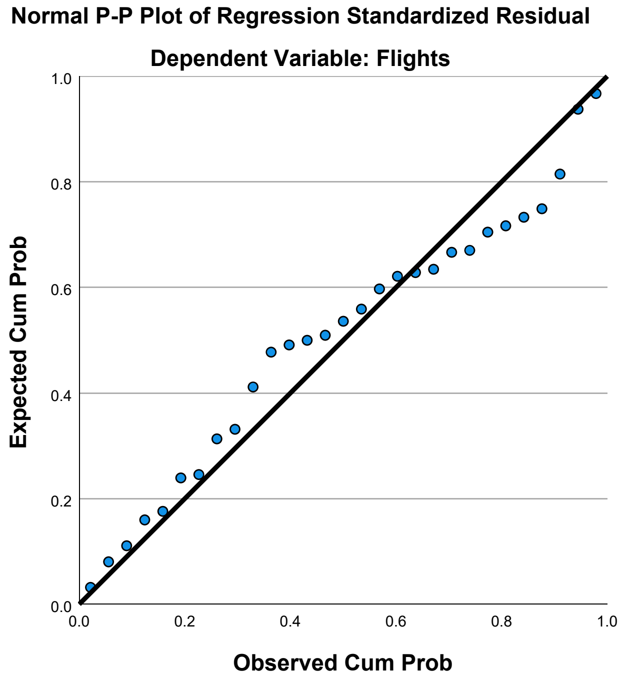
Residuals Statistics[a]

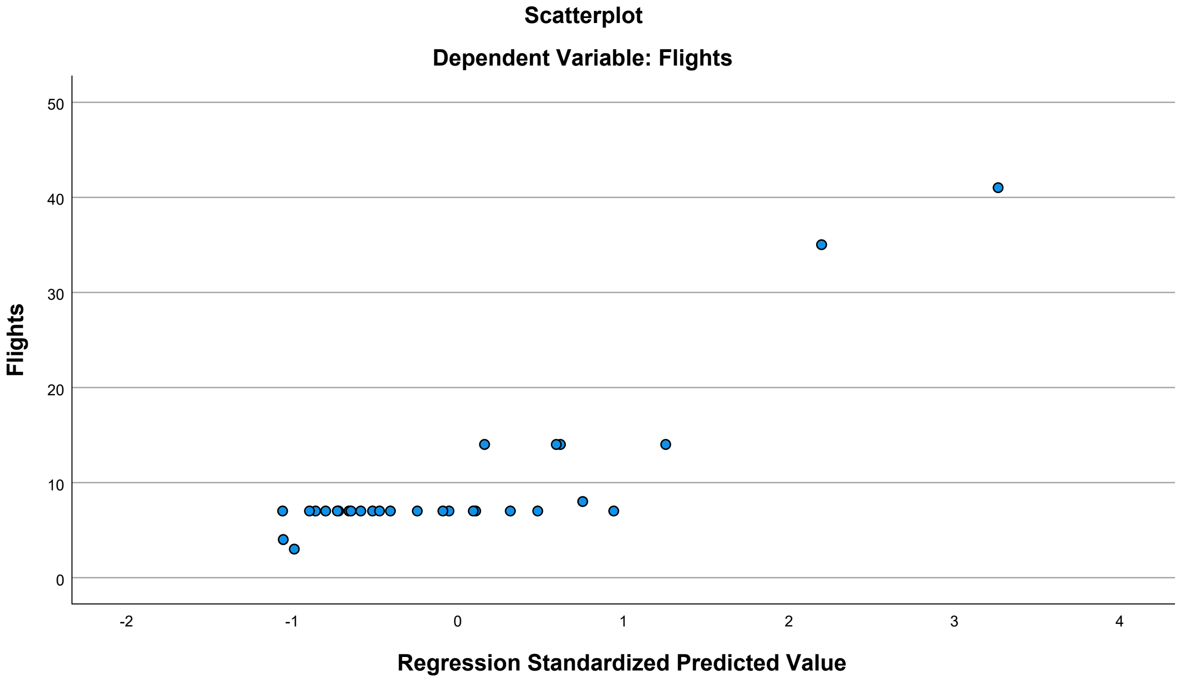
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.38	33.07	9.90	7.100	29
Residual	-9.582	9.503	.000	4.257	29
Std. Predicted Value	-1.059	3.264	.000	1.000	29
Std. Residual	-1.854	1.839	.000	.824	29

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-2
-1
0
1
2
3
4

Regression

```
[DataSet24] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\JVs\2012
 Oneworld.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	11.67	8.830	57
HomeConcentration	3.6558153684	2.4757583209	57
Congestion	4.75	.830	57
GLHR	.51	.504	57
GJFK	.21	.411	57
PartnerConcentration	1.4177446667	2.1236614926	57
Seasonality	.56525958682	.17626349211	57
Distance	4.22486	.695906	57
Language	3.44892509	3.915880199	57
Ethnicity	.60326209	.696063600	57
Urban	19.67	2.445	57

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.070	.208	.436
	HomeConcentration	.070	1.000	-.386	.157
	Congestion	.208	-.386	1.000	-.208
	GLHR	.436	.157	-.208	1.000
	GJFK	.202	-.482	.677	-.353
	PartnerConcentration	.146	.033	-.156	.187
	Seasonality	.209	.007	-.026	-.171
	Distance	-.257	.436	-.305	.097
	Language	.538	-.093	.116	.431
	Ethnicity	.165	-.181	.297	.102
	Urban	.482	-.058	.513	.183
Sig. (1-tailed)	Flights	.	.302	.060	<.001
	HomeConcentration	.302	.	.002	.121
	Congestion	.060	.002	.	.060
	GLHR	.000	.121	.060	.
	GJFK	.066	.000	.000	.004
	PartnerConcentration	.139	.404	.124	.082
	Seasonality	.060	.479	.424	.101
	Distance	.027	.000	.010	.236
	Language	.000	.245	.196	.000
	Ethnicity	.110	.089	.012	.226
	Urban	.000	.335	.000	.086
N	Flights	57	57	57	57
	HomeConcentration	57	57	57	57

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.202	.146	.209	-.257
	HomeConcentration	-.482	.033	.007	.436
	Congestion	.677	-.156	-.026	-.305
	GLHR	-.353	.187	-.171	.097
	GJFK	1.000	-.090	-.030	-.430
	PartnerConcentration	-.090	1.000	-.075	.098
	Seasonality	-.030	-.075	1.000	-.174
	Distance	-.430	.098	-.174	1.000
	Language	.118	.055	.060	-.335
	Ethnicity	.284	-.203	.023	-.267
	Urban	.284	.179	.008	-.232
Sig. (1-tailed)	Flights	.066	.139	.060	.027
	HomeConcentration	.000	.404	.479	.000
	Congestion	.000	.124	.424	.010
	GLHR	.004	.082	.101	.236
	GJFK	.	.253	.413	.000
	PartnerConcentration	.253	.	.290	.234
	Seasonality	.413	.290	.	.098
	Distance	.000	.234	.098	.
	Language	.190	.342	.328	.005
	Ethnicity	.016	.065	.431	.022
	Urban	.016	.091	.476	.041
N	Flights	57	57	57	57
	HomeConcentration	57	57	57	57

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.538	.165	.482
	HomeConcentration	-.093	-.181	-.058
	Congestion	.116	.297	.513
	GLHR	.431	.102	.183
	GJFK	.118	.284	.284
	PartnerConcentration	.055	-.203	.179
	Seasonality	.060	.023	.008
	Distance	-.335	-.267	-.232
	Language	1.000	.514	.113
	Ethnicity	.514	1.000	.032
	Urban	.113	.032	1.000
Sig. (1-tailed)	Flights	<.001	.110	<.001
	HomeConcentration	.245	.089	.335
	Congestion	.196	.012	.000
	GLHR	.000	.226	.086
	GJFK	.190	.016	.016
	PartnerConcentration	.342	.065	.091
	Seasonality	.328	.431	.476
	Distance	.005	.022	.041
	Language	.	.000	.200
	Ethnicity	.000	.	.408
	Urban	.200	.408	.
N	Flights	57	57	57
	HomeConcentration	57	57	57

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	57	57	57	57
	GLHR	57	57	57	57
	GJFK	57	57	57	57
	PartnerConcentration	57	57	57	57
	Seasonality	57	57	57	57
	Distance	57	57	57	57
	Language	57	57	57	57
	Ethnicity	57	57	57	57
	Urban	57	57	57	57

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	57	57	57	57
	GLHR	57	57	57	57
	GJFK	57	57	57	57
	PartnerConcentration	57	57	57	57
	Seasonality	57	57	57	57
	Distance	57	57	57	57
	Language	57	57	57	57
	Ethnicity	57	57	57	57
	Urban	57	57	57	57

Correlations

		Language	Ethnicity	Urban
	Congestion	57	57	57
	GLHR	57	57	57
	GJFK	57	57	57
	PartnerConcentration	57	57	57
	Seasonality	57	57	57
	Distance	57	57	57
	Language	57	57	57
	Ethnicity	57	57	57
	Urban	57	57	57

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, Ethnicity, HomeConcentration, PartnerConcentration, GLHR, Distance, Language, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.790[a]	.624	.542	5.978	.624	7.618

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	46	<.001

a. Predictors: (Constant), Urban, Seasonality, Ethnicity, HomeConcentration, PartnerConcentration, GLHR, Distance, Language
Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2722.629	10	272.263	7.618	<.001[b]
	Residual	1644.038	46	35.740		
	Total	4366.667	56			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, Ethnicity, HomeConcentration, PartnerConcentration, GLHR, Distance, Language, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-21.334	10.830		-1.970	.055
	HomeConcentration	.785	.400	.220	1.961	.056
	Congestion	-.258	1.605	-.024	-.161	.873
	GLHR	6.519	2.219	.372	2.938	.005
	GJFK	7.728	3.079	.360	2.510	.016
	PartnerConcentration	.094	.416	.023	.227	.822
	Seasonality	12.675	4.817	.253	2.631	.012
	Distance	-.635	1.485	-.050	-.427	.671
	Language	.823	.290	.365	2.839	.007
	Ethnicity	-1.764	1.459	-.139	-1.210	.233
	Urban	1.018	.454	.282	2.242	.030

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.649	1.540
	Congestion	.360	2.778
	GLHR	.510	1.963
	GJFK	.398	2.512
	PartnerConcentration	.816	1.226
	Seasonality	.885	1.130
	Distance	.597	1.674
	Language	.495	2.018
	Ethnicity	.619	1.615
	Urban	.518	1.930

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.695	1.000	.00	.00	.00
	2	1.133	2.607	.00	.02	.00
	3	.775	3.152	.00	.00	.00
	4	.648	3.445	.00	.03	.00
	5	.282	5.220	.00	.03	.00
	6	.206	6.117	.00	.11	.00
	7	.171	6.717	.00	.62	.00
	8	.061	11.232	.00	.06	.01
	9	.019	20.024	.00	.05	.10
	10	.007	34.385	.13	.03	.86
	11	.004	45.525	.86	.05	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.02	.14	.05	.00	.00	.01
	3	.06	.05	.05	.00	.00	.12
	4	.01	.03	.58	.00	.00	.03
	5	.29	.11	.20	.00	.00	.01
	6	.26	.00	.01	.01	.00	.62
	7	.05	.26	.00	.09	.00	.03
	8	.18	.11	.01	.76	.03	.12
	9	.01	.23	.00	.03	.44	.02
	10	.05	.07	.06	.07	.02	.00
	11	.06	.00	.03	.04	.50	.05

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.05	.00
	3	.08	.00
	4	.00	.00
	5	.50	.00
	6	.30	.00
	7	.02	.00
	8	.01	.00
	9	.00	.10
	10	.02	.34
	11	.01	.56

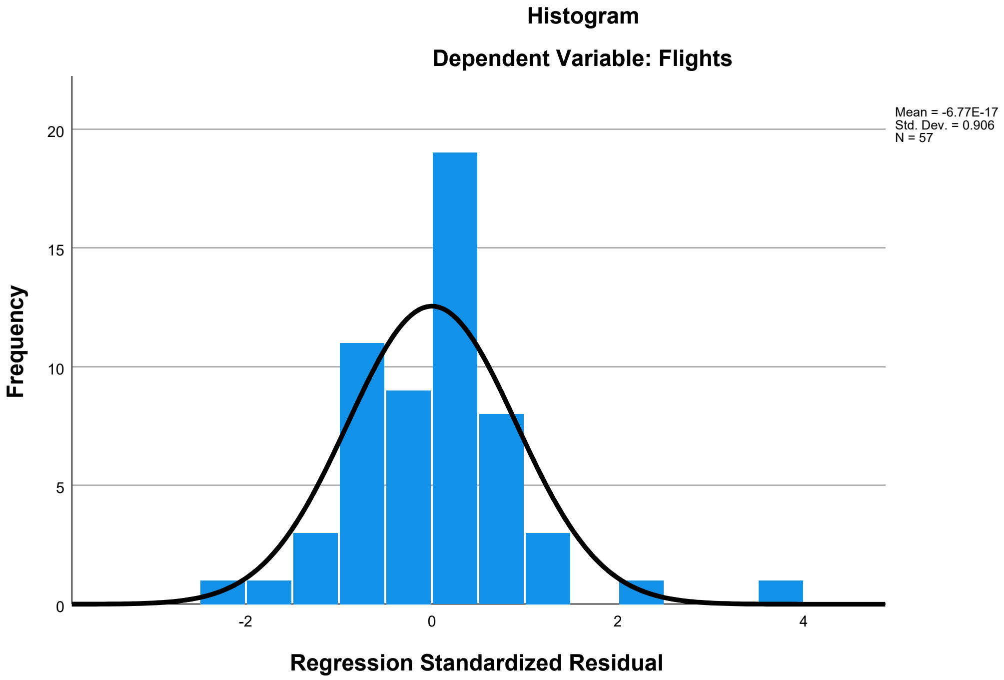
a. Dependent Variable: Flights

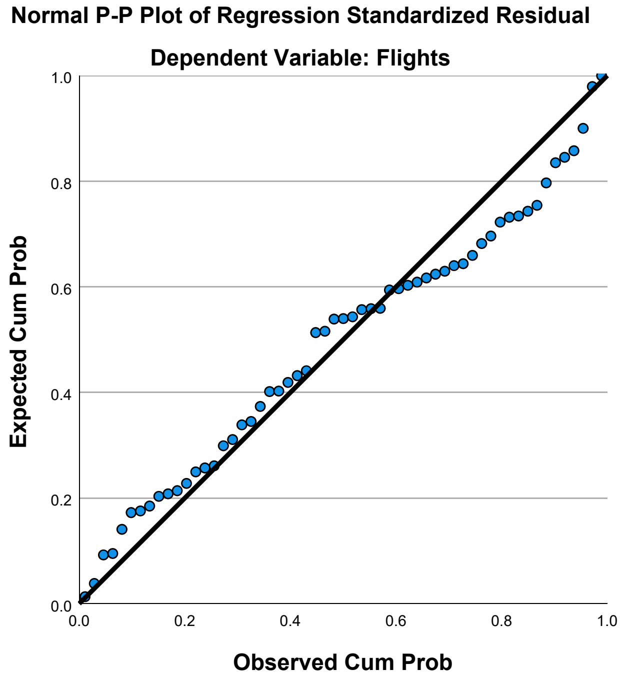
Residuals Statistics[a]

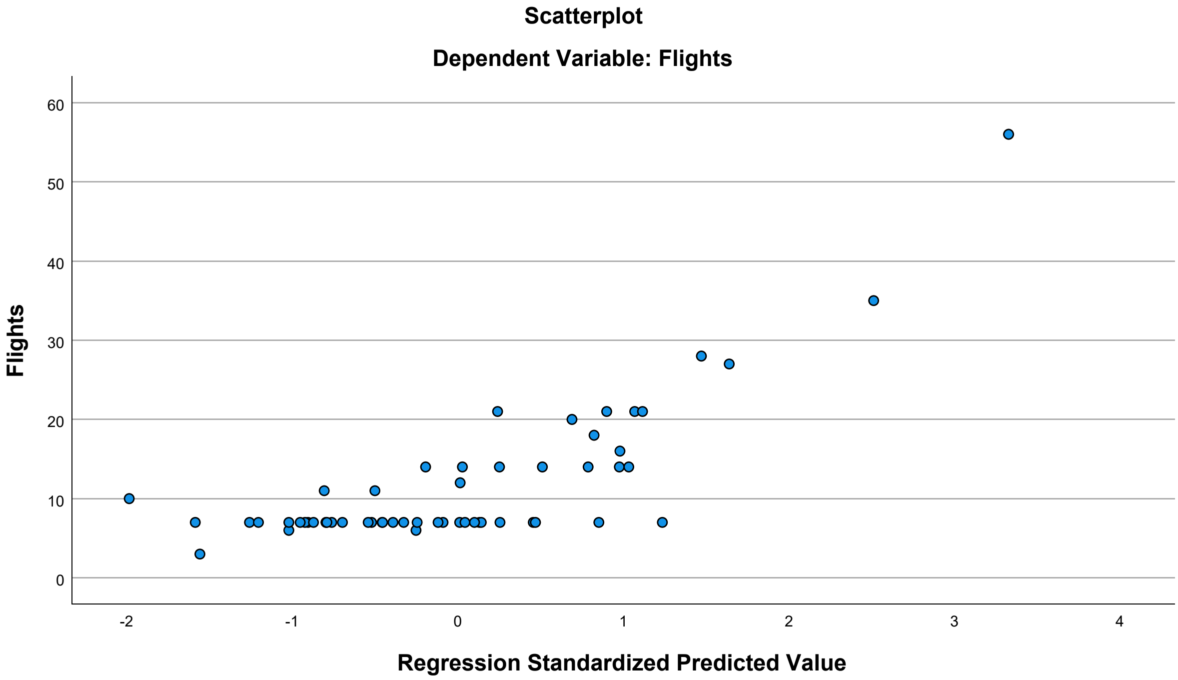
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-2.18	34.87	11.67	6.973	57
Residual	-13.280	21.134	.000	5.418	57
Std. Predicted Value	-1.986	3.327	.000	1.000	57
Std. Residual	-2.221	3.535	.000	.906	57

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -6.77E-17
Std. Dev. = 0.906
N = 57
Frequency
0
5
10
15
20
-2
0
2
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
-1
0
1
2
3
4
Regression Standardized Predicted Value

Regression

[DataSet25] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\JVs\2017 Oneworld.sav

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.27	6.707	95
HomeConcentration	4.2898492632	2.6398551042	95
Congestion	4.52	.861	95
GLHR	.35	.479	95
GJFK	.17	.376	95
PartnerConcentration	1.2150401684	1.9500346400	95
Seasonality	.69033041010	.22242032395	95
Distance	4.24402	.727211	95
Language	2.81586561	3.862338479	95
Ethnicity	.46110053684	.59140550682	95
Urban	17.81	3.714	95

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.051	.228	.457
	HomeConcentration	.051	1.000	-.500	.158
	Congestion	.228	-.500	1.000	-.001
	GLHR	.457	.158	-.001	1.000
	GJFK	.188	-.498	.681	-.210
	PartnerConcentration	.276	-.003	.001	.338
	Seasonality	-.305	.048	-.168	-.528
	Distance	-.192	.219	-.177	.108
	Language	.433	-.211	.247	.350
	Ethnicity	.155	-.190	.328	.112
	Urban	.413	-.309	.646	.277
Sig. (1-tailed)	Flights	.	.311	.013	<.001
	HomeConcentration	.311	.	.000	.063
	Congestion	.013	.000	.	.498
	GLHR	.000	.063	.498	.
	GJFK	.034	.000	.000	.020
	PartnerConcentration	.003	.489	.498	.000
	Seasonality	.001	.323	.052	.000
	Distance	.031	.016	.043	.148
	Language	.000	.020	.008	.000
	Ethnicity	.067	.033	.001	.140
	Urban	.000	.001	.000	.003
N	Flights	95	95	95	95
	HomeConcentration	95	95	95	95

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.188	.276	-.305	-.192
	HomeConcentration	-.498	-.003	.048	.219
	Congestion	.681	.001	-.168	-.177
	GLHR	-.210	.338	-.528	.108
	GJFK	1.000	-.031	-.045	-.395
	PartnerConcentration	-.031	1.000	-.195	.002
	Seasonality	-.045	-.195	1.000	.111
	Distance	-.395	.002	.111	1.000
	Language	.333	.094	-.171	-.396
	Ethnicity	.340	-.152	-.070	-.316
	Urban	.381	.254	-.469	-.123
Sig. (1-tailed)	Flights	.034	.003	.001	.031
	HomeConcentration	.000	.489	.323	.016
	Congestion	.000	.498	.052	.043
	GLHR	.020	.000	.000	.148
	GJFK	.	.384	.334	.000
	PartnerConcentration	.384	.	.029	.494
	Seasonality	.334	.029	.	.141
	Distance	.000	.494	.141	.
	Language	.000	.182	.049	.000
	Ethnicity	.000	.070	.249	.001
	Urban	.000	.007	.000	.118
N	Flights	95	95	95	95
	HomeConcentration	95	95	95	95

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.433	.155	.413
	HomeConcentration	-.211	-.190	-.309
	Congestion	.247	.328	.646
	GLHR	.350	.112	.277
	GJFK	.333	.340	.381
	PartnerConcentration	.094	-.152	.254
	Seasonality	-.171	-.070	-.469
	Distance	-.396	-.316	-.123
	Language	1.000	.524	.224
	Ethnicity	.524	1.000	.149
	Urban	.224	.149	1.000
Sig. (1-tailed)	Flights	<.001	.067	<.001
	HomeConcentration	.020	.033	.001
	Congestion	.008	.001	.000
	GLHR	.000	.140	.003
	GJFK	.000	.000	.000
	PartnerConcentration	.182	.070	.007
	Seasonality	.049	.249	.000
	Distance	.000	.001	.118
	Language	.	.000	.015
	Ethnicity	.000	.	.074
	Urban	.015	.074	.
N	Flights	95	95	95
	HomeConcentration	95	95	95

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	95	95	95	95
	GLHR	95	95	95	95
	GJFK	95	95	95	95
	PartnerConcentration	95	95	95	95
	Seasonality	95	95	95	95
	Distance	95	95	95	95
	Language	95	95	95	95
	Ethnicity	95	95	95	95
	Urban	95	95	95	95

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	95	95	95	95
GLHR	95	95	95	95
GJFK	95	95	95	95
PartnerConcentration	95	95	95	95
Seasonality	95	95	95	95
Distance	95	95	95	95
Language	95	95	95	95
Ethnicity	95	95	95	95
Urban	95	95	95	95

Correlations

	Language	Ethnicity	Urban
Congestion	95	95	95
GLHR	95	95	95
GJFK	95	95	95
PartnerConcentration	95	95	95
Seasonality	95	95	95
Distance	95	95	95
Language	95	95	95
Ethnicity	95	95	95
Urban	95	95	95

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, HomeConcentration, Ethnicity, Seasonality, Language, GJFK, GLHR, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.653[a]	.426	.358	5.375	.426	6.238

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	84	<.001

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, HomeConcentration, Ethnicity, Seasonality, Language, GJFK, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1802.090	10	180.209	6.238	<.001[b]
	Residual	2426.794	84	28.890		
	Total	4228.884	94			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, HomeConcentration, Ethnicity, Seasonality, Language, GJFK, GLHR, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-2.518	6.351		-.397	.693
	HomeConcentration	.593	.255	.233	2.322	.023
	Congestion	.064	1.153	.008	.056	.956
	GLHR	4.328	1.752	.309	2.471	.016
	GJFK	2.918	2.370	.164	1.231	.222
	PartnerConcentration	.272	.321	.079	.848	.399
	Seasonality	1.576	3.315	.052	.475	.636
	Distance	-.988	.923	-.107	-1.071	.287
	Language	.454	.203	.262	2.242	.028
	Ethnicity	-1.024	1.183	-.090	-.865	.389
	Urban	.502	.234	.278	2.148	.035

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.677	1.477
	Congestion	.312	3.206
	GLHR	.437	2.288
	GJFK	.387	2.587
	PartnerConcentration	.784	1.276
	Seasonality	.565	1.769
	Distance	.683	1.465
	Language	.502	1.991
	Ethnicity	.628	1.593
	Urban	.409	2.447

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.336	1.000	.00	.00	.00
	2	1.251	2.421	.00	.02	.00
	3	.920	2.825	.00	.01	.00
	4	.672	3.303	.00	.01	.00
	5	.310	4.868	.00	.00	.00
	6	.255	5.359	.00	.00	.00
	7	.164	6.698	.00	.80	.00
	8	.059	11.131	.00	.02	.01
	9	.019	19.774	.00	.01	.02
	10	.008	29.803	.02	.01	.75
	11	.006	34.953	.98	.11	.21

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.01	.11	.03	.00	.00	.04
	3	.12	.00	.13	.01	.00	.06
	4	.02	.11	.39	.00	.00	.02
	5	.27	.14	.38	.00	.00	.00
	6	.10	.02	.01	.01	.00	.71
	7	.00	.22	.01	.01	.00	.00
	8	.40	.13	.00	.50	.00	.04
	9	.07	.09	.02	.28	.68	.06
	10	.00	.13	.03	.10	.07	.00
	11	.01	.05	.00	.10	.24	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.05	.00
	3	.00	.00
	4	.10	.00
	5	.37	.00
	6	.42	.00
	7	.00	.00
	8	.00	.07
	9	.01	.16
	10	.03	.72
	11	.00	.04

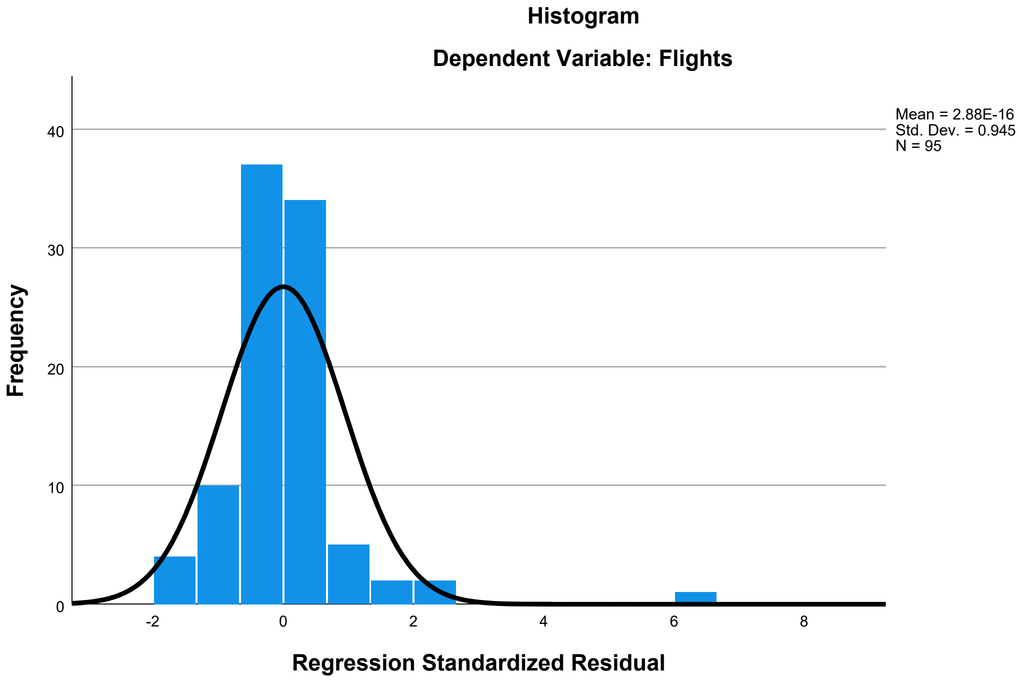
a. Dependent Variable: Flights

Residuals Statistics[a]

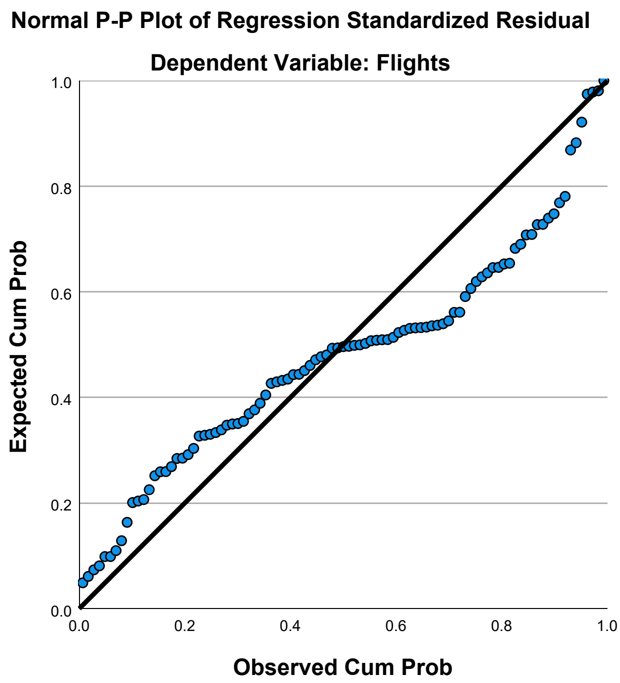
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.59	22.70	9.27	4.378	95
Residual	-8.898	33.299	.000	5.081	95
Std. Predicted Value	-2.252	3.067	.000	1.000	95
Std. Residual	-1.655	6.195	.000	.945	95

a. Dependent Variable: Flights

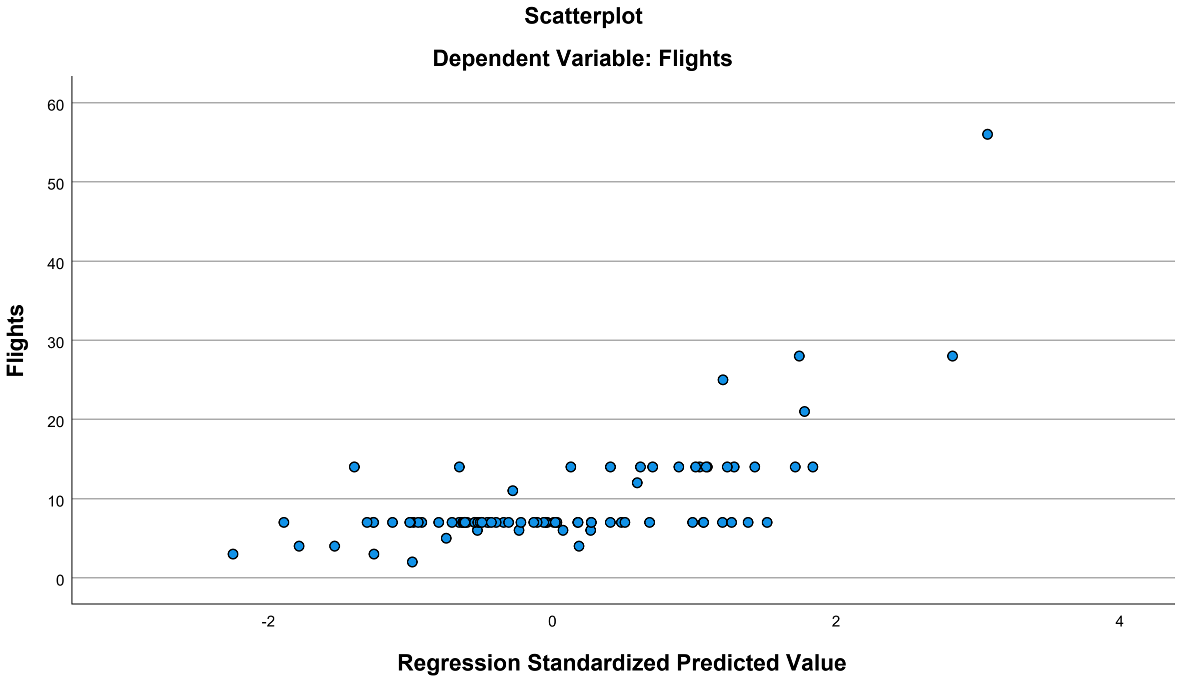
Charts



Histogram
Dependent Variable: Flights
Mean = 2.88E-16
Std. Dev. = 0.945
N = 95
Frequency
0
10
20
30
40
-2
0
2
4
6
8
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet26] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\JVs\2007
 Sky.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.52	6.605	23
HomeConcentration	4.25642652	1.653012185	23
Congestion	4.52	.790	23
GLHR	.00	.000	23
GJFK	.04	.209	23
PartnerConcentration	2.6668926087	3.4084825181	23
Seasonality	.61554159967	.16402845370	23
Distance	4.16339	.609251	23
Language	.56621891	1.934483774	23
Ethnicity	.37597417	.604636437	23
Urban	16.22	3.204	23

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.093	-.115	.
	HomeConcentration	.093	1.000	.213	.
	Congestion	-.115	.213	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.115	.067	.408	.
	PartnerConcentration	.187	-.288	-.399	.
	Seasonality	-.004	-.193	-.263	.
	Distance	-.089	.075	.053	.
	Language	-.159	.173	-.195	.
	Ethnicity	.060	.293	-.188	.
	Urban	-.072	.296	.707	.
Sig. (1-tailed)	Flights	.	.337	.300	.000
	HomeConcentration	.337	.	.164	.000
	Congestion	.300	.164	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.301	.380	.027	.000
	PartnerConcentration	.197	.091	.030	.000
	Seasonality	.493	.189	.113	.000
	Distance	.344	.367	.404	.000
	Language	.234	.215	.186	.000
	Ethnicity	.392	.088	.195	.000
	Urban	.372	.085	.000	.000
N	Flights	23	23	23	23
	HomeConcentration	23	23	23	23
	Congestion	23	23	23	23
	GLHR	23	23	23	23
	GJFK	23	23	23	23
	PartnerConcentration	23	23	23	23
	Seasonality	23	23	23	23
	Distance	23	23	23	23
	Language	23	23	23	23
	Ethnicity	23	23	23	23
	Urban	23	23	23	23

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.115	.187	-.004	-.089
	HomeConcentration	.067	-.288	-.193	.075
	Congestion	.408	-.399	-.263	.053
	GLHR	.	.	.	.
	GJFK	1.000	-.106	-.129	-.189
	PartnerConcentration	-.106	1.000	-.141	.073
	Seasonality	-.129	-.141	1.000	-.205
	Distance	-.189	.073	-.205	1.000
	Language	-.063	-.237	-.155	-.163
	Ethnicity	-.041	-.319	.318	-.136
	Urban	.393	-.160	-.475	.053
Sig. (1-tailed)	Flights	.301	.197	.493	.344
	HomeConcentration	.380	.091	.189	.367
	Congestion	.027	.030	.113	.404
	GLHR	.000	.000	.000	.000
	GJFK	.	.315	.279	.193
	PartnerConcentration	.315	.	.260	.370
	Seasonality	.279	.260	.	.174
	Distance	.193	.370	.174	.
	Language	.388	.138	.239	.229
	Ethnicity	.426	.069	.070	.268
	Urban	.032	.233	.011	.406
N	Flights	23	23	23	23
	HomeConcentration	23	23	23	23
	Congestion	23	23	23	23
	GLHR	23	23	23	23
	GJFK	23	23	23	23
	PartnerConcentration	23	23	23	23
	Seasonality	23	23	23	23
	Distance	23	23	23	23
	Language	23	23	23	23
	Ethnicity	23	23	23	23
	Urban	23	23	23	23

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	-.159	.060	-.072
	HomeConcentration	.173	.293	.296
	Congestion	-.195	-.188	.707
	GLHR	.	.	.
	GJFK	-.063	-.041	.393
	PartnerConcentration	-.237	-.319	-.160
	Seasonality	-.155	.318	-.475
	Distance	-.163	-.136	.053
	Language	1.000	.196	-.021
	Ethnicity	.196	1.000	-.277
	Urban	-.021	-.277	1.000
Sig. (1-tailed)	Flights	.234	.392	.372
	HomeConcentration	.215	.088	.085
	Congestion	.186	.195	.000
	GLHR	.000	.000	.000
	GJFK	.388	.426	.032
	PartnerConcentration	.138	.069	.233
	Seasonality	.239	.070	.011
	Distance	.229	.268	.406
	Language	.	.185	.462
	Ethnicity	.185	.	.101
	Urban	.462	.101	.
N	Flights	23	23	23
	HomeConcentration	23	23	23
	Congestion	23	23	23
	GLHR	23	23	23
	GJFK	23	23	23
	PartnerConcentration	23	23	23
	Seasonality	23	23	23
	Distance	23	23	23
	Language	23	23	23
	Ethnicity	23	23	23
	Urban	23	23	23

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, Distance, PartnerConcentration, HomeConcentration, GJFK, Ethnicity, Seasonality, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.373[a]	.139	-.457	7.973	.139	.233

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	13	.983

a. Predictors: (Constant), Urban, Language, Distance, PartnerConcentration, HomeConcentration, GJFK, Ethnicity, Seasonality, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	133.418	9	14.824	.233	.983[b]
	Residual	826.321	13	63.563		
	Total	959.739	22			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, Distance, PartnerConcentration, HomeConcentration, GJFK, Ethnicity, Seasonality, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	22.171	25.155		.881	.394
	HomeConcentration	.788	1.223	.197	.644	.530
	Congestion	-1.293	3.762	-.155	-.344	.736
	GJFK	5.401	9.387	.171	.575	.575
	PartnerConcentration	.289	.677	.149	.427	.676
	Seasonality	-3.220	13.374	-.080	-.241	.813
	Distance	-1.236	3.021	-.114	-.409	.689
	Language	-.757	1.058	-.222	-.716	.487
	Ethnicity	.632	3.527	.058	.179	.860
	Urban	-.175	.881	-.085	-.199	.845

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.707	1.414
	Congestion	.327	3.058
	GJFK	.754	1.326
	PartnerConcentration	.543	1.843
	Seasonality	.600	1.666
	Distance	.853	1.173
	Language	.690	1.449
	Ethnicity	.635	1.574
	Urban	.363	2.756

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Congestion
1	1	6.612	1.000	.00	.00	.00
	2	1.141	2.407	.00	.00	.00
	3	.983	2.594	.00	.00	.00
	4	.674	3.132	.00	.00	.00
	5	.406	4.034	.00	.00	.00
	6	.108	7.830	.00	.48	.00
	7	.046	12.036	.00	.50	.02
	8	.020	18.271	.00	.00	.03
	9	.007	30.683	.01	.02	.68
	10	.003	43.579	.99	.00	.26

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions					
		GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.02	.06	.00	.00	.29	.09
	3	.65	.03	.00	.00	.00	.00
	4	.02	.05	.00	.00	.42	.28
	5	.08	.42	.00	.00	.02	.31
	6	.01	.02	.13	.00	.03	.00
	7	.05	.00	.33	.02	.00	.28
	8	.16	.06	.04	.59	.00	.01
	9	.00	.08	.07	.06	.03	.00
	10	.01	.27	.43	.33	.21	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance ...
		Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.05
	8	.14
	9	.80
	10	.02

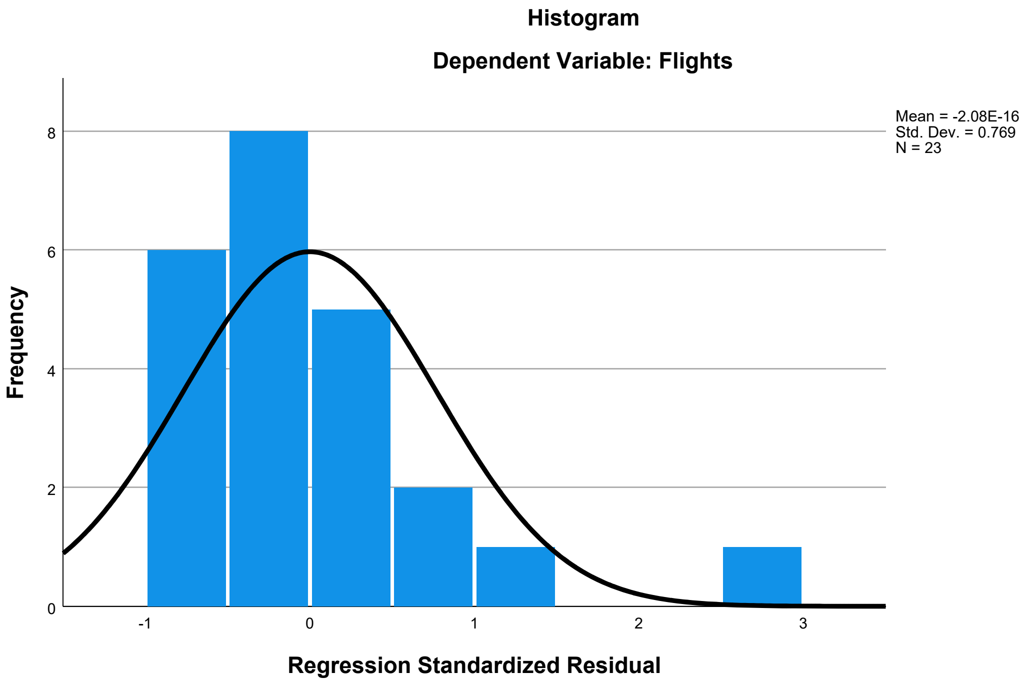
a. Dependent Variable: Flights

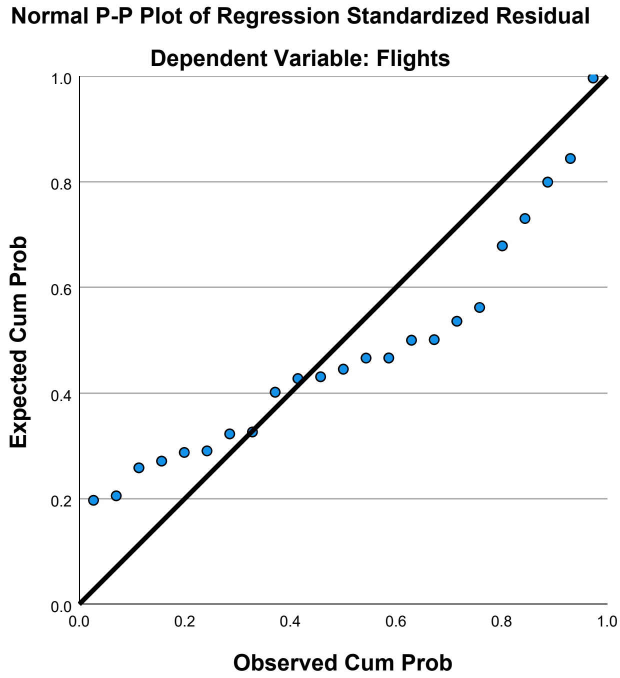
Residuals Statistics[a]

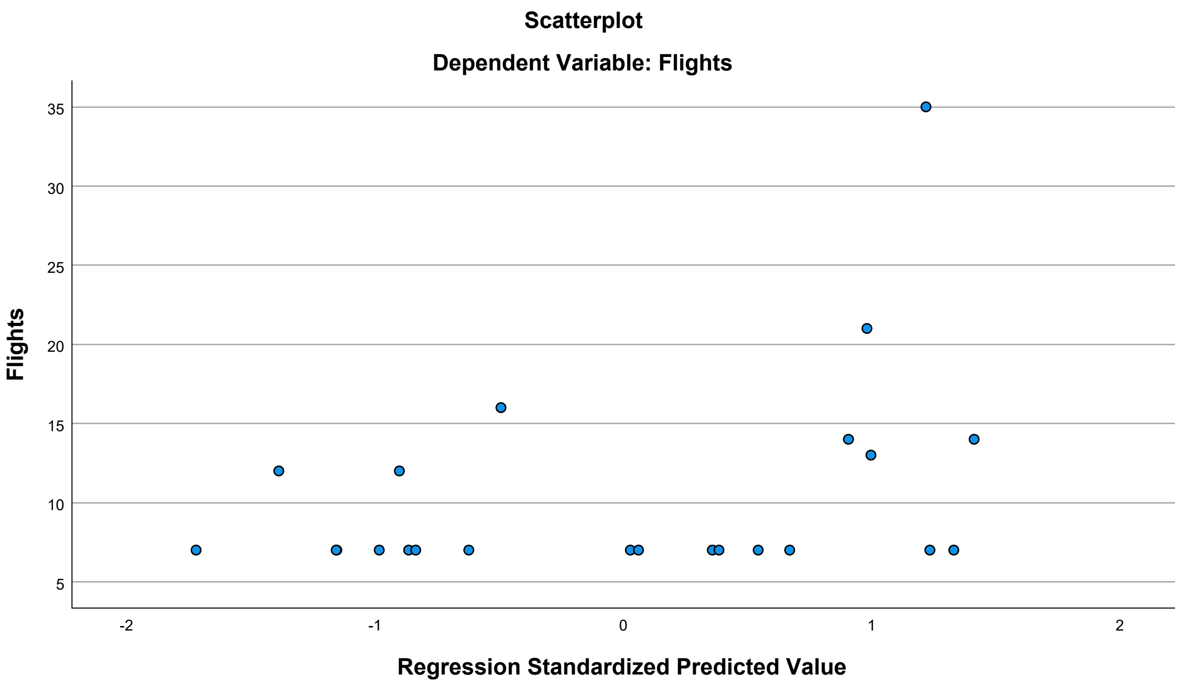
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6.28	14.00	10.52	2.463	23
Residual	-6.799	21.477	.000	6.129	23
Std. Predicted Value	-1.721	1.412	.000	1.000	23
Std. Residual	-.853	2.694	.000	.769	23

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.52	6.605	23
HomeConcentration	4.25642652	1.653012185	23
Congestion	4.52	.790	23
GLHR	.00	.000	23
GJFK	.04	.209	23
PartnerConcentration	2.6668926087	3.4084825181	23
Seasonality	.61554159967	.16402845370	23
Distance	4.16339	.609251	23
Language	.56621891	1.934483774	23
Urban	16.22	3.204	23

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.093	-.115	.
	HomeConcentration	.093	1.000	.213	.
	Congestion	-.115	.213	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.115	.067	.408	.
	PartnerConcentration	.187	-.288	-.399	.
	Seasonality	-.004	-.193	-.263	.
	Distance	-.089	.075	.053	.
	Language	-.159	.173	-.195	.
	Urban	-.072	.296	.707	.
Sig. (1-tailed)	Flights	.	.337	.300	.000
	HomeConcentration	.337	.	.164	.000
	Congestion	.300	.164	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.301	.380	.027	.000
	PartnerConcentration	.197	.091	.030	.000
	Seasonality	.493	.189	.113	.000
	Distance	.344	.367	.404	.000
	Language	.234	.215	.186	.000
	Urban	.372	.085	.000	.000
N	Flights	23	23	23	23
	HomeConcentration	23	23	23	23

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.115	.187	-.004	-.089
	HomeConcentration	.067	-.288	-.193	.075
	Congestion	.408	-.399	-.263	.053
	GLHR	.	.	.	.
	GJFK	1.000	-.106	-.129	-.189
	PartnerConcentration	-.106	1.000	-.141	.073
	Seasonality	-.129	-.141	1.000	-.205
	Distance	-.189	.073	-.205	1.000
	Language	-.063	-.237	-.155	-.163
	Urban	.393	-.160	-.475	.053
Sig. (1-tailed)	Flights	.301	.197	.493	.344
	HomeConcentration	.380	.091	.189	.367
	Congestion	.027	.030	.113	.404
	GLHR	.000	.000	.000	.000
	GJFK	.	.315	.279	.193
	PartnerConcentration	.315	.	.260	.370
	Seasonality	.279	.260	.	.174
	Distance	.193	.370	.174	.
	Language	.388	.138	.239	.229
	Urban	.032	.233	.011	.406
N	Flights	23	23	23	23
	HomeConcentration	23	23	23	23

Correlations

		Language	Urban
Pearson Correlation	Flights	-.159	-.072
	HomeConcentration	.173	.296
	Congestion	-.195	.707
	GLHR	.	.
	GJFK	-.063	.393
	PartnerConcentration	-.237	-.160
	Seasonality	-.155	-.475
	Distance	-.163	.053
	Language	1.000	-.021
	Urban	-.021	1.000
Sig. (1-tailed)	Flights	.234	.372
	HomeConcentration	.215	.085
	Congestion	.186	.000
	GLHR	.000	.000
	GJFK	.388	.032
	PartnerConcentration	.138	.233
	Seasonality	.239	.011
	Distance	.229	.406
	Language	.	.462
	Urban	.462	.
N	Flights	23	23
	HomeConcentration	23	23

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	23	23	23	23
	GLHR	23	23	23	23
	GJFK	23	23	23	23
	PartnerConcentration	23	23	23	23
	Seasonality	23	23	23	23
	Distance	23	23	23	23
	Language	23	23	23	23
	Urban	23	23	23	23

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	23	23	23	23
GLHR	23	23	23	23
GJFK	23	23	23	23
PartnerConcentration	23	23	23	23
Seasonality	23	23	23	23
Distance	23	23	23	23
Language	23	23	23	23
Urban	23	23	23	23

Correlations

	Language	Urban
Congestion	23	23
GLHR	23	23
GJFK	23	23
PartnerConcentration	23	23
Seasonality	23	23
Distance	23	23
Language	23	23
Urban	23	23

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, Distance, PartnerConcentration, HomeConcentration, GJFK, Seasonality, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change
1	.370[a]	.137	-.356	7.692	.137	.278

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	14	.963

a. Predictors: (Constant), Urban, Language, Distance, PartnerConcentration, HomeConcentration, GJFK, Seasonality, Congesti

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	131.375	8	16.422	.278	.963[b]
	Residual	828.364	14	59.169		
	Total	959.739	22			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, Distance, PartnerConcentration, HomeConcentration, GJFK, Seasonality, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	22.820	24.017		.950	.358
	HomeConcentration	.868	1.097	.217	.792	.442
	Congestion	-1.375	3.602	-.165	-.382	.708
	GJFK	5.565	9.013	.176	.617	.547
	PartnerConcentration	.259	.633	.134	.409	.688
	Seasonality	-2.756	12.660	-.068	-.218	.831
	Distance	-1.269	2.910	-.117	-.436	.669
	Language	-.745	1.018	-.218	-.732	.476
	Urban	-.204	.836	-.099	-.244	.811

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.818	1.223
	Congestion	.332	3.013
	GJFK	.761	1.313
	PartnerConcentration	.578	1.730
	Seasonality	.624	1.603
	Distance	.856	1.168
	Language	.693	1.443
	Urban	.375	2.666

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.297	1.000	.00	.00	.00
	2	1.017	2.489	.00	.00	.00
	3	.978	2.537	.00	.00	.00
	4	.506	3.526	.00	.01	.00
	5	.108	7.631	.00	.52	.00
	6	.062	10.039	.00	.44	.02
	7	.020	17.748	.00	.00	.03
	8	.007	29.926	.01	.01	.69
	9	.004	42.119	.98	.01	.26

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.15	.03	.00	.00	.45	.00
	3	.53	.06	.00	.00	.07	.00
	4	.09	.47	.00	.00	.21	.00
	5	.01	.02	.15	.00	.03	.00
	6	.06	.02	.21	.01	.00	.04
	7	.15	.06	.07	.60	.00	.13
	8	.00	.09	.08	.06	.03	.81
	9	.01	.26	.49	.33	.22	.01

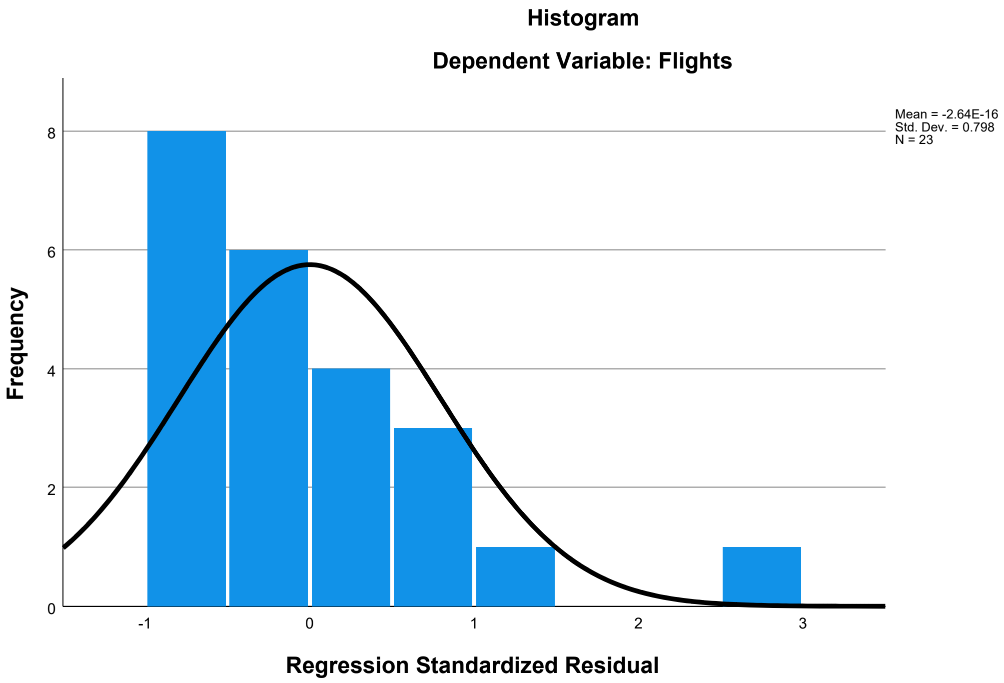
a. Dependent Variable: Flights

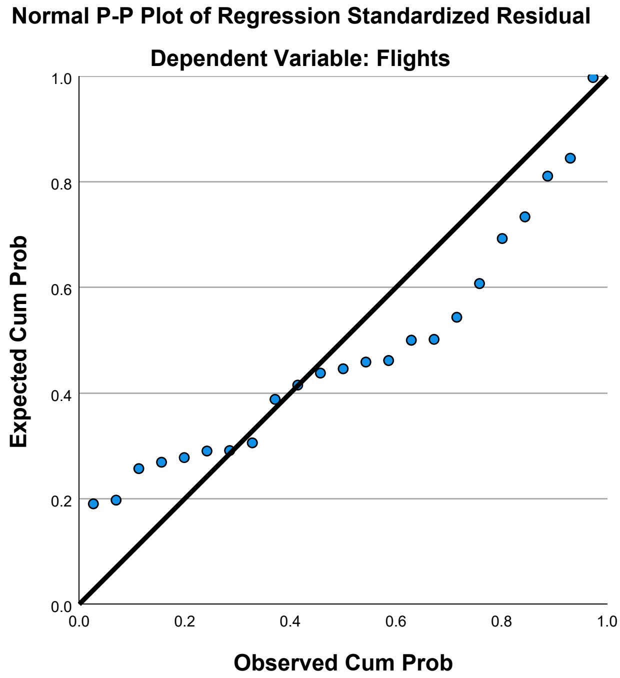
Residuals Statistics[a]

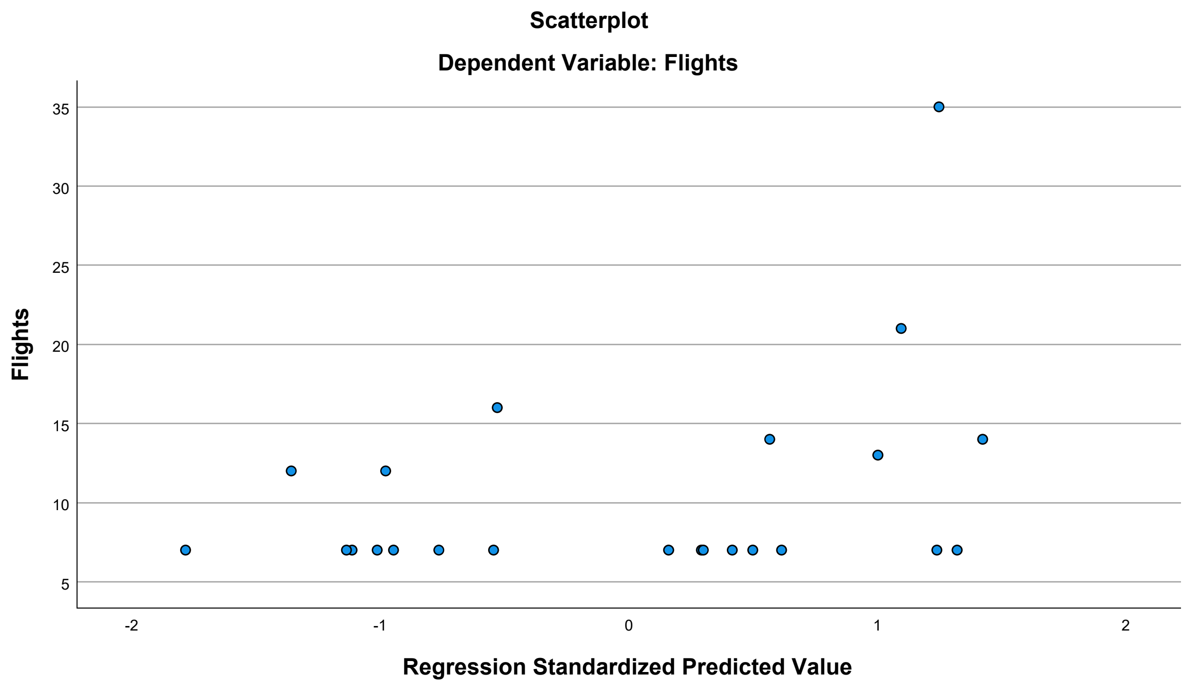
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6.16	14.00	10.52	2.444	23
Residual	-6.749	21.429	.000	6.136	23
Std. Predicted Value	-1.784	1.423	.000	1.000	23
Std. Residual	-.877	2.786	.000	.798	23

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.52	6.605	23
HomeConcentration	4.25642652	1.653012185	23
Congestion	4.52	.790	23
GLHR	.00	.000	23
GJFK	.04	.209	23
PartnerConcentration	2.6668926087	3.4084825181	23
Distance	4.16339	.609251	23
Language	.56621891	1.934483774	23
Urban	16.22	3.204	23

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.093	-.115	.
	HomeConcentration	.093	1.000	.213	.
	Congestion	-.115	.213	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.115	.067	.408	.
	PartnerConcentration	.187	-.288	-.399	.
	Distance	-.089	.075	.053	.
	Language	-.159	.173	-.195	.
	Urban	-.072	.296	.707	.
Sig. (1-tailed)	Flights	.	.337	.300	.000
	HomeConcentration	.337	.	.164	.000
	Congestion	.300	.164	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.301	.380	.027	.000
	PartnerConcentration	.197	.091	.030	.000
	Distance	.344	.367	.404	.000
	Language	.234	.215	.186	.000
	Urban	.372	.085	.000	.000
N	Flights	23	23	23	23
	HomeConcentration	23	23	23	23
	Congestion	23	23	23	23
	GLHR	23	23	23	23
	GJFK	23	23	23	23
	PartnerConcentration	23	23	23	23
	Distance	23	23	23	23
	Language	23	23	23	23
	Urban	23	23	23	23

Correlations

		GJFK	PartnerConcentration	Distance	Language
Pearson Correlation	Flights	.115	.187	-.089	-.159
	HomeConcentration	.067	-.288	.075	.173
	Congestion	.408	-.399	.053	-.195
	GLHR	.	.	.	.
	GJFK	1.000	-.106	-.189	-.063
	PartnerConcentration	-.106	1.000	.073	-.237
	Distance	-.189	.073	1.000	-.163
	Language	-.063	-.237	-.163	1.000
	Urban	.393	-.160	.053	-.021
Sig. (1-tailed)	Flights	.301	.197	.344	.234
	HomeConcentration	.380	.091	.367	.215
	Congestion	.027	.030	.404	.186
	GLHR	.000	.000	.000	.000
	GJFK	.	.315	.193	.388
	PartnerConcentration	.315	.	.370	.138
	Distance	.193	.370	.	.229
	Language	.388	.138	.229	.
	Urban	.032	.233	.406	.462
N	Flights	23	23	23	23
	HomeConcentration	23	23	23	23
	Congestion	23	23	23	23
	GLHR	23	23	23	23
	GJFK	23	23	23	23
	PartnerConcentration	23	23	23	23
	Distance	23	23	23	23
	Language	23	23	23	23
	Urban	23	23	23	23

Correlations

		Urban
Pearson Correlation	Flights	-.072
	HomeConcentration	.296
	Congestion	.707
	GLHR	.
	GJFK	.393
	PartnerConcentration	-.160
	Distance	.053
	Language	-.021
	Urban	1.000
Sig. (1-tailed)	Flights	.372
	HomeConcentration	.085
	Congestion	.000
	GLHR	.000
	GJFK	.032
	PartnerConcentration	.233
	Distance	.406
	Language	.462
	Urban	.
N	Flights	23
	HomeConcentration	23
	Congestion	23
	GLHR	23
	GJFK	23
	PartnerConcentration	23
	Distance	23
	Language	23
	Urban	23

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, Distance, PartnerConcentration, HomeConcentration, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.366[a]	.134	-.270	7.444	.134	.331

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	7	15	.927

a. Predictors: (Constant), Urban, Language, Distance, PartnerConcentration, HomeConcentration, GJFK, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	128.570	7	18.367	.331	.927[b]
	Residual	831.169	15	55.411		
	Total	959.739	22			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, Distance, PartnerConcentration, HomeConcentration, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	18.985	15.799		1.202	.248
	HomeConcentration	.889	1.058	.223	.841	.414
	Congestion	-1.292	3.466	-.155	-.373	.715
	GJFK	5.559	8.723	.175	.637	.534
	PartnerConcentration	.304	.579	.157	.526	.607
	Distance	-1.126	2.743	-.104	-.411	.687
	Language	-.677	.938	-.198	-.722	.481
	Urban	-.147	.769	-.071	-.192	.851

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.824	1.214
	Congestion	.336	2.979
	GJFK	.761	1.313
	PartnerConcentration	.648	1.544
	Distance	.902	1.109
	Language	.765	1.307
	Urban	.415	2.408

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Congestion
1	1	5.394	1.000	.00	.00	.00
	2	1.017	2.304	.00	.00	.00
	3	.973	2.354	.00	.00	.00
	4	.493	3.307	.00	.01	.00
	5	.084	8.015	.01	.96	.01
	6	.023	15.153	.03	.00	.04
	7	.009	24.044	.34	.01	.16
	8	.006	31.139	.63	.02	.79

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions				
		GJFK	PartnerConcentration	Distance	Language	Urban
1	1	.00	.01	.00	.00	.00
	2	.15	.03	.00	.49	.00
	3	.53	.08	.00	.07	.00
	4	.10	.51	.00	.24	.00
	5	.00	.06	.01	.02	.01
	6	.21	.05	.34	.00	.25
	7	.00	.02	.51	.00	.40
	8	.01	.25	.14	.17	.34

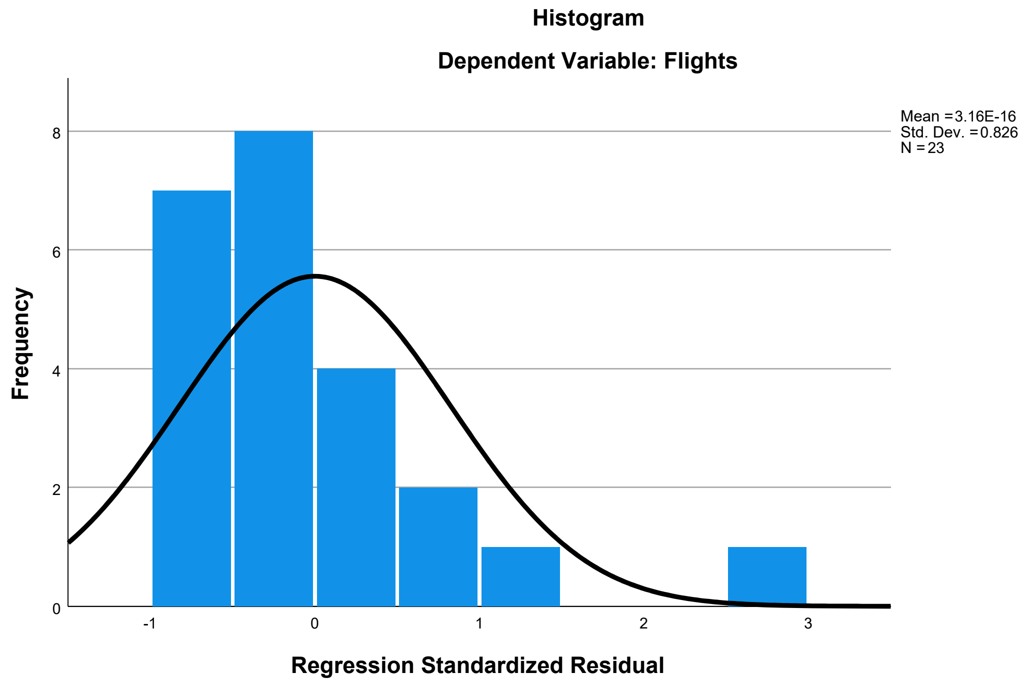
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6.17	14.06	10.52	2.417	23
Residual	-7.056	21.531	.000	6.147	23
Std. Predicted Value	-1.802	1.462	.000	1.000	23
Std. Residual	-.948	2.892	.000	.826	23

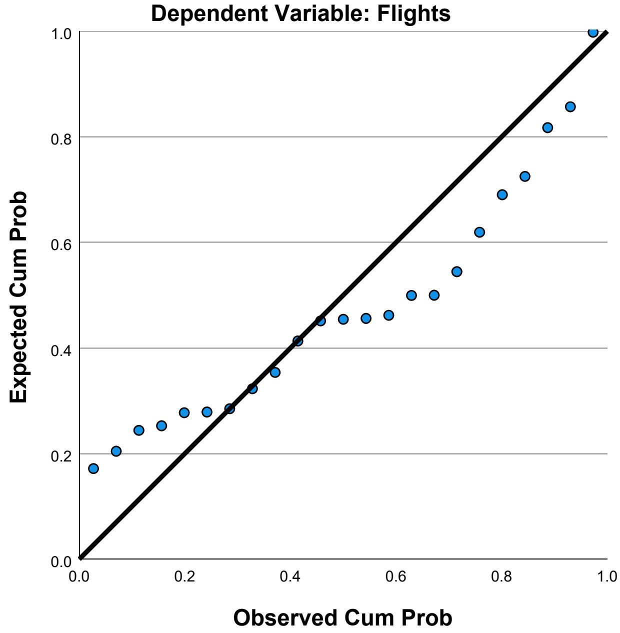
a. Dependent Variable: Flights

Charts



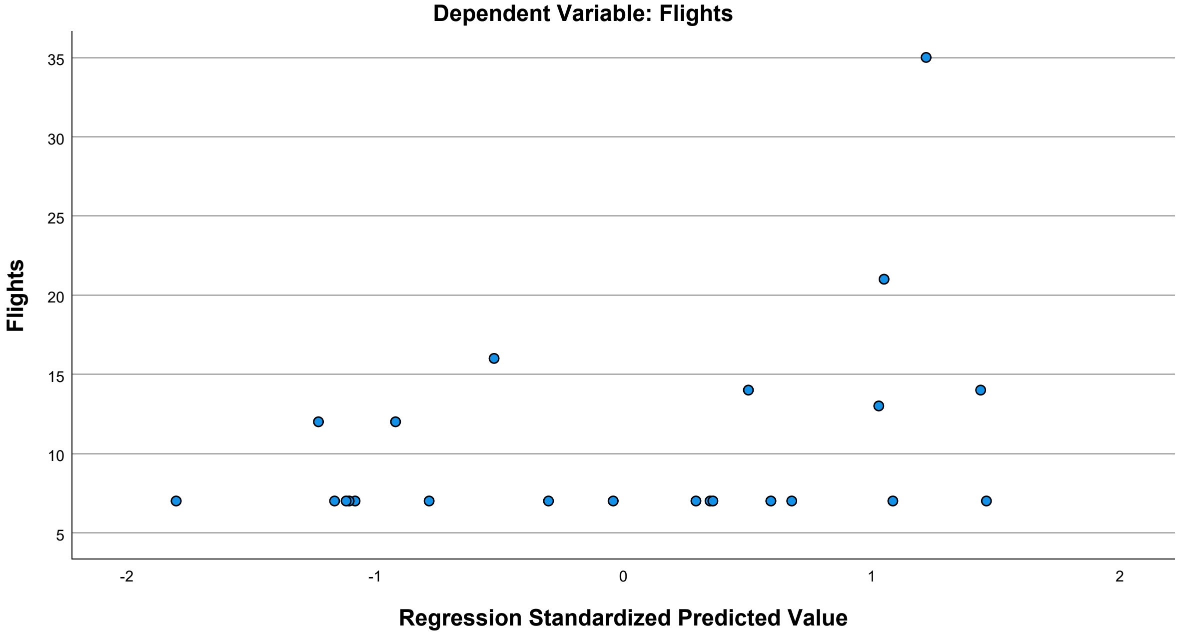
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.52	6.605	23
HomeConcentration	4.25642652	1.653012185	23
Congestion	4.52	.790	23
GLHR	.00	.000	23
GJFK	.04	.209	23
PartnerConcentration	2.6668926087	3.4084825181	23
Distance	4.16339	.609251	23
Language	.56621891	1.934483774	23

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.093	-.115	.
	HomeConcentration	.093	1.000	.213	.
	Congestion	-.115	.213	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.115	.067	.408	.
	PartnerConcentration	.187	-.288	-.399	.
	Distance	-.089	.075	.053	.
	Language	-.159	.173	-.195	.
Sig. (1-tailed)	Flights	.	.337	.300	.000
	HomeConcentration	.337	.	.164	.000
	Congestion	.300	.164	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.301	.380	.027	.000
	PartnerConcentration	.197	.091	.030	.000
	Distance	.344	.367	.404	.000
	Language	.234	.215	.186	.000
N	Flights	23	23	23	23
	HomeConcentration	23	23	23	23
	Congestion	23	23	23	23
	GLHR	23	23	23	23
	GJFK	23	23	23	23
	PartnerConcentration	23	23	23	23
	Distance	23	23	23	23
	Language	23	23	23	23

Correlations

		GJFK	PartnerConcentration	Distance	Language
Pearson Correlation	Flights	.115	.187	-.089	-.159
	HomeConcentration	.067	-.288	.075	.173
	Congestion	.408	-.399	.053	-.195
	GLHR	.	.	.	.
	GJFK	1.000	-.106	-.189	-.063
	PartnerConcentration	-.106	1.000	.073	-.237
	Distance	-.189	.073	1.000	-.163
	Language	-.063	-.237	-.163	1.000
Sig. (1-tailed)	Flights	.301	.197	.344	.234
	HomeConcentration	.380	.091	.367	.215
	Congestion	.027	.030	.404	.186
	GLHR	.000	.000	.000	.000
	GJFK	.	.315	.193	.388
	PartnerConcentration	.315	.	.370	.138
	Distance	.193	.370	.	.229
	Language	.388	.138	.229	.
N	Flights	23	23	23	23
	HomeConcentration	23	23	23	23
	Congestion	23	23	23	23
	GLHR	23	23	23	23
	GJFK	23	23	23	23
	PartnerConcentration	23	23	23	23
	Distance	23	23	23	23
	Language	23	23	23	23

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Language, GJFK, HomeConcentration, Distance, PartnerConcentration, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.363[a]	.132	-.194	7.216	.132	.405

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	6	16	.865

a. Predictors: (Constant), Language, GJFK, HomeConcentration, Distance, PartnerConcentration, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	126.535	6	21.089	.405	.865[b]
	Residual	833.204	16	52.075		
	Total	959.739	22			

a. Dependent Variable: Flights

b. Predictors: (Constant), Language, GJFK, HomeConcentration, Distance, PartnerConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	19.040	15.313		1.243	.232
	HomeConcentration	.842	.997	.211	.844	.411
	Congestion	-1.738	2.489	-.208	-.698	.495
	GJFK	5.290	8.346	.167	.634	.535
	PartnerConcentration	.272	.536	.140	.507	.619
	Distance	-1.151	2.656	-.106	-.433	.670
	Language	-.717	.886	-.210	-.809	.430

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.871	1.148
	Congestion	.612	1.634
	GJFK	.782	1.279
	PartnerConcentration	.709	1.411
	Distance	.904	1.106
	Language	.805	1.242

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	4.423	1.000	.00	.01	.00
	2	1.016	2.086	.00	.00	.00
	3	.972	2.133	.00	.00	.00
	4	.485	3.020	.00	.01	.00
	5	.081	7.383	.01	.98	.02
	6	.016	16.751	.00	.00	.50
	7	.007	25.783	.99	.00	.47

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Language
1	1	.00	.01	.00	.00
	2	.14	.03	.00	.52
	3	.56	.08	.00	.07
	4	.09	.56	.00	.25
	5	.00	.07	.02	.02
	6	.18	.11	.61	.01
	7	.02	.14	.36	.12

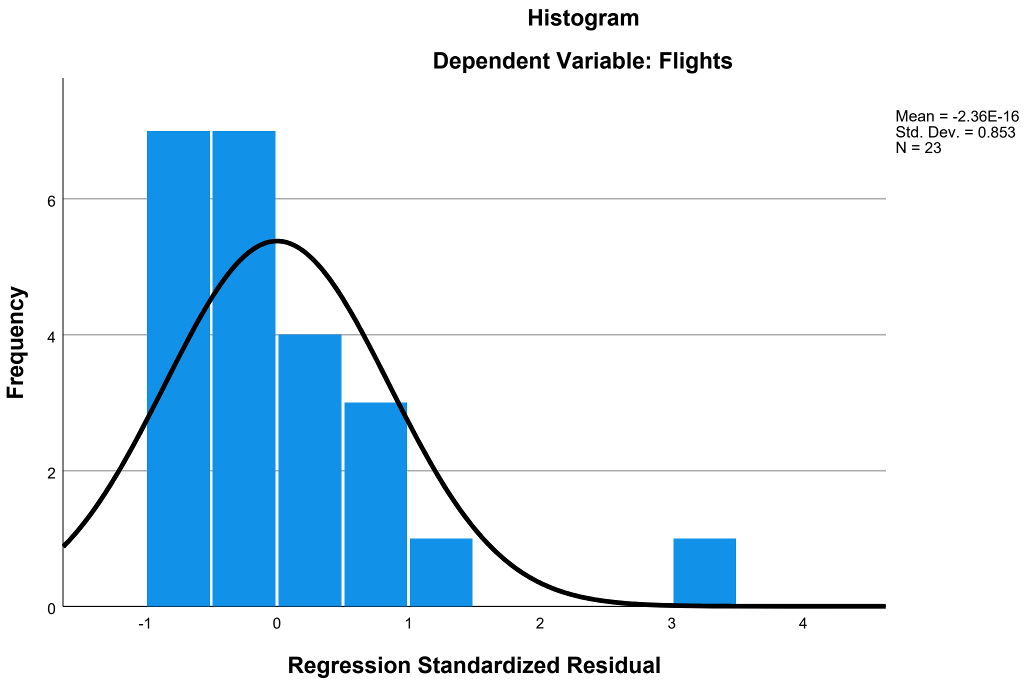
a. Dependent Variable: Flights

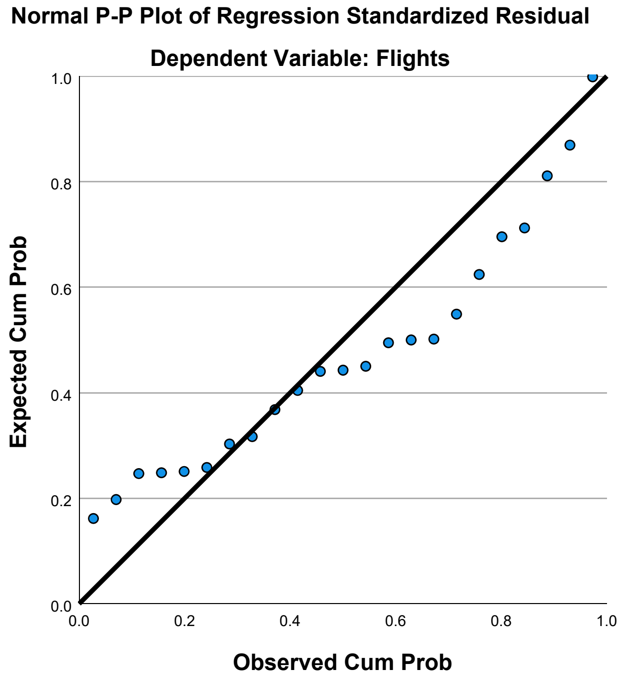
Residuals Statistics[a]

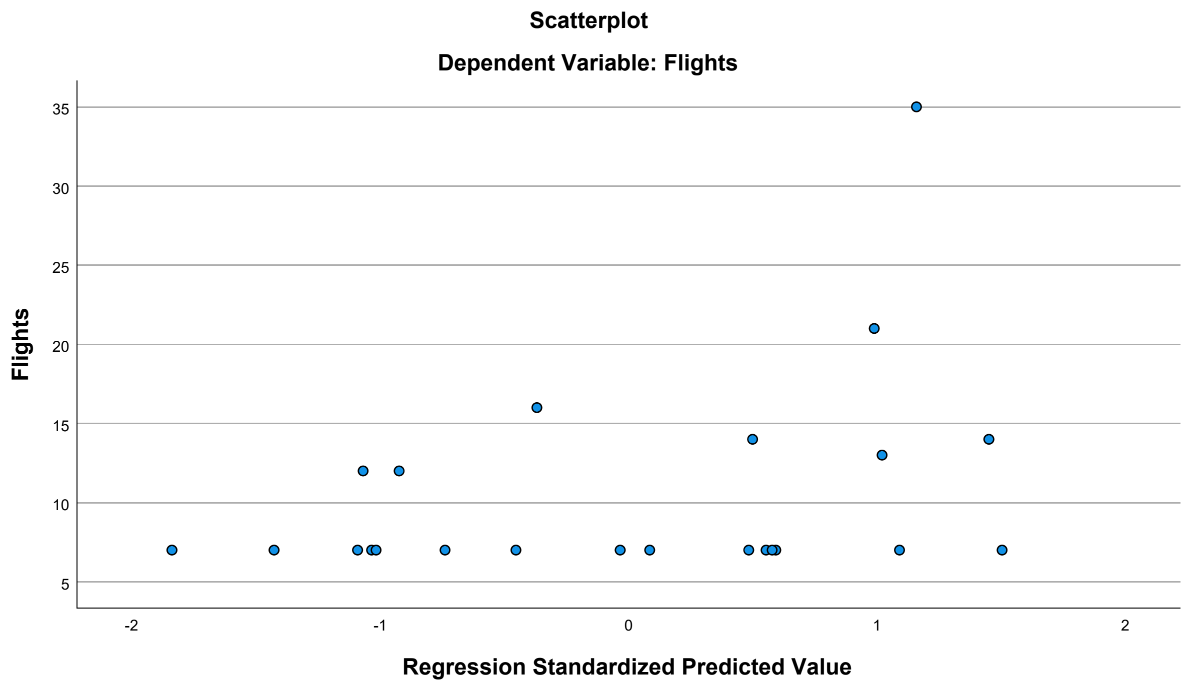
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6.11	14.13	10.52	2.398	23
Residual	-7.127	21.699	.000	6.154	23
Std. Predicted Value	-1.839	1.503	.000	1.000	23
Std. Residual	-.988	3.007	.000	.853	23

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.52	6.605	23
HomeConcentration	4.25642652	1.653012185	23
Congestion	4.52	.790	23
GLHR	.00	.000	23
GJFK	.04	.209	23
PartnerConcentration	2.6668926087	3.4084825181	23
Language	.56621891	1.934483774	23

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.093	-.115	.
	HomeConcentration	.093	1.000	.213	.
	Congestion	-.115	.213	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.115	.067	.408	.
	PartnerConcentration	.187	-.288	-.399	.
	Language	-.159	.173	-.195	.
Sig. (1-tailed)	Flights	.	.337	.300	.000
	HomeConcentration	.337	.	.164	.000
	Congestion	.300	.164	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.301	.380	.027	.000
	PartnerConcentration	.197	.091	.030	.000
	Language	.234	.215	.186	.000
N	Flights	23	23	23	23
	HomeConcentration	23	23	23	23
	Congestion	23	23	23	23
	GLHR	23	23	23	23
	GJFK	23	23	23	23
	PartnerConcentration	23	23	23	23
	Language	23	23	23	23

Correlations

		GJFK	PartnerConcentration	Language
Pearson Correlation	Flights	.115	.187	-.159
	HomeConcentration	.067	-.288	.173
	Congestion	.408	-.399	-.195
	GLHR	.	.	.
	GJFK	1.000	-.106	-.063
	PartnerConcentration	-.106	1.000	-.237
	Language	-.063	-.237	1.000
Sig. (1-tailed)	Flights	.301	.197	.234
	HomeConcentration	.380	.091	.215
	Congestion	.027	.030	.186
	GLHR	.000	.000	.000
	GJFK	.	.315	.388
	PartnerConcentration	.315	.	.138
	Language	.388	.138	.
N	Flights	23	23	23
	HomeConcentration	23	23	23
	Congestion	23	23	23
	GLHR	23	23	23
	GJFK	23	23	23
	PartnerConcentration	23	23	23
	Language	23	23	23

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Language, GJFK, HomeConcentration, PartnerConcentration, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.349[a]	.122	-.137	7.042	.122	.471

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	5	17	.793

a. Predictors: (Constant), Language, GJFK, HomeConcentration, PartnerConcentration, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	116.751	5	23.350	.471	.793[b]
	Residual	842.988	17	49.588		
	Total	959.739	22			

a. Dependent Variable: Flights

b. Predictors: (Constant), Language, GJFK, HomeConcentration, PartnerConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	15.027	11.902		1.263	.224
	HomeConcentration	.793	.967	.198	.820	.424
	Congestion	-1.866	2.411	-.223	-.774	.450
	GJFK	6.146	7.912	.194	.777	.448
	PartnerConcentration	.251	.521	.129	.481	.637
	Language	-.664	.857	-.194	-.775	.449

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.883	1.133
	Congestion	.621	1.611
	GJFK	.828	1.208
	PartnerConcentration	.714	1.400
	Language	.821	1.218

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	3.465	1.000	.00	.01	.00
	2	1.016	1.847	.00	.00	.00
	3	.965	1.895	.00	.00	.00
	4	.471	2.711	.00	.02	.00
	5	.073	6.872	.03	.97	.05
	6	.008	20.244	.97	.00	.95

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Language
1	1	.01	.02	.01
	2	.16	.03	.53
	3	.58	.09	.07
	4	.11	.53	.27
	5	.01	.06	.02
	6	.14	.27	.12

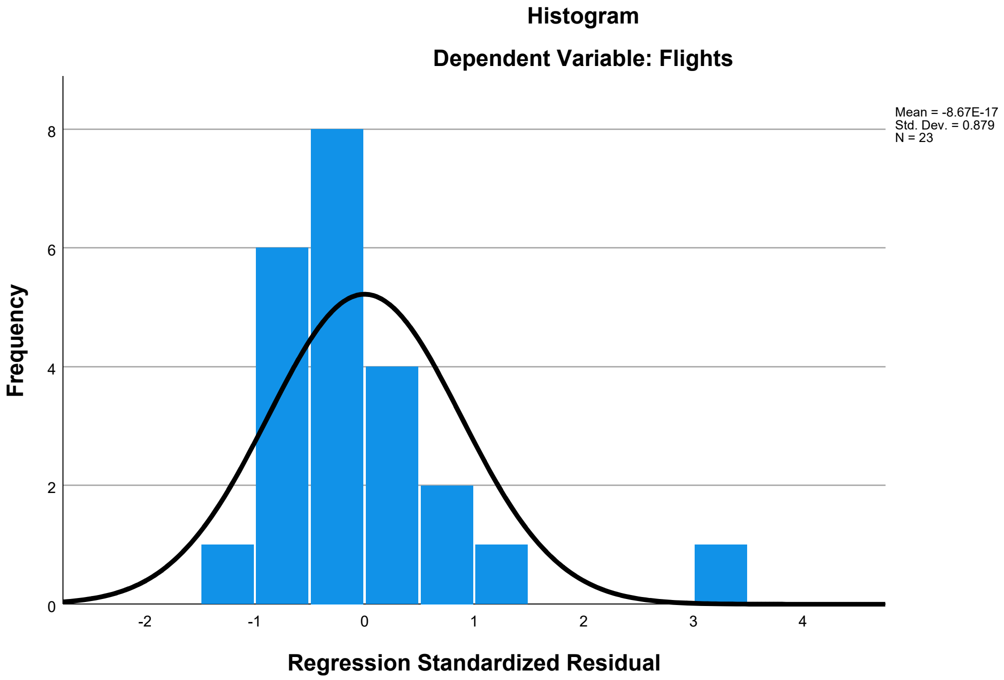
a. Dependent Variable: Flights

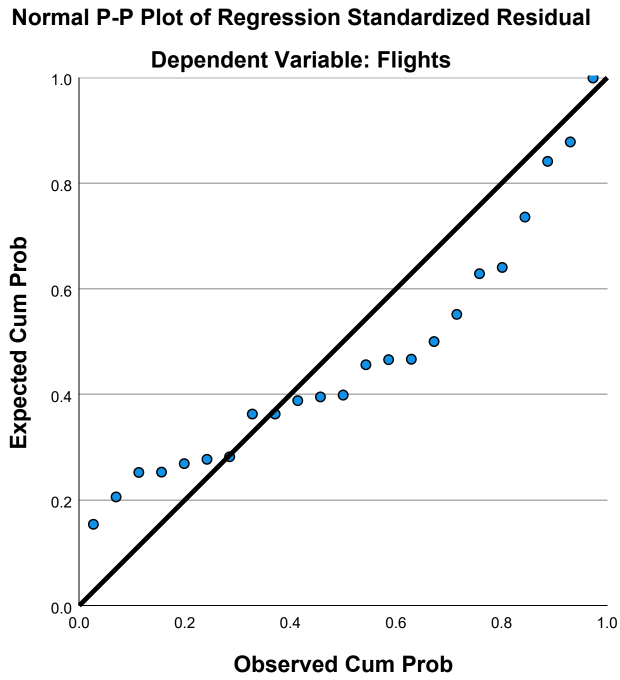
Residuals Statistics[a]

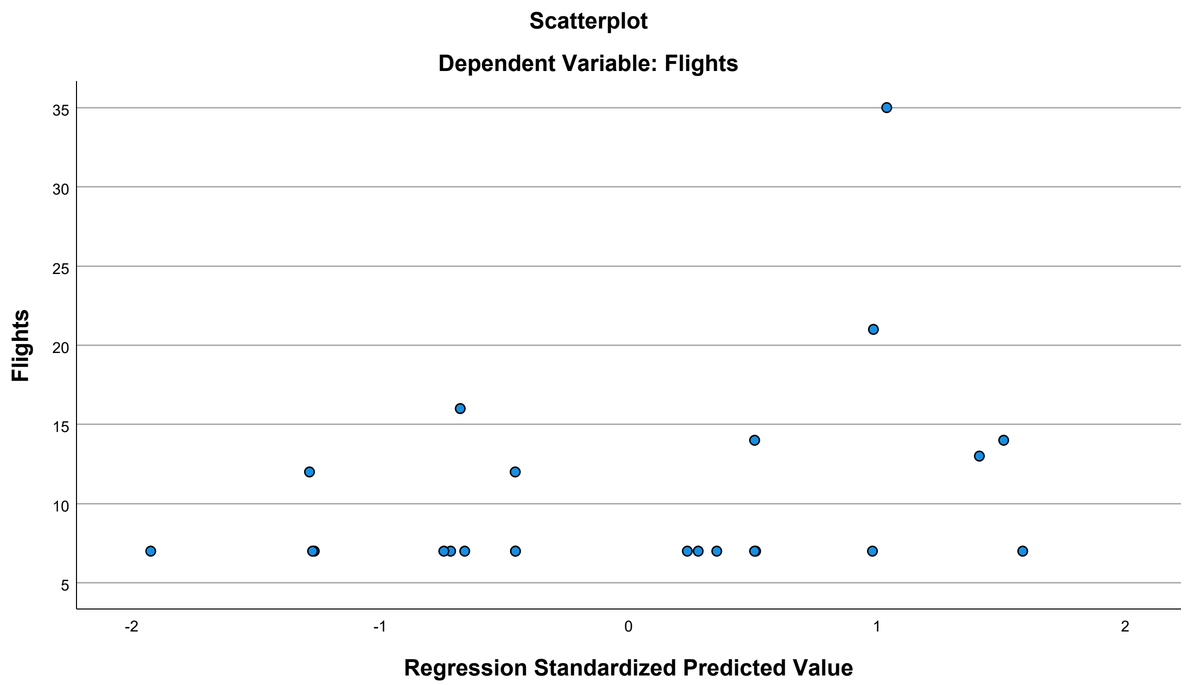
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6.09	14.18	10.52	2.304	23
Residual	-7.177	22.084	.000	6.190	23
Std. Predicted Value	-1.924	1.587	.000	1.000	23
Std. Residual	-1.019	3.136	.000	.879	23

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -8.67E-17
Std. Dev. = 0.879
N = 23
Frequency
8
6
4
2
0
-2
-1
0
1
2
3
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.52	6.605	23
HomeConcentration	4.25642652	1.653012185	23
Congestion	4.52	.790	23
GLHR	.00	.000	23
GJFK	.04	.209	23
Language	.56621891	1.934483774	23

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.093	-.115	.
	HomeConcentration	.093	1.000	.213	.
	Congestion	-.115	.213	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.115	.067	.408	.
	Language	-.159	.173	-.195	.
Sig. (1-tailed)	Flights	.	.337	.300	.000
	HomeConcentration	.337	.	.164	.000
	Congestion	.300	.164	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.301	.380	.027	.000
	Language	.234	.215	.186	.000
N	Flights	23	23	23	23
	HomeConcentration	23	23	23	23
	Congestion	23	23	23	23
	GLHR	23	23	23	23
	GJFK	23	23	23	23
	Language	23	23	23	23

Correlations

		GJFK	Language
Pearson Correlation	Flights	.115	-.159
	HomeConcentration	.067	.173
	Congestion	.408	-.195
	GLHR	.	.
	GJFK	1.000	-.063
	Language	-.063	1.000
Sig. (1-tailed)	Flights	.301	.234
	HomeConcentration	.380	.215
	Congestion	.027	.186
	GLHR	.000	.000
	GJFK	.	.388
	Language	.388	.
N	Flights	23	23
	HomeConcentration	23	23
	Congestion	23	23
	GLHR	23	23
	GJFK	23	23
	Language	23	23

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Language, GJFK, HomeConcentration, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change
1	.331[a]	.110	-.088	6.890	.110	.554	4	18	.698

a. Predictors: (Constant), Language, GJFK, HomeConcentration, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	105.286	4	26.321	.554	.698[b]
	Residual	854.453	18	47.470		
	Total	959.739	22			

a. Dependent Variable: Flights

b. Predictors: (Constant), Language, GJFK, HomeConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	18.295	9.560		1.914	.072
	HomeConcentration	.718	.934	.180	.769	.452
	Congestion	-2.357	2.137	-.282	-1.103	.285
	GJFK	6.434	7.719	.203	.834	.415
	Language	-.795	.795	-.233	-1.000	.330

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.906	1.104
	Congestion	.756	1.322
	GJFK	.833	1.201
	Language	.913	1.095

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	3.100	1.000	.00	.01	.00
	2	1.004	1.757	.00	.00	.00
	3	.806	1.961	.00	.00	.00
	4	.079	6.263	.05	.98	.04
	5	.012	16.407	.95	.00	.96

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	Language
1	1	.01	.01
	2	.47	.33
	3	.36	.57
	4	.00	.04
	5	.15	.05

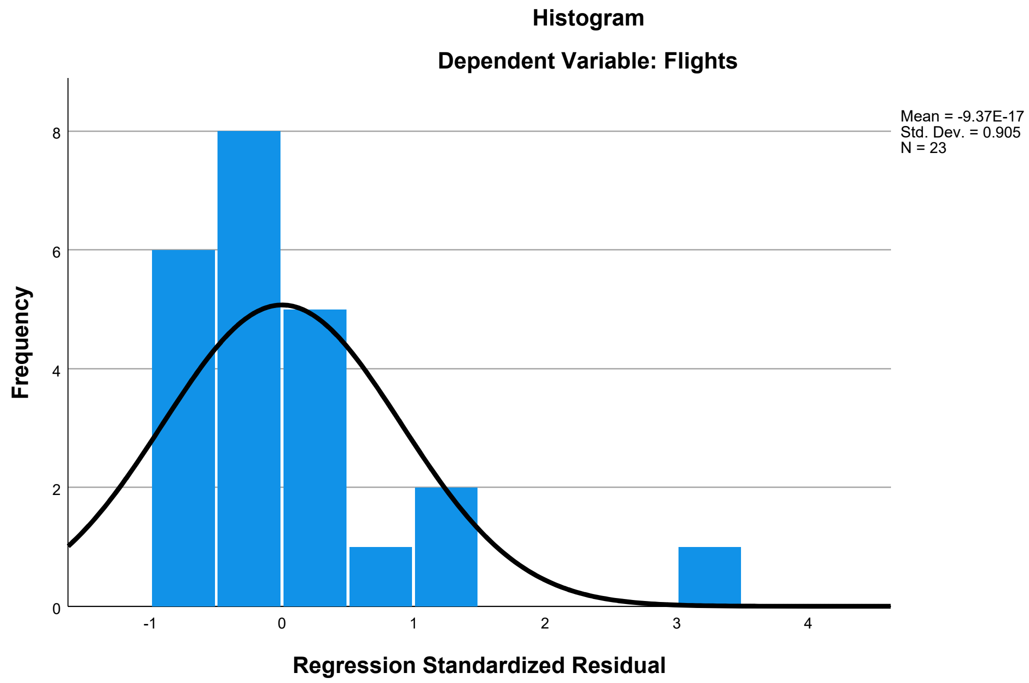
a. Dependent Variable: Flights

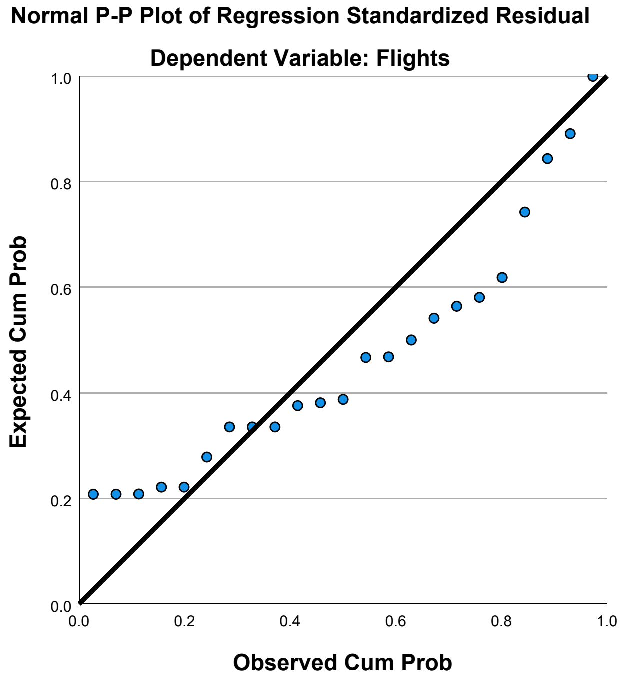
Residuals Statistics[a]

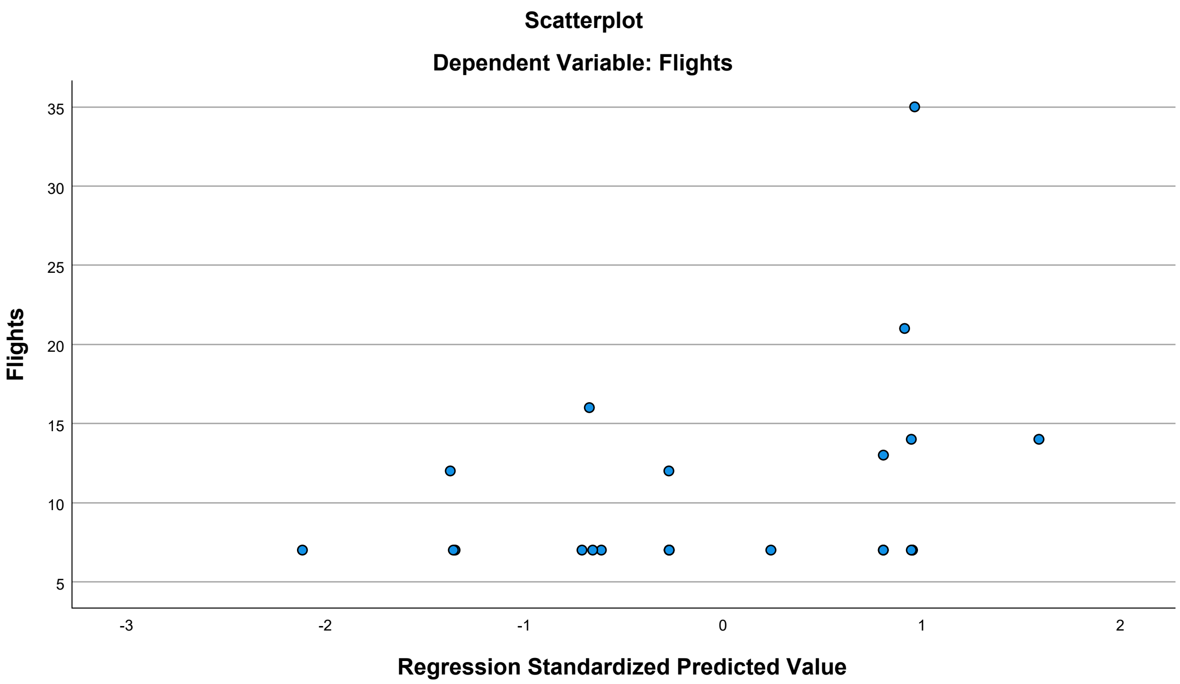
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.89	14.00	10.52	2.188	23
Residual	-5.606	22.368	.000	6.232	23
Std. Predicted Value	-2.117	1.590	.000	1.000	23
Std. Residual	-.814	3.247	.000	.905	23

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.52	6.605	23
Congestion	4.52	.790	23
GLHR	.00	.000	23
GJFK	.04	.209	23
Language	.56621891	1.934483774	23

Correlations

		Flights	Congestion	GLHR	GJFK	Language
Pearson Correlation	Flights	1.000	-.115	.	.115	-.159
	Congestion	-.115	1.000	.	.408	-.195
	GLHR	.	.	1.000	.	.
	GJFK	.115	.408	.	1.000	-.063
	Language	-.159	-.195	.	-.063	1.000
Sig. (1-tailed)	Flights	.	.300	.000	.301	.234
	Congestion	.300	.	.000	.027	.186
	GLHR	.000	.000	.	.000	.000
	GJFK	.301	.027	.000	.	.388
	Language	.234	.186	.000	.388	.
N	Flights	23	23	23	23	23
	Congestion	23	23	23	23	23
	GLHR	23	23	23	23	23
	GJFK	23	23	23	23	23
	Language	23	23	23	23	23

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Language, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.284[a]	.080	-.065	6.815	.080	.554

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	3	19	.652

a. Predictors: (Constant), Language, GJFK, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	77.204	3	25.735	.554	.652[b]
	Residual	882.535	19	46.449		
	Total	959.739	22			

a. Dependent Variable: Flights

b. Predictors: (Constant), Language, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	19.457	9.338		2.084	.051
	Congestion	-1.954	2.049	-.234	-.953	.352
	GJFK	6.274	7.633	.198	.822	.421
	Language	-.658	.766	-.193	-.859	.401

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.805	1.242
	GJFK	.833	1.200
	Language	.962	1.040

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GJFK	Language
1	1	2.203	1.000	.00	.00	.02	.03
	2	1.001	1.483	.00	.00	.44	.39
	3	.784	1.676	.00	.00	.38	.53
	4	.012	13.811	.99	.99	.15	.04

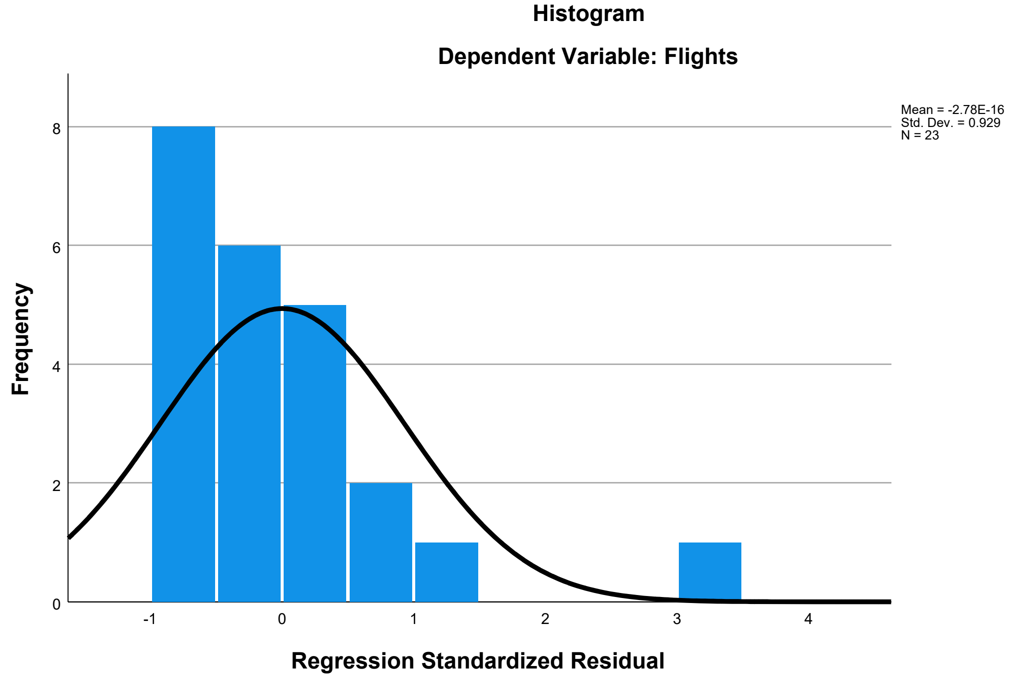
a. Dependent Variable: Flights

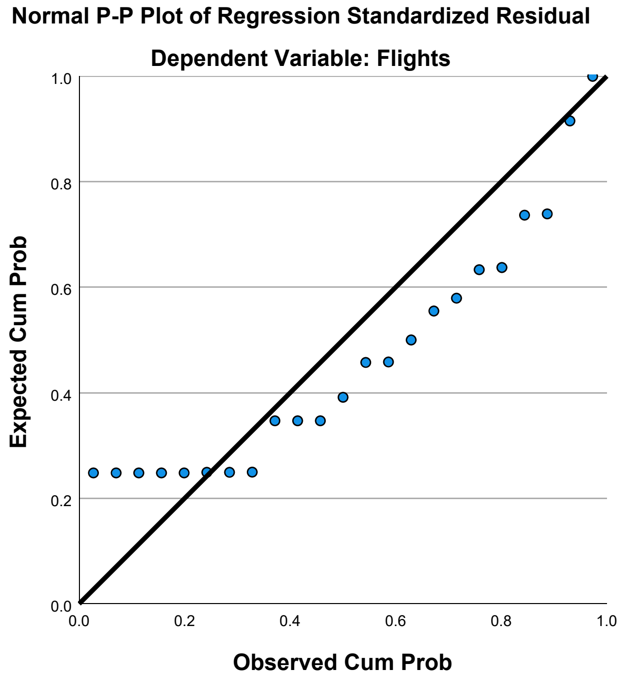
Residuals Statistics[a]

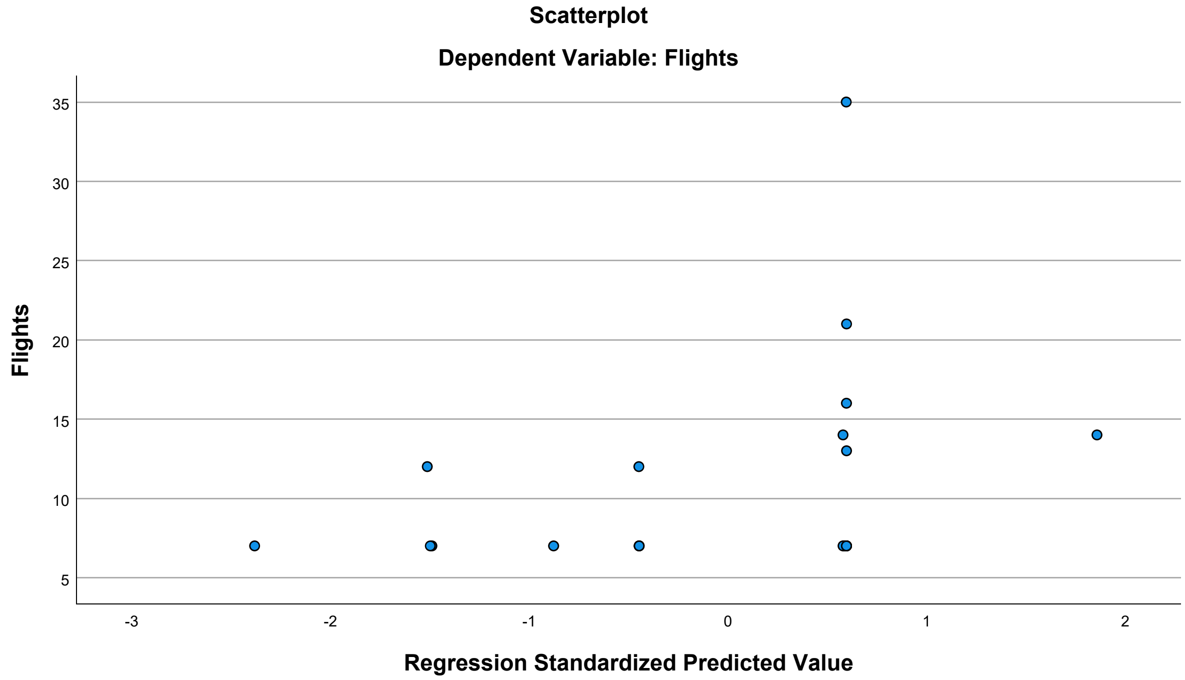
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6.06	14.00	10.52	1.873	23
Residual	-4.640	23.363	.000	6.334	23
Std. Predicted Value	-2.382	1.857	.000	1.000	23
Std. Residual	-.681	3.428	.000	.929	23

a. Dependent Variable: Flights

Charts







Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.52	6.605	23
Congestion	4.52	.790	23
Language	.56621891	1.934483774	23

Correlations

		Flights	Congestion	Language
Pearson Correlation	Flights	1.000	-.115	-.159
	Congestion	-.115	1.000	-.195
	Language	-.159	-.195	1.000
Sig. (1-tailed)	Flights	.	.300	.234
	Congestion	.300	.	.186
	Language	.234	.186	.
N	Flights	23	23	23
	Congestion	23	23	23
	Language	23	23	23

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.218[a]	.048	-.047	6.760	.048	.501

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	2	20	.613

a. Predictors: (Constant), Language, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45.820	2	22.910	.501	.613[b]
	Residual	913.919	20	45.696		
	Total	959.739	22			

a. Dependent Variable: Flights

b. Predictors: (Constant), Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	16.645	8.618		1.931	.068
	Congestion	-1.273	1.859	-.152	-.685	.501
	Language	-.646	.760	-.189	-.850	.405

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.962	1.039
	Language	.962	1.039

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	Language
1	1	2.115	1.000	.01	.01	.04
	2	.871	1.558	.00	.00	.91
	3	.014	12.470	.99	.99	.05

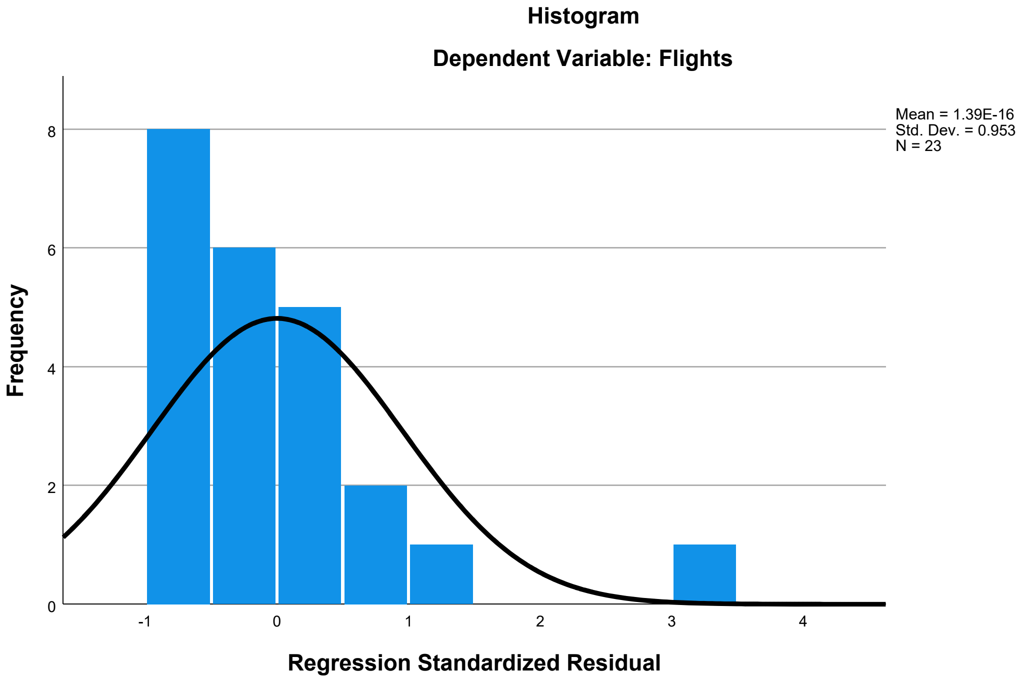
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6.07	11.55	10.52	1.443	23
Residual	-4.551	23.452	.000	6.445	23
Std. Predicted Value	-3.084	.713	.000	1.000	23
Std. Residual	-.673	3.469	.000	.953	23

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 1.39E-16
Std. Dev. = 0.953
N = 23
Frequency
Regression Standardized Residual
0
2
4
6
8
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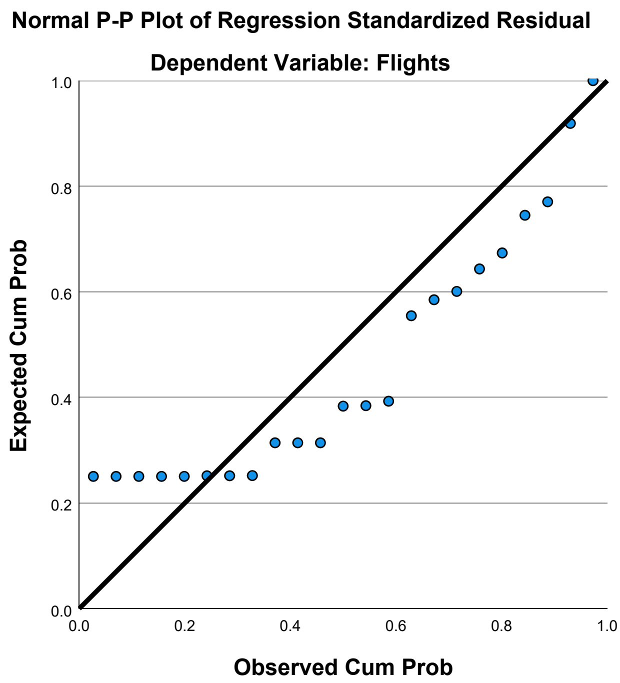
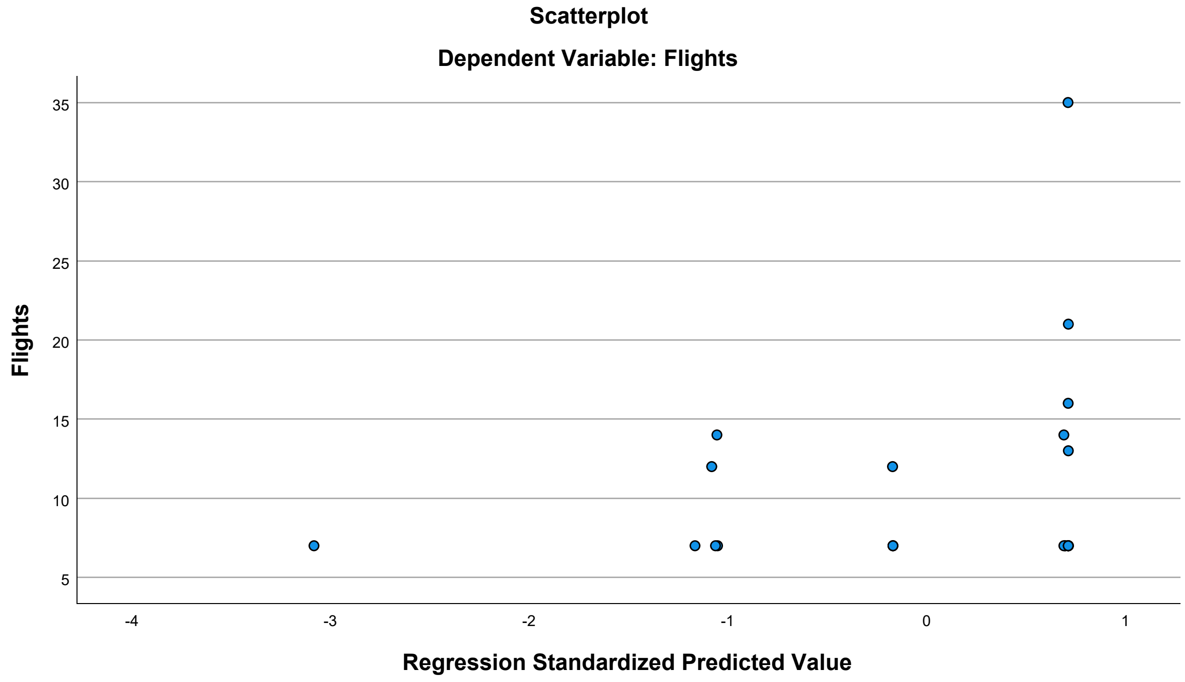
0
1
2
3
4


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
35
30
25
20
15
10
5
-4
-3
-2
-1
0
1
Regression Standardized Predicted Value

Regression

```
[DataSet27] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\JVs\2012
 Sky.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.63	5.112	100
HomeConcentration	3.9278803600	3.0207123580	100
Congestion	4.78	.949	100
GLHR	.05	.219	100
GJFK	.31	.465	100
PartnerConcentration	1.2341404000	2.0944047175	100
Seasonality	.65845101589	.21707086667	100
Distance	4.37065	.841435	100
Language	1.03359535	3.003257773	100
Ethnicity	.53228392	.773207429	100
Urban	18.13	3.106	100

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.111	.023	.179
	HomeConcentration	.111	1.000	-.546	.009
	Congestion	.023	-.546	1.000	-.092
	GLHR	.179	.009	-.092	1.000
	GJFK	-.028	-.553	.729	-.055
	PartnerConcentration	.184	-.150	-.242	-.136
	Seasonality	.070	-.173	.167	-.119
	Distance	-.175	.353	-.278	-.174
	Language	.149	-.024	.032	.513
	Ethnicity	.089	-.178	.262	.079
	Urban	.308	-.082	.390	.168
Sig. (1-tailed)	Flights	.	.136	.412	.037
	HomeConcentration	.136	.	.000	.463
	Congestion	.412	.000	.	.180
	GLHR	.037	.463	.180	.
	GJFK	.392	.000	.000	.295
	PartnerConcentration	.034	.068	.008	.089
	Seasonality	.245	.042	.049	.118
	Distance	.041	.000	.003	.042
	Language	.070	.406	.378	.000
	Ethnicity	.189	.038	.004	.219
	Urban	.001	.209	.000	.047
N	Flights	100	100	100	100
	HomeConcentration	100	100	100	100

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	-.028	.184	.070	-.175
	HomeConcentration	-.553	-.150	-.173	.353
	Congestion	.729	-.242	.167	-.278
	GLHR	-.055	-.136	-.119	-.174
	GJFK	1.000	-.194	.134	-.324
	PartnerConcentration	-.194	1.000	-.116	-.102
	Seasonality	.134	-.116	1.000	-.121
	Distance	-.324	-.102	-.121	1.000
	Language	.158	-.198	-.041	-.239
	Ethnicity	.306	-.160	.114	-.271
	Urban	.203	-.058	-.202	-.105
Sig. (1-tailed)	Flights	.392	.034	.245	.041
	HomeConcentration	.000	.068	.042	.000
	Congestion	.000	.008	.049	.003
	GLHR	.295	.089	.118	.042
	GJFK	.	.026	.091	.000
	PartnerConcentration	.026	.	.125	.156
	Seasonality	.091	.125	.	.114
	Distance	.000	.156	.114	.
	Language	.058	.024	.341	.008
	Ethnicity	.001	.056	.129	.003
	Urban	.022	.285	.022	.148
N	Flights	100	100	100	100
	HomeConcentration	100	100	100	100

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.149	.089	.308
	HomeConcentration	-.024	-.178	-.082
	Congestion	.032	.262	.390
	GLHR	.513	.079	.168
	GJFK	.158	.306	.203
	PartnerConcentration	-.198	-.160	-.058
	Seasonality	-.041	.114	-.202
	Distance	-.239	-.271	-.105
	Language	1.000	.332	.021
	Ethnicity	.332	1.000	.045
	Urban	.021	.045	1.000
Sig. (1-tailed)	Flights	.070	.189	<.001
	HomeConcentration	.406	.038	.209
	Congestion	.378	.004	.000
	GLHR	.000	.219	.047
	GJFK	.058	.001	.022
	PartnerConcentration	.024	.056	.285
	Seasonality	.341	.129	.022
	Distance	.008	.003	.148
	Language	.	.000	.417
	Ethnicity	.000	.	.329
	Urban	.417	.329	.
N	Flights	100	100	100
	HomeConcentration	100	100	100

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	100	100	100	100
	GLHR	100	100	100	100
	GJFK	100	100	100	100
	PartnerConcentration	100	100	100	100
	Seasonality	100	100	100	100
	Distance	100	100	100	100
	Language	100	100	100	100
	Ethnicity	100	100	100	100
	Urban	100	100	100	100

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	100	100	100	100
GLHR	100	100	100	100
GJFK	100	100	100	100
PartnerConcentration	100	100	100	100
Seasonality	100	100	100	100
Distance	100	100	100	100
Language	100	100	100	100
Ethnicity	100	100	100	100
Urban	100	100	100	100

Correlations

	Language	Ethnicity	Urban
Congestion	100	100	100
GLHR	100	100	100
GJFK	100	100	100
PartnerConcentration	100	100	100
Seasonality	100	100	100
Distance	100	100	100
Language	100	100	100
Ethnicity	100	100	100
Urban	100	100	100

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, HomeConcentration, PartnerConcentration, Seasonality, Ethnicity, Distance, GLHR, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.526[a]	.277	.195	4.585	.277	3.405

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	89	<.001

a. Predictors: (Constant), Urban, Language, HomeConcentration, PartnerConcentration, Seasonality, Ethnicity, Distance, GLHR Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	715.935	10	71.593	3.405	<.001[b]
	Residual	1871.375	89	21.027		
	Total	2587.310	99			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, HomeConcentration, PartnerConcentration, Seasonality, Ethnicity, Distance, GLHR, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-7.259	5.694		-1.275	.206
	HomeConcentration	.527	.212	.311	2.480	.015
	Congestion	.382	.857	.071	.445	.657
	GLHR	2.626	2.640	.113	.995	.323
	GJFK	-.077	1.575	-.007	-.049	.961
	PartnerConcentration	.801	.260	.328	3.078	.003
	Seasonality	5.102	2.295	.217	2.223	.029
	Distance	-.654	.635	-.108	-1.030	.306
	Language	.200	.197	.117	1.016	.312
	Ethnicity	.422	.672	.064	.627	.532
	Urban	.550	.178	.334	3.096	.003

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.516	1.937
	Congestion	.321	3.114
	GLHR	.635	1.575
	GJFK	.396	2.522
	PartnerConcentration	.714	1.401
	Seasonality	.856	1.169
	Distance	.744	1.344
	Language	.608	1.645
	Ethnicity	.786	1.273
	Urban	.698	1.433

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.628	1.000	.00	.00	.00
	2	1.500	2.102	.00	.00	.00
	3	1.018	2.552	.00	.03	.00
	4	.691	3.097	.00	.05	.00
	5	.517	3.580	.00	.02	.00
	6	.373	4.218	.00	.01	.00
	7	.154	6.567	.00	.53	.00
	8	.076	9.325	.00	.18	.01
	9	.029	15.133	.00	.03	.04
	10	.011	24.806	.03	.06	.55
	11	.005	36.329	.97	.10	.40

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.14	.00	.04	.00	.00	.14
	3	.12	.11	.03	.00	.00	.00
	4	.03	.01	.55	.00	.00	.01
	5	.18	.11	.03	.00	.00	.08
	6	.38	.01	.00	.00	.00	.68
	7	.02	.39	.10	.14	.00	.04
	8	.04	.10	.05	.62	.03	.01
	9	.04	.10	.00	.00	.57	.00
	10	.03	.12	.01	.13	.06	.00
	11	.02	.05	.18	.10	.34	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.02	.00
	3	.07	.00
	4	.00	.00
	5	.48	.00
	6	.38	.00
	7	.01	.00
	8	.00	.04
	9	.02	.18
	10	.01	.75
	11	.00	.03

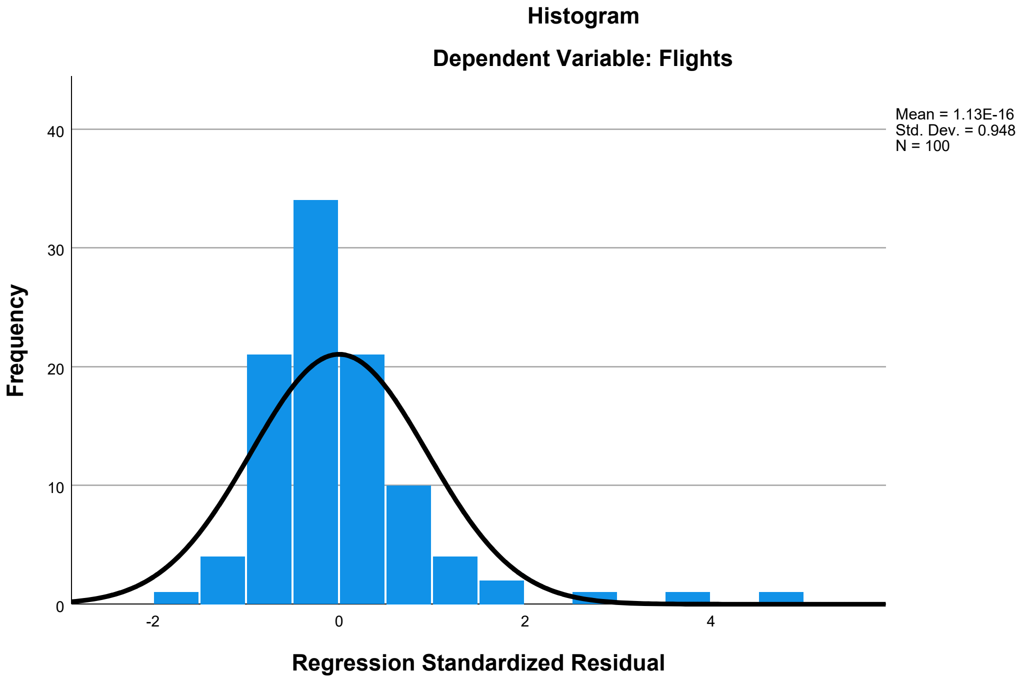
a. Dependent Variable: Flights

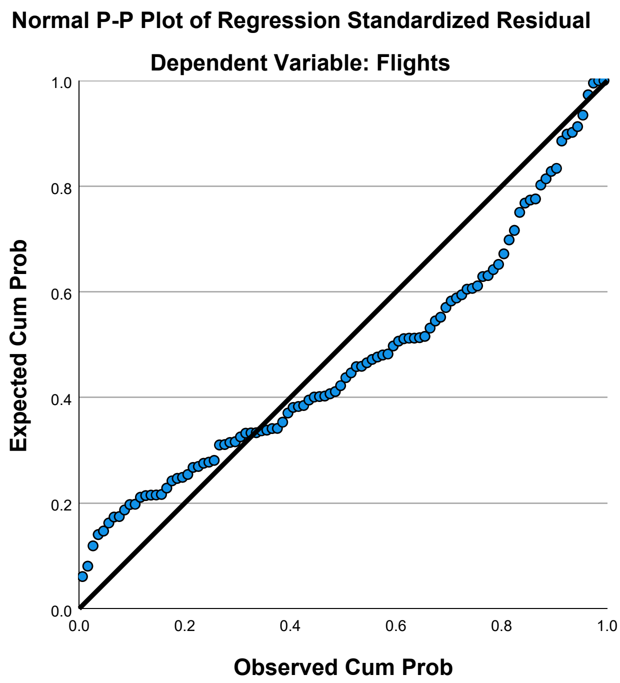
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.98	16.66	8.63	2.689	100
Residual	-7.104	21.953	.000	4.348	100
Std. Predicted Value	-2.473	2.987	.000	1.000	100
Std. Residual	-1.549	4.787	.000	.948	100

a. Dependent Variable: Flights

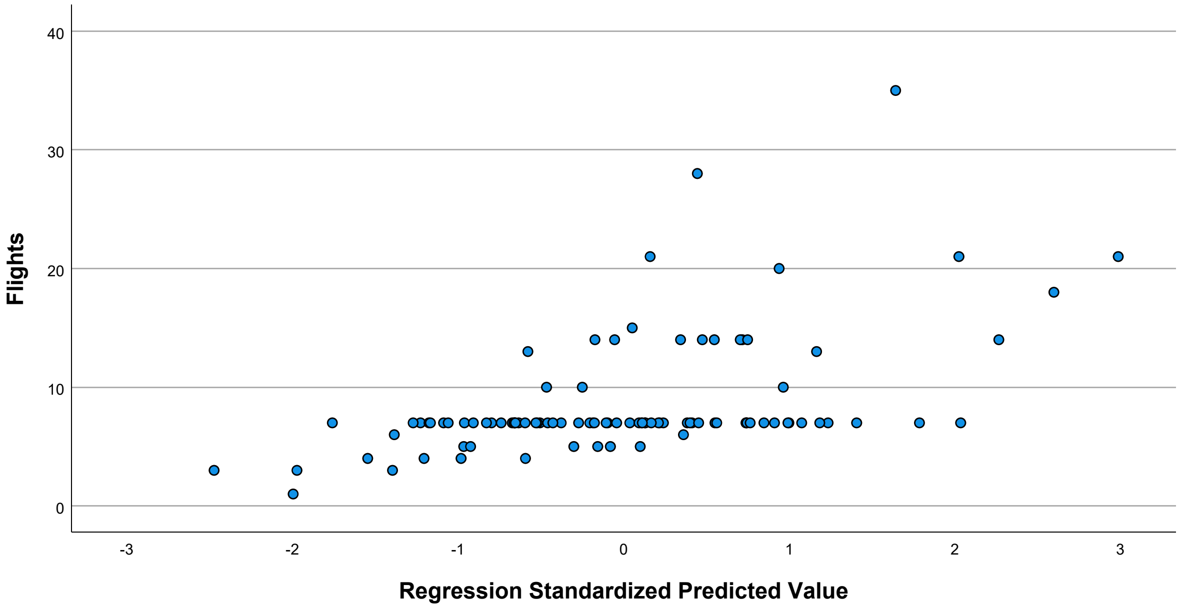
Charts


Histogram
Dependent Variable: Flights
Mean = 1.13E-16
Std. Dev. = 0.948
N = 100
Frequency
Regression Standardized Residual
0
10
20
30
40
-2
0
2
4


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

Scatterplot

Dependent Variable: Flights



Regression

```
[DataSet28] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\JVs\2017
 Sky.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.93	4.797	109
HomeConcentration	4.8099907339	3.2438370029	109
Congestion	4.74	.927	109
GLHR	.07	.262	109
GJFK	.30	.462	109
PartnerConcentration	1.4732173211	2.1744391533	109
Seasonality	.72818962420	.21255210341	109
Distance	4.25016	.788172	109
Language	1.14219612	3.078592899	109
Ethnicity	.48718112	.679317234	109
Urban	17.72	3.300	109

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.112	.021	.144
	HomeConcentration	.112	1.000	-.446	-.044
	Congestion	.021	-.446	1.000	-.150
	GLHR	.144	-.044	-.150	1.000
	GJFK	-.019	-.387	.724	-.109
	PartnerConcentration	.236	-.168	-.179	-.161
	Seasonality	-.104	-.007	-.043	-.096
	Distance	-.067	.349	-.214	-.090
	Language	.119	-.061	-.002	.453
	Ethnicity	.063	-.121	.251	.065
	Urban	.244	-.198	.490	.046
Sig. (1-tailed)	Flights	.	.123	.415	.067
	HomeConcentration	.123	.	.000	.326
	Congestion	.415	.000	.	.059
	GLHR	.067	.326	.059	.
	GJFK	.422	.000	.000	.130
	PartnerConcentration	.007	.040	.031	.047
	Seasonality	.140	.473	.328	.161
	Distance	.245	.000	.013	.176
	Language	.109	.265	.491	.000
	Ethnicity	.259	.106	.004	.252
	Urban	.005	.019	.000	.318
N	Flights	109	109	109	109
	HomeConcentration	109	109	109	109

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	-.019	.236	-.104	-.067
	HomeConcentration	-.387	-.168	-.007	.349
	Congestion	.724	-.179	-.043	-.214
	GLHR	-.109	-.161	-.096	-.090
	GJFK	1.000	-.188	.048	-.326
	PartnerConcentration	-.188	1.000	-.106	-.018
	Seasonality	.048	-.106	1.000	-.040
	Distance	-.326	-.018	-.040	1.000
	Language	.196	-.231	.078	-.340
	Ethnicity	.269	-.182	.074	-.209
	Urban	.349	-.016	-.298	-.110
Sig. (1-tailed)	Flights	.422	.007	.140	.245
	HomeConcentration	.000	.040	.473	.000
	Congestion	.000	.031	.328	.013
	GLHR	.130	.047	.161	.176
	GJFK	.	.025	.312	.000
	PartnerConcentration	.025	.	.136	.424
	Seasonality	.312	.136	.	.338
	Distance	.000	.424	.338	.
	Language	.021	.008	.209	.000
	Ethnicity	.002	.029	.223	.015
	Urban	.000	.433	.001	.128
N	Flights	109	109	109	109
	HomeConcentration	109	109	109	109

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.119	.063	.244
	HomeConcentration	-.061	-.121	-.198
	Congestion	-.002	.251	.490
	GLHR	.453	.065	.046
	GJFK	.196	.269	.349
	PartnerConcentration	-.231	-.182	-.016
	Seasonality	.078	.074	-.298
	Distance	-.340	-.209	-.110
	Language	1.000	.299	.048
	Ethnicity	.299	1.000	.065
	Urban	.048	.065	1.000
Sig. (1-tailed)	Flights	.109	.259	.005
	HomeConcentration	.265	.106	.019
	Congestion	.491	.004	.000
	GLHR	.000	.252	.318
	GJFK	.021	.002	.000
	PartnerConcentration	.008	.029	.433
	Seasonality	.209	.223	.001
	Distance	.000	.015	.128
	Language	.	.001	.309
	Ethnicity	.001	.	.251
	Urban	.309	.251	.
N	Flights	109	109	109
	HomeConcentration	109	109	109

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	109	109	109	109
	GLHR	109	109	109	109
	GJFK	109	109	109	109
	PartnerConcentration	109	109	109	109
	Seasonality	109	109	109	109
	Distance	109	109	109	109
	Language	109	109	109	109
	Ethnicity	109	109	109	109
	Urban	109	109	109	109

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	109	109	109	109
	GLHR	109	109	109	109
	GJFK	109	109	109	109
	PartnerConcentration	109	109	109	109
	Seasonality	109	109	109	109
	Distance	109	109	109	109
	Language	109	109	109	109
	Ethnicity	109	109	109	109
	Urban	109	109	109	109

Correlations

		Language	Ethnicity	Urban
	Congestion	109	109	109
	GLHR	109	109	109
	GJFK	109	109	109
	PartnerConcentration	109	109	109
	Seasonality	109	109	109
	Distance	109	109	109
	Language	109	109	109
	Ethnicity	109	109	109
	Urban	109	109	109

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, GLHR, Ethnicity, Seasonality, HomeConcentration, Language, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.478[a]	.229	.150	4.423	.229	2.907

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	98	.003

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, GLHR, Ethnicity, Seasonality, HomeConcentration, Language
Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	568.576	10	56.858	2.907	.003[b]
	Residual	1916.837	98	19.560		
	Total	2485.413	108			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, GLHR, Ethnicity, Seasonality, HomeConcentration, Language, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-3.384	5.216		-.649	.518
	HomeConcentration	.455	.163	.307	2.792	.006
	Congestion	.748	.793	.144	.943	.348
	GLHR	3.026	1.945	.165	1.555	.123
	GJFK	-.668	1.444	-.064	-.463	.645
	PartnerConcentration	.818	.222	.371	3.682	<.001
	Seasonality	.409	2.159	.018	.189	.850
	Distance	-.389	.627	-.064	-.621	.536
	Language	.161	.179	.103	.899	.371
	Ethnicity	.539	.688	.076	.784	.435
	Urban	.353	.158	.243	2.232	.028

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.649	1.540
	Congestion	.335	2.983
	GLHR	.697	1.434
	GJFK	.407	2.454
	PartnerConcentration	.776	1.288
	Seasonality	.860	1.163
	Distance	.743	1.346
	Language	.595	1.681
	Ethnicity	.830	1.205
	Urban	.663	1.509

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.822	1.000	.00	.00	.00
	2	1.426	2.187	.00	.00	.00
	3	.960	2.667	.00	.01	.00
	4	.612	3.339	.00	.07	.00
	5	.494	3.717	.00	.00	.00
	6	.413	4.065	.00	.03	.00
	7	.159	6.552	.00	.66	.00
	8	.074	9.625	.00	.02	.01
	9	.024	16.738	.00	.08	.02
	10	.012	24.116	.03	.05	.54
	11	.005	36.578	.97	.07	.43

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.15	.00	.05	.00	.00	.15
	3	.20	.13	.04	.00	.00	.00
	4	.02	.02	.55	.00	.00	.03
	5	.08	.15	.04	.00	.00	.02
	6	.41	.00	.01	.00	.00	.64
	7	.07	.28	.17	.06	.00	.02
	8	.06	.06	.03	.59	.01	.04
	9	.00	.10	.00	.08	.68	.04
	10	.01	.12	.01	.10	.11	.00
	11	.01	.13	.09	.17	.20	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.02	.00
	3	.07	.00
	4	.00	.00
	5	.64	.00
	6	.21	.00
	7	.01	.00
	8	.00	.06
	9	.00	.22
	10	.02	.66
	11	.00	.04

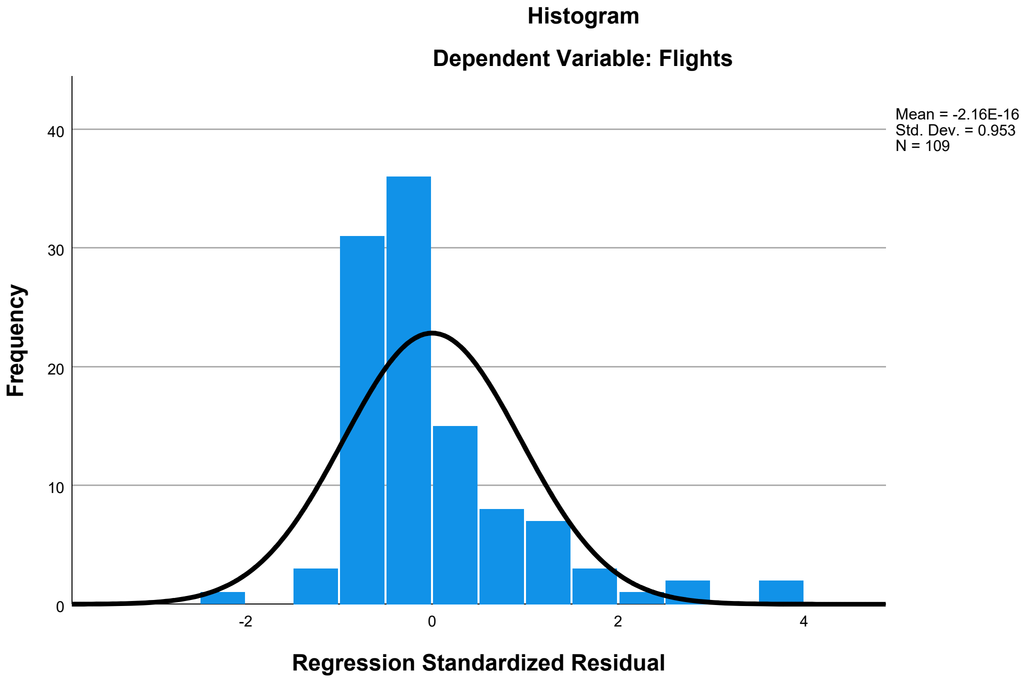
a. Dependent Variable: Flights

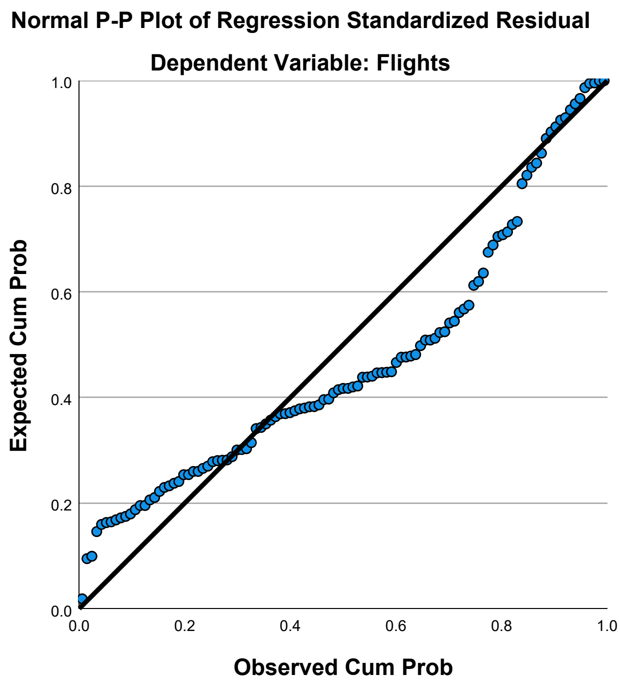
Residuals Statistics[a]

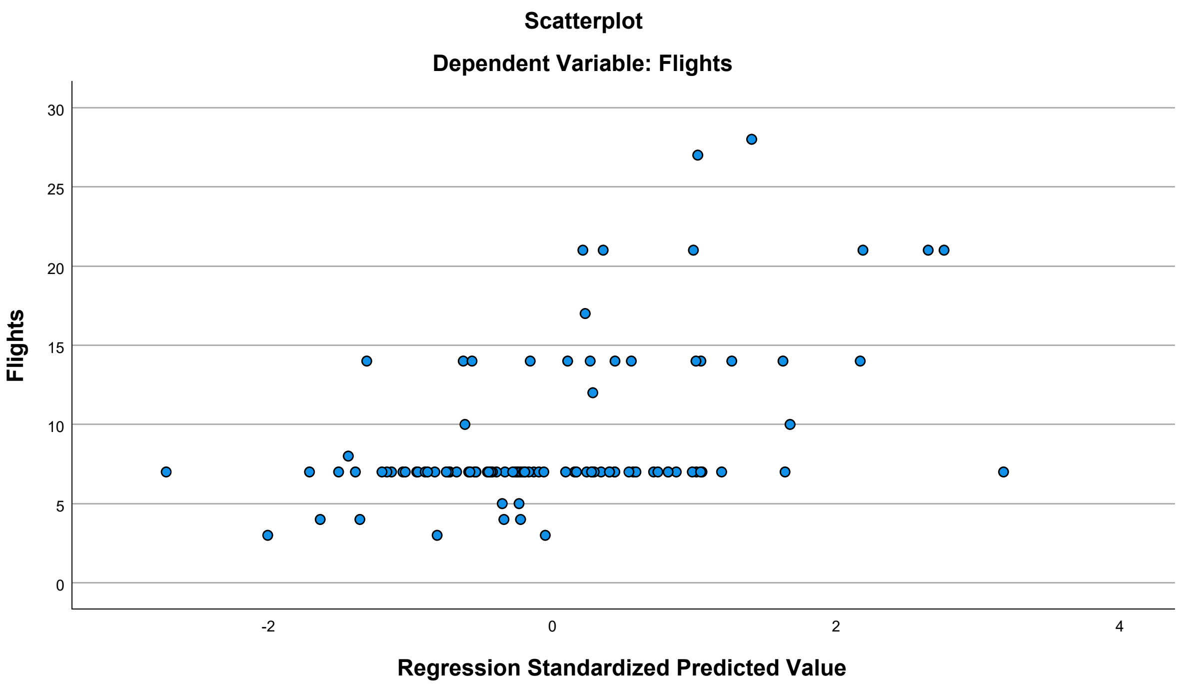
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.68	16.22	8.93	2.294	109
Residual	-9.222	15.852	.000	4.213	109
Std. Predicted Value	-2.723	3.180	.000	1.000	109
Std. Residual	-2.085	3.584	.000	.953	109

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -2.16E-16
Std. Dev. = 0.953
N = 109
Frequency
0
10
20
30
40
-2
0
2
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Scatterplot
Dependent Variable: Flights
Flights
30
25
20
15
10
5
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

[DataSet7]

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.86	7.984	22
NAFlights	.24779985337	.14336288422	22
Congestion	5.09	.971	22
GLHR	.23	.429	22
GJFK	.14	.351	22
PartnerConcentration	.000100	.0000000	22
Seasonality	.51212121212	.04055886642	22
Distance	4210.14	553.874	22
Language	167206.91318	606472.00158	22
Ethnicity	499252.86	571500.388	22
Urban	18.77	3.463	22

Correlations

		Flights	NAFlights	Congestion	GLHR
Pearson Correlation	Flights	1.000	.008	.180	.580
	NAFlights	.008	1.000	.878	-.310
	Congestion	.180	.878	1.000	-.166
	GLHR	.580	-.310	-.166	1.000
	GJFK	.448	.029	.381	.101
	PartnerConcentration	.	.	.	.
	Seasonality	.265	-.048	-.110	.108
	Distance	-.356	-.333	-.435	-.102
	Language	-.104	-.229	-.223	-.153
	Ethnicity	.287	.268	.284	.174
	Urban	.386	-.014	.318	.453
Sig. (1-tailed)	Flights	.	.486	.212	.002
	NAFlights	.486	.	.000	.080
	Congestion	.212	.000	.	.230
	GLHR	.002	.080	.230	.
	GJFK	.018	.449	.040	.328
	PartnerConcentration	.000	.000	.000	.000
	Seasonality	.117	.416	.313	.316
	Distance	.052	.065	.022	.326
	Language	.323	.153	.160	.248

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.448	.	.265	-.356
	NAFlights	.029	.	-.048	-.333
	Congestion	.381	.	-.110	-.435
	GLHR	.101	.	.108	-.102
	GJFK	1.000	.	-.122	-.464
	PartnerConcentration	.	1.000	.	.
	Seasonality	-.122	.	1.000	.132
	Distance	-.464	.	.132	1.000
	Language	-.031	.	-.086	.072
	Ethnicity	.027	.	.065	-.079
	Urban	.496	.	.066	.042
Sig. (1-tailed)	Flights	.018	.000	.117	.052
	NAFlights	.449	.000	.416	.065
	Congestion	.040	.000	.313	.022
	GLHR	.328	.000	.316	.326
	GJFK	.	.000	.295	.015
	PartnerConcentration	.000	.	.000	.000
	Seasonality	.295	.000	.	.278
	Distance	.015	.000	.278	.
	Language	.445	.000	.351	.376

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	-.104	.287	.386
	NAFlights	-.229	.268	-.014
	Congestion	-.223	.284	.318
	GLHR	-.153	.174	.453
	GJFK	-.031	.027	.496
	PartnerConcentration	.	.	.
	Seasonality	-.086	.065	.066
	Distance	.072	-.079	.042
	Language	1.000	-.205	.051
	Ethnicity	-.205	1.000	.123
	Urban	.051	.123	1.000
Sig. (1-tailed)	Flights	.323	.097	.038
	NAFlights	.153	.114	.475
	Congestion	.160	.100	.075
	GLHR	.248	.220	.017
	GJFK	.445	.453	.009
	PartnerConcentration	.000	.000	.000
	Seasonality	.351	.386	.386
	Distance	.376	.363	.426
	Language	.	.180	.410

Correlations

		Flights	NAFlights	Congestion	GLHR
	Ethnicity	.097	.114	.100	.220
	Urban	.038	.475	.075	.017
N	Flights	22	22	22	22
	NAFlights	22	22	22	22
	Congestion	22	22	22	22
	GLHR	22	22	22	22
	GJFK	22	22	22	22
	PartnerConcentration	22	22	22	22
	Seasonality	22	22	22	22
	Distance	22	22	22	22
	Language	22	22	22	22
	Ethnicity	22	22	22	22
	Urban	22	22	22	22

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Ethnicity	.453	.000	.386	.363
	Urban	.009	.000	.386	.426
N	Flights	22	22	22	22
	NAFlights	22	22	22	22
	Congestion	22	22	22	22
	GLHR	22	22	22	22
	GJFK	22	22	22	22
	PartnerConcentration	22	22	22	22
	Seasonality	22	22	22	22
	Distance	22	22	22	22
	Language	22	22	22	22
	Ethnicity	22	22	22	22
	Urban	22	22	22	22

Correlations

		Language	Ethnicity	Urban
	Ethnicity	.180	.	.293
	Urban	.410	.293	.
N	Flights	22	22	22
	NAFlights	22	22	22
	Congestion	22	22	22
	GLHR	22	22	22
	GJFK	22	22	22
	PartnerConcentration	22	22	22
	Seasonality	22	22	22
	Distance	22	22	22
	Language	22	22	22
	Ethnicity	22	22	22
	Urban	22	22	22

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, NAFlights, Seasonality, Language, Ethnicity, Distance, GLHR, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.793[a]	.629	.350	6.436	.629	2.258

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	9	12	.095

a. Predictors: (Constant), Urban, NAFlights, Seasonality, Language, Ethnicity, Distance, GLHR, GJFK, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	841.588	9	93.510	2.258	.095[b]
	Residual	497.003	12	41.417		
	Total	1338.591	21			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, NAFlights, Seasonality, Language, Ethnicity, Distance, GLHR, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-17.232	31.088		-.554	.590
	NAFlights	8.534	34.216	.153	.249	.807
	Congestion	.193	5.836	.023	.033	.974
	GLHR	11.585	5.080	.622	2.280	.042
	GJFK	10.892	6.927	.479	1.572	.142
	Seasonality	55.721	36.409	.283	1.530	.152
	Distance	-.001	.004	-.035	-.128	.901
	Language	1.479E-6	.000	.112	.557	.588
	Ethnicity	1.990E-6	.000	.142	.738	.475
	Urban	-.413	.826	-.179	-.500	.626

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	NAFlights	.082	12.200
	Congestion	.061	16.298
	GLHR	.415	2.408
	GJFK	.333	3.002
	Seasonality	.904	1.106
	Distance	.406	2.465
	Language	.760	1.315
	Ethnicity	.830	1.205
	Urban	.241	4.152

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	Congestion	GLHR
1	1	6.734	1.000	.00	.00	.00	.00
	2	1.061	2.519	.00	.00	.00	.05
	3	.854	2.809	.00	.00	.00	.02
	4	.743	3.010	.00	.00	.00	.28
	5	.440	3.912	.00	.00	.00	.01
	6	.145	6.815	.00	.09	.00	.17
	7	.013	22.863	.02	.00	.00	.09
	8	.006	34.516	.00	.13	.02	.28
	9	.004	42.139	.10	.25	.21	.00
	10	.001	81.958	.88	.53	.77	.11

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.01	.00
	2	.01	.00	.00	.48	.03	.00
	3	.26	.00	.00	.06	.02	.00
	4	.06	.00	.00	.09	.00	.00
	5	.00	.00	.00	.13	.83	.00
	6	.00	.00	.01	.10	.10	.00
	7	.09	.11	.01	.03	.00	.34
	8	.44	.12	.71	.04	.00	.21
	9	.12	.48	.02	.00	.00	.06
	10	.02	.29	.26	.07	.02	.39

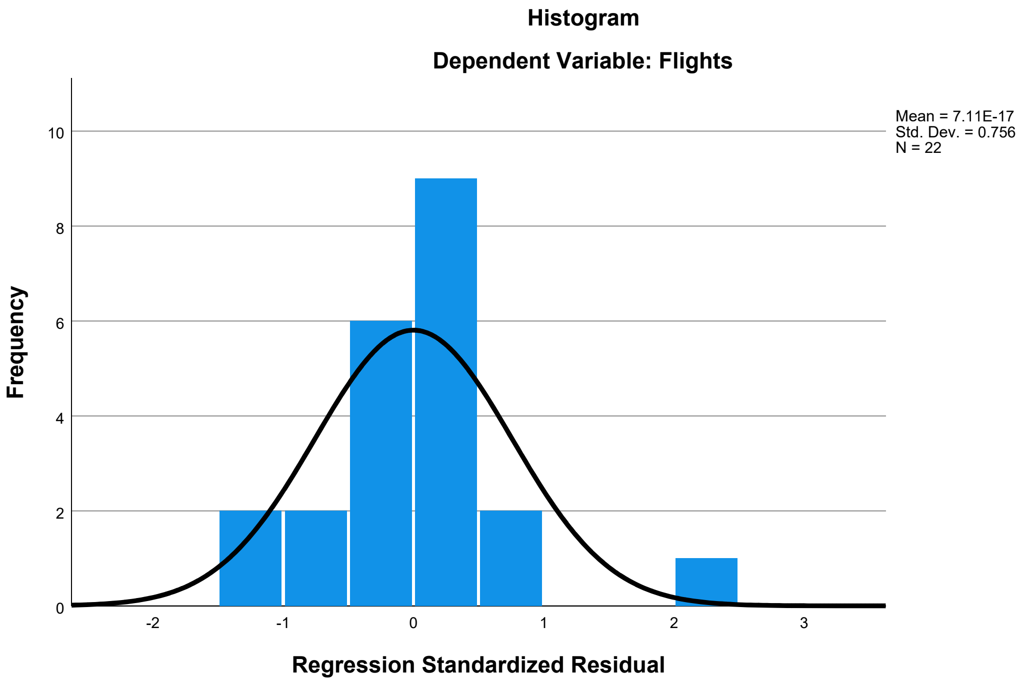
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.90	27.02	9.86	6.331	22
Residual	-7.754	14.981	.000	4.865	22
Std. Predicted Value	-1.257	2.710	.000	1.000	22
Std. Residual	-1.205	2.328	.000	.756	22

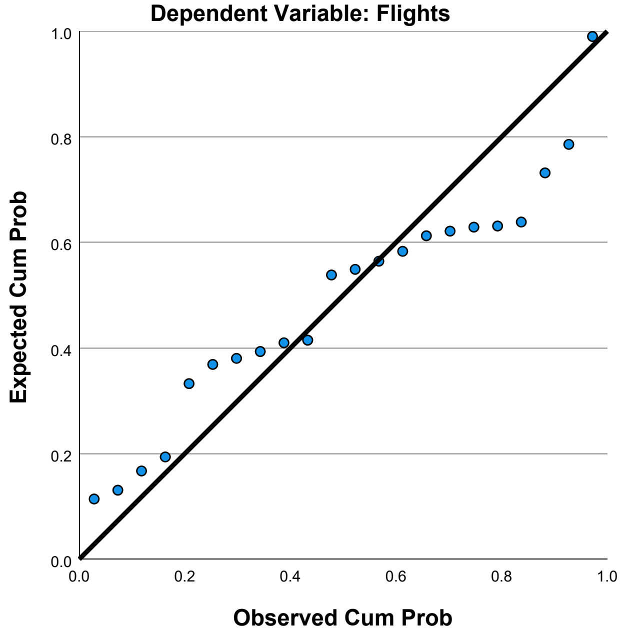
a. Dependent Variable: Flights

Charts



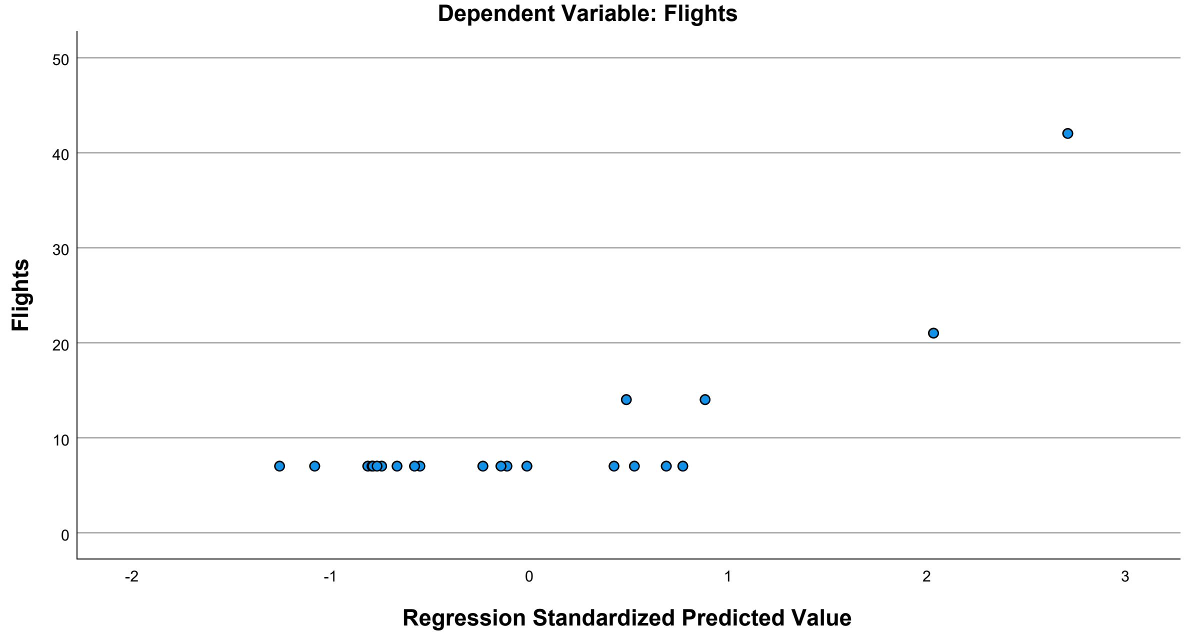
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

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[DataSet7] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines\
1997 - AA.sav
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Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.86	7.984	22
NAFlights	.24779985337	.14336288422	22
GLHR	.23	.429	22
GJFK	.14	.351	22
PartnerConcentration	.000100	.0000000	22
Seasonality	.51212121212	.04055886642	22
Distance	4210.14	553.874	22
Language	167206.91318	606472.00158	22
Ethnicity	499252.86	571500.388	22
Urban	18.77	3.463	22

Correlations

		Flights	NAFlights	GLHR	GJFK
Pearson Correlation	Flights	1.000	.008	.580	.448
	NAFlights	.008	1.000	-.310	.029
	GLHR	.580	-.310	1.000	.101
	GJFK	.448	.029	.101	1.000
	PartnerConcentration	.	.	.	.
	Seasonality	.265	-.048	.108	-.122
	Distance	-.356	-.333	-.102	-.464
	Language	-.104	-.229	-.153	-.031
	Ethnicity	.287	.268	.174	.027
	Urban	.386	-.014	.453	.496
Sig. (1-tailed)	Flights	.	.486	.002	.018
	NAFlights	.486	.	.080	.449
	GLHR	.002	.080	.	.328
	GJFK	.018	.449	.328	.
	PartnerConcentration	.000	.000	.000	.000
	Seasonality	.117	.416	.316	.295
	Distance	.052	.065	.326	.015
	Language	.323	.153	.248	.445
	Ethnicity	.097	.114	.220	.453
	Urban	.038	.475	.017	.009
N	Flights	22	22	22	22
	NAFlights	22	22	22	22

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.	.265	-.356	-.104
	NAFlights	.	-.048	-.333	-.229
	GLHR	.	.108	-.102	-.153
	GJFK	.	-.122	-.464	-.031
	PartnerConcentration	1.000	.	.	.
	Seasonality	.	1.000	.132	-.086
	Distance	.	.132	1.000	.072
	Language	.	-.086	.072	1.000
	Ethnicity	.	.065	-.079	-.205
	Urban	.	.066	.042	.051
Sig. (1-tailed)	Flights	.000	.117	.052	.323
	NAFlights	.000	.416	.065	.153
	GLHR	.000	.316	.326	.248
	GJFK	.000	.295	.015	.445
	PartnerConcentration	.	.000	.000	.000
	Seasonality	.000	.	.278	.351
	Distance	.000	.278	.	.376
	Language	.000	.351	.376	.
	Ethnicity	.000	.386	.363	.180
	Urban	.000	.386	.426	.410
N	Flights	22	22	22	22
	NAFlights	22	22	22	22

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.287	.386
	NAFlights	.268	-.014
	GLHR	.174	.453
	GJFK	.027	.496
	PartnerConcentration	.	.
	Seasonality	.065	.066
	Distance	-.079	.042
	Language	-.205	.051
	Ethnicity	1.000	.123
	Urban	.123	1.000
Sig. (1-tailed)	Flights	.097	.038
	NAFlights	.114	.475
	GLHR	.220	.017
	GJFK	.453	.009
	PartnerConcentration	.000	.000
	Seasonality	.386	.386
	Distance	.363	.426
	Language	.180	.410
	Ethnicity	.	.293
	Urban	.293	.
N	Flights	22	22
	NAFlights	22	22

Correlations

		Flights	NAFlights	GLHR	GJFK
	GLHR	22	22	22	22
	GJFK	22	22	22	22
	PartnerConcentration	22	22	22	22
	Seasonality	22	22	22	22
	Distance	22	22	22	22
	Language	22	22	22	22
	Ethnicity	22	22	22	22
	Urban	22	22	22	22

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	GLHR	22	22	22	22
	GJFK	22	22	22	22
	PartnerConcentration	22	22	22	22
	Seasonality	22	22	22	22
	Distance	22	22	22	22
	Language	22	22	22	22
	Ethnicity	22	22	22	22
	Urban	22	22	22	22

Correlations

		Ethnicity	Urban
	GLHR	22	22
	GJFK	22	22
	PartnerConcentration	22	22
	Seasonality	22	22
	Distance	22	22
	Language	22	22
	Ethnicity	22	22
	Urban	22	22

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, NAFlights, Seasonality, Language, Ethnicity, Distance, GLHR, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.793[a]	.629	.400	6.183	.629	2.751

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	13	.051

a. Predictors: (Constant), Urban, NAFlights, Seasonality, Language, Ethnicity, Distance, GLHR, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	841.542	8	105.193	2.751	.051[b]
	Residual	497.049	13	38.235		
	Total	1338.591	21			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, NAFlights, Seasonality, Language, Ethnicity, Distance, GLHR, GJFK

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-16.534	21.931		-.754	.464
	NAFlights	9.569	13.289	.172	.720	.484
	GLHR	11.545	4.744	.620	2.433	.030
	GJFK	10.978	6.165	.483	1.781	.098
	Seasonality	55.466	34.189	.282	1.622	.129
	Distance	-.001	.004	-.038	-.147	.885
	Language	1.461E-6	.000	.111	.585	.569
	Ethnicity	2.000E-6	.000	.143	.776	.451
	Urban	-.397	.642	-.172	-.619	.547

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	NAFlights	.502	1.993
	GLHR	.440	2.275
	GJFK	.388	2.575
	Seasonality	.947	1.056
	Distance	.437	2.289
	Language	.792	1.262
	Ethnicity	.841	1.190
	Urban	.368	2.715

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	GLHR	GJFK
1	1	5.760	1.000	.00	.00	.00	.00
	2	1.060	2.331	.00	.00	.05	.01
	3	.852	2.601	.00	.01	.02	.31
	4	.730	2.809	.00	.02	.31	.06
	5	.435	3.639	.00	.00	.00	.00
	6	.142	6.368	.00	.59	.17	.00
	7	.013	21.150	.04	.00	.09	.09
	8	.005	32.458	.00	.24	.31	.37
	9	.002	49.506	.96	.13	.04	.14

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.01	.00
	2	.00	.00	.50	.03	.00
	3	.00	.00	.05	.02	.00
	4	.00	.00	.09	.00	.00
	5	.00	.00	.15	.83	.00
	6	.00	.01	.09	.11	.00
	7	.11	.02	.03	.00	.52
	8	.23	.71	.04	.00	.43
	9	.66	.27	.04	.01	.04

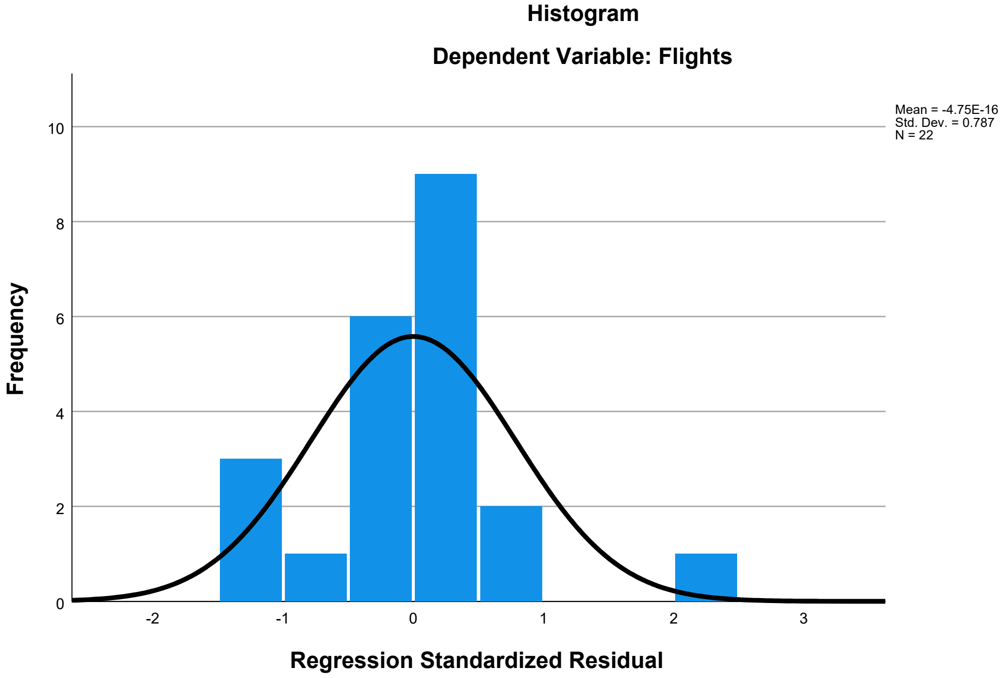
a. Dependent Variable: Flights

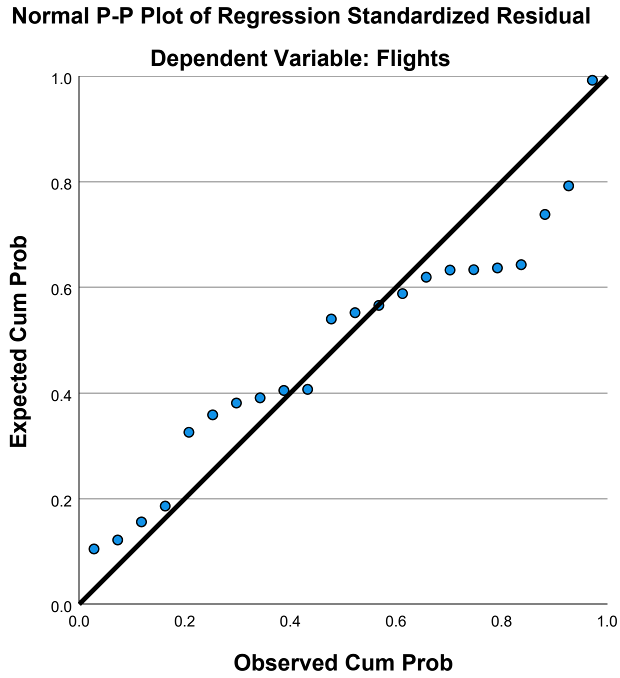
Residuals Statistics[a]

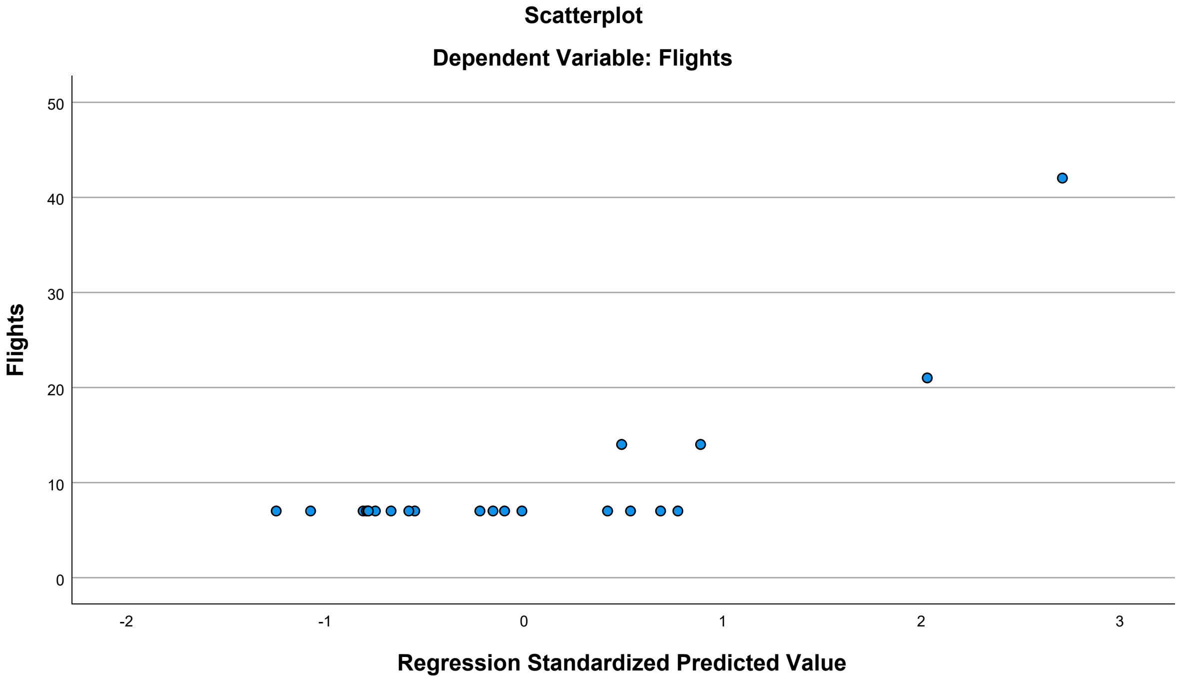
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.96	27.02	9.86	6.330	22
Residual	-7.764	14.979	.000	4.865	22
Std. Predicted Value	-1.248	2.710	.000	1.000	22
Std. Residual	-1.256	2.422	.000	.787	22

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.86	7.984	22
NAFlights	.24779985337	.14336288422	22
GLHR	.23	.429	22
GJFK	.14	.351	22
PartnerConcentration	.000100	.0000000	22
Seasonality	.51212121212	.04055886642	22
Language	167206.91318	606472.00158	22
Ethnicity	499252.86	571500.388	22
Urban	18.77	3.463	22

Correlations

		Flights	NAFlights	GLHR	GJFK
Pearson Correlation	Flights	1.000	.008	.580	.448
	NAFlights	.008	1.000	-.310	.029
	GLHR	.580	-.310	1.000	.101
	GJFK	.448	.029	.101	1.000
	PartnerConcentration	.	.	.	.
	Seasonality	.265	-.048	.108	-.122
	Language	-.104	-.229	-.153	-.031
	Ethnicity	.287	.268	.174	.027
	Urban	.386	-.014	.453	.496
Sig. (1-tailed)	Flights	.	.486	.002	.018
	NAFlights	.486	.	.080	.449
	GLHR	.002	.080	.	.328
	GJFK	.018	.449	.328	.
	PartnerConcentration	.000	.000	.000	.000
	Seasonality	.117	.416	.316	.295
	Language	.323	.153	.248	.445
	Ethnicity	.097	.114	.220	.453
	Urban	.038	.475	.017	.009
N	Flights	22	22	22	22
	NAFlights	22	22	22	22
	GLHR	22	22	22	22
	GJFK	22	22	22	22
	PartnerConcentration	22	22	22	22
	Seasonality	22	22	22	22
	Language	22	22	22	22
	Ethnicity	22	22	22	22
	Urban	22	22	22	22

Correlations

		PartnerConcentration	Seasonality	Language	Ethnicity
Pearson Correlation	Flights	.	.265	-.104	.287
	NAFlights	.	-.048	-.229	.268
	GLHR	.	.108	-.153	.174
	GJFK	.	-.122	-.031	.027
	PartnerConcentration	1.000	.	.	.
	Seasonality	.	1.000	-.086	.065
	Language	.	-.086	1.000	-.205
	Ethnicity	.	.065	-.205	1.000
	Urban	.	.066	.051	.123
Sig. (1-tailed)	Flights	.000	.117	.323	.097
	NAFlights	.000	.416	.153	.114
	GLHR	.000	.316	.248	.220
	GJFK	.000	.295	.445	.453
	PartnerConcentration	.	.000	.000	.000
	Seasonality	.000	.	.351	.386
	Language	.000	.351	.	.180
	Ethnicity	.000	.386	.180	.
	Urban	.000	.386	.410	.293
N	Flights	22	22	22	22
	NAFlights	22	22	22	22
	GLHR	22	22	22	22
	GJFK	22	22	22	22
	PartnerConcentration	22	22	22	22
	Seasonality	22	22	22	22
	Language	22	22	22	22
	Ethnicity	22	22	22	22
	Urban	22	22	22	22

Correlations

		Urban
Pearson Correlation	Flights	.386
	NAFlights	-.014
	GLHR	.453
	GJFK	.496
	PartnerConcentration	.
	Seasonality	.066
	Language	.051
	Ethnicity	.123
	Urban	1.000
Sig. (1-tailed)	Flights	.038
	NAFlights	.475
	GLHR	.017
	GJFK	.009
	PartnerConcentration	.000
	Seasonality	.386
	Language	.410
	Ethnicity	.293
	Urban	.
N	Flights	22
	NAFlights	22
	GLHR	22
	GJFK	22
	PartnerConcentration	22
	Seasonality	22
	Language	22
	Ethnicity	22
	Urban	22

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, NAFlights, Seasonality, Language, Ethnicity, GJFK, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.793[a]	.628	.442	5.963	.628	3.377

Model Summary[b]

	Change Statistics		
Model	df1	df2	Sig. F Change
1	7	14	.025

a. Predictors: (Constant), Urban, NAFlights, Seasonality, Language, Ethnicity, GJFK, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	840.712	7	120.102	3.377	.025[b]
	Residual	497.879	14	35.563		
	Total	1338.591	21			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, NAFlights, Seasonality, Language, Ethnicity, GJFK, GLHR

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	-18.177	18.215		-.998	.335
	NAFlights	10.643	10.719	.191	.993	.338
	GLHR	11.900	3.946	.639	3.016	.009
	GJFK	11.585	4.423	.510	2.619	.020
	Seasonality	55.333	32.962	.281	1.679	.115
	Language	1.542E-6	.000	.117	.656	.523
	Ethnicity	1.971E-6	.000	.141	.796	.439
	Urban	-.451	.511	-.195	-.883	.392

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	NAFlights	.717	1.394
	GLHR	.591	1.691
	GJFK	.702	1.425
	Seasonality	.948	1.055
	Language	.833	1.201
	Ethnicity	.845	1.183
	Urban	.542	1.847

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	GLHR	GJFK
1	1	4.834	1.000	.00	.01	.01	.01
	2	1.050	2.146	.00	.00	.06	.01
	3	.835	2.406	.00	.01	.02	.58
	4	.730	2.573	.00	.03	.42	.10
	5	.413	3.422	.00	.00	.01	.02
	6	.123	6.265	.00	.92	.27	.00
	7	.013	19.642	.04	.02	.20	.29
	8	.003	41.729	.96	.01	.01	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Language	Ethnicity	Urban
1	1	.00	.00	.01	.00
	2	.00	.57	.02	.00
	3	.00	.03	.03	.00
	4	.00	.09	.00	.00
	5	.00	.13	.85	.00
	6	.00	.12	.08	.01
	7	.08	.05	.00	.97
	8	.91	.01	.00	.02

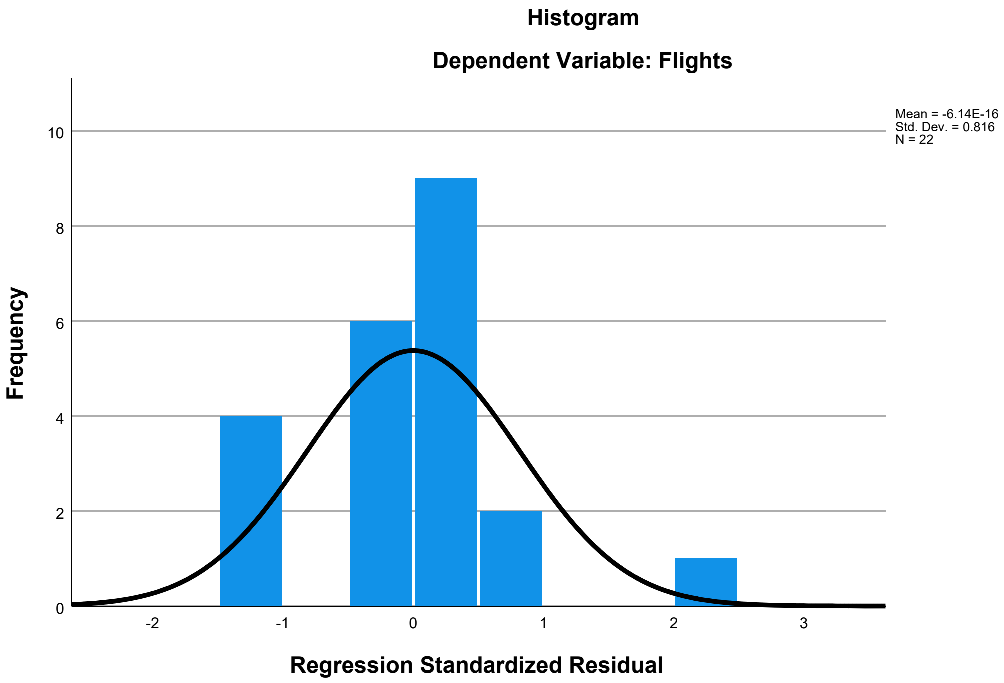
a. Dependent Variable: Flights

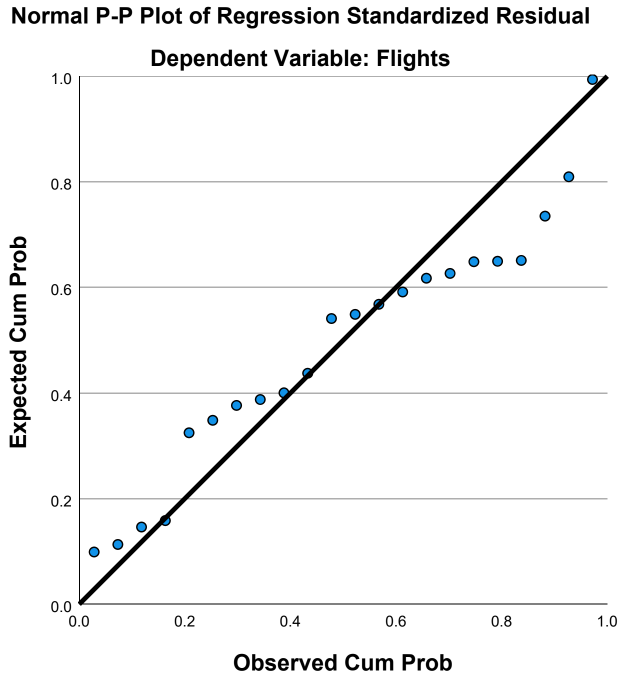
Residuals Statistics[a]

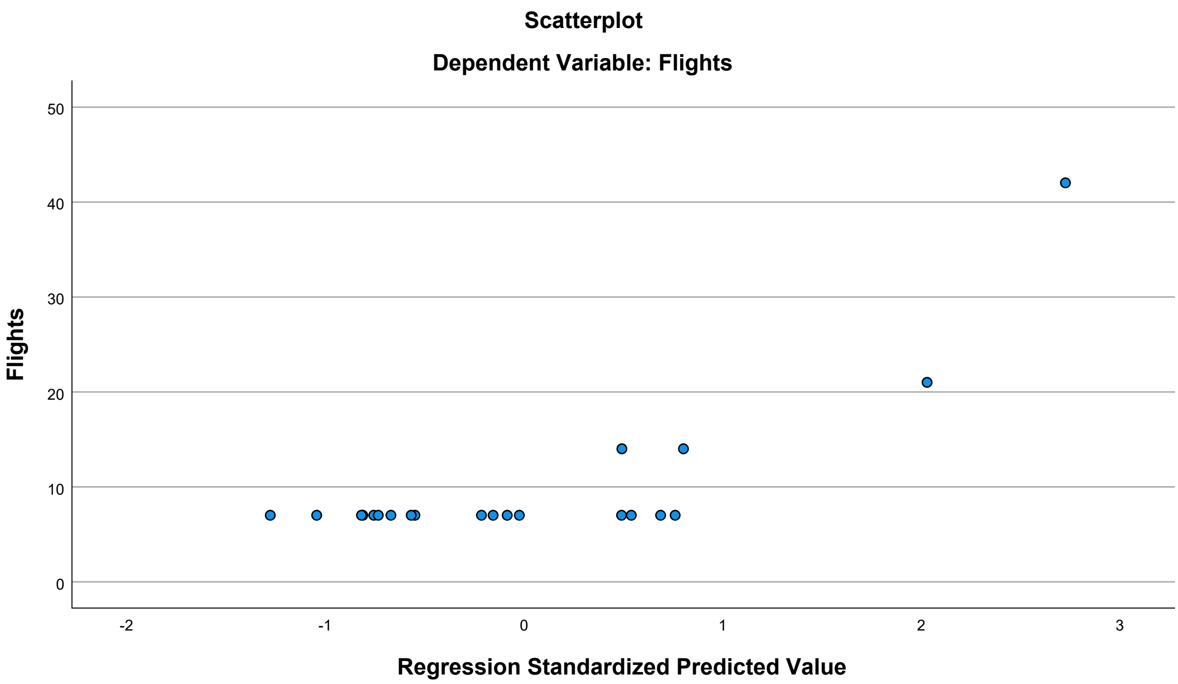
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.78	27.11	9.86	6.327	22
Residual	-7.676	14.890	.000	4.869	22
Std. Predicted Value	-1.278	2.726	.000	1.000	22
Std. Residual	-1.287	2.497	.000	.816	22

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-2
-1
0
1
2
3

Regression

```
[DataSet8] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines\
2002 - AA.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.50	8.998	24
HomeConcentration	4.9950330833	3.0734326782	24
Congestion	4.58	.717	24
GLHR	.25	.442	24
GJFK	.13	.338	24
PartnerConcentration	1.4777960833	1.5285982807	24
Seasonality	.57881944444	.16866517669	24
Distance	4.19908	.612348	24
Language	3.36296633	4.063878085	24
Ethnicity	.51933588	.537950406	24
Urban	18.54	3.563	24

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	-.125	.424	.535
	HomeConcentration	-.125	1.000	-.306	-.438
	Congestion	.424	-.306	1.000	.206
	GLHR	.535	-.438	.206	1.000
	GJFK	.451	-.425	.763	.073
	PartnerConcentration	.450	-.476	-.001	.801
	Seasonality	.044	.299	-.100	-.144
	Distance	-.315	.528	-.270	-.192
	Language	.584	-.061	.136	.491
	Ethnicity	.268	.108	.259	.143
	Urban	.432	-.441	.620	.572
Sig. (1-tailed)	Flights	.	.280	.019	.004
	HomeConcentration	.280	.	.073	.016
	Congestion	.019	.073	.	.168
	GLHR	.004	.016	.168	.
	GJFK	.014	.019	.000	.368
	PartnerConcentration	.014	.009	.498	.000
	Seasonality	.419	.078	.321	.250
	Distance	.067	.004	.101	.184
	Language	.001	.389	.264	.007
	Ethnicity	.102	.307	.111	.253
	Urban	.018	.016	.001	.002
N	Flights	24	24	24	24
	HomeConcentration	24	24	24	24

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.451	.450	.044	-.315
	HomeConcentration	-.425	-.476	.299	.528
	Congestion	.763	-.001	-.100	-.270
	GLHR	.073	.801	-.144	-.192
	GJFK	1.000	-.034	-.104	-.336
	PartnerConcentration	-.034	1.000	-.280	-.152
	Seasonality	-.104	-.280	1.000	-.062
	Distance	-.336	-.152	-.062	1.000
	Language	.094	.412	.390	-.415
	Ethnicity	.018	.026	.093	-.111
	Urban	.447	.444	-.429	-.117
Sig. (1-tailed)	Flights	.014	.014	.419	.067
	HomeConcentration	.019	.009	.078	.004
	Congestion	.000	.498	.321	.101
	GLHR	.368	.000	.250	.184
	GJFK	.	.438	.314	.054
	PartnerConcentration	.438	.	.093	.240
	Seasonality	.314	.093	.	.387
	Distance	.054	.240	.387	.
	Language	.331	.023	.030	.022
	Ethnicity	.466	.451	.333	.302
	Urban	.014	.015	.018	.293
N	Flights	24	24	24	24
	HomeConcentration	24	24	24	24

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.584	.268	.432
	HomeConcentration	-.061	.108	-.441
	Congestion	.136	.259	.620
	GLHR	.491	.143	.572
	GJFK	.094	.018	.447
	PartnerConcentration	.412	.026	.444
	Seasonality	.390	.093	-.429
	Distance	-.415	-.111	-.117
	Language	1.000	.234	-.056
	Ethnicity	.234	1.000	.146
	Urban	-.056	.146	1.000
Sig. (1-tailed)	Flights	.001	.102	.018
	HomeConcentration	.389	.307	.016
	Congestion	.264	.111	.001
	GLHR	.007	.253	.002
	GJFK	.331	.466	.014
	PartnerConcentration	.023	.451	.015
	Seasonality	.030	.333	.018
	Distance	.022	.302	.293
	Language	.	.135	.398
	Ethnicity	.135	.	.249
	Urban	.398	.249	.
N	Flights	24	24	24
	HomeConcentration	24	24	24

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	24	24	24	24
	GLHR	24	24	24	24
	GJFK	24	24	24	24
	PartnerConcentration	24	24	24	24
	Seasonality	24	24	24	24
	Distance	24	24	24	24
	Language	24	24	24	24
	Ethnicity	24	24	24	24
	Urban	24	24	24	24

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	24	24	24	24
GLHR	24	24	24	24
GJFK	24	24	24	24
PartnerConcentration	24	24	24	24
Seasonality	24	24	24	24
Distance	24	24	24	24
Language	24	24	24	24
Ethnicity	24	24	24	24
Urban	24	24	24	24

Correlations

	Language	Ethnicity	Urban
Congestion	24	24	24
GLHR	24	24	24
GJFK	24	24	24
PartnerConcentration	24	24	24
Seasonality	24	24	24
Distance	24	24	24
Language	24	24	24
Ethnicity	24	24	24
Urban	24	24	24

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, Ethnicity, Distance, GJFK, Seasonality, HomeConcentration, PartnerConcentration, Congestion, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.851[a]	.724	.512	6.284	.724	3.415

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	10	13	.021

a. Predictors: (Constant), Urban, Language, Ethnicity, Distance, GJFK, Seasonality, HomeConcentration, PartnerConcentration, Congestion, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1348.657	10	134.866	3.415	.021[b]
	Residual	513.343	13	39.488		
	Total	1862.000	23			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, Ethnicity, Distance, GJFK, Seasonality, HomeConcentration, PartnerConcentration, Congestion, GLHR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.470	20.565		.217	.831
	HomeConcentration	1.594	.766	.544	2.079	.058
	Congestion	-1.937	3.813	-.154	-.508	.620
	GLHR	3.598	6.641	.177	.542	.597
	GJFK	16.232	6.952	.609	2.335	.036
	PartnerConcentration	2.207	1.851	.375	1.192	.255
	Seasonality	2.438	10.346	.046	.236	.817
	Distance	-3.200	3.217	-.218	-.995	.338
	Language	.493	.676	.223	.728	.479
	Ethnicity	1.509	2.745	.090	.550	.592
	Urban	.558	.810	.221	.689	.503

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.309	3.232
	Congestion	.229	4.358
	GLHR	.199	5.025
	GJFK	.311	3.212
	PartnerConcentration	.214	4.665
	Seasonality	.564	1.774
	Distance	.442	2.261
	Language	.227	4.400
	Ethnicity	.787	1.270
	Urban	.206	4.850

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.686	1.000	.00	.00	.00
	2	1.250	2.480	.00	.01	.00
	3	.926	2.881	.00	.00	.00
	4	.495	3.940	.00	.00	.00
	5	.379	4.501	.00	.01	.00
	6	.126	7.823	.00	.12	.00
	7	.090	9.262	.00	.41	.00
	8	.031	15.680	.01	.06	.02
	9	.011	26.692	.01	.20	.02
	10	.004	45.113	.01	.08	.74
	11	.003	52.029	.98	.11	.22

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.05	.01	.02	.00	.00	.01
	3	.01	.25	.01	.00	.00	.00
	4	.00	.00	.02	.00	.00	.07
	5	.01	.00	.00	.01	.00	.17
	6	.53	.01	.28	.00	.00	.02
	7	.03	.14	.22	.12	.00	.00
	8	.01	.22	.23	.71	.00	.29
	9	.06	.08	.06	.10	.51	.04
	10	.13	.05	.15	.00	.11	.32
	11	.17	.24	.01	.06	.38	.10

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.00	.00
	3	.00	.00
	4	.41	.00
	5	.41	.00
	6	.04	.00
	7	.00	.00
	8	.03	.03
	9	.06	.17
	10	.02	.74
	11	.02	.07

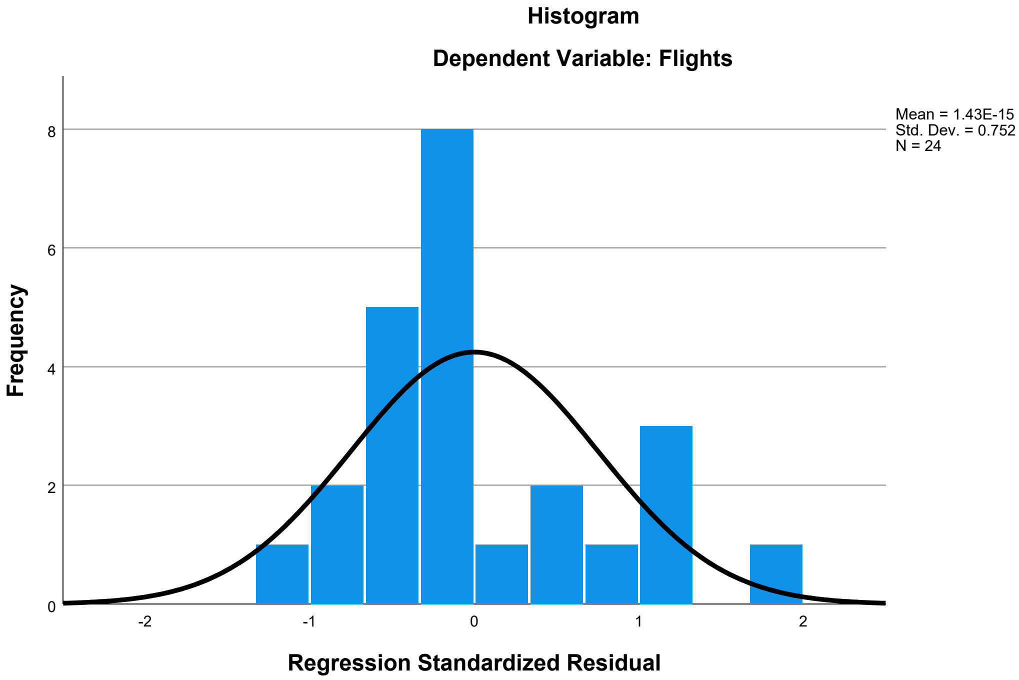
a. Dependent Variable: Flights

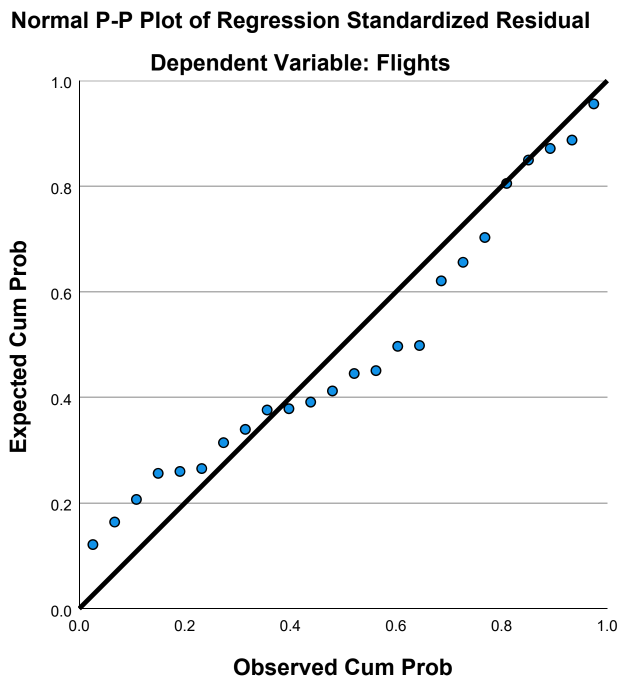
Residuals Statistics[a]

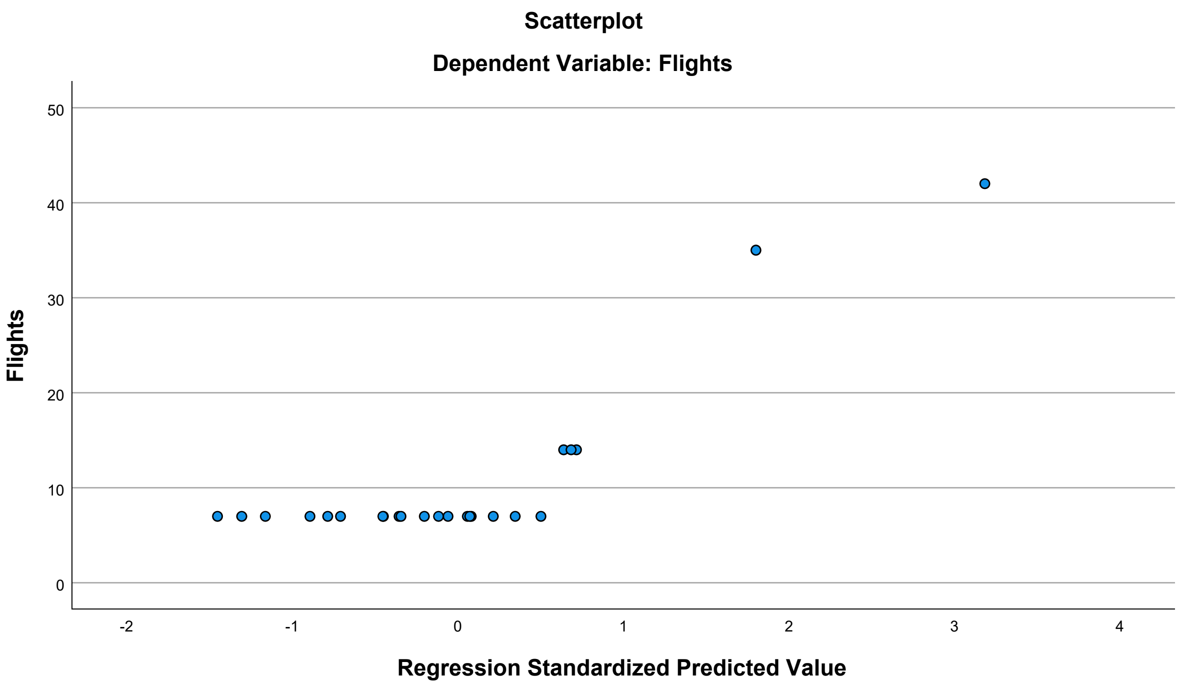
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.62	34.88	10.50	7.657	24
Residual	-7.343	10.712	.000	4.724	24
Std. Predicted Value	-1.452	3.184	.000	1.000	24
Std. Residual	-1.168	1.705	.000	.752	24

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 1.43E-15
Std. Dev. = 0.752
N = 24
Frequency
0
2
4
6
8
-2
-1
0
1
2
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.50	8.998	24
HomeConcentration	4.9950330833	3.0734326782	24
Congestion	4.58	.717	24
GJFK	.13	.338	24
PartnerConcentration	1.4777960833	1.5285982807	24
Seasonality	.57881944444	.16866517669	24
Distance	4.19908	.612348	24
Language	3.36296633	4.063878085	24
Ethnicity	.51933588	.537950406	24
Urban	18.54	3.563	24

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	-.125	.424	.451
	HomeConcentration	-.125	1.000	-.306	-.425
	Congestion	.424	-.306	1.000	.763
	GJFK	.451	-.425	.763	1.000
	PartnerConcentration	.450	-.476	-.001	-.034
	Seasonality	.044	.299	-.100	-.104
	Distance	-.315	.528	-.270	-.336
	Language	.584	-.061	.136	.094
	Ethnicity	.268	.108	.259	.018
	Urban	.432	-.441	.620	.447
Sig. (1-tailed)	Flights	.	.280	.019	.014
	HomeConcentration	.280	.	.073	.019
	Congestion	.019	.073	.	.000
	GJFK	.014	.019	.000	.
	PartnerConcentration	.014	.009	.498	.438
	Seasonality	.419	.078	.321	.314
	Distance	.067	.004	.101	.054
	Language	.001	.389	.264	.331
	Ethnicity	.102	.307	.111	.466
	Urban	.018	.016	.001	.014
N	Flights	24	24	24	24
	HomeConcentration	24	24	24	24
	Congestion	24	24	24	24
	GJFK	24	24	24	24
	PartnerConcentration	24	24	24	24
	Seasonality	24	24	24	24
	Distance	24	24	24	24
	Language	24	24	24	24
	Ethnicity	24	24	24	24
	Urban	24	24	24	24

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.450	.044	-.315	.584
	HomeConcentration	-.476	.299	.528	-.061
	Congestion	-.001	-.100	-.270	.136
	GJFK	-.034	-.104	-.336	.094
	PartnerConcentration	1.000	-.280	-.152	.412
	Seasonality	-.280	1.000	-.062	.390
	Distance	-.152	-.062	1.000	-.415
	Language	.412	.390	-.415	1.000
	Ethnicity	.026	.093	-.111	.234
	Urban	.444	-.429	-.117	-.056
Sig. (1-tailed)	Flights	.014	.419	.067	.001
	HomeConcentration	.009	.078	.004	.389
	Congestion	.498	.321	.101	.264
	GJFK	.438	.314	.054	.331
	PartnerConcentration	.	.093	.240	.023
	Seasonality	.093	.	.387	.030
	Distance	.240	.387	.	.022
	Language	.023	.030	.022	.
	Ethnicity	.451	.333	.302	.135
	Urban	.015	.018	.293	.398
N	Flights	24	24	24	24
	HomeConcentration	24	24	24	24
	Congestion	24	24	24	24
	GJFK	24	24	24	24
	PartnerConcentration	24	24	24	24
	Seasonality	24	24	24	24
	Distance	24	24	24	24
	Language	24	24	24	24
	Ethnicity	24	24	24	24
	Urban	24	24	24	24

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.268	.432
	HomeConcentration	.108	-.441
	Congestion	.259	.620
	GJFK	.018	.447
	PartnerConcentration	.026	.444
	Seasonality	.093	-.429
	Distance	-.111	-.117
	Language	.234	-.056
	Ethnicity	1.000	.146
	Urban	.146	1.000
Sig. (1-tailed)	Flights	.102	.018
	HomeConcentration	.307	.016
	Congestion	.111	.001
	GJFK	.466	.014
	PartnerConcentration	.451	.015
	Seasonality	.333	.018
	Distance	.302	.293
	Language	.135	.398
	Ethnicity	.	.249
	Urban	.249	.
N	Flights	24	24
	HomeConcentration	24	24
	Congestion	24	24
	GJFK	24	24
	PartnerConcentration	24	24
	Seasonality	24	24
	Distance	24	24
	Language	24	24
	Ethnicity	24	24
	Urban	24	24

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, Ethnicity, Distance, GJFK, Seasonality, HomeConcentration, PartnerConcentration, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.847[a]	.718	.537	6.123	.718	3.962

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	14	.011

a. Predictors: (Constant), Urban, Language, Ethnicity, Distance, GJFK, Seasonality, HomeConcentration, PartnerConcentration, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1337.065	9	148.563	3.962	.011[b]
	Residual	524.935	14	37.495		
	Total	1862.000	23			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, Ethnicity, Distance, GJFK, Seasonality, HomeConcentration, PartnerConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.428	17.999		-.024	.981
	HomeConcentration	1.479	.718	.505	2.060	.058
	Congestion	-2.067	3.709	-.165	-.557	.586
	GJFK	15.357	6.589	.577	2.331	.035
	PartnerConcentration	2.530	1.707	.430	1.482	.161
	Seasonality	2.790	10.062	.052	.277	.786
	Distance	-2.832	3.064	-.193	-.924	.371
	Language	.667	.580	.301	1.150	.269
	Ethnicity	1.541	2.674	.092	.576	.574
	Urban	.787	.673	.311	1.168	.262

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.335	2.986
	Congestion	.230	4.340
	GJFK	.329	3.039
	PartnerConcentration	.239	4.179
	Seasonality	.566	1.767
	Distance	.463	2.159
	Language	.294	3.405
	Ethnicity	.788	1.269
	Urban	.283	3.532

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.324	1.000	.00	.00	.00
	2	.966	2.753	.00	.01	.00
	3	.721	3.187	.00	.01	.00
	4	.486	3.880	.00	.00	.00
	5	.360	4.511	.00	.02	.00
	6	.091	8.973	.00	.52	.00
	7	.032	15.165	.01	.05	.02
	8	.012	24.914	.03	.21	.01
	9	.005	39.380	.19	.14	.31
	10	.003	48.149	.78	.02	.66

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.24	.00	.00	.00	.00	.00
	3	.04	.07	.00	.00	.08	.00
	4	.00	.04	.00	.00	.04	.49
	5	.00	.05	.01	.00	.18	.35
	6	.16	.12	.12	.00	.00	.00
	7	.23	.36	.66	.00	.33	.04
	8	.06	.01	.15	.40	.06	.07
	9	.01	.32	.02	.42	.30	.00
	10	.26	.03	.04	.17	.00	.04

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.04
	8	.27
	9	.60
	10	.09

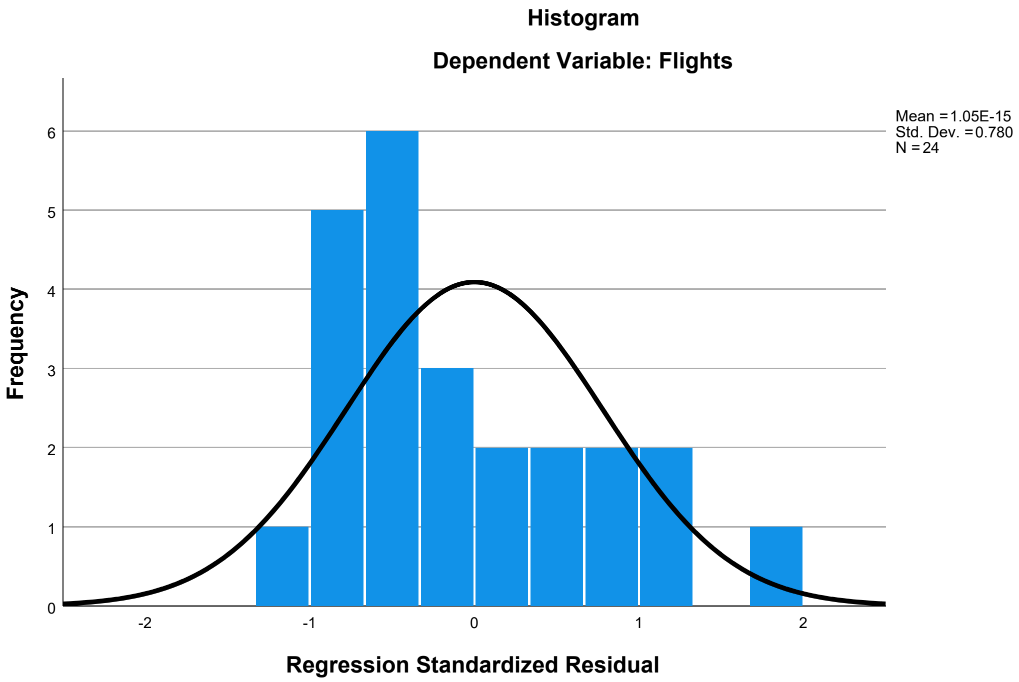
a. Dependent Variable: Flights

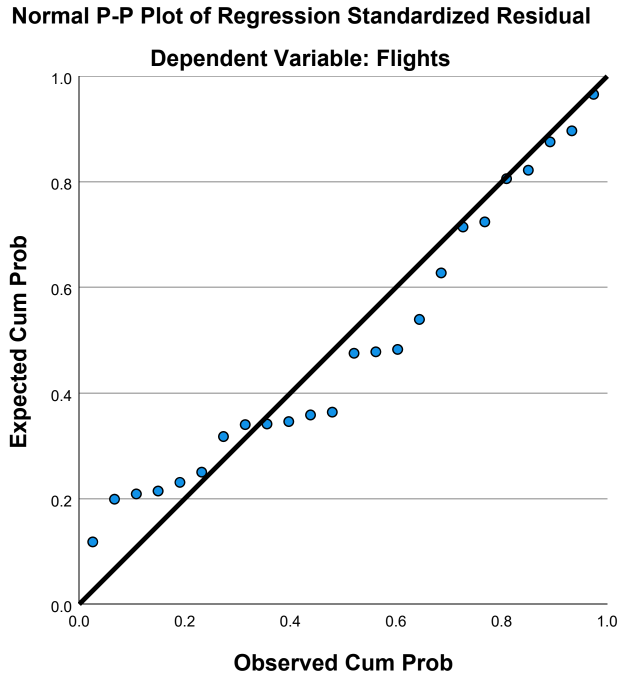
Residuals Statistics[a]

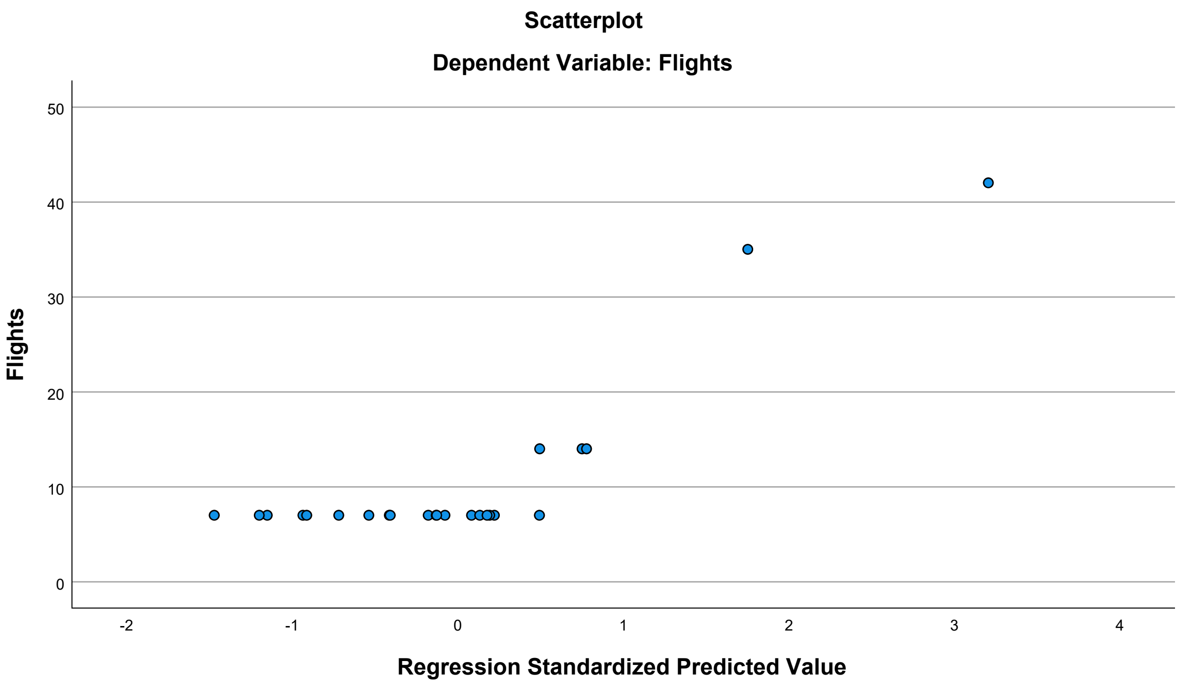
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.73	34.94	10.50	7.625	24
Residual	-7.255	11.146	.000	4.777	24
Std. Predicted Value	-1.472	3.205	.000	1.000	24
Std. Residual	-1.185	1.820	.000	.780	24

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-2
-1
0
1
2
3
4

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.50	8.998	24
HomeConcentration	4.9950330833	3.0734326782	24
GJFK	.13	.338	24
PartnerConcentration	1.4777960833	1.5285982807	24
Seasonality	.57881944444	.16866517669	24
Distance	4.19908	.612348	24
Language	3.36296633	4.063878085	24
Ethnicity	.51933588	.537950406	24
Urban	18.54	3.563	24

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	-.125	.451	.450
	HomeConcentration	-.125	1.000	-.425	-.476
	GJFK	.451	-.425	1.000	-.034
	PartnerConcentration	.450	-.476	-.034	1.000
	Seasonality	.044	.299	-.104	-.280
	Distance	-.315	.528	-.336	-.152
	Language	.584	-.061	.094	.412
	Ethnicity	.268	.108	.018	.026
	Urban	.432	-.441	.447	.444
Sig. (1-tailed)	Flights	.	.280	.014	.014
	HomeConcentration	.280	.	.019	.009
	GJFK	.014	.019	.	.438
	PartnerConcentration	.014	.009	.438	.
	Seasonality	.419	.078	.314	.093
	Distance	.067	.004	.054	.240
	Language	.001	.389	.331	.023
	Ethnicity	.102	.307	.466	.451
	Urban	.018	.016	.014	.015
N	Flights	24	24	24	24
	HomeConcentration	24	24	24	24
	GJFK	24	24	24	24
	PartnerConcentration	24	24	24	24
	Seasonality	24	24	24	24
	Distance	24	24	24	24
	Language	24	24	24	24
	Ethnicity	24	24	24	24
	Urban	24	24	24	24

Correlations

		Seasonality	Distance	Language	Ethnicity
Pearson Correlation	Flights	.044	-.315	.584	.268
	HomeConcentration	.299	.528	-.061	.108
	GJFK	-.104	-.336	.094	.018
	PartnerConcentration	-.280	-.152	.412	.026
	Seasonality	1.000	-.062	.390	.093
	Distance	-.062	1.000	-.415	-.111
	Language	.390	-.415	1.000	.234
	Ethnicity	.093	-.111	.234	1.000
	Urban	-.429	-.117	-.056	.146
Sig. (1-tailed)	Flights	.419	.067	.001	.102
	HomeConcentration	.078	.004	.389	.307
	GJFK	.314	.054	.331	.466
	PartnerConcentration	.093	.240	.023	.451
	Seasonality	.	.387	.030	.333
	Distance	.387	.	.022	.302
	Language	.030	.022	.	.135
	Ethnicity	.333	.302	.135	.
	Urban	.018	.293	.398	.249
N	Flights	24	24	24	24
	HomeConcentration	24	24	24	24
	GJFK	24	24	24	24
	PartnerConcentration	24	24	24	24
	Seasonality	24	24	24	24
	Distance	24	24	24	24
	Language	24	24	24	24
	Ethnicity	24	24	24	24
	Urban	24	24	24	24

Correlations

		Urban
Pearson Correlation	Flights	.432
	HomeConcentration	-.441
	GJFK	.447
	PartnerConcentration	.444
	Seasonality	-.429
	Distance	-.117
	Language	-.056
	Ethnicity	.146
	Urban	1.000
Sig. (1-tailed)	Flights	.018
	HomeConcentration	.016
	GJFK	.014
	PartnerConcentration	.015
	Seasonality	.018
	Distance	.293
	Language	.398
	Ethnicity	.249
	Urban	.
N	Flights	24
	HomeConcentration	24
	GJFK	24
	PartnerConcentration	24
	Seasonality	24
	Distance	24
	Language	24
	Ethnicity	24
	Urban	24

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, Ethnicity, Distance, GJFK, Seasonality, HomeConcentration, PartnerConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change
1	.844[a]	.712	.558	5.981	.712	4.631	8	15	.005

a. Predictors: (Constant), Urban, Language, Ethnicity, Distance, GJFK, Seasonality, HomeConcentration, PartnerConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1325.421	8	165.678	4.631	.005[b]
	Residual	536.579	15	35.772		
	Total	1862.000	23			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, Ethnicity, Distance, GJFK, Seasonality, HomeConcentration, PartnerConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-5.218	15.447		-.338	.740
	HomeConcentration	1.508	.699	.515	2.157	.048
	GJFK	13.275	5.301	.498	2.504	.024
	PartnerConcentration	2.878	1.553	.489	1.853	.084
	Seasonality	2.915	9.826	.055	.297	.771
	Distance	-2.956	2.985	-.201	-.990	.338
	Language	.572	.541	.258	1.057	.307
	Ethnicity	1.171	2.530	.070	.463	.650
	Urban	.564	.530	.223	1.065	.304

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.337	2.969
	GJFK	.485	2.062
	PartnerConcentration	.276	3.622
	Seasonality	.566	1.766
	Distance	.466	2.148
	Language	.321	3.112
	Ethnicity	.840	1.191
	Urban	.436	2.292

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	6.359	1.000	.00	.00	.00
	2	.963	2.570	.00	.01	.35
	3	.706	3.001	.00	.01	.07
	4	.480	3.639	.00	.00	.00
	5	.359	4.207	.00	.02	.00
	6	.089	8.477	.00	.52	.18
	7	.028	15.175	.02	.10	.26
	8	.012	23.422	.02	.18	.08
	9	.004	39.494	.95	.16	.05

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.01	.00
	2	.00	.00	.00	.00	.00	.00
	3	.08	.00	.00	.08	.00	.00
	4	.04	.00	.00	.05	.52	.00
	5	.06	.01	.00	.20	.36	.00
	6	.13	.15	.00	.00	.00	.00
	7	.55	.66	.01	.45	.03	.13
	8	.00	.12	.37	.03	.07	.56
	9	.14	.06	.62	.18	.00	.31

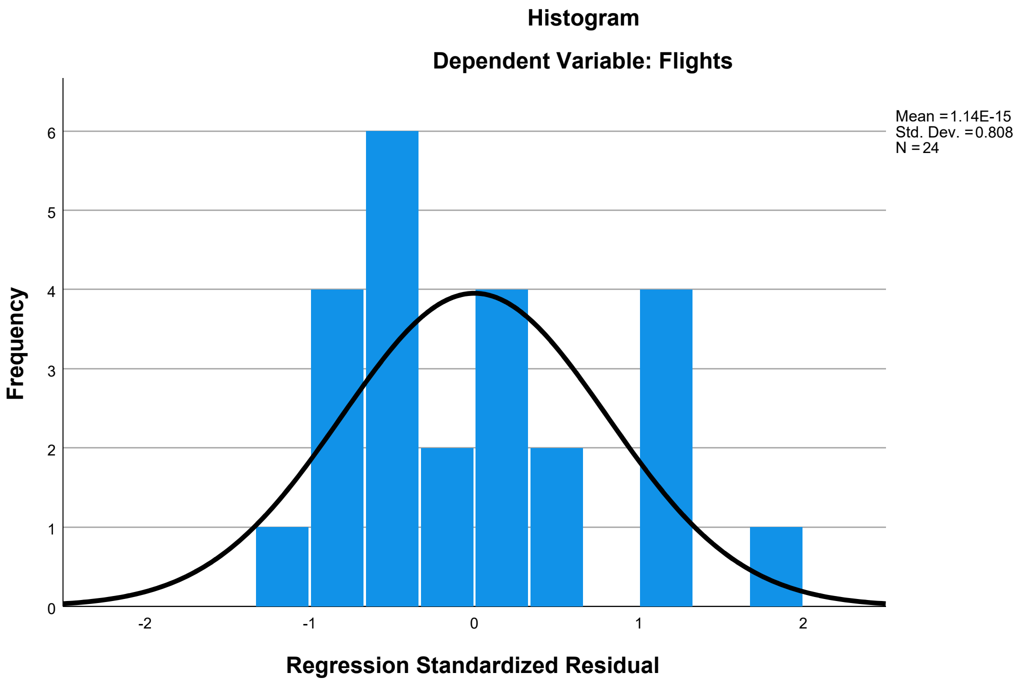
a. Dependent Variable: Flights

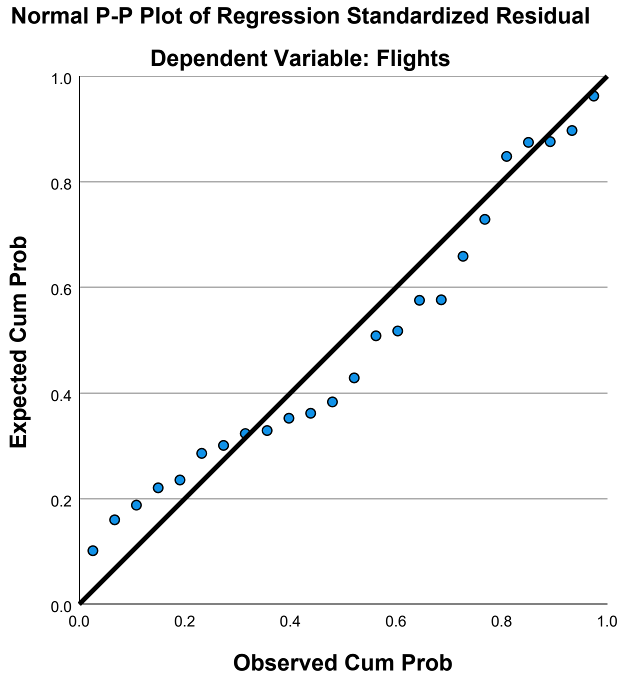
Residuals Statistics[a]

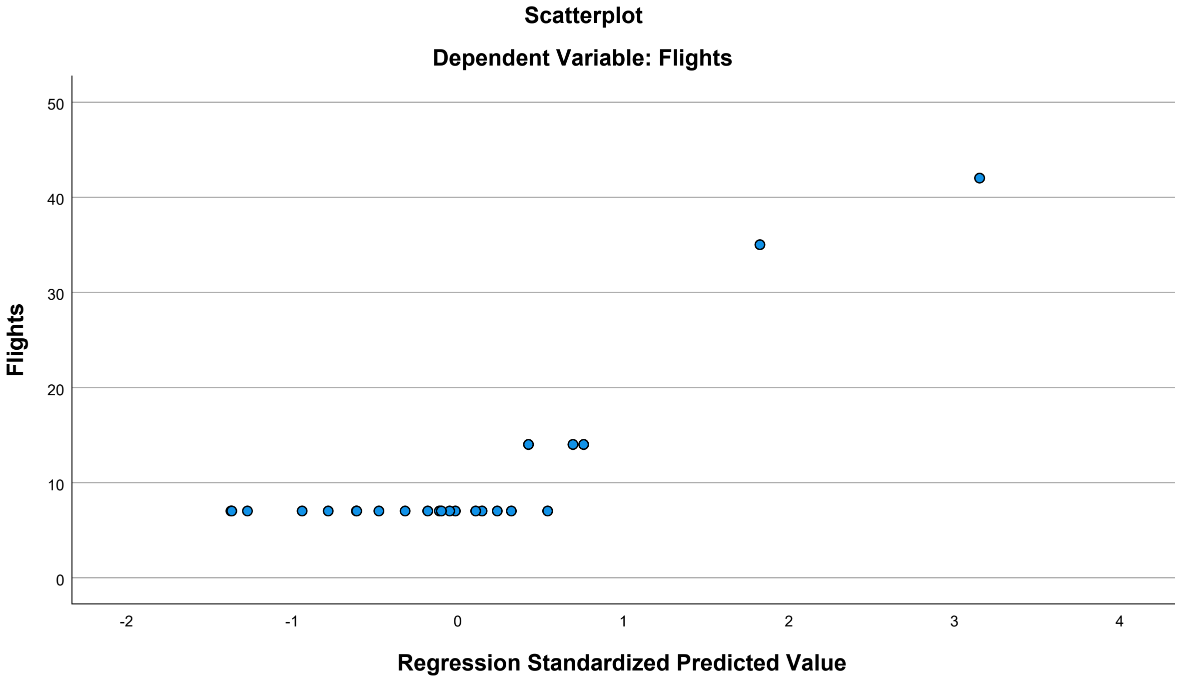
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.09	34.43	10.50	7.591	24
Residual	-7.617	10.646	.000	4.830	24
Std. Predicted Value	-1.371	3.152	.000	1.000	24
Std. Residual	-1.274	1.780	.000	.808	24

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-2
-1
0
1
2
3
4

Regression

```
[DataSet9] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines\
2007 - AA.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.50	8.529	26
HomeConcentration	4.8523680769	3.7806947907	26
Congestion	5.04	.999	26
GLHR	.19	.402	26
GJFK	.19	.402	26
PartnerConcentration	1.1132676923	1.7925023588	26
Seasonality	.60272223726	.20379821187	26
Distance	4.28373	.900929	26
Language	2.89446508	3.990437075	26
Ethnicity	.65722277	.736496586	26
Urban	18.27	3.748	26

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	-.151	.237	.694
	HomeConcentration	-.151	1.000	-.184	-.279
	Congestion	.237	-.184	1.000	-.019
	GLHR	.694	-.279	-.019	1.000
	GJFK	.274	-.519	.479	.010
	PartnerConcentration	.605	-.267	-.192	.853
	Seasonality	-.166	-.212	.117	-.227
	Distance	-.197	.467	.010	-.097
	Language	.631	-.081	.107	.502
	Ethnicity	.107	-.068	.282	.018
	Urban	.447	-.226	.499	.416
Sig. (1-tailed)	Flights	.	.231	.122	<.001
	HomeConcentration	.231	.	.184	.083
	Congestion	.122	.184	.	.463
	GLHR	.000	.083	.463	.
	GJFK	.088	.003	.007	.482
	PartnerConcentration	.001	.094	.173	.000
	Seasonality	.208	.149	.285	.132
	Distance	.167	.008	.482	.319
	Language	.000	.347	.301	.004
	Ethnicity	.301	.370	.081	.465
	Urban	.011	.134	.005	.017
N	Flights	26	26	26	26
	HomeConcentration	26	26	26	26

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.274	.605	-.166	-.197
	HomeConcentration	-.519	-.267	-.212	.467
	Congestion	.479	-.192	.117	.010
	GLHR	.010	.853	-.227	-.097
	GJFK	1.000	-.077	.015	-.275
	PartnerConcentration	-.077	1.000	-.289	-.085
	Seasonality	.015	-.289	1.000	-.178
	Distance	-.275	-.085	-.178	1.000
	Language	-.023	.417	.050	-.373
	Ethnicity	.142	-.101	.427	-.243
	Urban	.495	.332	-.228	-.002
Sig. (1-tailed)	Flights	.088	<.001	.208	.167
	HomeConcentration	.003	.094	.149	.008
	Congestion	.007	.173	.285	.482
	GLHR	.482	.000	.132	.319
	GJFK	.	.355	.471	.087
	PartnerConcentration	.355	.	.076	.340
	Seasonality	.471	.076	.	.192
	Distance	.087	.340	.192	.
	Language	.455	.017	.404	.030
	Ethnicity	.245	.311	.015	.116
	Urban	.005	.049	.131	.496
N	Flights	26	26	26	26
	HomeConcentration	26	26	26	26

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.631	.107	.447
	HomeConcentration	-.081	-.068	-.226
	Congestion	.107	.282	.499
	GLHR	.502	.018	.416
	GJFK	-.023	.142	.495
	PartnerConcentration	.417	-.101	.332
	Seasonality	.050	.427	-.228
	Distance	-.373	-.243	-.002
	Language	1.000	.326	-.082
	Ethnicity	.326	1.000	-.062
	Urban	-.082	-.062	1.000
Sig. (1-tailed)	Flights	<.001	.301	.011
	HomeConcentration	.347	.370	.134
	Congestion	.301	.081	.005
	GLHR	.004	.465	.017
	GJFK	.455	.245	.005
	PartnerConcentration	.017	.311	.049
	Seasonality	.404	.015	.131
	Distance	.030	.116	.496
	Language	.	.052	.346
	Ethnicity	.052	.	.382
	Urban	.346	.382	.
N	Flights	26	26	26
	HomeConcentration	26	26	26

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	26	26	26	26
	GLHR	26	26	26	26
	GJFK	26	26	26	26
	PartnerConcentration	26	26	26	26
	Seasonality	26	26	26	26
	Distance	26	26	26	26
	Language	26	26	26	26
	Ethnicity	26	26	26	26
	Urban	26	26	26	26

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	26	26	26	26
	GLHR	26	26	26	26
	GJFK	26	26	26	26
	PartnerConcentration	26	26	26	26
	Seasonality	26	26	26	26
	Distance	26	26	26	26
	Language	26	26	26	26
	Ethnicity	26	26	26	26
	Urban	26	26	26	26

Correlations

		Language	Ethnicity	Urban
	Congestion	26	26	26
	GLHR	26	26	26
	GJFK	26	26	26
	PartnerConcentration	26	26	26
	Seasonality	26	26	26
	Distance	26	26	26
	Language	26	26	26
	Ethnicity	26	26	26
	Urban	26	26	26

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Ethnicity, PartnerConcentration, Seasonality, HomeConcentration, Language, GJFK, Congestion, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.864[a]	.746	.576	5.551	.746	4.403

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	15	.005

a. Predictors: (Constant), Urban, Distance, Ethnicity, PartnerConcentration, Seasonality, HomeConcentration, Language, GJFK, Congestion, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1356.366	10	135.637	4.403	.005[b]
	Residual	462.134	15	30.809		
	Total	1818.500	25			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Ethnicity, PartnerConcentration, Seasonality, HomeConcentration, Language, GJFK, Congestion, GLHR

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-7.471	11.113		-.672	.512
	HomeConcentration	.647	.497	.287	1.302	.213
	Congestion	.788	1.858	.092	.424	.678
	GLHR	6.537	6.324	.308	1.034	.318
	GJFK	7.274	4.401	.343	1.653	.119
	PartnerConcentration	1.210	1.397	.254	.866	.400
	Seasonality	2.539	6.933	.061	.366	.719
	Distance	-.411	1.729	-.043	-.238	.815
	Language	.882	.492	.413	1.792	.093
	Ethnicity	-1.046	1.895	-.090	-.552	.589
	Urban	.286	.585	.126	.489	.632

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.349	2.867
	Congestion	.357	2.798
	GLHR	.191	5.243
	GJFK	.394	2.539
	PartnerConcentration	.197	5.086
	Seasonality	.617	1.620
	Distance	.508	1.970
	Language	.320	3.126
	Ethnicity	.632	1.581
	Urban	.256	3.902

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.192	1.000	.00	.00	.00
	2	1.525	2.172	.00	.01	.00
	3	.976	2.714	.00	.03	.00
	4	.643	3.343	.00	.00	.00
	5	.293	4.950	.00	.03	.00
	6	.184	6.246	.00	.30	.00
	7	.103	8.340	.00	.01	.00
	8	.044	12.807	.00	.31	.06
	9	.023	17.540	.00	.07	.03
	10	.010	26.849	.49	.07	.50
	11	.005	37.023	.50	.17	.41

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.04	.00	.03	.00	.00	.01
	3	.00	.24	.00	.00	.00	.00
	4	.00	.02	.01	.00	.00	.10
	5	.01	.06	.02	.00	.00	.32
	6	.05	.14	.00	.09	.00	.03
	7	.65	.03	.68	.01	.00	.00
	8	.05	.29	.02	.69	.02	.02
	9	.01	.10	.00	.02	.57	.02
	10	.01	.00	.18	.17	.02	.02
	11	.18	.11	.06	.01	.39	.46

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.00	.00
	3	.01	.00
	4	.24	.00
	5	.39	.00
	6	.14	.00
	7	.04	.00
	8	.08	.01
	9	.02	.11
	10	.05	.05
	11	.02	.82

a. Dependent Variable: Flights

Residuals Statistics[a]

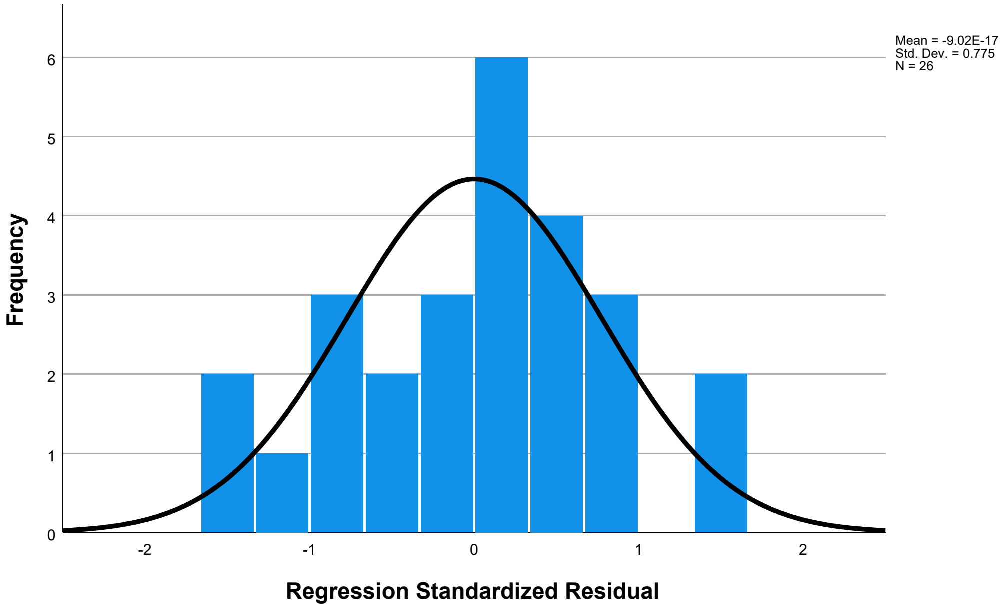
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.86	33.55	10.50	7.366	26
Residual	-8.988	8.505	.000	4.299	26
Std. Predicted Value	-1.173	3.129	.000	1.000	26
Std. Residual	-1.619	1.532	.000	.775	26

a. Dependent Variable: Flights

Charts

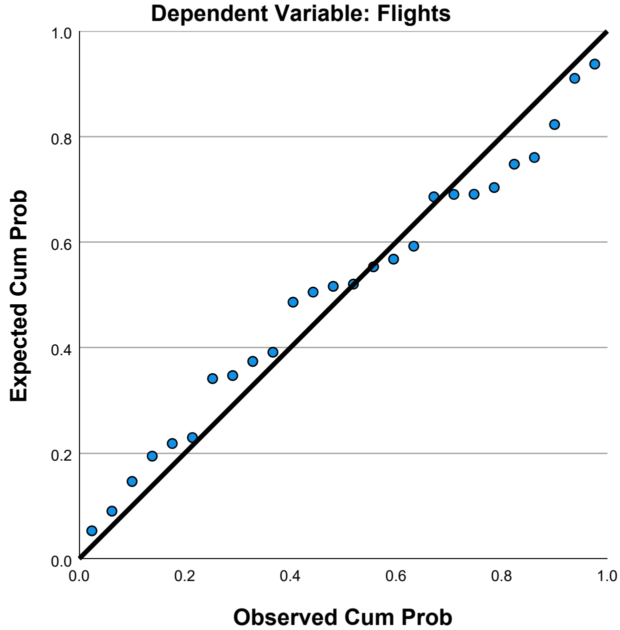
Histogram

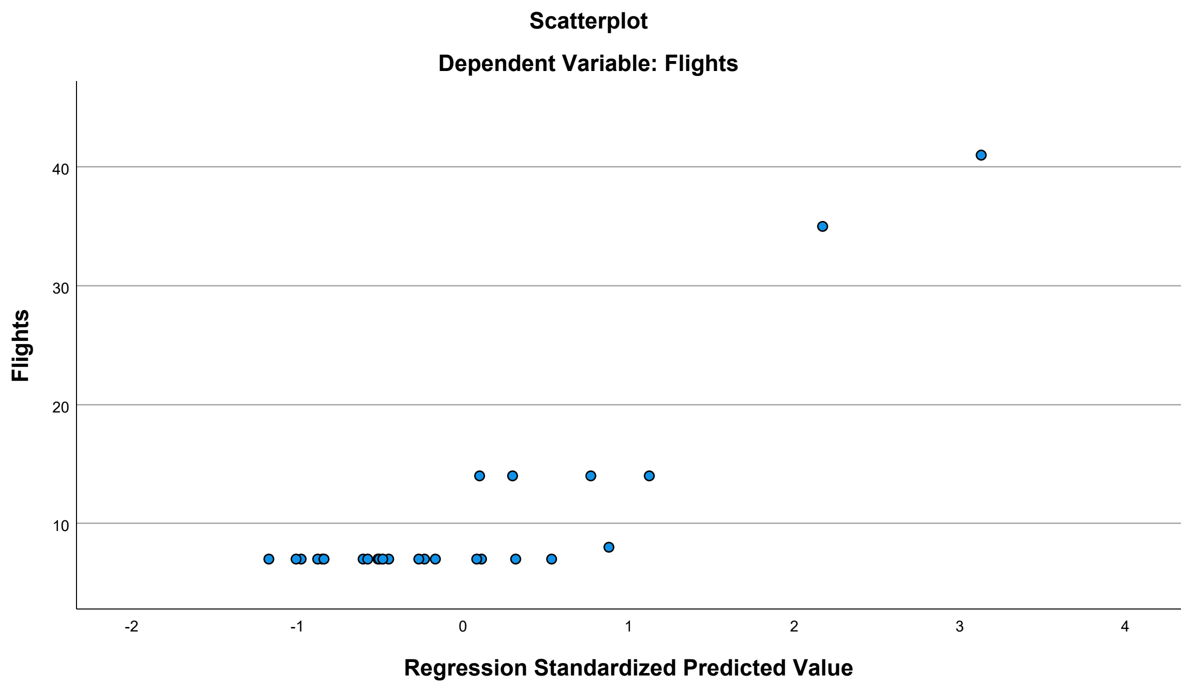
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights





Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.50	8.529	26
HomeConcentration	4.8523680769	3.7806947907	26
Congestion	5.04	.999	26
GJFK	.19	.402	26
PartnerConcentration	1.1132676923	1.7925023588	26
Seasonality	.60272223726	.20379821187	26
Distance	4.28373	.900929	26
Language	2.89446508	3.990437075	26
Ethnicity	.65722277	.736496586	26
Urban	18.27	3.748	26

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	-.151	.237	.274
	HomeConcentration	-.151	1.000	-.184	-.519
	Congestion	.237	-.184	1.000	.479
	GJFK	.274	-.519	.479	1.000
	PartnerConcentration	.605	-.267	-.192	-.077
	Seasonality	-.166	-.212	.117	.015
	Distance	-.197	.467	.010	-.275
	Language	.631	-.081	.107	-.023
	Ethnicity	.107	-.068	.282	.142
	Urban	.447	-.226	.499	.495
Sig. (1-tailed)	Flights	.	.231	.122	.088
	HomeConcentration	.231	.	.184	.003
	Congestion	.122	.184	.	.007
	GJFK	.088	.003	.007	.
	PartnerConcentration	.001	.094	.173	.355
	Seasonality	.208	.149	.285	.471
	Distance	.167	.008	.482	.087
	Language	.000	.347	.301	.455
	Ethnicity	.301	.370	.081	.245
	Urban	.011	.134	.005	.005
N	Flights	26	26	26	26
	HomeConcentration	26	26	26	26
	Congestion	26	26	26	26
	GJFK	26	26	26	26
	PartnerConcentration	26	26	26	26
	Seasonality	26	26	26	26
	Distance	26	26	26	26
	Language	26	26	26	26
	Ethnicity	26	26	26	26
	Urban	26	26	26	26

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.605	-.166	-.197	.631
	HomeConcentration	-.267	-.212	.467	-.081
	Congestion	-.192	.117	.010	.107
	GJFK	-.077	.015	-.275	-.023
	PartnerConcentration	1.000	-.289	-.085	.417
	Seasonality	-.289	1.000	-.178	.050
	Distance	-.085	-.178	1.000	-.373
	Language	.417	.050	-.373	1.000
	Ethnicity	-.101	.427	-.243	.326
	Urban	.332	-.228	-.002	-.082
Sig. (1-tailed)	Flights	<.001	.208	.167	<.001
	HomeConcentration	.094	.149	.008	.347
	Congestion	.173	.285	.482	.301
	GJFK	.355	.471	.087	.455
	PartnerConcentration	.	.076	.340	.017
	Seasonality	.076	.	.192	.404
	Distance	.340	.192	.	.030
	Language	.017	.404	.030	.
	Ethnicity	.311	.015	.116	.052
	Urban	.049	.131	.496	.346
N	Flights	26	26	26	26
	HomeConcentration	26	26	26	26
	Congestion	26	26	26	26
	GJFK	26	26	26	26
	PartnerConcentration	26	26	26	26
	Seasonality	26	26	26	26
	Distance	26	26	26	26
	Language	26	26	26	26
	Ethnicity	26	26	26	26
	Urban	26	26	26	26

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.107	.447
	HomeConcentration	-.068	-.226
	Congestion	.282	.499
	GJFK	.142	.495
	PartnerConcentration	-.101	.332
	Seasonality	.427	-.228
	Distance	-.243	-.002
	Language	.326	-.082
	Ethnicity	1.000	-.062
	Urban	-.062	1.000
Sig. (1-tailed)	Flights	.301	.011
	HomeConcentration	.370	.134
	Congestion	.081	.005
	GJFK	.245	.005
	PartnerConcentration	.311	.049
	Seasonality	.015	.131
	Distance	.116	.496
	Language	.052	.346
	Ethnicity	.	.382
	Urban	.382	.
N	Flights	26	26
	HomeConcentration	26	26
	Congestion	26	26
	GJFK	26	26
	PartnerConcentration	26	26
	Seasonality	26	26
	Distance	26	26
	Language	26	26
	Ethnicity	26	26
	Urban	26	26

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Ethnicity, PartnerConcentration, Seasonality, HomeConcentration, Language, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change
1	.853[a]	.728	.575	5.562	.728	4.753

Model Summary[b]

Model	Change Statistics: df1	Change Statistics: df2	Change Statistics: Sig. F Change
1	9	16	.003

a. Predictors: (Constant), Urban, Distance, Ethnicity, PartnerConcentration, Seasonality, HomeConcentration, Language, GJFK, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1323.447	9	147.050	4.753	.003[b]
	Residual	495.053	16	30.941		
	Total	1818.500	25			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Ethnicity, PartnerConcentration, Seasonality, HomeConcentration, Language, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-11.281	10.507		-1.074	.299
	HomeConcentration	.511	.480	.226	1.063	.304
	Congestion	.472	1.837	.055	.257	.801
	GJFK	6.425	4.333	.303	1.483	.158
	PartnerConcentration	1.966	1.192	.413	1.648	.119
	Seasonality	1.908	6.921	.046	.276	.786
	Distance	.002	1.686	.000	.001	.999
	Language	1.106	.443	.517	2.499	.024
	Ethnicity	-.777	1.881	-.067	-.413	.685
	Urban	.528	.537	.232	.984	.340

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.375	2.664
	Congestion	.367	2.722
	GJFK	.408	2.450
	PartnerConcentration	.271	3.691
	Seasonality	.622	1.607
	Distance	.536	1.865
	Language	.397	2.520
	Ethnicity	.645	1.551
	Urban	.305	3.275

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.904	1.000	.00	.00	.00
	2	.977	2.658	.00	.02	.00
	3	.949	2.697	.00	.02	.00
	4	.627	3.317	.00	.00	.00
	5	.283	4.937	.00	.06	.00
	6	.174	6.298	.00	.29	.00
	7	.045	12.325	.00	.32	.06
	8	.024	17.131	.00	.09	.03
	9	.010	26.174	.61	.07	.44
	10	.006	33.128	.38	.13	.46

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.25	.01	.00	.00	.00	.01
	3	.00	.10	.00	.00	.08	.00
	4	.02	.05	.00	.00	.08	.28
	5	.08	.09	.01	.00	.34	.35
	6	.15	.07	.11	.00	.04	.21
	7	.33	.13	.64	.02	.01	.06
	8	.10	.00	.03	.59	.03	.02
	9	.00	.15	.20	.03	.02	.05
	10	.07	.39	.02	.36	.38	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.02
	8	.14
	9	.04
	10	.80

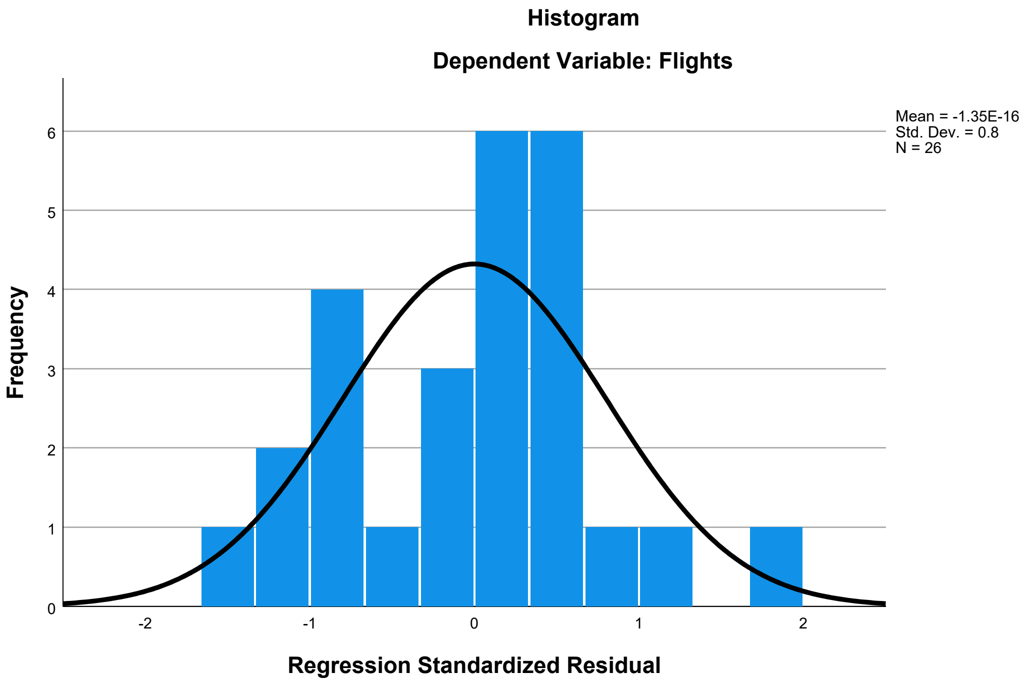
a. Dependent Variable: Flights

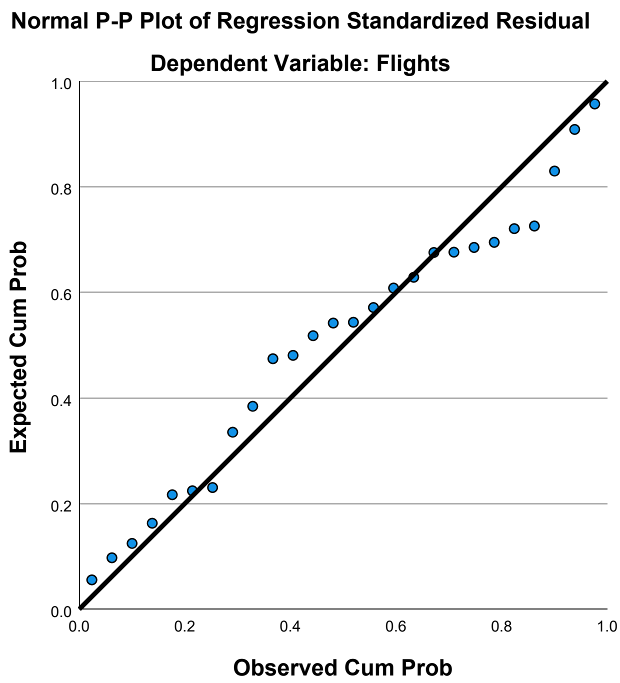
Residuals Statistics[a]

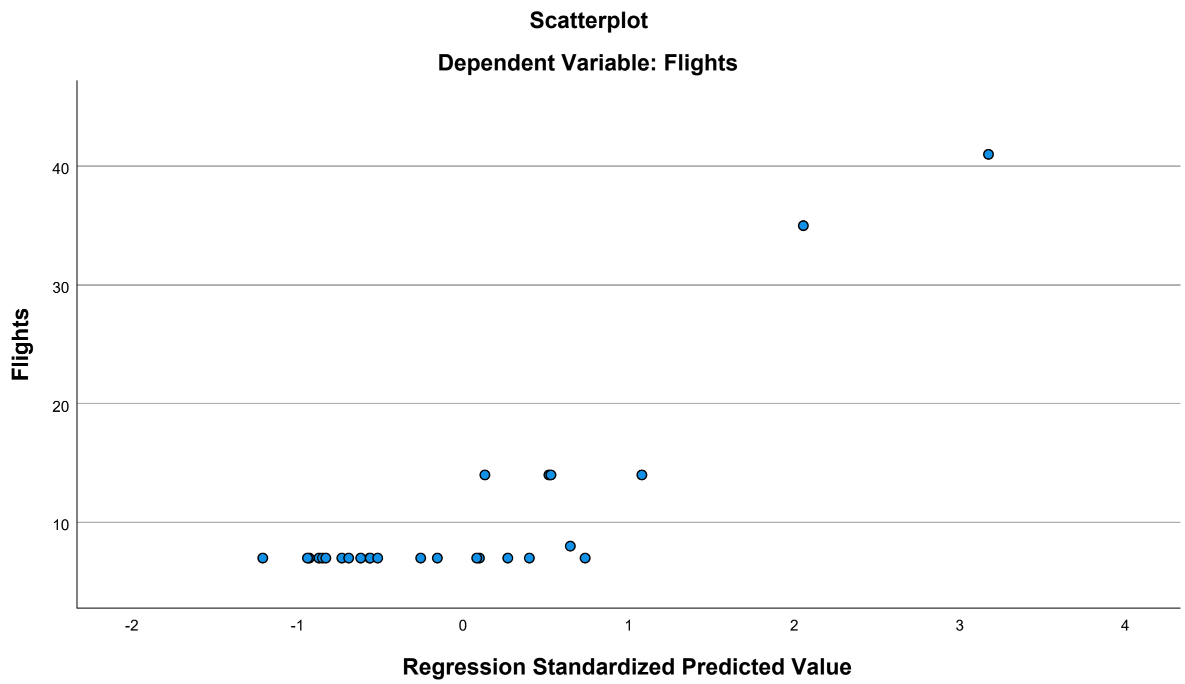
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.70	33.59	10.50	7.276	26
Residual	-8.863	9.548	.000	4.450	26
Std. Predicted Value	-1.210	3.173	.000	1.000	26
Std. Residual	-1.593	1.717	.000	.800	26

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
10
20
30
40
-2
-1
0
1
2
3
4

Regression

```
[DataSet10] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.33	7.771	27
HomeConcentration	3.5094008889	3.4257658932	27
Congestion	4.93	.874	27
GLHR	.26	.447	27
GJFK	.33	.480	27
PartnerConcentration	1.7063348889	1.9251286311	27
Seasonality	.57013662824	.18112303652	27
Distance	4.15970	.598161	27
Language	2.69833159	4.275771541	27
Ethnicity	.59229570	.739020900	27
Urban	20.00	2.000	27

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.031	.043	.661
	HomeConcentration	.031	1.000	-.586	-.046
	Congestion	.043	-.586	1.000	-.245
	GLHR	.661	-.046	-.245	1.000
	GJFK	.052	-.538	.886	-.239
	PartnerConcentration	.520	.044	-.290	.808
	Seasonality	.023	.080	-.148	-.192
	Distance	-.239	.695	-.471	.006
	Language	.541	-.134	.195	.433
	Ethnicity	.124	-.220	.377	-.010
	Urban	.468	-.387	.528	.258
Sig. (1-tailed)	Flights	.	.438	.415	<.001
	HomeConcentration	.438	.	.001	.410
	Congestion	.415	.001	.	.109
	GLHR	.000	.410	.109	.
	GJFK	.399	.002	.000	.115
	PartnerConcentration	.003	.414	.071	.000
	Seasonality	.454	.345	.231	.169
	Distance	.115	.000	.007	.488
	Language	.002	.253	.164	.012
	Ethnicity	.269	.135	.026	.481
	Urban	.007	.023	.002	.097
N	Flights	27	27	27	27
	HomeConcentration	27	27	27	27

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.052	.520	.023	-.239
	HomeConcentration	-.538	.044	.080	.695
	Congestion	.886	-.290	-.148	-.471
	GLHR	-.239	.808	-.192	.006
	GJFK	1.000	-.233	-.238	-.502
	PartnerConcentration	-.233	1.000	-.177	.085
	Seasonality	-.238	-.177	1.000	-.237
	Distance	-.502	.085	-.237	1.000
	Language	.039	.228	.153	-.362
	Ethnicity	.304	-.266	.043	-.172
	Urban	.560	.152	-.259	-.324
Sig. (1-tailed)	Flights	.399	.003	.454	.115
	HomeConcentration	.002	.414	.345	.000
	Congestion	.000	.071	.231	.007
	GLHR	.115	.000	.169	.488
	GJFK	.	.121	.116	.004
	PartnerConcentration	.121	.	.188	.336
	Seasonality	.116	.188	.	.117
	Distance	.004	.336	.117	.
	Language	.423	.126	.223	.032
	Ethnicity	.062	.090	.416	.196
	Urban	.001	.225	.096	.050
N	Flights	27	27	27	27
	HomeConcentration	27	27	27	27

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.541	.124	.468
	HomeConcentration	-.134	-.220	-.387
	Congestion	.195	.377	.528
	GLHR	.433	-.010	.258
	GJFK	.039	.304	.560
	PartnerConcentration	.228	-.266	.152
	Seasonality	.153	.043	-.259
	Distance	-.362	-.172	-.324
	Language	1.000	.320	.161
	Ethnicity	.320	1.000	.168
	Urban	.161	.168	1.000
Sig. (1-tailed)	Flights	.002	.269	.007
	HomeConcentration	.253	.135	.023
	Congestion	.164	.026	.002
	GLHR	.012	.481	.097
	GJFK	.423	.062	.001
	PartnerConcentration	.126	.090	.225
	Seasonality	.223	.416	.096
	Distance	.032	.196	.050
	Language	.	.052	.211
	Ethnicity	.052	.	.201
	Urban	.211	.201	.
N	Flights	27	27	27
	HomeConcentration	27	27	27

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	27	27	27	27
	GLHR	27	27	27	27
	GJFK	27	27	27	27
	PartnerConcentration	27	27	27	27
	Seasonality	27	27	27	27
	Distance	27	27	27	27
	Language	27	27	27	27
	Ethnicity	27	27	27	27
	Urban	27	27	27	27

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	27	27	27	27
GLHR	27	27	27	27
GJFK	27	27	27	27
PartnerConcentration	27	27	27	27
Seasonality	27	27	27	27
Distance	27	27	27	27
Language	27	27	27	27
Ethnicity	27	27	27	27
Urban	27	27	27	27

Correlations

	Language	Ethnicity	Urban
Congestion	27	27	27
GLHR	27	27	27
GJFK	27	27	27
PartnerConcentration	27	27	27
Seasonality	27	27	27
Distance	27	27	27
Language	27	27	27
Ethnicity	27	27	27
Urban	27	27	27

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Language, Seasonality, HomeConcentration, Ethnicity, GJFK, Distance, GLHR, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.860[a]	.739	.576	5.057	.739	4.539

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	16	.004

a. Predictors: (Constant), Urban, PartnerConcentration, Language, Seasonality, HomeConcentration, Ethnicity, GJFK, Distance, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1160.831	10	116.083	4.539	.004[b]
	Residual	409.169	16	25.573		
	Total	1570.000	26			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Language, Seasonality, HomeConcentration, Ethnicity, GJFK, Distance, GLHR, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-10.756	20.501		-.525	.607
	HomeConcentration	1.265	.519	.558	2.440	.027
	Congestion	1.432	3.195	.161	.448	.660
	GLHR	9.081	5.090	.522	1.784	.093
	GJFK	-.547	5.679	-.034	-.096	.924
	PartnerConcentration	.436	.996	.108	.437	.668
	Seasonality	3.618	7.038	.084	.514	.614
	Distance	-5.263	3.241	-.405	-1.624	.124
	Language	.182	.366	.100	.497	.626
	Ethnicity	.728	1.683	.069	.433	.671
	Urban	1.279	.706	.329	1.812	.089

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.312	3.210
	Congestion	.126	7.925
	GLHR	.190	5.254
	GJFK	.132	7.566
	PartnerConcentration	.268	3.738
	Seasonality	.605	1.652
	Distance	.262	3.821
	Language	.401	2.494
	Ethnicity	.635	1.574
	Urban	.493	2.028

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.364	1.000	.00	.00	.00
	2	1.338	2.346	.00	.00	.00
	3	1.018	2.689	.00	.05	.00
	4	.596	3.516	.00	.03	.00
	5	.333	4.700	.00	.00	.00
	6	.202	6.039	.00	.34	.00
	7	.088	9.123	.00	.00	.00
	8	.051	12.048	.00	.08	.00
	9	.005	37.157	.00	.10	.02
	10	.003	51.077	.01	.37	.93
	11	.002	66.142	.98	.04	.05

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.04	.02	.03	.00	.00	.01
	3	.01	.01	.00	.00	.00	.07
	4	.00	.04	.03	.00	.00	.12
	5	.04	.01	.00	.00	.00	.32
	6	.00	.10	.01	.05	.00	.01
	7	.53	.00	.86	.02	.00	.01
	8	.20	.10	.04	.58	.01	.10
	9	.10	.10	.01	.12	.35	.01
	10	.05	.58	.01	.05	.37	.34
	11	.02	.05	.01	.16	.27	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.03	.00
	3	.04	.00
	4	.14	.00
	5	.54	.00
	6	.00	.00
	7	.19	.00
	8	.00	.00
	9	.05	.51
	10	.00	.07
	11	.01	.42

a. Dependent Variable: Flights

Residuals Statistics[a]

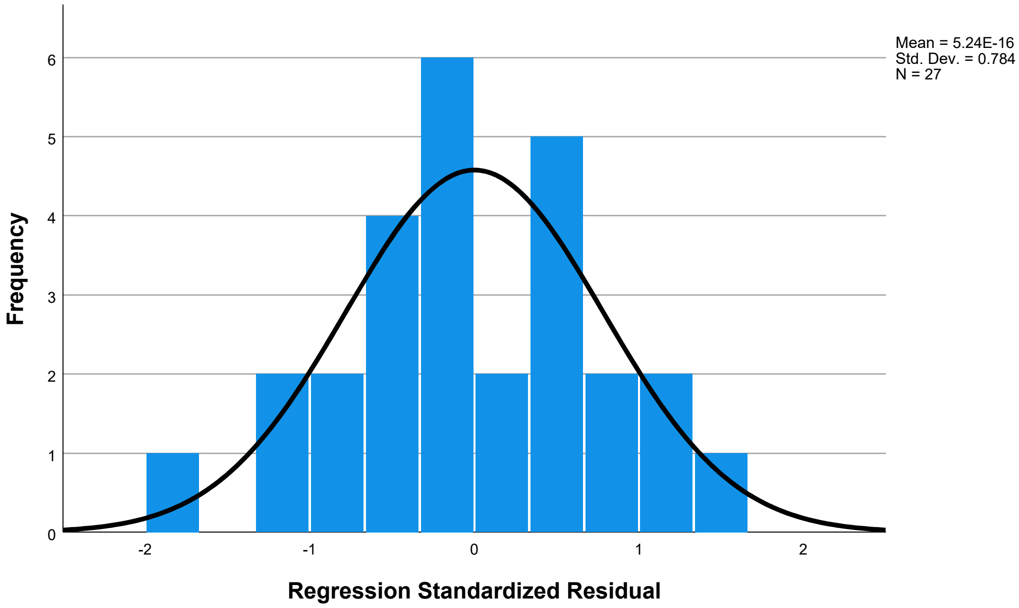
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.38	26.78	10.33	6.682	27
Residual	-9.465	8.223	.000	3.967	27
Std. Predicted Value	-1.340	2.461	.000	1.000	27
Std. Residual	-1.872	1.626	.000	.784	27

a. Dependent Variable: Flights

Charts

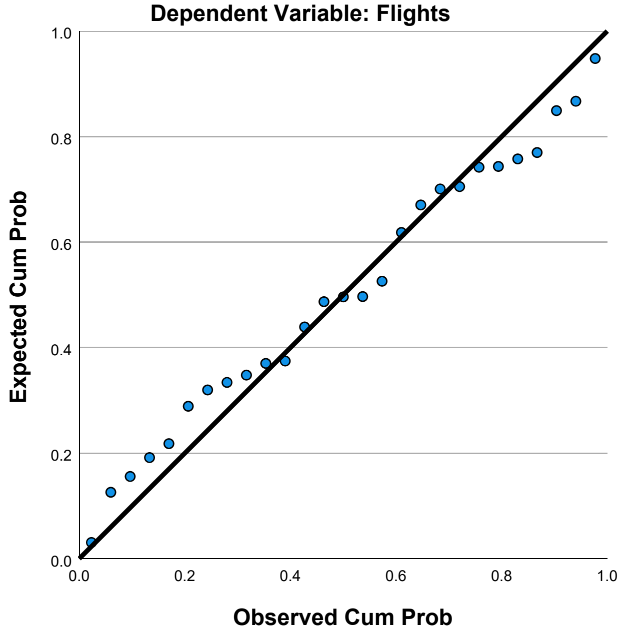
Histogram

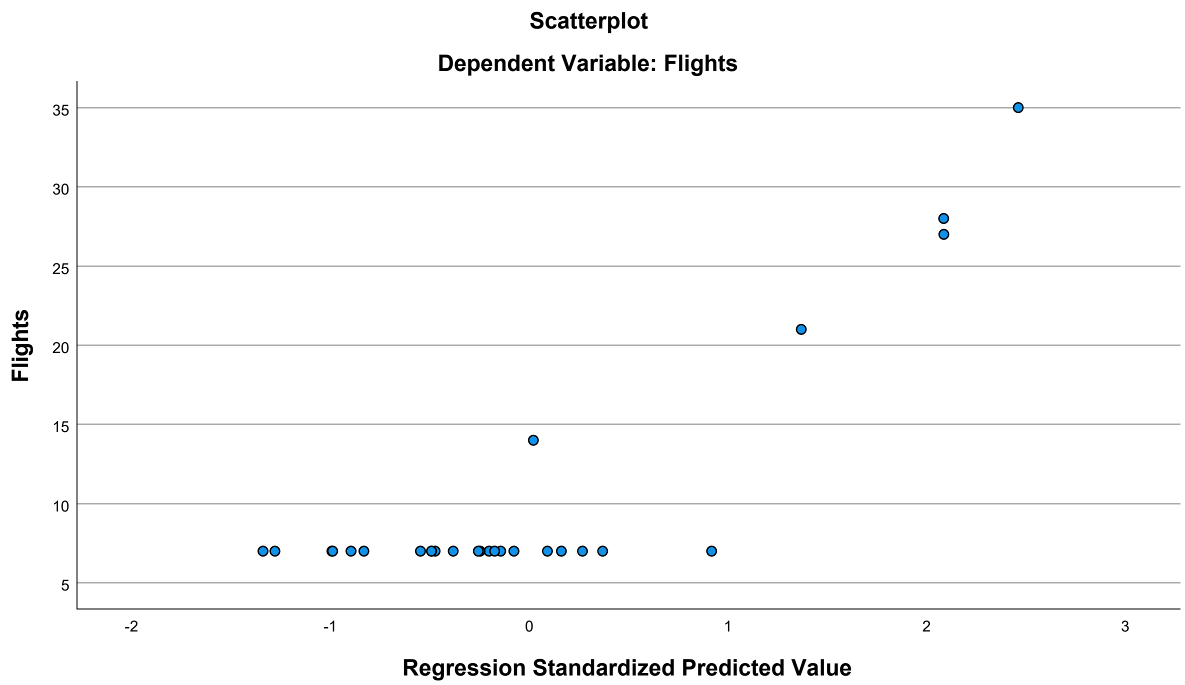
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights





Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.33	7.771	27
HomeConcentration	3.5094008889	3.4257658932	27
GLHR	.26	.447	27
GJFK	.33	.480	27
PartnerConcentration	1.7063348889	1.9251286311	27
Seasonality	.57013662824	.18112303652	27
Distance	4.15970	.598161	27
Language	2.69833159	4.275771541	27
Ethnicity	.59229570	.739020900	27
Urban	20.00	2.000	27

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.031	.661	.052
	HomeConcentration	.031	1.000	-.046	-.538
	GLHR	.661	-.046	1.000	-.239
	GJFK	.052	-.538	-.239	1.000
	PartnerConcentration	.520	.044	.808	-.233
	Seasonality	.023	.080	-.192	-.238
	Distance	-.239	.695	.006	-.502
	Language	.541	-.134	.433	.039
	Ethnicity	.124	-.220	-.010	.304
	Urban	.468	-.387	.258	.560
Sig. (1-tailed)	Flights	.	.438	<.001	.399
	HomeConcentration	.438	.	.410	.002
	GLHR	.000	.410	.	.115
	GJFK	.399	.002	.115	.
	PartnerConcentration	.003	.414	.000	.121
	Seasonality	.454	.345	.169	.116
	Distance	.115	.000	.488	.004
	Language	.002	.253	.012	.423
	Ethnicity	.269	.135	.481	.062
	Urban	.007	.023	.097	.001
N	Flights	27	27	27	27
	HomeConcentration	27	27	27	27
	GLHR	27	27	27	27
	GJFK	27	27	27	27
	PartnerConcentration	27	27	27	27
	Seasonality	27	27	27	27
	Distance	27	27	27	27
	Language	27	27	27	27
	Ethnicity	27	27	27	27
	Urban	27	27	27	27

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.520	.023	-.239	.541
	HomeConcentration	.044	.080	.695	-.134
	GLHR	.808	-.192	.006	.433
	GJFK	-.233	-.238	-.502	.039
	PartnerConcentration	1.000	-.177	.085	.228
	Seasonality	-.177	1.000	-.237	.153
	Distance	.085	-.237	1.000	-.362
	Language	.228	.153	-.362	1.000
	Ethnicity	-.266	.043	-.172	.320
	Urban	.152	-.259	-.324	.161
Sig. (1-tailed)	Flights	.003	.454	.115	.002
	HomeConcentration	.414	.345	.000	.253
	GLHR	.000	.169	.488	.012
	GJFK	.121	.116	.004	.423
	PartnerConcentration	.	.188	.336	.126
	Seasonality	.188	.	.117	.223
	Distance	.336	.117	.	.032
	Language	.126	.223	.032	.
	Ethnicity	.090	.416	.196	.052
	Urban	.225	.096	.050	.211
N	Flights	27	27	27	27
	HomeConcentration	27	27	27	27
	GLHR	27	27	27	27
	GJFK	27	27	27	27
	PartnerConcentration	27	27	27	27
	Seasonality	27	27	27	27
	Distance	27	27	27	27
	Language	27	27	27	27
	Ethnicity	27	27	27	27
	Urban	27	27	27	27

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.124	.468
	HomeConcentration	-.220	-.387
	GLHR	-.010	.258
	GJFK	.304	.560
	PartnerConcentration	-.266	.152
	Seasonality	.043	-.259
	Distance	-.172	-.324
	Language	.320	.161
	Ethnicity	1.000	.168
	Urban	.168	1.000
Sig. (1-tailed)	Flights	.269	.007
	HomeConcentration	.135	.023
	GLHR	.481	.097
	GJFK	.062	.001
	PartnerConcentration	.090	.225
	Seasonality	.416	.096
	Distance	.196	.050
	Language	.052	.211
	Ethnicity	.	.201
	Urban	.201	.
N	Flights	27	27
	HomeConcentration	27	27
	GLHR	27	27
	GJFK	27	27
	PartnerConcentration	27	27
	Seasonality	27	27
	Distance	27	27
	Language	27	27
	Ethnicity	27	27
	Urban	27	27

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Language, Seasonality, HomeConcentration, Ethnicity, GJFK, Distance, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.858[a]	.736	.596	4.937	.736	5.269

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	17	.002

a. Predictors: (Constant), Urban, PartnerConcentration, Language, Seasonality, HomeConcentration, Ethnicity, GJFK, Distance

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1155.691	9	128.410	5.269	.002[b]
	Residual	414.309	17	24.371		
	Total	1570.000	26			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Language, Seasonality, HomeConcentration, Ethnicity, GJFK, Distance, GLHR

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-7.874	19.005		-.414	.684
	HomeConcentration	1.154	.445	.509	2.596	.019
	GLHR	8.580	4.848	.493	1.770	.095
	GJFK	1.404	3.562	.087	.394	.698
	PartnerConcentration	.402	.970	.100	.415	.684
	Seasonality	4.020	6.815	.094	.590	.563
	Distance	-4.693	2.910	-.361	-1.613	.125
	Language	.266	.307	.146	.865	.399
	Ethnicity	.733	1.643	.070	.446	.661
	Urban	1.343	.675	.346	1.988	.063

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.404	2.475
	GLHR	.200	5.001
	GJFK	.320	3.123
	PartnerConcentration	.269	3.717
	Seasonality	.615	1.625
	Distance	.309	3.232
	Language	.543	1.842
	Ethnicity	.635	1.574
	Urban	.514	1.947

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	GLHR
1	1	6.428	1.000	.00	.00	.00
	2	1.297	2.226	.00	.00	.04
	3	1.017	2.514	.00	.06	.02
	4	.586	3.312	.00	.03	.00
	5	.331	4.407	.00	.00	.04
	6	.199	5.691	.00	.45	.00
	7	.087	8.574	.00	.00	.58
	8	.048	11.592	.00	.14	.20
	9	.005	34.960	.00	.20	.09
	10	.002	61.195	.99	.13	.04

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions					
		GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.04	.03	.00	.00	.01	.04
	3	.02	.00	.00	.00	.10	.04
	4	.10	.03	.00	.00	.17	.12
	5	.02	.00	.00	.00	.43	.54
	6	.22	.00	.07	.00	.01	.00
	7	.01	.88	.01	.00	.01	.19
	8	.18	.02	.59	.02	.16	.00
	9	.39	.02	.13	.51	.04	.05
	10	.01	.00	.20	.46	.07	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance ...
		Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.00
	8	.01
	9	.48
	10	.51

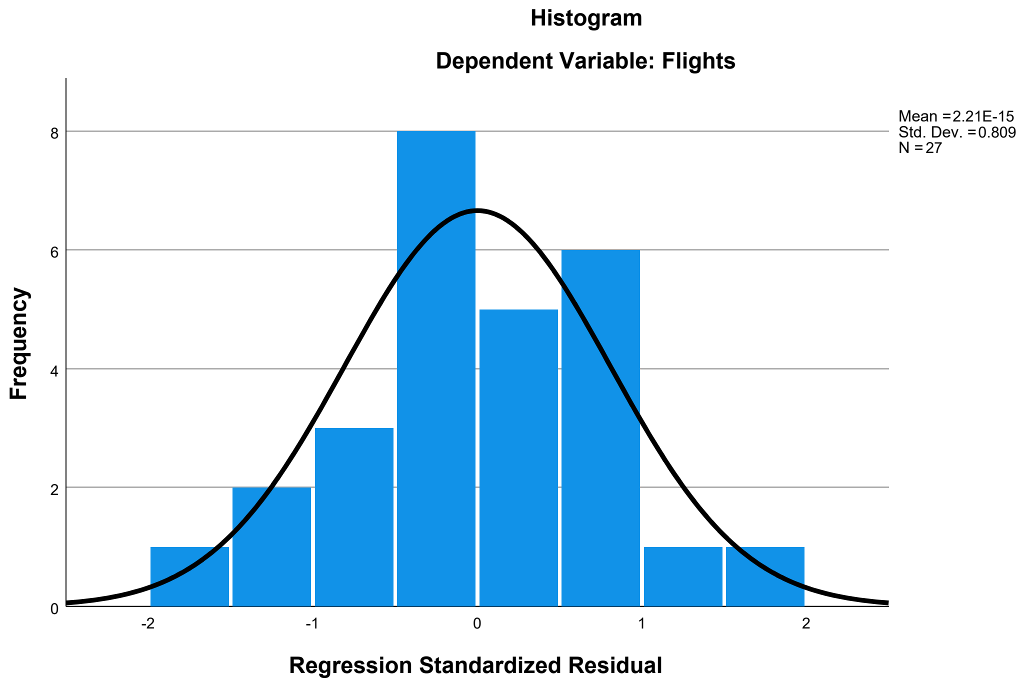
a. Dependent Variable: Flights

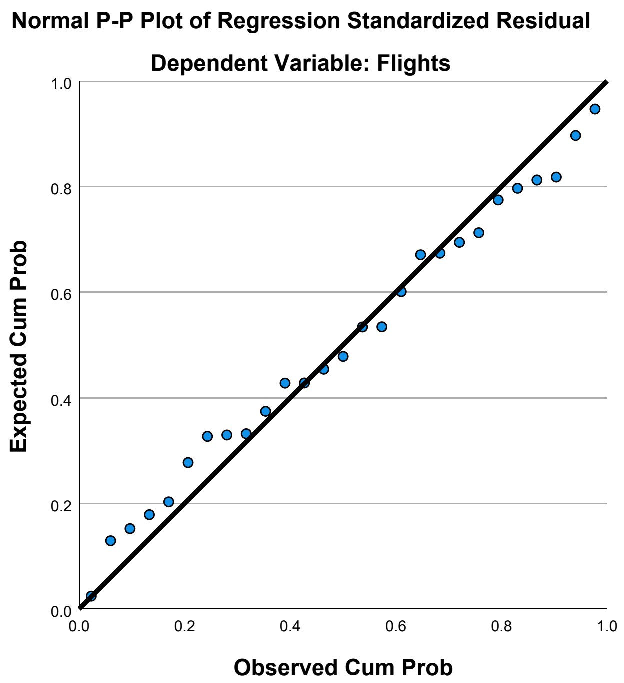
Residuals Statistics[a]

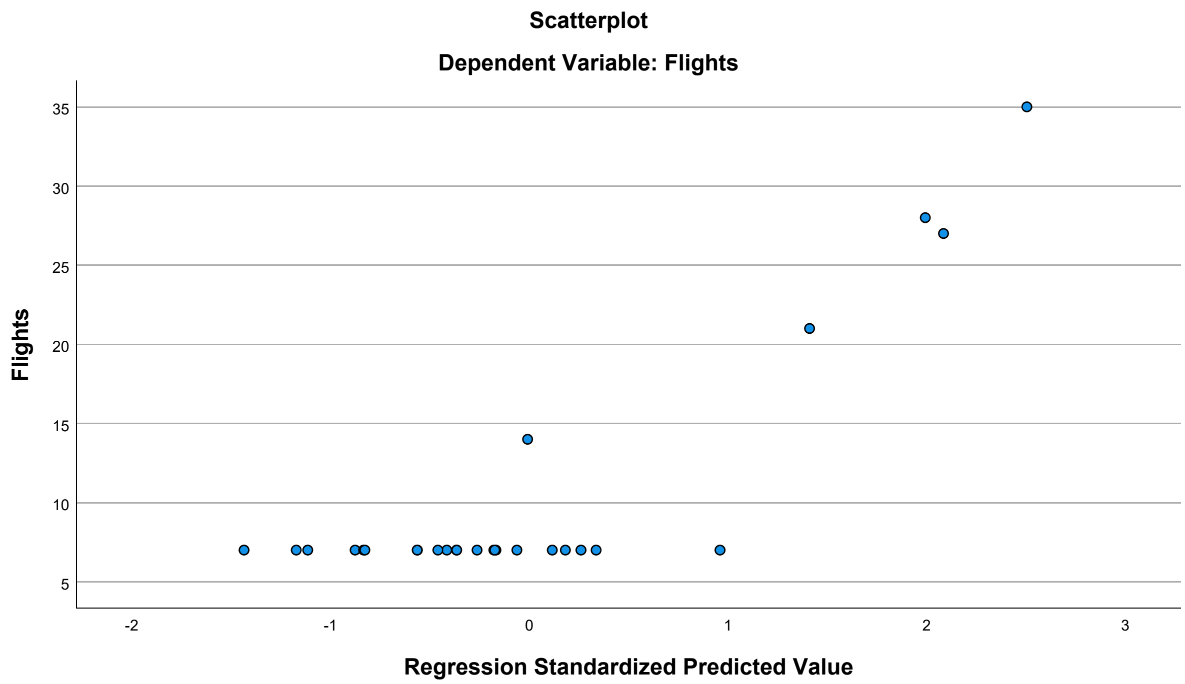
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.76	27.03	10.33	6.667	27
Residual	-9.734	7.973	.000	3.992	27
Std. Predicted Value	-1.435	2.504	.000	1.000	27
Std. Residual	-1.972	1.615	.000	.809	27

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
5
10
15
20
25
30
35
-2
-1
0
1
2
3

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.33	7.771	27
HomeConcentration	3.5094008889	3.4257658932	27
GJFK	.33	.480	27
PartnerConcentration	1.7063348889	1.9251286311	27
Seasonality	.57013662824	.18112303652	27
Distance	4.15970	.598161	27
Language	2.69833159	4.275771541	27
Ethnicity	.59229570	.739020900	27
Urban	20.00	2.000	27

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.031	.052	.520
	HomeConcentration	.031	1.000	-.538	.044
	GJFK	.052	-.538	1.000	-.233
	PartnerConcentration	.520	.044	-.233	1.000
	Seasonality	.023	.080	-.238	-.177
	Distance	-.239	.695	-.502	.085
	Language	.541	-.134	.039	.228
	Ethnicity	.124	-.220	.304	-.266
	Urban	.468	-.387	.560	.152
Sig. (1-tailed)	Flights	.	.438	.399	.003
	HomeConcentration	.438	.	.002	.414
	GJFK	.399	.002	.	.121
	PartnerConcentration	.003	.414	.121	.
	Seasonality	.454	.345	.116	.188
	Distance	.115	.000	.004	.336
	Language	.002	.253	.423	.126
	Ethnicity	.269	.135	.062	.090
	Urban	.007	.023	.001	.225
N	Flights	27	27	27	27
	HomeConcentration	27	27	27	27
	GJFK	27	27	27	27
	PartnerConcentration	27	27	27	27
	Seasonality	27	27	27	27
	Distance	27	27	27	27
	Language	27	27	27	27
	Ethnicity	27	27	27	27
	Urban	27	27	27	27

Correlations

		Seasonality	Distance	Language	Ethnicity
Pearson Correlation	Flights	.023	-.239	.541	.124
	HomeConcentration	.080	.695	-.134	-.220
	GJFK	-.238	-.502	.039	.304
	PartnerConcentration	-.177	.085	.228	-.266
	Seasonality	1.000	-.237	.153	.043
	Distance	-.237	1.000	-.362	-.172
	Language	.153	-.362	1.000	.320
	Ethnicity	.043	-.172	.320	1.000
	Urban	-.259	-.324	.161	.168
Sig. (1-tailed)	Flights	.454	.115	.002	.269
	HomeConcentration	.345	.000	.253	.135
	GJFK	.116	.004	.423	.062
	PartnerConcentration	.188	.336	.126	.090
	Seasonality	.	.117	.223	.416
	Distance	.117	.	.032	.196
	Language	.223	.032	.	.052
	Ethnicity	.416	.196	.052	.
	Urban	.096	.050	.211	.201
N	Flights	27	27	27	27
	HomeConcentration	27	27	27	27
	GJFK	27	27	27	27
	PartnerConcentration	27	27	27	27
	Seasonality	27	27	27	27
	Distance	27	27	27	27
	Language	27	27	27	27
	Ethnicity	27	27	27	27
	Urban	27	27	27	27

Correlations

		Urban
Pearson Correlation	Flights	.468
	HomeConcentration	-.387
	GJFK	.560
	PartnerConcentration	.152
	Seasonality	-.259
	Distance	-.324
	Language	.161
	Ethnicity	.168
	Urban	1.000
Sig. (1-tailed)	Flights	.007
	HomeConcentration	.023
	GJFK	.001
	PartnerConcentration	.225
	Seasonality	.096
	Distance	.050
	Language	.211
	Ethnicity	.201
	Urban	.
N	Flights	27
	HomeConcentration	27
	GJFK	27
	PartnerConcentration	27
	Seasonality	27
	Distance	27
	Language	27
	Ethnicity	27
	Urban	27

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Language, Seasonality, HomeConcentration, Ethnicity, GJFK, Distance[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.829[a]	.687	.549	5.221	.687	4.950

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	18	.002

a. Predictors: (Constant), Urban, PartnerConcentration, Language, Seasonality, HomeConcentration, Ethnicity, GJFK, Distance

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1079.364	8	134.920	4.950	.002[b]
	Residual	490.636	18	27.258		
	Total	1570.000	26			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Language, Seasonality, HomeConcentration, Ethnicity, GJFK, Distance

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-13.516	19.814		-.682	.504
	HomeConcentration	1.052	.466	.464	2.257	.037
	GJFK	-1.439	3.362	-.089	-.428	.674
	PartnerConcentration	1.727	.651	.428	2.653	.016
	Seasonality	1.063	6.987	.025	.152	.881
	Distance	-4.864	3.075	-.374	-1.582	.131
	Language	.455	.305	.250	1.493	.153
	Ethnicity	1.526	1.672	.145	.913	.373
	Urban	1.759	.670	.453	2.627	.017

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.411	2.434
	GJFK	.402	2.488
	PartnerConcentration	.667	1.499
	Seasonality	.655	1.528
	Distance	.310	3.228
	Language	.618	1.619
	Ethnicity	.687	1.457
	Urban	.585	1.711

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

				Variance Proportions		
Model	Dimension	Eigenvalue	Condition Index	(Constant)	HomeConcentration	GJFK
1	1	6.062	1.000	.00	.00	.00
	2	1.107	2.340	.00	.04	.09
	3	.736	2.870	.00	.01	.03
	4	.559	3.292	.00	.05	.10
	5	.277	4.677	.00	.02	.06
	6	.197	5.543	.00	.43	.24
	7	.054	10.609	.00	.09	.14
	8	.006	32.480	.00	.23	.33
	9	.002	58.347	1.00	.12	.00

Collinearity Diagnostics[a]

		Variance Proportions					
Model	Dimension	PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.01	.00
	2	.03	.00	.00	.02	.08	.00
	3	.09	.00	.00	.37	.00	.00
	4	.22	.00	.00	.03	.20	.00
	5	.32	.01	.00	.33	.62	.00
	6	.06	.08	.00	.01	.02	.00
	7	.22	.57	.02	.08	.03	.01
	8	.03	.07	.46	.11	.02	.52
	9	.02	.28	.52	.05	.03	.47

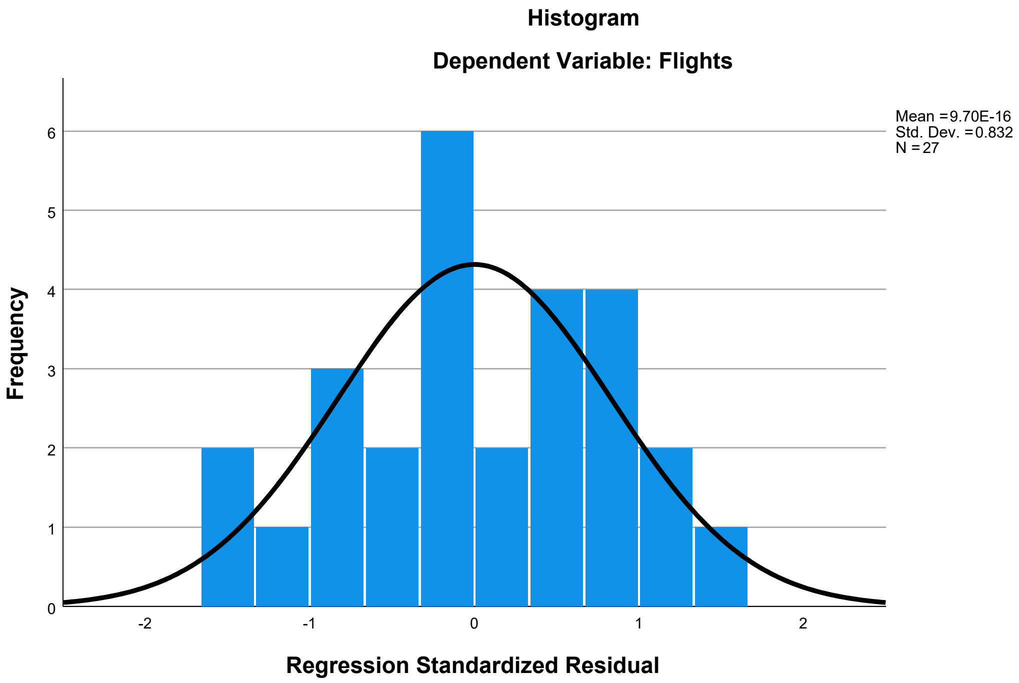
a. Dependent Variable: Flights

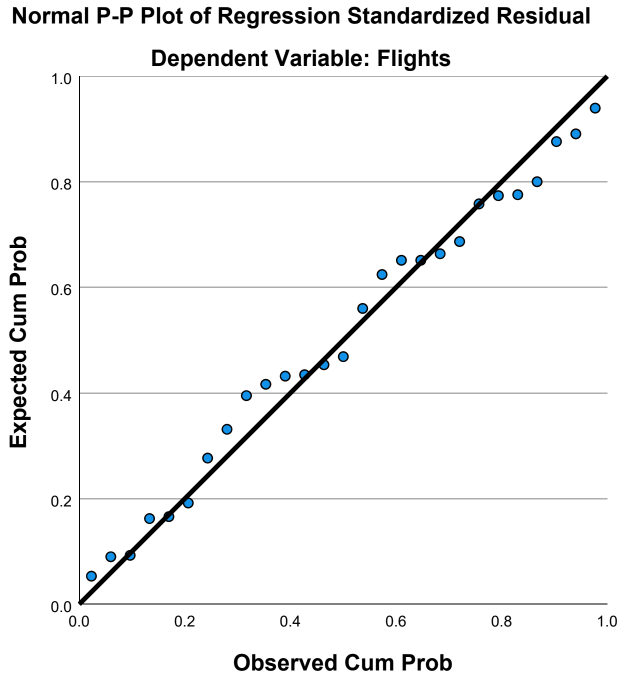
Residuals Statistics[a]

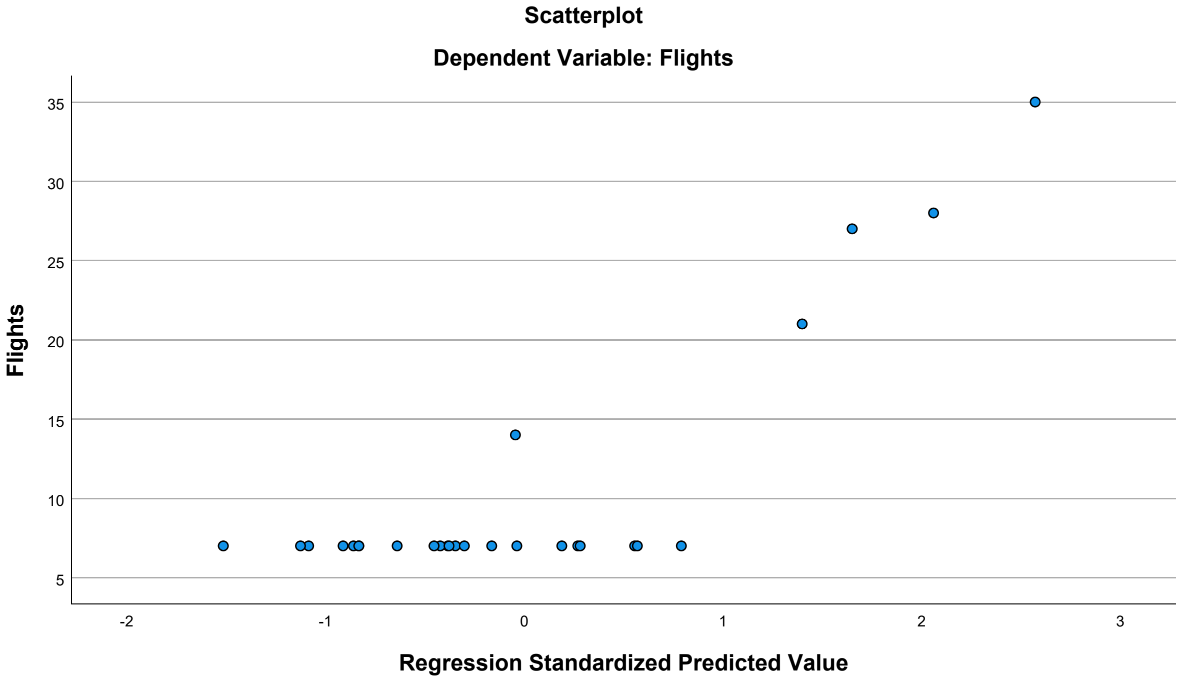
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.57	26.90	10.33	6.443	27
Residual	-8.427	8.099	.000	4.344	27
Std. Predicted Value	-1.515	2.571	.000	1.000	27
Std. Residual	-1.614	1.551	.000	.832	27

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
5
10
15
20
25
30
35
-2
-1
0
1
2
3

Regression

```
[DataSet11] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
\2017 - AA.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.71	4.795	52
HomeConcentration	4.8480353462	3.0708274691	52
Congestion	4.40	.934	52
GLHR	.15	.364	52
GJFK	.19	.398	52
PartnerConcentration	1.32253338	2.014296497	52
Seasonality	.75129572969	.22039087593	52
Distance	4.10469	.613090	52
Language	2.33356567	3.999170215	52
Ethnicity	.47294075000	.61440167308	52
Urban	17.25	3.751	52

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	-.098	.202	.789
	HomeConcentration	-.098	1.000	-.605	-.078
	Congestion	.202	-.605	1.000	.044
	GLHR	.789	-.078	.044	1.000
	GJFK	.102	-.596	.789	-.073
	PartnerConcentration	.668	-.054	.068	.867
	Seasonality	-.308	.154	-.152	-.375
	Distance	-.030	.439	-.206	.052
	Language	.432	-.361	.322	.316
	Ethnicity	.083	-.358	.394	-.013
	Urban	.412	-.513	.676	.287
Sig. (1-tailed)	Flights	.	.244	.076	<.001
	HomeConcentration	.244	.	.000	.291
	Congestion	.076	.000	.	.378
	GLHR	.000	.291	.378	.
	GJFK	.237	.000	.000	.304
	PartnerConcentration	.000	.351	.317	.000
	Seasonality	.013	.138	.140	.003
	Distance	.418	.001	.071	.357
	Language	.001	.004	.010	.011
	Ethnicity	.279	.005	.002	.465
	Urban	.001	.000	.000	.020
N	Flights	52	52	52	52
	HomeConcentration	52	52	52	52

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.102	.668	-.308	-.030
	HomeConcentration	-.596	-.054	.154	.439
	Congestion	.789	.068	-.152	-.206
	GLHR	-.073	.867	-.375	.052
	GJFK	1.000	-.066	.010	-.369
	PartnerConcentration	-.066	1.000	-.305	.084
	Seasonality	.010	-.305	1.000	-.021
	Distance	-.369	.084	-.021	1.000
	Language	.352	.161	.032	-.465
	Ethnicity	.409	-.205	.120	-.234
	Urban	.493	.297	-.440	.060
Sig. (1-tailed)	Flights	.237	<.001	.013	.418
	HomeConcentration	.000	.351	.138	.001
	Congestion	.000	.317	.140	.071
	GLHR	.304	.000	.003	.357
	GJFK	.	.321	.473	.004
	PartnerConcentration	.321	.	.014	.278
	Seasonality	.473	.014	.	.442
	Distance	.004	.278	.442	.
	Language	.005	.127	.410	.000
	Ethnicity	.001	.072	.199	.047
	Urban	.000	.016	.001	.337
N	Flights	52	52	52	52
	HomeConcentration	52	52	52	52

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.432	.083	.412
	HomeConcentration	-.361	-.358	-.513
	Congestion	.322	.394	.676
	GLHR	.316	-.013	.287
	GJFK	.352	.409	.493
	PartnerConcentration	.161	-.205	.297
	Seasonality	.032	.120	-.440
	Distance	-.465	-.234	.060
	Language	1.000	.394	.190
	Ethnicity	.394	1.000	.164
	Urban	.190	.164	1.000
Sig. (1-tailed)	Flights	<.001	.279	.001
	HomeConcentration	.004	.005	.000
	Congestion	.010	.002	.000
	GLHR	.011	.465	.020
	GJFK	.005	.001	.000
	PartnerConcentration	.127	.072	.016
	Seasonality	.410	.199	.001
	Distance	.000	.047	.337
	Language	.	.002	.089
	Ethnicity	.002	.	.122
	Urban	.089	.122	.
N	Flights	52	52	52
	HomeConcentration	52	52	52

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	52	52	52	52
	GLHR	52	52	52	52
	GJFK	52	52	52	52
	PartnerConcentration	52	52	52	52
	Seasonality	52	52	52	52
	Distance	52	52	52	52
	Language	52	52	52	52
	Ethnicity	52	52	52	52
	Urban	52	52	52	52

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	52	52	52	52
GLHR	52	52	52	52
GJFK	52	52	52	52
PartnerConcentration	52	52	52	52
Seasonality	52	52	52	52
Distance	52	52	52	52
Language	52	52	52	52
Ethnicity	52	52	52	52
Urban	52	52	52	52

Correlations

	Language	Ethnicity	Urban
Congestion	52	52	52
GLHR	52	52	52
GJFK	52	52	52
PartnerConcentration	52	52	52
Seasonality	52	52	52
Distance	52	52	52
Language	52	52	52
Ethnicity	52	52	52
Urban	52	52	52

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, GLHR, Ethnicity, Seasonality, Language, HomeConcentration, GJFK, Congestion, PartnerConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.846[a]	.717	.647	2.847	.717	10.364

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	10	41	<.001

a. Predictors: (Constant), Urban, Distance, GLHR, Ethnicity, Seasonality, Language, HomeConcentration, GJFK, Congestion, PartnerConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	840.267	10	84.027	10.364	<.001[b]
	Residual	332.406	41	8.107		
	Total	1172.673	51			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, GLHR, Ethnicity, Seasonality, Language, HomeConcentration, GJFK, Congestion, PartnerConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.199	4.703		.042	.966
	HomeConcentration	.368	.192	.236	1.916	.062
	Congestion	.064	.856	.012	.074	.941
	GLHR	9.506	2.720	.722	3.495	.001
	GJFK	.498	1.824	.041	.273	.786
	PartnerConcentration	-.097	.463	-.041	-.210	.834
	Seasonality	.818	2.318	.038	.353	.726
	Distance	-.639	.903	-.082	-.707	.483
	Language	.216	.138	.180	1.563	.126
	Ethnicity	.026	.842	.003	.031	.976
	Urban	.378	.185	.295	2.038	.048

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.458	2.186
	Congestion	.249	4.020
	GLHR	.162	6.177
	GJFK	.302	3.313
	PartnerConcentration	.183	5.479
	Seasonality	.609	1.642
	Distance	.518	1.930
	Language	.522	1.917
	Ethnicity	.594	1.684
	Urban	.329	3.037

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.105	1.000	.00	.00	.00
	2	1.452	2.212	.00	.00	.00
	3	1.294	2.343	.00	.02	.00
	4	.509	3.737	.00	.01	.00
	5	.351	4.497	.00	.00	.00
	6	.126	7.515	.00	.61	.00
	7	.085	9.126	.00	.00	.00
	8	.054	11.433	.00	.12	.00
	9	.010	26.715	.03	.03	.55
	10	.009	28.646	.04	.19	.02
	11	.005	36.604	.92	.01	.42

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.04	.02	.03	.00	.00	.00
	3	.01	.05	.00	.00	.00	.08
	4	.00	.19	.01	.00	.00	.24
	5	.02	.01	.00	.00	.00	.40
	6	.03	.32	.00	.00	.00	.00
	7	.31	.00	.55	.14	.00	.00
	8	.52	.02	.34	.42	.00	.10
	9	.04	.19	.02	.00	.37	.10
	10	.02	.05	.02	.31	.47	.06
	11	.01	.15	.01	.13	.16	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.02	.00
	3	.03	.00
	4	.11	.00
	5	.58	.00
	6	.01	.01
	7	.09	.02
	8	.12	.02
	9	.01	.13
	10	.00	.82
	11	.02	.00

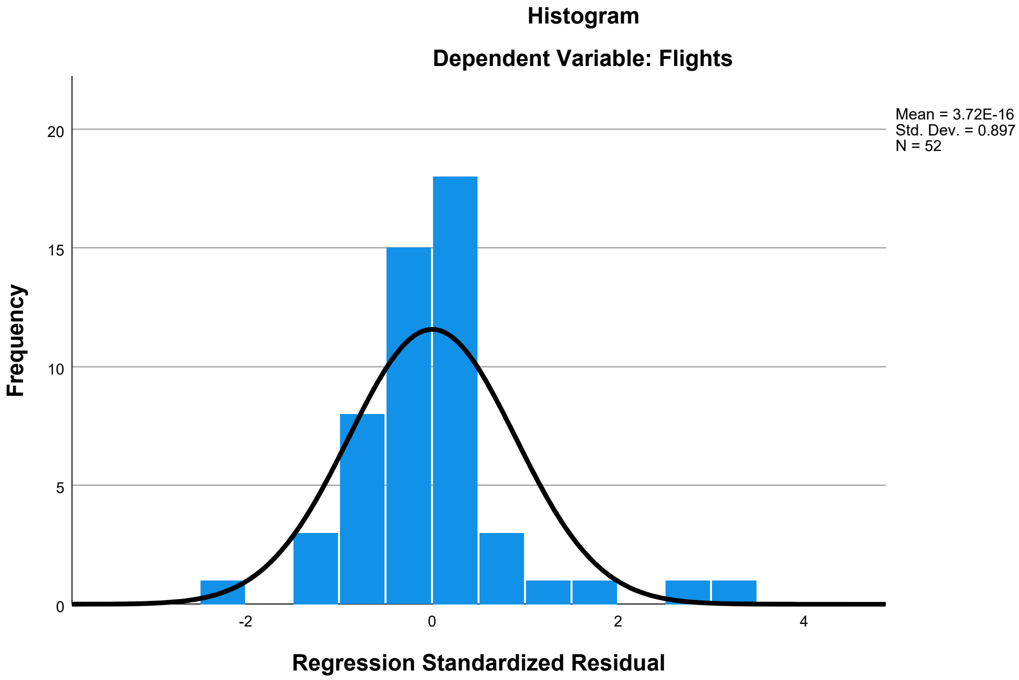
a. Dependent Variable: Flights

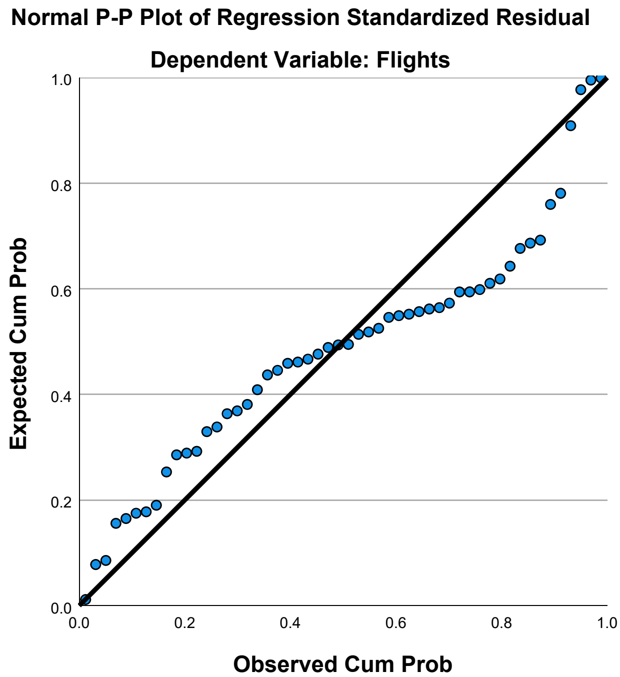
Residuals Statistics[a]

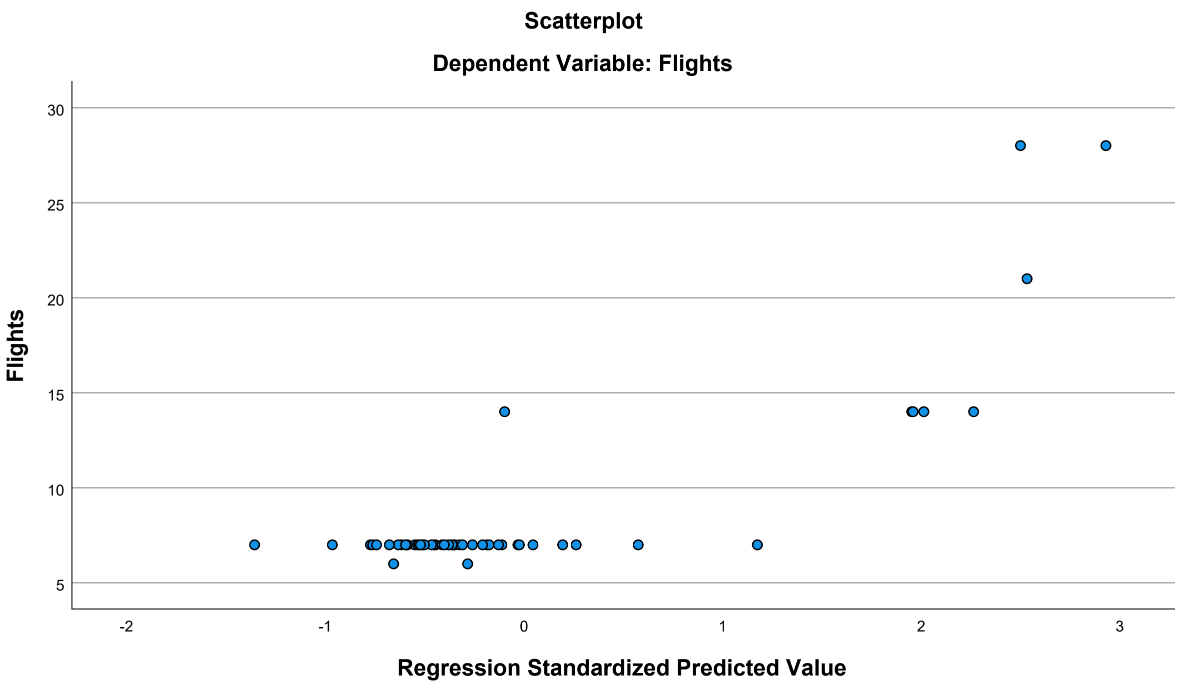
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.20	20.60	8.71	4.059	52
Residual	-6.478	9.144	.000	2.553	52
Std. Predicted Value	-1.357	2.929	.000	1.000	52
Std. Residual	-2.275	3.211	.000	.897	52

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 3.72E-16
Std. Dev. = 0.897
N = 52
Frequency
20
15
10
5
0
-2
0
2
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.71	4.795	52
HomeConcentration	4.8480353462	3.0708274691	52
Congestion	4.40	.934	52
GJFK	.19	.398	52
PartnerConcentration	1.32253338	2.014296497	52
Seasonality	.75129572969	.22039087593	52
Distance	4.10469	.613090	52
Language	2.33356567	3.999170215	52
Ethnicity	.47294075000	.61440167308	52
Urban	17.25	3.751	52

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	-.098	.202	.102
	HomeConcentration	-.098	1.000	-.605	-.596
	Congestion	.202	-.605	1.000	.789
	GJFK	.102	-.596	.789	1.000
	PartnerConcentration	.668	-.054	.068	-.066
	Seasonality	-.308	.154	-.152	.010
	Distance	-.030	.439	-.206	-.369
	Language	.432	-.361	.322	.352
	Ethnicity	.083	-.358	.394	.409
	Urban	.412	-.513	.676	.493
Sig. (1-tailed)	Flights	.	.244	.076	.237
	HomeConcentration	.244	.	.000	.000
	Congestion	.076	.000	.	.000
	GJFK	.237	.000	.000	.
	PartnerConcentration	.000	.351	.317	.321
	Seasonality	.013	.138	.140	.473
	Distance	.418	.001	.071	.004
	Language	.001	.004	.010	.005
	Ethnicity	.279	.005	.002	.001
	Urban	.001	.000	.000	.000
N	Flights	52	52	52	52
	HomeConcentration	52	52	52	52
	Congestion	52	52	52	52
	GJFK	52	52	52	52
	PartnerConcentration	52	52	52	52
	Seasonality	52	52	52	52
	Distance	52	52	52	52
	Language	52	52	52	52
	Ethnicity	52	52	52	52
	Urban	52	52	52	52

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.668	-.308	-.030	.432
	HomeConcentration	-.054	.154	.439	-.361
	Congestion	.068	-.152	-.206	.322
	GJFK	-.066	.010	-.369	.352
	PartnerConcentration	1.000	-.305	.084	.161
	Seasonality	-.305	1.000	-.021	.032
	Distance	.084	-.021	1.000	-.465
	Language	.161	.032	-.465	1.000
	Ethnicity	-.205	.120	-.234	.394
	Urban	.297	-.440	.060	.190
Sig. (1-tailed)	Flights	<.001	.013	.418	<.001
	HomeConcentration	.351	.138	.001	.004
	Congestion	.317	.140	.071	.010
	GJFK	.321	.473	.004	.005
	PartnerConcentration	.	.014	.278	.127
	Seasonality	.014	.	.442	.410
	Distance	.278	.442	.	.000
	Language	.127	.410	.000	.
	Ethnicity	.072	.199	.047	.002
	Urban	.016	.001	.337	.089
N	Flights	52	52	52	52
	HomeConcentration	52	52	52	52
	Congestion	52	52	52	52
	GJFK	52	52	52	52
	PartnerConcentration	52	52	52	52
	Seasonality	52	52	52	52
	Distance	52	52	52	52
	Language	52	52	52	52
	Ethnicity	52	52	52	52
	Urban	52	52	52	52

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.083	.412
	HomeConcentration	-.358	-.513
	Congestion	.394	.676
	GJFK	.409	.493
	PartnerConcentration	-.205	.297
	Seasonality	.120	-.440
	Distance	-.234	.060
	Language	.394	.190
	Ethnicity	1.000	.164
	Urban	.164	1.000
Sig. (1-tailed)	Flights	.279	.001
	HomeConcentration	.005	.000
	Congestion	.002	.000
	GJFK	.001	.000
	PartnerConcentration	.072	.016
	Seasonality	.199	.001
	Distance	.047	.337
	Language	.002	.089
	Ethnicity	.	.122
	Urban	.122	.
N	Flights	52	52
	HomeConcentration	52	52
	Congestion	52	52
	GJFK	52	52
	PartnerConcentration	52	52
	Seasonality	52	52
	Distance	52	52
	Language	52	52
	Ethnicity	52	52
	Urban	52	52

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Ethnicity, PartnerConcentration, Seasonality, Language, HomeConcentration, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change	Change Statistics: df1	Change Statistics: df2	Change Statistics: Sig. F Change
1	.795[a]	.632	.553	3.205	.632	8.018	9	42	<.001

a. Predictors: (Constant), Urban, Distance, Ethnicity, PartnerConcentration, Seasonality, Language, HomeConcentration, GJFK, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	741.240	9	82.360	8.018	<.001[b]
	Residual	431.433	42	10.272		
	Total	1172.673	51			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Ethnicity, PartnerConcentration, Seasonality, Language, HomeConcentration, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.373	5.281		.260	.796
	HomeConcentration	.363	.216	.232	1.678	.101
	Congestion	-.454	.949	-.088	-.479	.635
	GJFK	.288	2.052	.024	.140	.889
	PartnerConcentration	1.308	.259	.550	5.052	<.001
	Seasonality	-1.890	2.459	-.087	-.769	.446
	Distance	-.166	1.005	-.021	-.165	.870
	Language	.399	.144	.333	2.777	.008
	Ethnicity	1.015	.893	.130	1.137	.262
	Urban	.376	.208	.294	1.803	.079

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.458	2.185
	Congestion	.256	3.900
	GJFK	.302	3.309
	PartnerConcentration	.740	1.351
	Seasonality	.686	1.459
	Distance	.530	1.886
	Language	.610	1.640
	Ethnicity	.670	1.493
	Urban	.329	3.037

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.872	1.000	.00	.00	.00
	2	1.317	2.285	.00	.02	.00
	3	.773	2.982	.00	.00	.00
	4	.507	3.683	.00	.01	.00
	5	.315	4.669	.00	.01	.00
	6	.122	7.491	.00	.60	.00
	7	.070	9.931	.00	.11	.00
	8	.010	25.717	.01	.07	.52
	9	.009	28.004	.06	.17	.07
	10	.005	35.842	.92	.01	.40

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.07	.01	.00	.00	.07	.05
	3	.00	.47	.00	.00	.08	.04
	4	.19	.03	.00	.00	.34	.10
	5	.03	.23	.00	.00	.32	.73
	6	.28	.10	.00	.00	.00	.05
	7	.00	.14	.57	.00	.03	.00
	8	.26	.01	.00	.46	.08	.00
	9	.03	.01	.31	.34	.03	.01
	10	.14	.00	.11	.20	.05	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.01
	7	.03
	8	.05
	9	.91
	10	.00

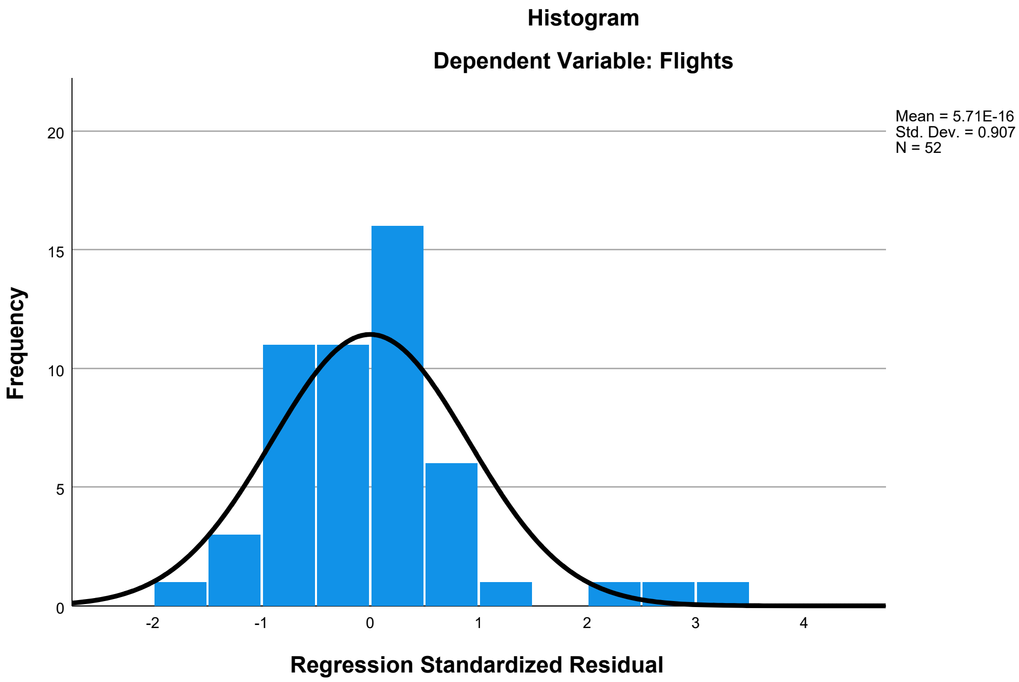
a. Dependent Variable: Flights

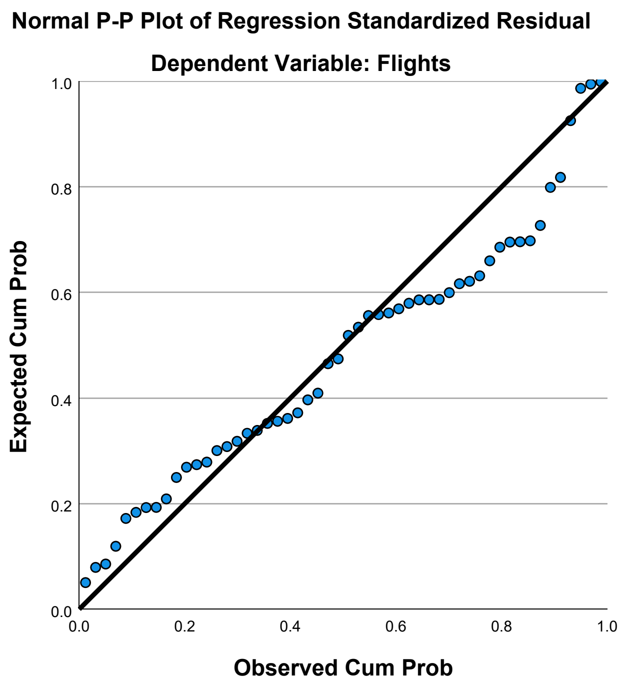
Residuals Statistics[a]

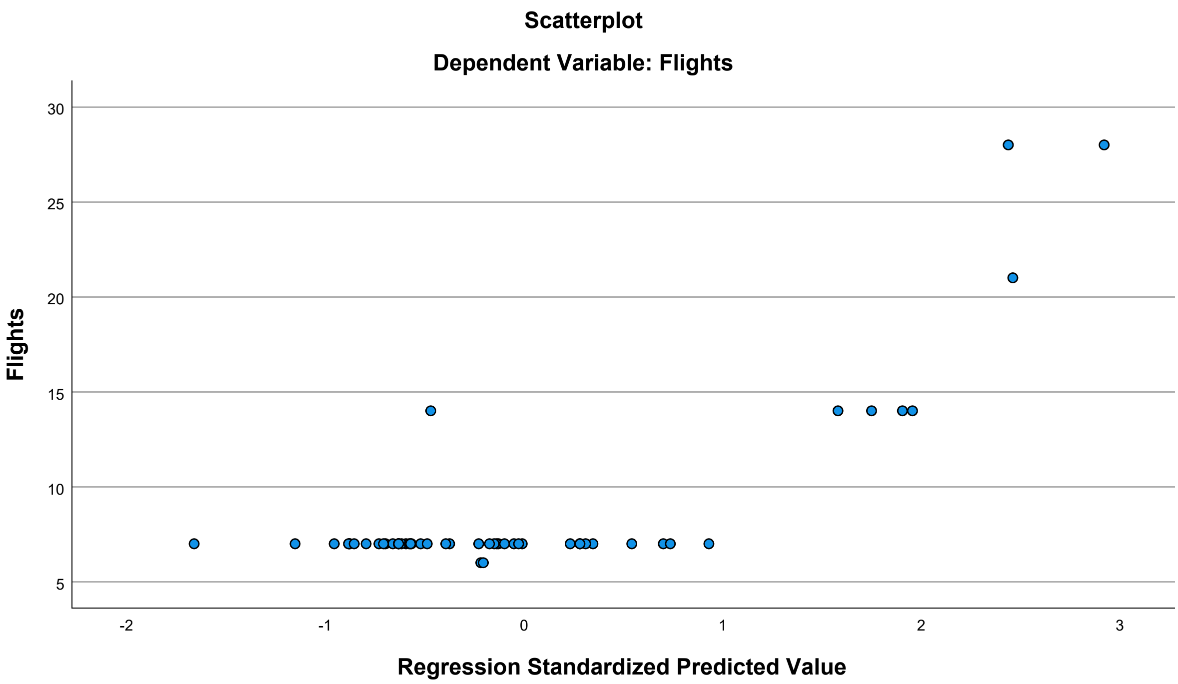
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.38	19.84	8.71	3.812	52
Residual	-5.258	9.995	.000	2.909	52
Std. Predicted Value	-1.662	2.920	.000	1.000	52
Std. Residual	-1.640	3.118	.000	.907	52

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
5
10
15
20
25
30
-2
-1
0
1
2
3

Regression

```
[DataSet11] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
\1997 - DL.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.66	2.585	32
NAFlights	.39464285714	.10041061189	32
Congestion	4.78	1.157	32
GLHR	.00	.000	32
GJFK	.47	.507	32
PartnerConcentration	.309209	.7613304	32
Seasonality	.63967803030	.19193869572	32
Distance	4203.31	438.563	32
Language	162518.09	425988.225	32
Ethnicity	788404.34	914600.878	32
Urban	17.78	3.722	32

Correlations

		Flights	NAFlights	Congestion	GLHR
Pearson Correlation	Flights	1.000	-.160	.082	.
	NAFlights	-.160	1.000	.482	.
	Congestion	.082	.482	1.000	.
	GLHR	.	.	.	1.000
	GJFK	-.070	.594	.896	.
	PartnerConcentration	-.106	-.192	-.134	.
	Seasonality	-.184	.250	.292	.
	Distance	.188	-.121	-.246	.
	Language	-.018	.171	.279	.
	Ethnicity	.399	-.062	.202	.
	Urban	.082	.618	.670	.
Sig. (1-tailed)	Flights	.	.191	.328	.000
	NAFlights	.191	.	.003	.000
	Congestion	.328	.003	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.352	.000	.000	.000
	PartnerConcentration	.281	.146	.232	.000
	Seasonality	.156	.084	.053	.000
	Distance	.152	.255	.087	.000
	Language	.461	.174	.061	.000
	Ethnicity	.012	.368	.133	.000
	Urban	.327	.000	.000	.000
N	Flights	32	32	32	32
	NAFlights	32	32	32	32
	Congestion	32	32	32	32
	GLHR	32	32	32	32
	GJFK	32	32	32	32
	PartnerConcentration	32	32	32	32
	Seasonality	32	32	32	32
	Distance	32	32	32	32
	Language	32	32	32	32
	Ethnicity	32	32	32	32
	Urban	32	32	32	32

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	-.070	-.106	-.184	.188
	NAFlights	.594	-.192	.250	-.121
	Congestion	.896	-.134	.292	-.246
	GLHR	.	.	.	.
	GJFK	1.000	-.217	.361	-.387
	PartnerConcentration	-.217	1.000	-.243	.173
	Seasonality	.361	-.243	1.000	-.080
	Distance	-.387	.173	-.080	1.000
	Language	.285	-.087	.322	-.269
	Ethnicity	.214	-.349	-.140	-.201
	Urban	.518	-.064	.041	-.128
Sig. (1-tailed)	Flights	.352	.281	.156	.152
	NAFlights	.000	.146	.084	.255
	Congestion	.000	.232	.053	.087
	GLHR	.000	.000	.000	.000
	GJFK	.	.116	.021	.014
	PartnerConcentration	.116	.	.090	.172
	Seasonality	.021	.090	.	.332
	Distance	.014	.172	.332	.
	Language	.057	.318	.036	.069
	Ethnicity	.120	.025	.222	.136
	Urban	.001	.364	.411	.243
N	Flights	32	32	32	32
	NAFlights	32	32	32	32
	Congestion	32	32	32	32
	GLHR	32	32	32	32
	GJFK	32	32	32	32
	PartnerConcentration	32	32	32	32
	Seasonality	32	32	32	32
	Distance	32	32	32	32
	Language	32	32	32	32
	Ethnicity	32	32	32	32
	Urban	32	32	32	32

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	-.018	.399	.082
	NAFlights	.171	-.062	.618
	Congestion	.279	.202	.670
	GLHR	.	.	.
	GJFK	.285	.214	.518
	PartnerConcentration	-.087	-.349	-.064
	Seasonality	.322	-.140	.041
	Distance	-.269	-.201	-.128
	Language	1.000	-.072	.271
	Ethnicity	-.072	1.000	-.055
	Urban	.271	-.055	1.000
Sig. (1-tailed)	Flights	.461	.012	.327
	NAFlights	.174	.368	.000
	Congestion	.061	.133	.000
	GLHR	.000	.000	.000
	GJFK	.057	.120	.001
	PartnerConcentration	.318	.025	.364
	Seasonality	.036	.222	.411
	Distance	.069	.136	.243
	Language	.	.348	.067
	Ethnicity	.348	.	.383
	Urban	.067	.383	.
N	Flights	32	32	32
	NAFlights	32	32	32
	Congestion	32	32	32
	GLHR	32	32	32
	GJFK	32	32	32
	PartnerConcentration	32	32	32
	Seasonality	32	32	32
	Distance	32	32	32
	Language	32	32	32
	Ethnicity	32	32	32
	Urban	32	32	32

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, Distance, Ethnicity, PartnerConcentration, Language, NAFlights, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.578[a]	.334	.062	2.505	.334	1.226

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	22	.329

a. Predictors: (Constant), Urban, Seasonality, Distance, Ethnicity, PartnerConcentration, Language, NAFlights, GJFK, Congestio

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	69.221	9	7.691	1.226	.329[b]
	Residual	137.998	22	6.273		
	Total	207.219	31			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, Distance, Ethnicity, PartnerConcentration, Language, NAFlights, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-2.078	6.008		-.346	.733
	NAFlights	-3.987	7.790	-.155	-.512	.614
	Congestion	.808	1.335	.361	.605	.551
	GJFK	-2.053	2.975	-.403	-.690	.497
	PartnerConcentration	-.223	.686	-.066	-.325	.748
	Seasonality	-1.052	2.961	-.078	-.355	.726
	Distance	.001	.001	.240	1.146	.264
	Language	5.495E-7	.000	.091	.457	.652
	Ethnicity	1.222E-6	.000	.432	2.020	.056
	Urban	.120	.242	.173	.497	.624

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	NAFlights	.331	3.024
	Congestion	.085	11.786
	GJFK	.089	11.244
	PartnerConcentration	.742	1.348
	Seasonality	.626	1.597
	Distance	.688	1.453
	Language	.770	1.299
	Ethnicity	.660	1.514
	Urban	.249	4.022

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	Congestion	GJFK
1	1	7.193	1.000	.00	.00	.00	.00
	2	1.069	2.594	.00	.00	.00	.00
	3	.867	2.880	.00	.00	.00	.00
	4	.395	4.269	.00	.00	.00	.00
	5	.367	4.430	.00	.00	.00	.10
	6	.063	10.668	.00	.03	.00	.00
	7	.027	16.409	.01	.47	.04	.00
	8	.014	22.632	.05	.01	.01	.10
	9	.004	43.628	.91	.00	.00	.00
	10	.003	49.693	.04	.48	.95	.80

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.41	.00	.00	.07	.03	.00
	3	.04	.00	.00	.57	.08	.00
	4	.28	.01	.00	.12	.59	.00
	5	.09	.00	.00	.10	.01	.00
	6	.04	.54	.00	.02	.02	.03
	7	.09	.04	.01	.00	.11	.01
	8	.03	.35	.15	.10	.07	.31
	9	.00	.02	.68	.02	.06	.01
	10	.01	.03	.15	.00	.03	.64

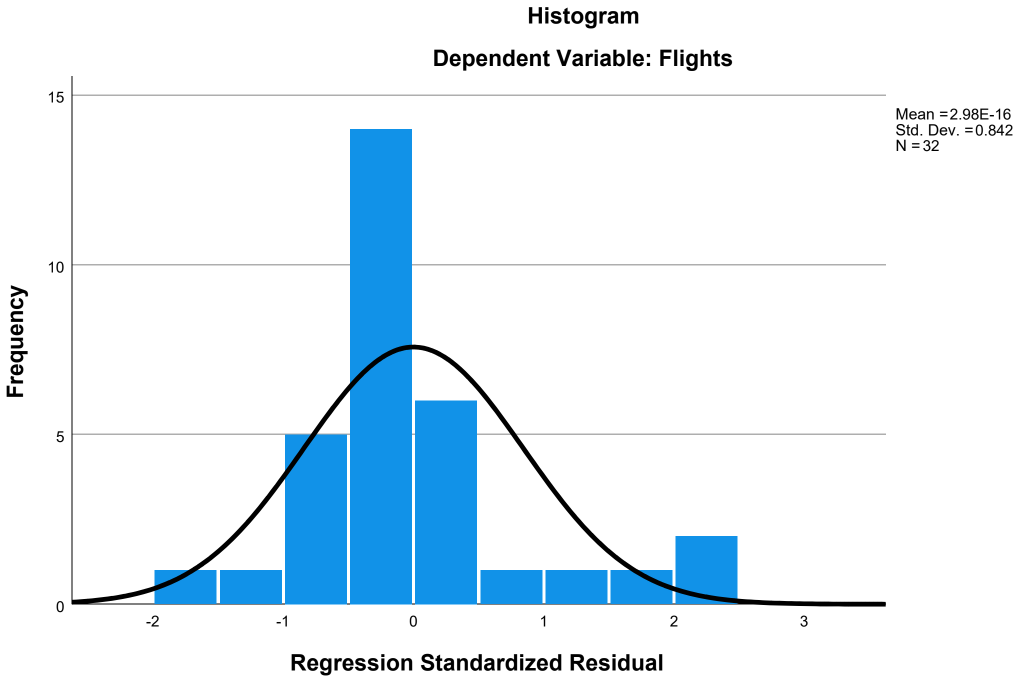
a. Dependent Variable: Flights

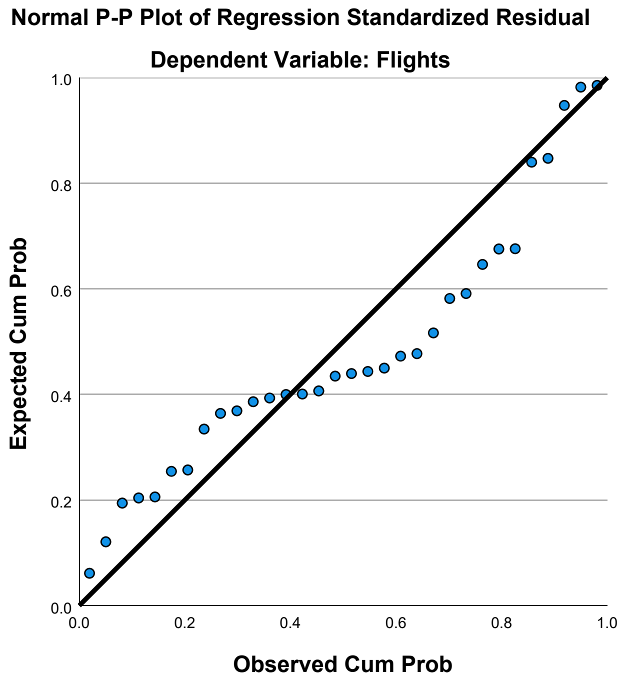
Residuals Statistics[a]

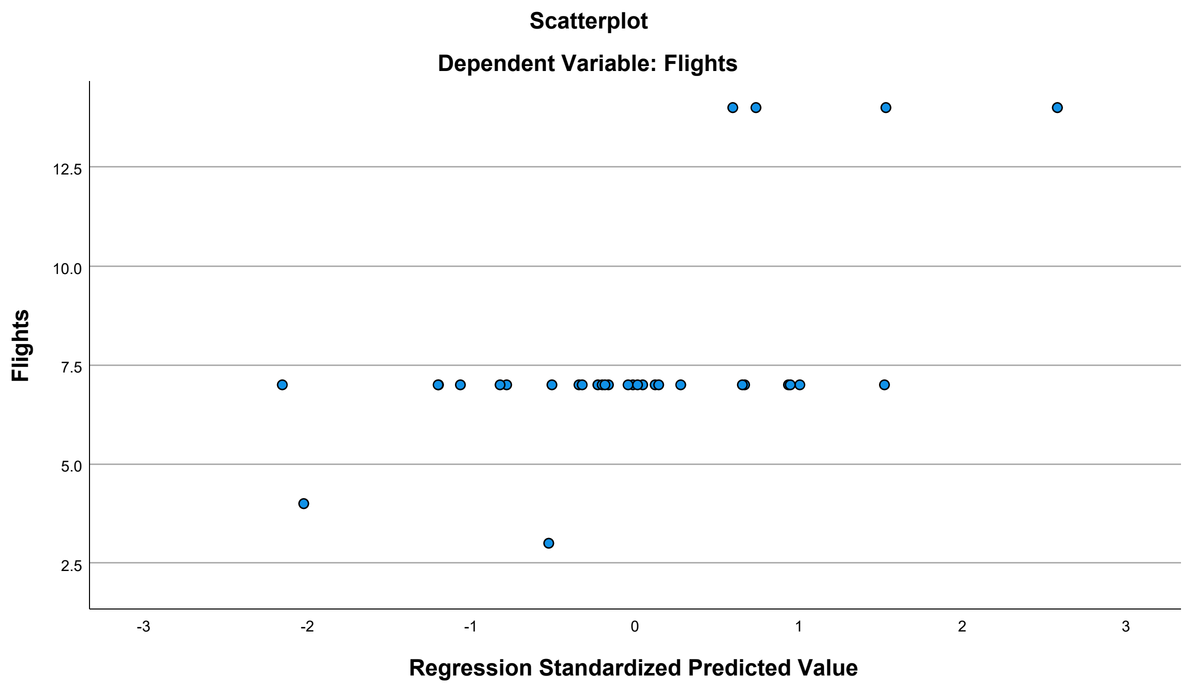
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.44	11.51	7.66	1.494	32
Residual	-3.868	5.451	.000	2.110	32
Std. Predicted Value	-2.155	2.580	.000	1.000	32
Std. Residual	-1.544	2.177	.000	.842	32

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean =2.98E-16
Std. Dev. =0.842
N =32
Frequency
15
10
5
0
-2
-1
0
1
2
3
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.66	2.585	32
NAFlights	.39464285714	.10041061189	32
GLHR	.00	.000	32
GJFK	.47	.507	32
PartnerConcentration	.309209	.7613304	32
Seasonality	.63967803030	.19193869572	32
Distance	4203.31	438.563	32
Language	162518.09	425988.225	32
Ethnicity	788404.34	914600.878	32
Urban	17.78	3.722	32

Correlations

		Flights	NAFlights	GLHR	GJFK
Pearson Correlation	Flights	1.000	-.160	.	-.070
	NAFlights	-.160	1.000	.	.594
	GLHR	.	.	1.000	.
	GJFK	-.070	.594	.	1.000
	PartnerConcentration	-.106	-.192	.	-.217
	Seasonality	-.184	.250	.	.361
	Distance	.188	-.121	.	-.387
	Language	-.018	.171	.	.285
	Ethnicity	.399	-.062	.	.214
	Urban	.082	.618	.	.518
Sig. (1-tailed)	Flights	.	.191	.000	.352
	NAFlights	.191	.	.000	.000
	GLHR	.000	.000	.	.000
	GJFK	.352	.000	.000	.
	PartnerConcentration	.281	.146	.000	.116
	Seasonality	.156	.084	.000	.021
	Distance	.152	.255	.000	.014
	Language	.461	.174	.000	.057
	Ethnicity	.012	.368	.000	.120
	Urban	.327	.000	.000	.001
N	Flights	32	32	32	32
	NAFlights	32	32	32	32
	GLHR	32	32	32	32
	GJFK	32	32	32	32
	PartnerConcentration	32	32	32	32
	Seasonality	32	32	32	32
	Distance	32	32	32	32
	Language	32	32	32	32
	Ethnicity	32	32	32	32
	Urban	32	32	32	32

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	-.106	-.184	.188	-.018
	NAFlights	-.192	.250	-.121	.171
	GLHR	.	.	.	.
	GJFK	-.217	.361	-.387	.285
	PartnerConcentration	1.000	-.243	.173	-.087
	Seasonality	-.243	1.000	-.080	.322
	Distance	.173	-.080	1.000	-.269
	Language	-.087	.322	-.269	1.000
	Ethnicity	-.349	-.140	-.201	-.072
	Urban	-.064	.041	-.128	.271
Sig. (1-tailed)	Flights	.281	.156	.152	.461
	NAFlights	.146	.084	.255	.174
	GLHR	.000	.000	.000	.000
	GJFK	.116	.021	.014	.057
	PartnerConcentration	.	.090	.172	.318
	Seasonality	.090	.	.332	.036
	Distance	.172	.332	.	.069
	Language	.318	.036	.069	.
	Ethnicity	.025	.222	.136	.348
	Urban	.364	.411	.243	.067
N	Flights	32	32	32	32
	NAFlights	32	32	32	32
	GLHR	32	32	32	32
	GJFK	32	32	32	32
	PartnerConcentration	32	32	32	32
	Seasonality	32	32	32	32
	Distance	32	32	32	32
	Language	32	32	32	32
	Ethnicity	32	32	32	32
	Urban	32	32	32	32

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.399	.082
	NAFlights	-.062	.618
	GLHR	.	.
	GJFK	.214	.518
	PartnerConcentration	-.349	-.064
	Seasonality	-.140	.041
	Distance	-.201	-.128
	Language	-.072	.271
	Ethnicity	1.000	-.055
	Urban	-.055	1.000
Sig. (1-tailed)	Flights	.012	.327
	NAFlights	.368	.000
	GLHR	.000	.000
	GJFK	.120	.001
	PartnerConcentration	.025	.364
	Seasonality	.222	.411
	Distance	.136	.243
	Language	.348	.067
	Ethnicity	.	.383
	Urban	.383	.
N	Flights	32	32
	NAFlights	32	32
	GLHR	32	32
	GJFK	32	32
	PartnerConcentration	32	32
	Seasonality	32	32
	Distance	32	32
	Language	32	32
	Ethnicity	32	32
	Urban	32	32

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, Distance, Ethnicity, PartnerConcentration, Language, NAFlights, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.568[a]	.323	.087	2.470	.323	1.372

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	23	.260

a. Predictors: (Constant), Urban, Seasonality, Distance, Ethnicity, PartnerConcentration, Language, NAFlights, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	66.926	8	8.366	1.372	.260[b]
	Residual	140.293	23	6.100		
	Total	207.219	31			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, Distance, Ethnicity, PartnerConcentration, Language, NAFlights, GJFK

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-1.128	5.719		-.197	.845
	NAFlights	-6.551	6.445	-.254	-1.016	.320
	GJFK	-.463	1.375	-.091	-.337	.739
	PartnerConcentration	-.165	.670	-.048	-.246	.808
	Seasonality	-.723	2.871	-.054	-.252	.803
	Distance	.002	.001	.282	1.446	.162
	Language	5.201E-7	.000	.086	.439	.665
	Ethnicity	1.296E-6	.000	.458	2.217	.037
	Urban	.225	.167	.324	1.344	.192

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	NAFlights	.470	2.129
	GJFK	.405	2.470
	PartnerConcentration	.757	1.321
	Seasonality	.648	1.543
	Distance	.772	1.295
	Language	.771	1.297
	Ethnicity	.688	1.453
	Urban	.507	1.974

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	GJFK
1	1	6.208	1.000	.00	.00	.00
	2	1.069	2.410	.00	.00	.02
	3	.866	2.677	.00	.00	.00
	4	.393	3.975	.00	.00	.00
	5	.363	4.133	.00	.00	.45
	6	.063	9.946	.00	.05	.01
	7	.021	17.272	.03	.83	.31
	8	.014	21.317	.03	.11	.20
	9	.004	40.557	.94	.00	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions: PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.42	.00	.00	.07	.04	.00
	3	.04	.00	.00	.56	.09	.00
	4	.31	.01	.00	.11	.59	.00
	5	.07	.00	.00	.12	.02	.00
	6	.04	.54	.00	.02	.01	.07
	7	.10	.09	.06	.00	.13	.05
	8	.02	.32	.13	.10	.05	.84
	9	.00	.03	.81	.02	.06	.04

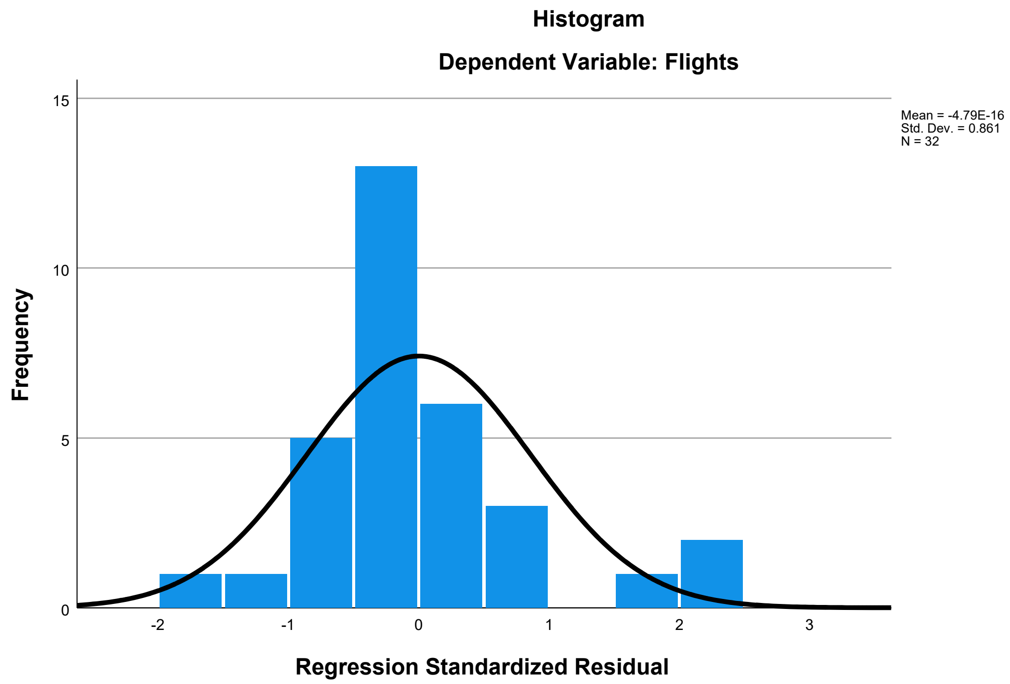
a. Dependent Variable: Flights

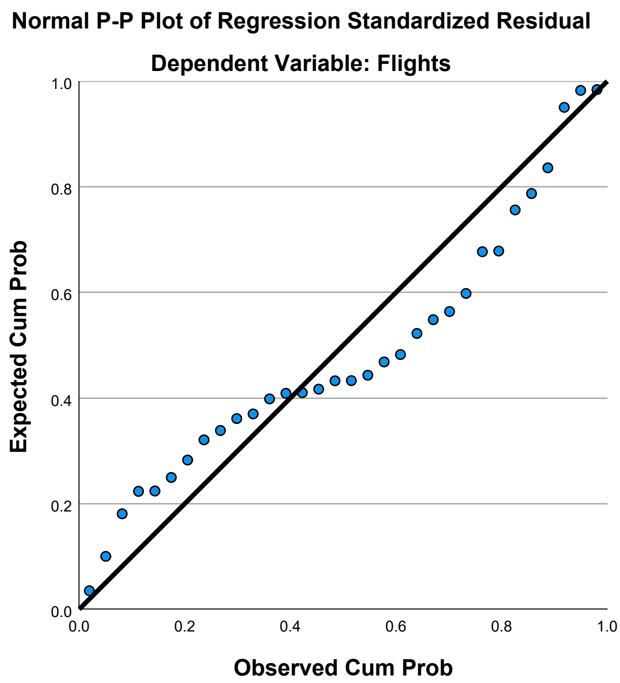
Residuals Statistics[a]

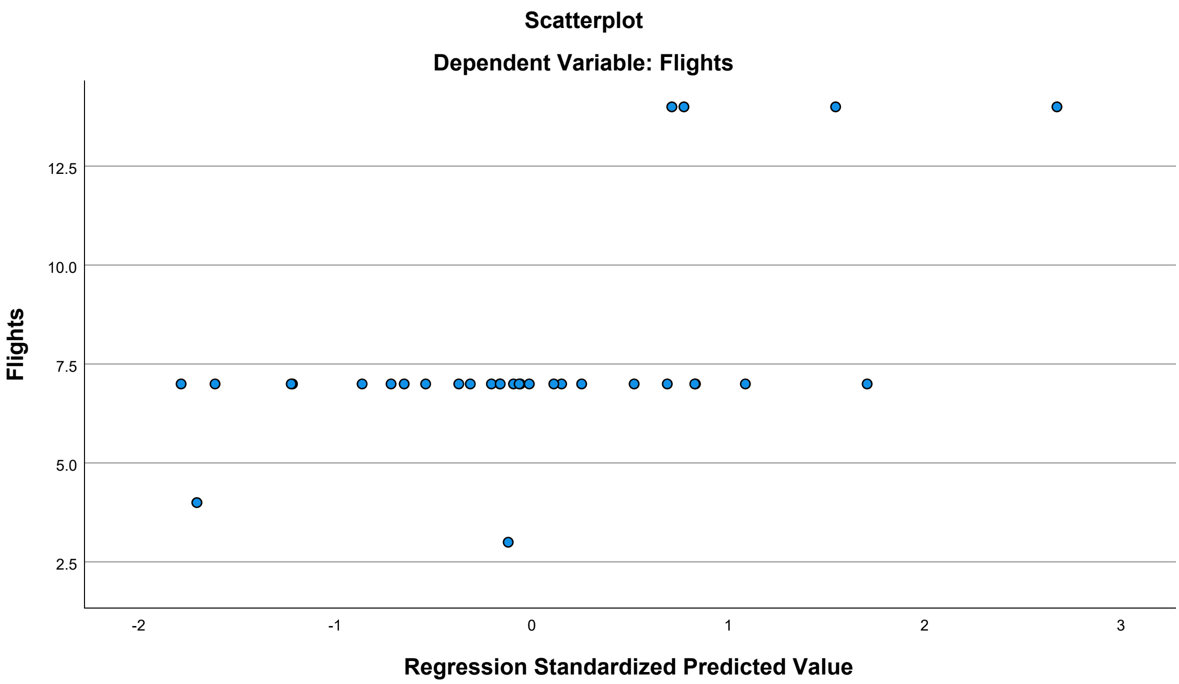
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.03	11.58	7.66	1.469	32
Residual	-4.479	5.297	.000	2.127	32
Std. Predicted Value	-1.786	2.674	.000	1.000	32
Std. Residual	-1.814	2.145	.000	.861	32

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.66	2.585	32
NAFlights	.39464285714	.10041061189	32
GLHR	.00	.000	32
GJFK	.47	.507	32
Seasonality	.63967803030	.19193869572	32
Distance	4203.31	438.563	32
Language	162518.09	425988.225	32
Ethnicity	788404.34	914600.878	32
Urban	17.78	3.722	32

Correlations

		Flights	NAFlights	GLHR	GJFK	Seasonality
Pearson Correlation	Flights	1.000	-.160	.	-.070	-.184
	NAFlights	-.160	1.000	.	.594	.250
	GLHR	.	.	1.000	.	.
	GJFK	-.070	.594	.	1.000	.361
	Seasonality	-.184	.250	.	.361	1.000
	Distance	.188	-.121	.	-.387	-.080
	Language	-.018	.171	.	.285	.322
	Ethnicity	.399	-.062	.	.214	-.140
	Urban	.082	.618	.	.518	.041
Sig. (1-tailed)	Flights	.	.191	.000	.352	.156
	NAFlights	.191	.	.000	.000	.084
	GLHR	.000	.000	.	.000	.000
	GJFK	.352	.000	.000	.	.021
	Seasonality	.156	.084	.000	.021	.
	Distance	.152	.255	.000	.014	.332
	Language	.461	.174	.000	.057	.036
	Ethnicity	.012	.368	.000	.120	.222
	Urban	.327	.000	.000	.001	.411
N	Flights	32	32	32	32	32
	NAFlights	32	32	32	32	32
	GLHR	32	32	32	32	32
	GJFK	32	32	32	32	32
	Seasonality	32	32	32	32	32
	Distance	32	32	32	32	32
	Language	32	32	32	32	32
	Ethnicity	32	32	32	32	32
	Urban	32	32	32	32	32

Correlations

		Distance	Language	Ethnicity	Urban
Pearson Correlation	Flights	.188	-.018	.399	.082
	NAFlights	-.121	.171	-.062	.618
	GLHR	.	.	.	.
	GJFK	-.387	.285	.214	.518
	Seasonality	-.080	.322	-.140	.041
	Distance	1.000	-.269	-.201	-.128
	Language	-.269	1.000	-.072	.271
	Ethnicity	-.201	-.072	1.000	-.055
	Urban	-.128	.271	-.055	1.000
Sig. (1-tailed)	Flights	.152	.461	.012	.327
	NAFlights	.255	.174	.368	.000
	GLHR	.000	.000	.000	.000
	GJFK	.014	.057	.120	.001
	Seasonality	.332	.036	.222	.411
	Distance	.	.069	.136	.243
	Language	.069	.	.348	.067
	Ethnicity	.136	.348	.	.383
	Urban	.243	.067	.383	.
N	Flights	32	32	32	32
	NAFlights	32	32	32	32
	GLHR	32	32	32	32
	GJFK	32	32	32	32
	Seasonality	32	32	32	32
	Distance	32	32	32	32
	Language	32	32	32	32
	Ethnicity	32	32	32	32
	Urban	32	32	32	32

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, Distance, Ethnicity, Language, NAFlights, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change
1	.567[a]	.321	.123	2.421	.321	1.622

Model Summary[b]

Model	Change Statistics: df1	Change Statistics: df2	Change Statistics: Sig. F Change
1	7	24	.177

a. Predictors: (Constant), Urban, Seasonality, Distance, Ethnicity, Language, NAFlights, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	66.557	7	9.508	1.622	.177[b]
	Residual	140.661	24	5.861		
	Total	207.219	31			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, Distance, Ethnicity, Language, NAFlights, GJFK

Coefficients[a]

Model		Unstandardized Coefficients: B	Unstandardized Coefficients: Std. Error	Standardized Coefficients: Beta	t	Sig.
1	(Constant)	-1.323	5.552		-.238	.814
	NAFlights	-6.279	6.224	-.244	-1.009	.323
	GJFK	-.499	1.340	-.098	-.372	.713
	Seasonality	-.534	2.710	-.040	-.197	.846
	Distance	.002	.001	.278	1.458	.158
	Language	5.203E-7	.000	.086	.448	.658
	Ethnicity	1.353E-6	.000	.479	2.571	.017
	Urban	.225	.164	.324	1.371	.183

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	NAFlights	.484	2.066
	GJFK	.409	2.442
	Seasonality	.699	1.432
	Distance	.780	1.283
	Language	.771	1.297
	Ethnicity	.816	1.225
	Urban	.507	1.974

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	GJFK	Seasonality
1	1	6.100	1.000	.00	.00	.00	.00
	2	.881	2.631	.00	.00	.01	.00
	3	.545	3.347	.00	.00	.06	.00
	4	.368	4.071	.00	.00	.39	.00
	5	.065	9.659	.00	.04	.00	.60
	6	.023	16.253	.03	.78	.37	.08
	7	.014	20.968	.02	.18	.16	.29
	8	.004	40.151	.95	.00	.01	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Distance	Language	Ethnicity	Urban
1	1	.00	.00	.01	.00
	2	.00	.64	.04	.00
	3	.00	.01	.56	.00
	4	.00	.20	.21	.00
	5	.00	.03	.01	.06
	6	.06	.00	.08	.01
	7	.11	.10	.03	.88
	8	.83	.02	.06	.04

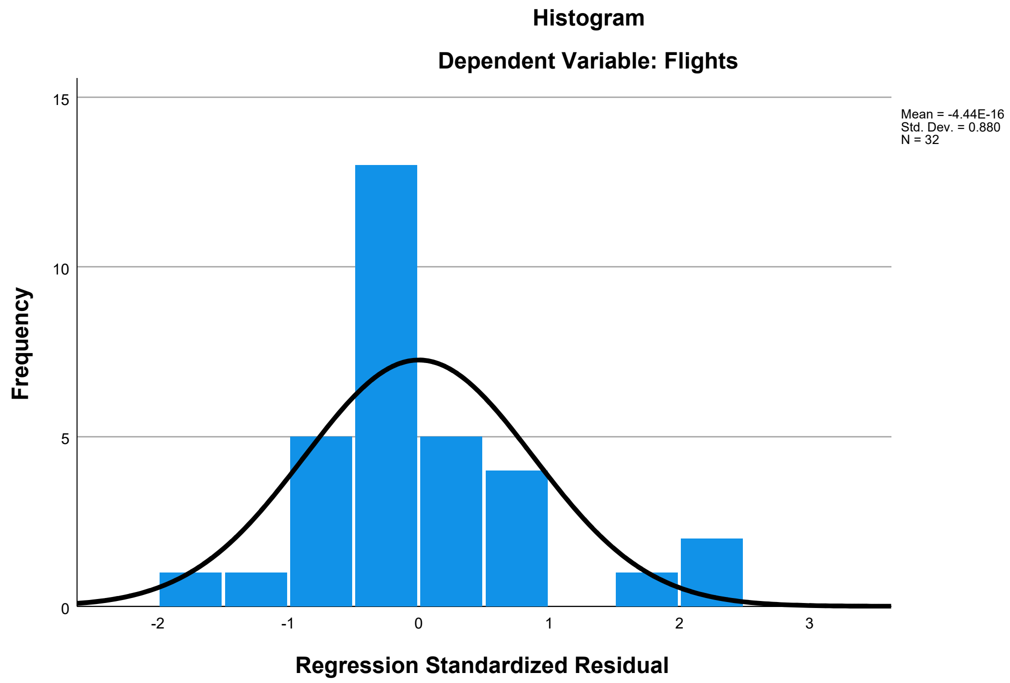
a. Dependent Variable: Flights

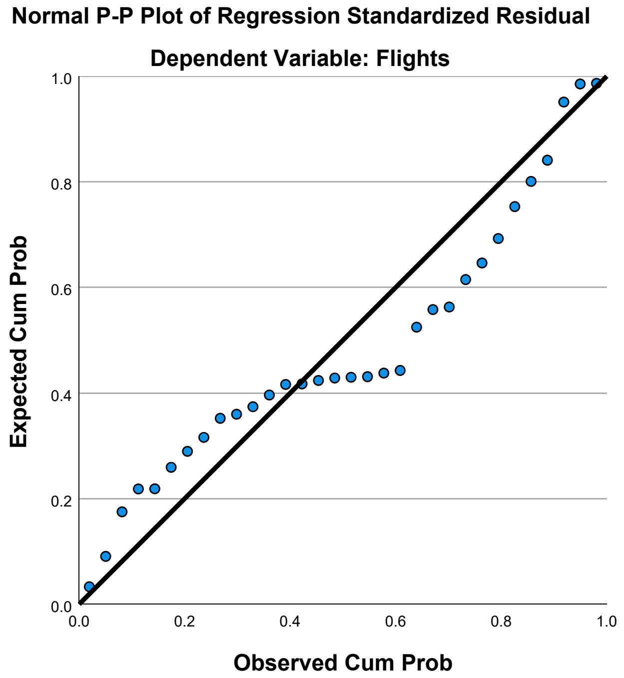
Residuals Statistics[a]

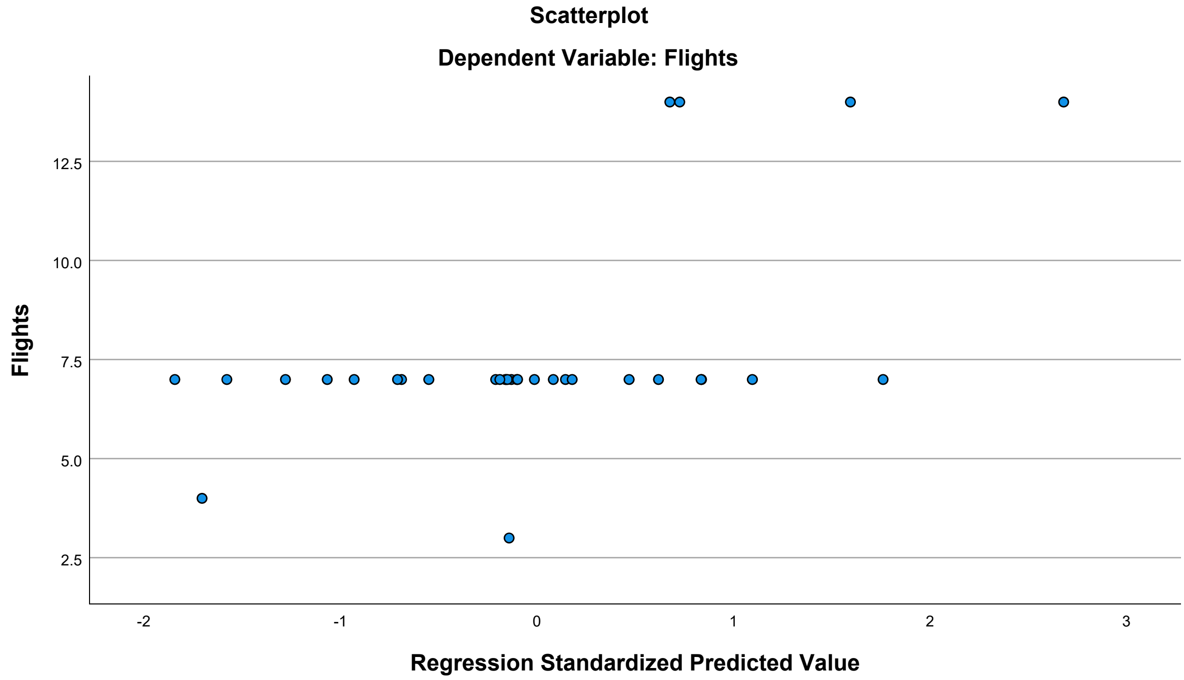
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.96	11.58	7.66	1.465	32
Residual	-4.449	5.353	.000	2.130	32
Std. Predicted Value	-1.843	2.680	.000	1.000	32
Std. Residual	-1.838	2.211	.000	.880	32

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.66	2.585	32
NAFlights	.39464285714	.10041061189	32
GLHR	.00	.000	32
GJFK	.47	.507	32
Distance	4203.31	438.563	32
Language	162518.09	425988.225	32
Ethnicity	788404.34	914600.878	32
Urban	17.78	3.722	32

Correlations

		Flights	NAFlights	GLHR	GJFK	Distance
Pearson Correlation	Flights	1.000	-.160	.	-.070	.188
	NAFlights	-.160	1.000	.	.594	-.121
	GLHR	.	.	1.000	.	.
	GJFK	-.070	.594	.	1.000	-.387
	Distance	.188	-.121	.	-.387	1.000
	Language	-.018	.171	.	.285	-.269
	Ethnicity	.399	-.062	.	.214	-.201
	Urban	.082	.618	.	.518	-.128
Sig. (1-tailed)	Flights	.	.191	.000	.352	.152
	NAFlights	.191	.	.000	.000	.255
	GLHR	.000	.000	.	.000	.000
	GJFK	.352	.000	.000	.	.014
	Distance	.152	.255	.000	.014	.
	Language	.461	.174	.000	.057	.069
	Ethnicity	.012	.368	.000	.120	.136
	Urban	.327	.000	.000	.001	.243
N	Flights	32	32	32	32	32
	NAFlights	32	32	32	32	32
	GLHR	32	32	32	32	32
	GJFK	32	32	32	32	32
	Distance	32	32	32	32	32
	Language	32	32	32	32	32
	Ethnicity	32	32	32	32	32
	Urban	32	32	32	32	32

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	-.018	.399	.082
	NAFlights	.171	-.062	.618
	GLHR	.	.	.
	GJFK	.285	.214	.518
	Distance	-.269	-.201	-.128
	Language	1.000	-.072	.271
	Ethnicity	-.072	1.000	-.055
	Urban	.271	-.055	1.000
Sig. (1-tailed)	Flights	.461	.012	.327
	NAFlights	.174	.368	.000
	GLHR	.000	.000	.000
	GJFK	.057	.120	.001
	Distance	.069	.136	.243
	Language	.	.348	.067
	Ethnicity	.348	.	.383
	Urban	.067	.383	.
N	Flights	32	32	32
	NAFlights	32	32	32
	GLHR	32	32	32
	GJFK	32	32	32
	Distance	32	32	32
	Language	32	32	32
	Ethnicity	32	32	32
	Urban	32	32	32

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, Distance, Language, NAFlights, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.566[a]	.320	.157	2.374	.320	1.962

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	25	.110

a. Predictors: (Constant), Urban, Ethnicity, Distance, Language, NAFlights, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	66.330	6	11.055	1.962	.110[b]
	Residual	140.888	25	5.636		
	Total	207.219	31			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, Distance, Language, NAFlights, GJFK

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance
1	(Constant)	-1.645	5.204		-.316	.755	
	NAFlights	-6.434	6.054	-.250	-1.063	.298	.492
	GJFK	-.593	1.227	-.116	-.483	.633	.470
	Distance	.002	.001	.274	1.473	.153	.789
	Language	4.540E-7	.000	.075	.416	.681	.841
	Ethnicity	1.376E-6	.000	.487	2.739	.011	.861
	Urban	.235	.153	.339	1.538	.137	.561

Coefficients[a]

Model		Collinearity Statistics VIF
1	(Constant)	
	NAFlights	2.033
	GJFK	2.129
	Distance	1.267
	Language	1.189
	Ethnicity	1.162
	Urban	1.781

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	GJFK	Distance	Language	Ethnicity	Urban
1	1	5.182	1.000	.00	.00	.01	.00	.01	.01	.00
	2	.881	2.425	.00	.00	.01	.00	.70	.05	.00
	3	.522	3.151	.00	.00	.06	.00	.01	.60	.00
	4	.368	3.752	.00	.00	.45	.00	.22	.22	.00
	5	.026	14.158	.04	.57	.44	.07	.00	.08	.06
	6	.017	17.263	.00	.42	.01	.02	.03	.00	.91
	7	.004	36.610	.96	.00	.02	.91	.03	.05	.02

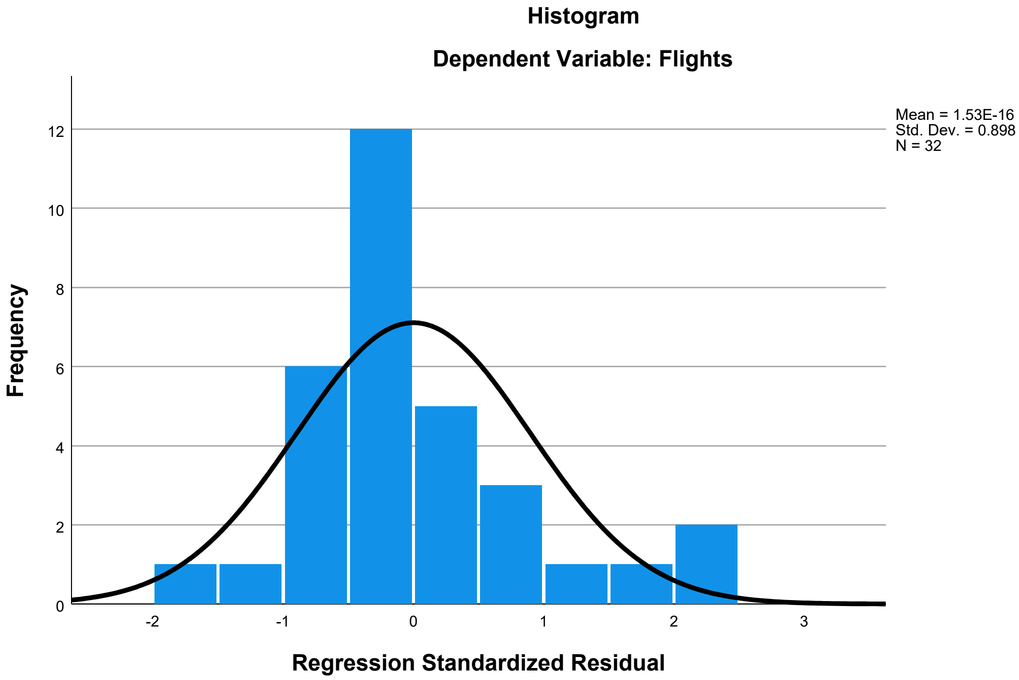
a. Dependent Variable: Flights

Residuals Statistics[a]

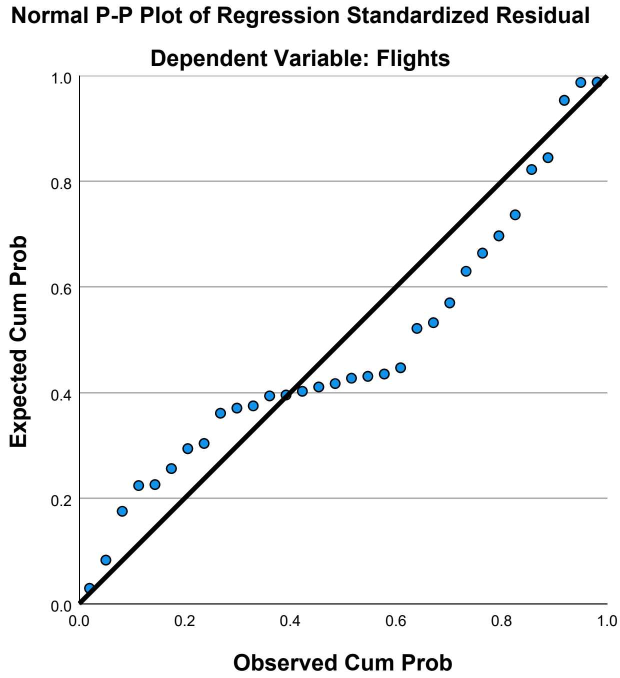
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.80	11.59	7.66	1.463	32
Residual	-4.492	5.340	.000	2.132	32
Std. Predicted Value	-1.950	2.690	.000	1.000	32
Std. Residual	-1.892	2.249	.000	.898	32

a. Dependent Variable: Flights

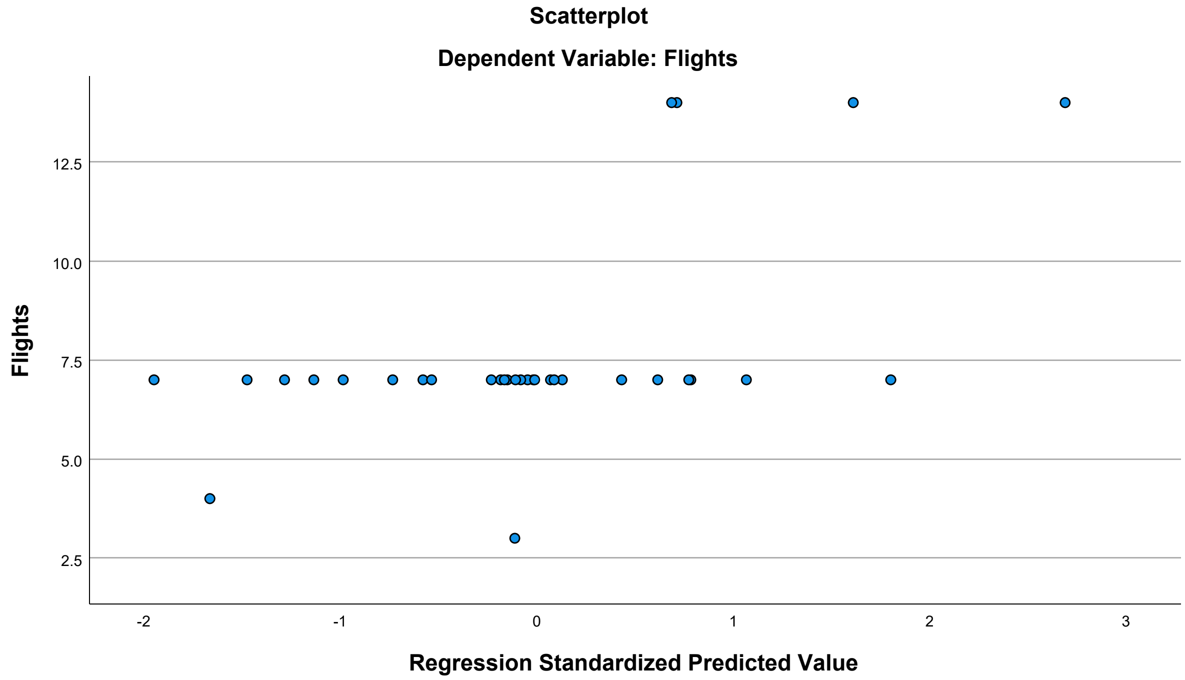
Charts



Histogram
Dependent Variable: Flights
Mean = 1.53E-16
Std. Dev. = 0.898
N = 32
Frequency
0
2
4
6
8
10
12
-2
-1
0
1
2
3
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.66	2.585	32
NAFlights	.39464285714	.10041061189	32
GLHR	.00	.000	32
GJFK	.47	.507	32
Distance	4203.31	438.563	32
Ethnicity	788404.34	914600.878	32
Urban	17.78	3.722	32

Correlations

		Flights	NAFlights	GLHR	GJFK	Distance
Pearson Correlation	Flights	1.000	-.160	.	-.070	.188
	NAFlights	-.160	1.000	.	.594	-.121
	GLHR	.	.	1.000	.	.
	GJFK	-.070	.594	.	1.000	-.387
	Distance	.188	-.121	.	-.387	1.000
	Ethnicity	.399	-.062	.	.214	-.201
	Urban	.082	.618	.	.518	-.128
Sig. (1-tailed)	Flights	.	.191	.000	.352	.152
	NAFlights	.191	.	.000	.000	.255
	GLHR	.000	.000	.	.000	.000
	GJFK	.352	.000	.000	.	.014
	Distance	.152	.255	.000	.014	.
	Ethnicity	.012	.368	.000	.120	.136
	Urban	.327	.000	.000	.001	.243
N	Flights	32	32	32	32	32
	NAFlights	32	32	32	32	32
	GLHR	32	32	32	32	32
	GJFK	32	32	32	32	32
	Distance	32	32	32	32	32
	Ethnicity	32	32	32	32	32
	Urban	32	32	32	32	32

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.399	.082
	NAFlights	-.062	.618
	GLHR	.	.
	GJFK	.214	.518
	Distance	-.201	-.128
	Ethnicity	1.000	-.055
	Urban	-.055	1.000
Sig. (1-tailed)	Flights	.012	.327
	NAFlights	.368	.000
	GLHR	.000	.000
	GJFK	.120	.001
	Distance	.136	.243
	Ethnicity	.	.383
	Urban	.383	.
N	Flights	32	32
	NAFlights	32	32
	GLHR	32	32
	GJFK	32	32
	Distance	32	32
	Ethnicity	32	32
	Urban	32	32

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, Distance, NAFlights, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.562[a]	.315	.184	2.336	.315	2.396

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	5	26	.065

a. Predictors: (Constant), Urban, Ethnicity, Distance, NAFlights, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	65.355	5	13.071	2.396	.065[b]
	Residual	141.864	26	5.456		
	Total	207.219	31			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, Distance, NAFlights, GJFK

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics
		B	Std. Error	Beta			Tolerance
1	(Constant)	-1.295	5.053		-.256	.800	
	NAFlights	-6.626	5.940	-.257	-1.115	.275	.495
	GJFK	-.520	1.195	-.102	-.435	.667	.480
	Distance	.002	.001	.258	1.441	.161	.824
	Ethnicity	1.344E-6	.000	.476	2.751	.011	.881
	Urban	.245	.148	.353	1.653	.110	.576

Coefficients[a]

Model		Collinearity Statistics VIF
1	(Constant)	
	NAFlights	2.021
	GJFK	2.085
	Distance	1.214
	Ethnicity	1.135
	Urban	1.735

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	GJFK	Distance
1	1	5.000	1.000	.00	.00	.01	.00
	2	.526	3.084	.00	.00	.03	.00
	3	.426	3.425	.00	.00	.46	.00
	4	.026	13.900	.04	.56	.46	.08
	5	.018	16.678	.00	.43	.01	.02
	6	.004	35.369	.96	.00	.03	.90

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.72	.00
	3	.15	.00
	4	.08	.07
	5	.00	.89
	6	.04	.04

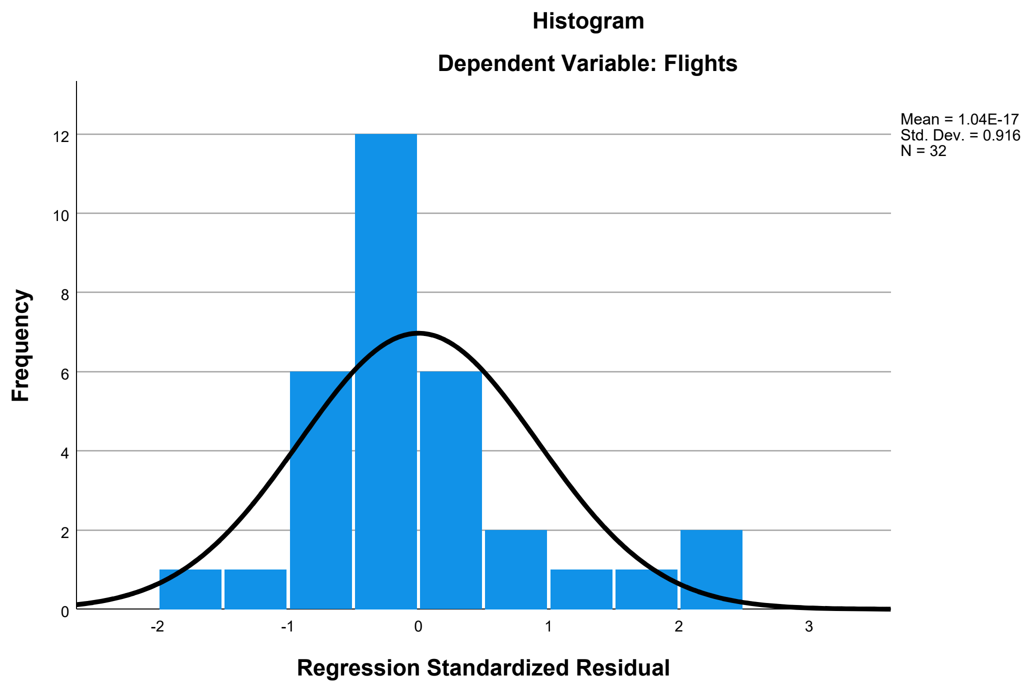
a. Dependent Variable: Flights

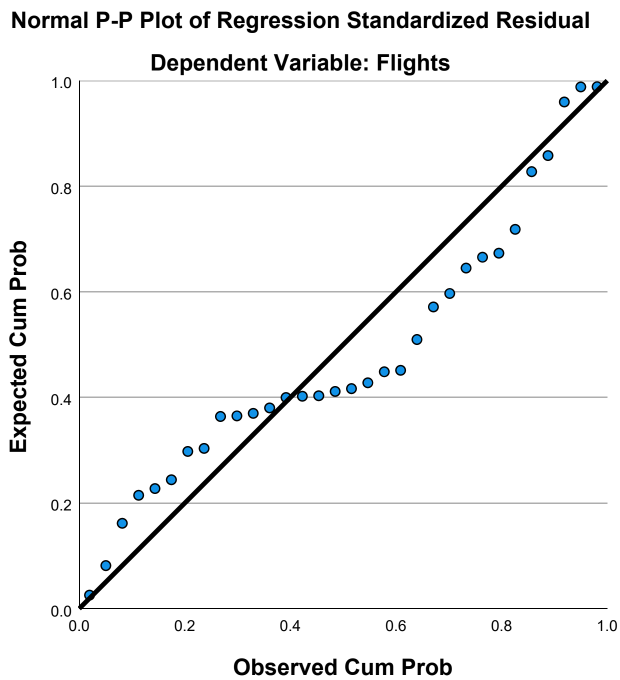
Residuals Statistics[a]

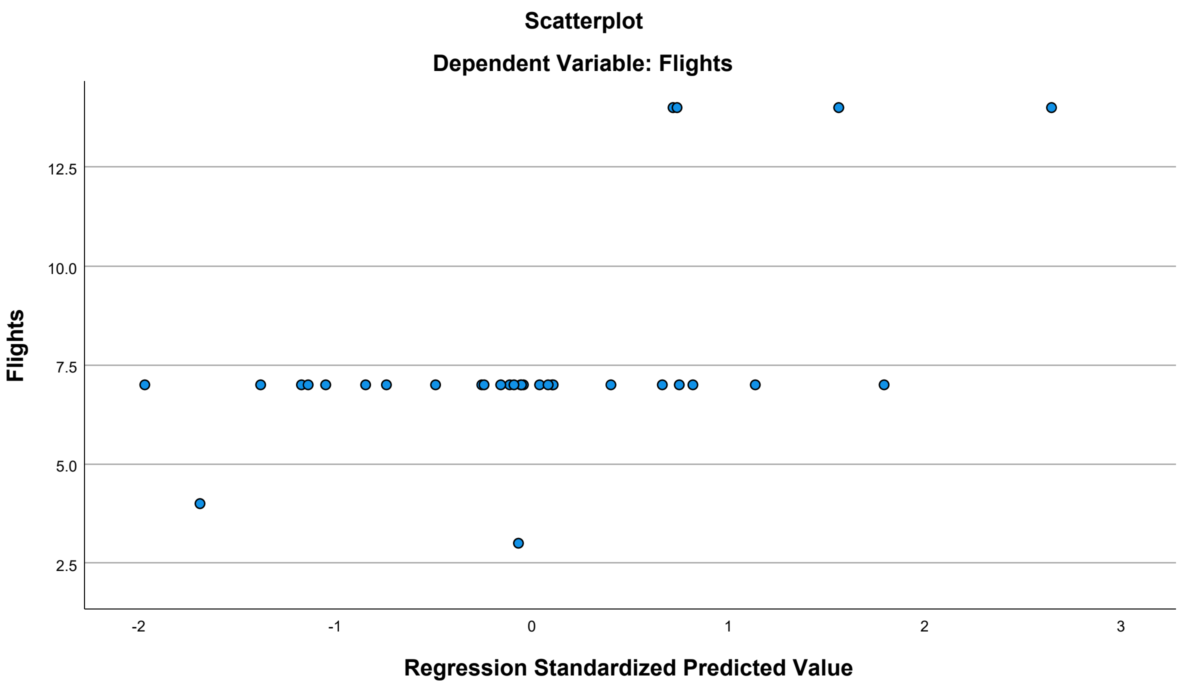
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.79	11.50	7.66	1.452	32
Residual	-4.557	5.300	.000	2.139	32
Std. Predicted Value	-1.971	2.646	.000	1.000	32
Std. Residual	-1.951	2.269	.000	.916	32

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 1.04E-17
Std. Dev. = 0.916
N = 32
Frequency
12
10
8
6
4
2
0
-2
-1
0
1
2
3
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.66	2.585	32
NAFlights	.39464285714	.10041061189	32
GLHR	.00	.000	32
Distance	4203.31	438.563	32
Ethnicity	788404.34	914600.878	32
Urban	17.78	3.722	32

Correlations

		Flights	NAFlights	GLHR	Distance	Ethnicity
Pearson Correlation	Flights	1.000	-.160	.	.188	.399
	NAFlights	-.160	1.000	.	-.121	-.062
	GLHR	.	.	1.000	.	.
	Distance	.188	-.121	.	1.000	-.201
	Ethnicity	.399	-.062	.	-.201	1.000
	Urban	.082	.618	.	-.128	-.055
Sig. (1-tailed)	Flights	.	.191	.000	.152	.012
	NAFlights	.191	.	.000	.255	.368
	GLHR	.000	.000	.	.000	.000
	Distance	.152	.255	.000	.	.136
	Ethnicity	.012	.368	.000	.136	.
	Urban	.327	.000	.000	.243	.383
N	Flights	32	32	32	32	32
	NAFlights	32	32	32	32	32
	GLHR	32	32	32	32	32
	Distance	32	32	32	32	32
	Ethnicity	32	32	32	32	32
	Urban	32	32	32	32	32

Correlations

		Urban
Pearson Correlation	Flights	.082
	NAFlights	.618
	GLHR	.
	Distance	-.128
	Ethnicity	-.055
	Urban	1.000
Sig. (1-tailed)	Flights	.327
	NAFlights	.000
	GLHR	.000
	Distance	.243
	Ethnicity	.383
	Urban	.
N	Flights	32
	NAFlights	32
	GLHR	32
	Distance	32
	Ethnicity	32
	Urban	32

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, Distance, NAFlights[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change
1	.557[a]	.310	.208	2.301	.310	3.038	4	27	.034

a. Predictors: (Constant), Urban, Ethnicity, Distance, NAFlights

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	64.321	4	16.080	3.038	.034[b]
	Residual	142.897	27	5.292		
	Total	207.219	31			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, Distance, NAFlights

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance
1	(Constant)	-1.429	4.968		-.288	.776	
	NAFlights	-7.767	5.249	-.302	-1.480	.150	.615
	Distance	.002	.001	.285	1.725	.096	.937
	Ethnicity	1.287E-6	.000	.455	2.778	.010	.951
	Urban	.229	.142	.330	1.620	.117	.614

Coefficients[a]

Model		Collinearity Statistics VIF
1	(Constant)	
	NAFlights	1.627
	Distance	1.067
	Ethnicity	1.052
	Urban	1.628

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	Distance	Ethnicity
1	1	4.411	1.000	.00	.00	.00	.02
	2	.519	2.916	.00	.00	.00	.91
	3	.048	9.589	.02	.31	.07	.01
	4	.018	15.625	.00	.67	.01	.00
	5	.004	32.709	.98	.01	.92	.07

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.05
	4	.88
	5	.07

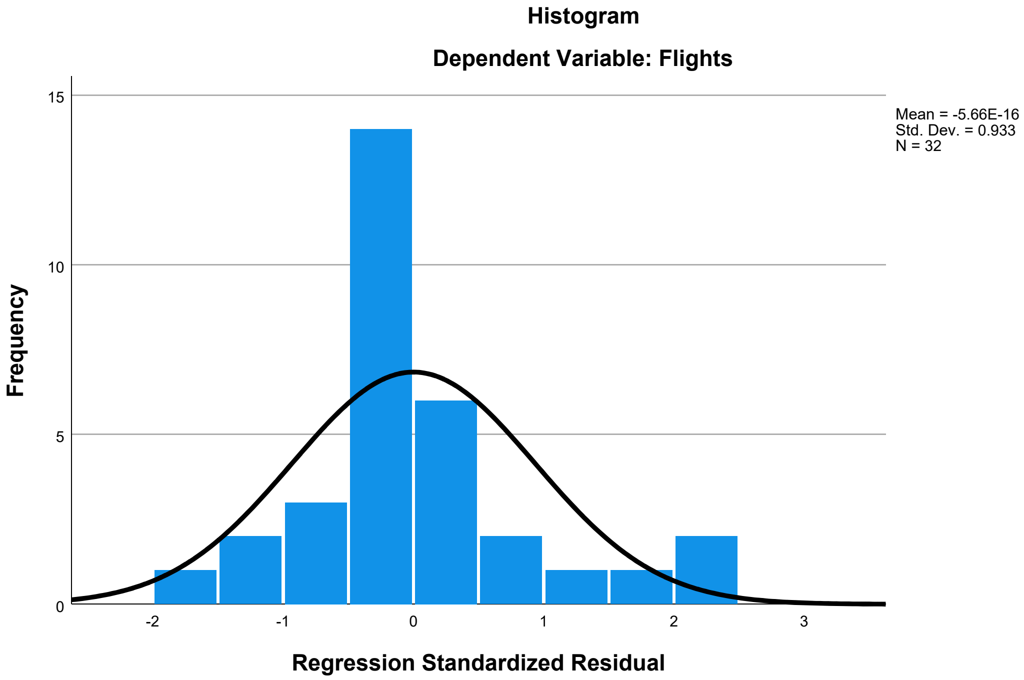
a. Dependent Variable: Flights

Residuals Statistics[a]

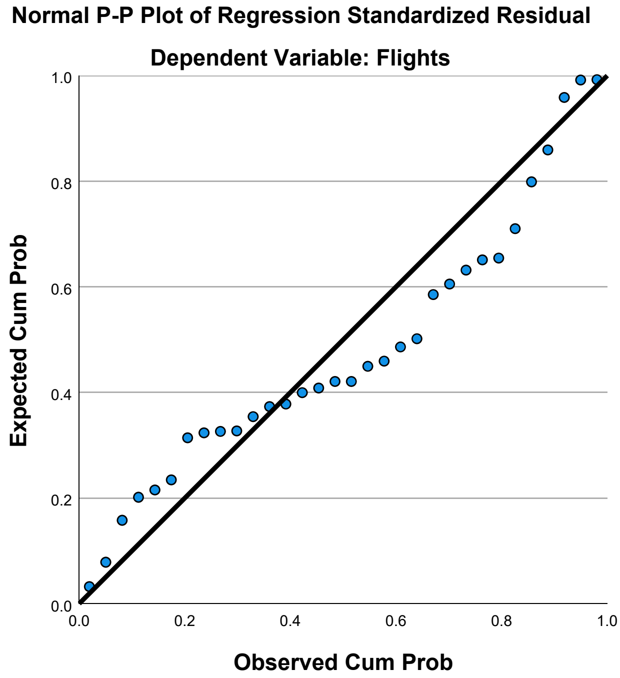
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.03	11.52	7.66	1.440	32
Residual	-4.257	5.574	.000	2.147	32
Std. Predicted Value	-1.823	2.685	.000	1.000	32
Std. Residual	-1.850	2.423	.000	.933	32

a. Dependent Variable: Flights

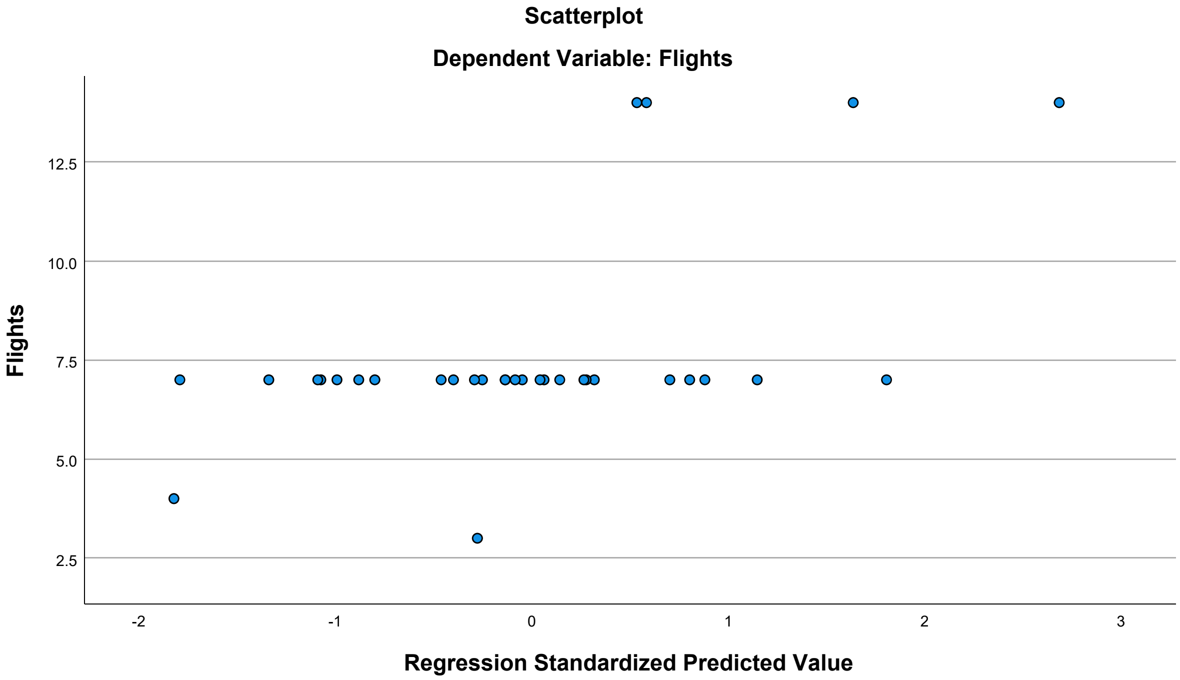
Charts



Histogram
Dependent Variable: Flights
Mean = -5.66E-16
Std. Dev. = 0.933
N = 32
Frequency
15
10
5
0
-2
-1
0
1
2
3
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
12.5
10.0
7.5
5.0
2.5
-2
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

```
[DataSet12] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
\2002 - DL.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.88	3.791	32
HomeConcentration	7.0422398125	5.5158749188	32
Congestion	4.63	1.100	32
GLHR	.00	.000	32
GJFK	.41	.499	32
PartnerConcentration	.84114400000	1.6161272508	32
Seasonality	.59146543561	.16771690959	32
Distance	4.28266	.430561	32
Language	1.23574966	2.770302216	32
Ethnicity	.73538366	.911653673	32
Urban	17.56	3.999	32

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.107	.058	.
	HomeConcentration	.107	1.000	-.851	.
	Congestion	.058	-.851	1.000	.
	GLHR	.	.	.	1.000
	GJFK	-.075	-.953	.874	.
	PartnerConcentration	.246	-.028	.047	.
	Seasonality	-.061	-.094	.104	.
	Distance	-.019	.387	-.214	.
	Language	.109	.292	-.448	.
	Ethnicity	-.025	-.265	.037	.
	Urban	.330	-.302	.651	.
Sig. (1-tailed)	Flights	.	.281	.376	.000
	HomeConcentration	.281	.	.000	.000
	Congestion	.376	.000	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.342	.000	.000	.000
	PartnerConcentration	.087	.440	.399	.000
	Seasonality	.371	.304	.286	.000
	Distance	.458	.014	.120	.000
	Language	.276	.052	.005	.000
	Ethnicity	.446	.071	.420	.000
	Urban	.032	.047	.000	.000
N	Flights	32	32	32	32
	HomeConcentration	32	32	32	32
	Congestion	32	32	32	32
	GLHR	32	32	32	32
	GJFK	32	32	32	32
	PartnerConcentration	32	32	32	32
	Seasonality	32	32	32	32
	Distance	32	32	32	32
	Language	32	32	32	32
	Ethnicity	32	32	32	32
	Urban	32	32	32	32

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	-.075	.246	-.061	-.019
	HomeConcentration	-.953	-.028	-.094	.387
	Congestion	.874	.047	.104	-.214
	GLHR	.	.	.	.
	GJFK	1.000	-.049	.077	-.373
	PartnerConcentration	-.049	1.000	.102	.002
	Seasonality	.077	.102	1.000	.192
	Distance	-.373	.002	.192	1.000
	Language	-.332	-.220	-.236	-.296
	Ethnicity	.180	.000	-.193	-.157
	Urban	.448	.033	.002	-.201
Sig. (1-tailed)	Flights	.342	.087	.371	.458
	HomeConcentration	.000	.440	.304	.014
	Congestion	.000	.399	.286	.120
	GLHR	.000	.000	.000	.000
	GJFK	.	.395	.337	.018
	PartnerConcentration	.395	.	.288	.496
	Seasonality	.337	.288	.	.146
	Distance	.018	.496	.146	.
	Language	.032	.114	.097	.050
	Ethnicity	.162	.500	.145	.195
	Urban	.005	.430	.495	.135
N	Flights	32	32	32	32
	HomeConcentration	32	32	32	32
	Congestion	32	32	32	32
	GLHR	32	32	32	32
	GJFK	32	32	32	32
	PartnerConcentration	32	32	32	32
	Seasonality	32	32	32	32
	Distance	32	32	32	32
	Language	32	32	32	32
	Ethnicity	32	32	32	32
	Urban	32	32	32	32

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.109	-.025	.330
	HomeConcentration	.292	-.265	-.302
	Congestion	-.448	.037	.651
	GLHR	.	.	.
	GJFK	-.332	.180	.448
	PartnerConcentration	-.220	.000	.033
	Seasonality	-.236	-.193	.002
	Distance	-.296	-.157	-.201
	Language	1.000	.097	-.284
	Ethnicity	.097	1.000	-.227
	Urban	-.284	-.227	1.000
Sig. (1-tailed)	Flights	.276	.446	.032
	HomeConcentration	.052	.071	.047
	Congestion	.005	.420	.000
	GLHR	.000	.000	.000
	GJFK	.032	.162	.005
	PartnerConcentration	.114	.500	.430
	Seasonality	.097	.145	.495
	Distance	.050	.195	.135
	Language	.	.299	.058
	Ethnicity	.299	.	.106
	Urban	.058	.106	.
N	Flights	32	32	32
	HomeConcentration	32	32	32
	Congestion	32	32	32
	GLHR	32	32	32
	GJFK	32	32	32
	PartnerConcentration	32	32	32
	Seasonality	32	32	32
	Distance	32	32	32
	Language	32	32	32
	Ethnicity	32	32	32
	Urban	32	32	32

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, PartnerConcentration, Distance, Ethnicity, Language, HomeConcentration, Congestion, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.536[a]	.288	-.004	3.798	.288	.987	9	22	.478

a. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, Distance, Ethnicity, Language, HomeConcentration, Conge
GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	128.150	9	14.239	.987	.478[b]
	Residual	317.350	22	14.425		
	Total	445.500	31			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, Distance, Ethnicity, Language, HomeConcentration, Congestion, GJFK

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-7.803	12.508		-.624	.539
	HomeConcentration	.116	.669	.168	.173	.864
	Congestion	.397	2.326	.115	.171	.866
	GJFK	-.744	5.932	-.098	-.125	.901
	PartnerConcentration	.681	.466	.290	1.461	.158
	Seasonality	-.138	4.402	-.006	-.031	.975
	Distance	.944	2.226	.107	.424	.676
	Language	.405	.325	.296	1.244	.227
	Ethnicity	.533	.870	.128	.613	.546
	Urban	.450	.368	.475	1.223	.234

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.034	29.264
	Congestion	.071	14.066
	GJFK	.053	18.829
	PartnerConcentration	.820	1.219
	Seasonality	.854	1.172
	Distance	.507	1.974
	Language	.573	1.745
	Ethnicity	.740	1.351
	Urban	.215	4.656

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.719	1.000	.00	.00	.00
	2	1.248	2.321	.00	.00	.00
	3	.886	2.753	.00	.00	.00
	4	.622	3.286	.00	.00	.00
	5	.418	4.011	.00	.00	.00
	6	.067	9.992	.00	.01	.00
	7	.021	18.093	.02	.00	.00
	8	.014	21.609	.00	.28	.07
	9	.003	50.170	.31	.07	.18
	10	.002	60.089	.67	.63	.75

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.01	.02	.00	.00	.15	.00
	3	.00	.38	.00	.00	.07	.06
	4	.00	.31	.00	.00	.08	.32
	5	.01	.15	.00	.00	.37	.37
	6	.00	.01	.68	.00	.01	.00
	7	.04	.01	.26	.07	.00	.15
	8	.71	.07	.03	.02	.00	.01
	9	.00	.02	.00	.91	.16	.00
	10	.22	.04	.03	.00	.15	.08

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.03
	7	.24
	8	.01
	9	.27
	10	.45

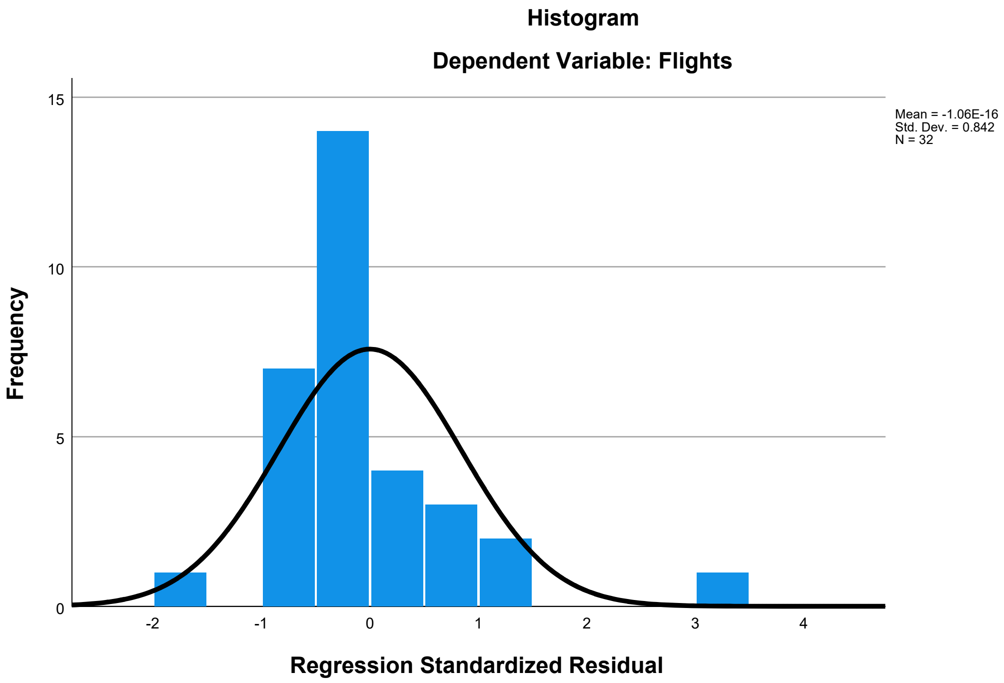
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.94	11.79	7.87	2.033	32
Residual	-5.776	12.221	.000	3.200	32
Std. Predicted Value	-2.429	1.928	.000	1.000	32
Std. Residual	-1.521	3.218	.000	.842	32

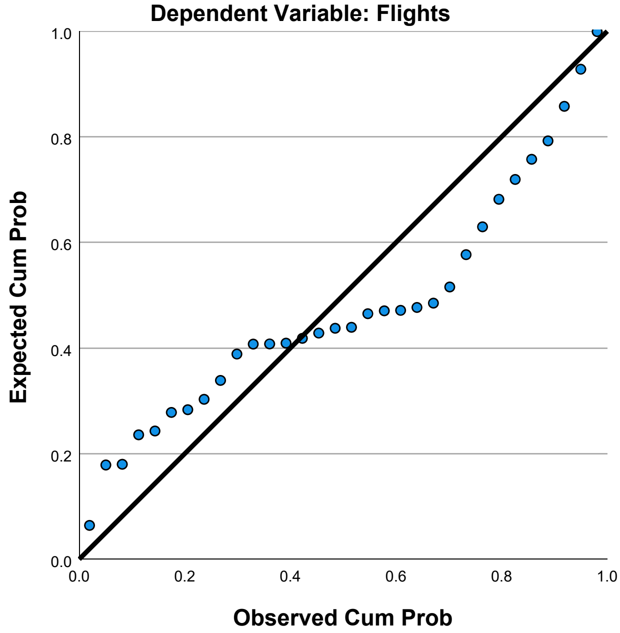
a. Dependent Variable: Flights

Charts



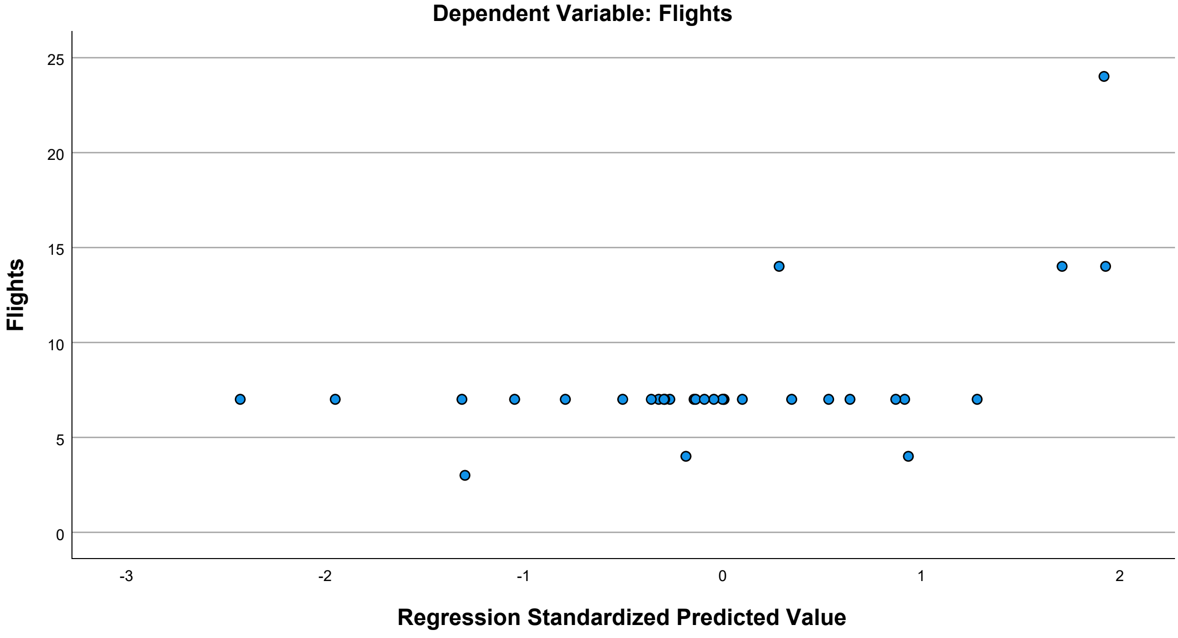
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.88	3.791	32
HomeConcentration	7.0422398125	5.5158749188	32
Congestion	4.63	1.100	32
GLHR	.00	.000	32
PartnerConcentration	.84114400000	1.6161272508	32
Seasonality	.59146543561	.16771690959	32
Distance	4.28266	.430561	32
Language	1.23574966	2.770302216	32
Ethnicity	.73538366	.911653673	32
Urban	17.56	3.999	32

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.107	.058	.
	HomeConcentration	.107	1.000	-.851	.
	Congestion	.058	-.851	1.000	.
	GLHR	.	.	.	1.000
	PartnerConcentration	.246	-.028	.047	.
	Seasonality	-.061	-.094	.104	.
	Distance	-.019	.387	-.214	.
	Language	.109	.292	-.448	.
	Ethnicity	-.025	-.265	.037	.
	Urban	.330	-.302	.651	.
Sig. (1-tailed)	Flights	.	.281	.376	.000
	HomeConcentration	.281	.	.000	.000
	Congestion	.376	.000	.	.000
	GLHR	.000	.000	.000	.
	PartnerConcentration	.087	.440	.399	.000
	Seasonality	.371	.304	.286	.000
	Distance	.458	.014	.120	.000
	Language	.276	.052	.005	.000
	Ethnicity	.446	.071	.420	.000
	Urban	.032	.047	.000	.000
N	Flights	32	32	32	32
	HomeConcentration	32	32	32	32

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.246	-.061	-.019	.109
	HomeConcentration	-.028	-.094	.387	.292
	Congestion	.047	.104	-.214	-.448
	GLHR	.	.	.	.
	PartnerConcentration	1.000	.102	.002	-.220
	Seasonality	.102	1.000	.192	-.236
	Distance	.002	.192	1.000	-.296
	Language	-.220	-.236	-.296	1.000
	Ethnicity	.000	-.193	-.157	.097
	Urban	.033	.002	-.201	-.284
Sig. (1-tailed)	Flights	.087	.371	.458	.276
	HomeConcentration	.440	.304	.014	.052
	Congestion	.399	.286	.120	.005
	GLHR	.000	.000	.000	.000
	PartnerConcentration	.	.288	.496	.114
	Seasonality	.288	.	.146	.097
	Distance	.496	.146	.	.050
	Language	.114	.097	.050	.
	Ethnicity	.500	.145	.195	.299
	Urban	.430	.495	.135	.058
N	Flights	32	32	32	32
	HomeConcentration	32	32	32	32

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	-.025	.330
	HomeConcentration	-.265	-.302
	Congestion	.037	.651
	GLHR	.	.
	PartnerConcentration	.000	.033
	Seasonality	-.193	.002
	Distance	-.157	-.201
	Language	.097	-.284
	Ethnicity	1.000	-.227
	Urban	-.227	1.000
Sig. (1-tailed)	Flights	.446	.032
	HomeConcentration	.071	.047
	Congestion	.420	.000
	GLHR	.000	.000
	PartnerConcentration	.500	.430
	Seasonality	.145	.495
	Distance	.195	.135
	Language	.299	.058
	Ethnicity	.	.106
	Urban	.106	.
N	Flights	32	32
	HomeConcentration	32	32

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	32	32	32	32
	GLHR	32	32	32	32
	PartnerConcentration	32	32	32	32
	Seasonality	32	32	32	32
	Distance	32	32	32	32
	Language	32	32	32	32
	Ethnicity	32	32	32	32
	Urban	32	32	32	32

Correlations

	PartnerConcentration	Seasonality	Distance	Language
Congestion	32	32	32	32
GLHR	32	32	32	32
PartnerConcentration	32	32	32	32
Seasonality	32	32	32	32
Distance	32	32	32	32
Language	32	32	32	32
Ethnicity	32	32	32	32
Urban	32	32	32	32

Correlations

	Ethnicity	Urban
Congestion	32	32
GLHR	32	32
PartnerConcentration	32	32
Seasonality	32	32
Distance	32	32
Language	32	32
Ethnicity	32	32
Urban	32	32

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, PartnerConcentration, Distance, Ethnicity, Language, HomeConcentration, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.536[a]	.287	.039	3.716	.287	1.158

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	8	23	.365

a. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, Distance, Ethnicity, Language, HomeConcentration, Conge

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	127.923	8	15.990	1.158	.365[b]
	Residual	317.577	23	13.808		
	Total	445.500	31			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, Distance, Ethnicity, Language, HomeConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-8.448	11.154		-.757	.456
	HomeConcentration	.183	.386	.267	.474	.640
	Congestion	.444	2.246	.129	.198	.845
	PartnerConcentration	.701	.428	.299	1.639	.115
	Seasonality	-.104	4.299	-.005	-.024	.981
	Distance	.932	2.176	.106	.428	.672
	Language	.412	.313	.301	1.315	.201
	Ethnicity	.544	.847	.131	.643	.527
	Urban	.430	.323	.454	1.329	.197

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.098	10.192
	Congestion	.073	13.702
	PartnerConcentration	.931	1.074
	Seasonality	.857	1.167
	Distance	.508	1.970
	Language	.592	1.690
	Ethnicity	.748	1.337
	Urban	.266	3.756

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.317	1.000	.00	.00	.00
	2	1.033	2.472	.00	.00	.00
	3	.662	3.088	.00	.01	.00
	4	.615	3.206	.00	.00	.00
	5	.282	4.736	.00	.07	.00
	6	.066	9.805	.00	.01	.00
	7	.020	17.752	.02	.02	.00
	8	.003	48.566	.47	.18	.11
	9	.002	52.521	.51	.71	.88

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.01	.00
	2	.23	.00	.00	.28	.00	.00
	3	.11	.00	.00	.02	.43	.00
	4	.62	.00	.00	.16	.10	.00
	5	.02	.00	.00	.24	.22	.00
	6	.00	.67	.00	.00	.00	.04
	7	.00	.30	.08	.00	.17	.26
	8	.01	.00	.91	.19	.01	.28
	9	.00	.03	.02	.10	.06	.41

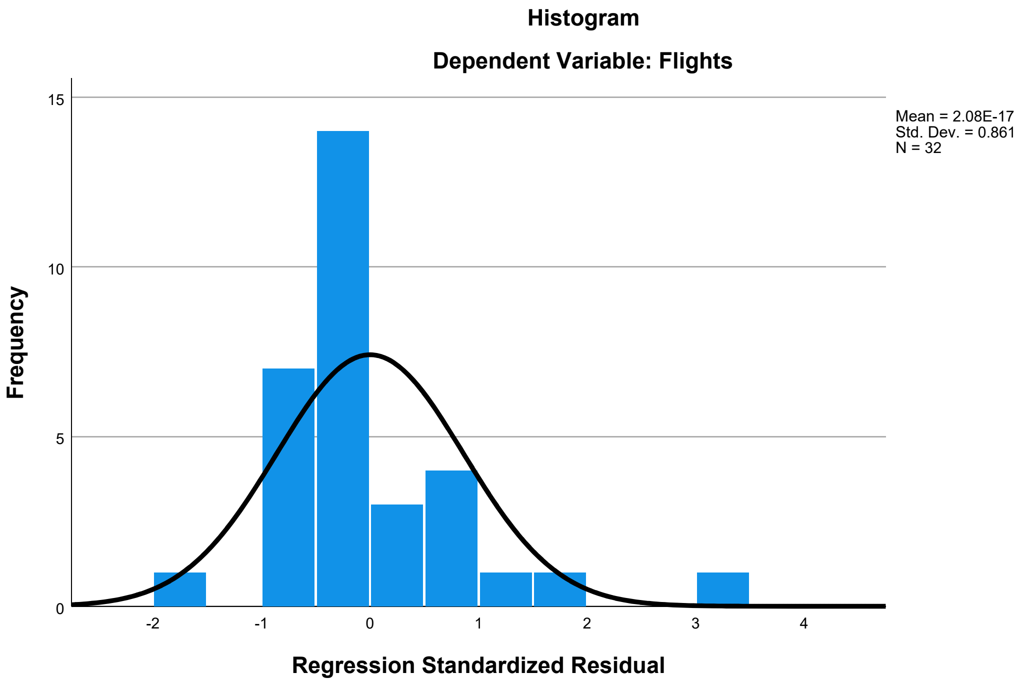
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.06	11.84	7.88	2.031	32
Residual	-5.778	12.232	.000	3.201	32
Std. Predicted Value	-2.370	1.953	.000	1.000	32
Std. Residual	-1.555	3.292	.000	.861	32

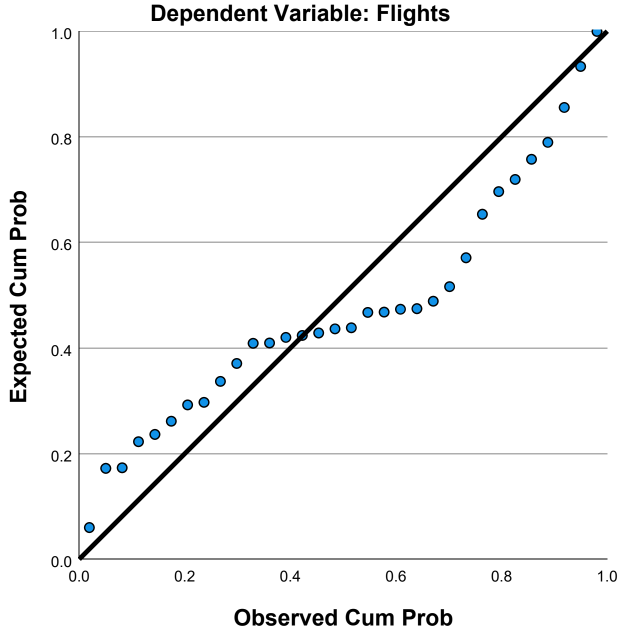
a. Dependent Variable: Flights

Charts



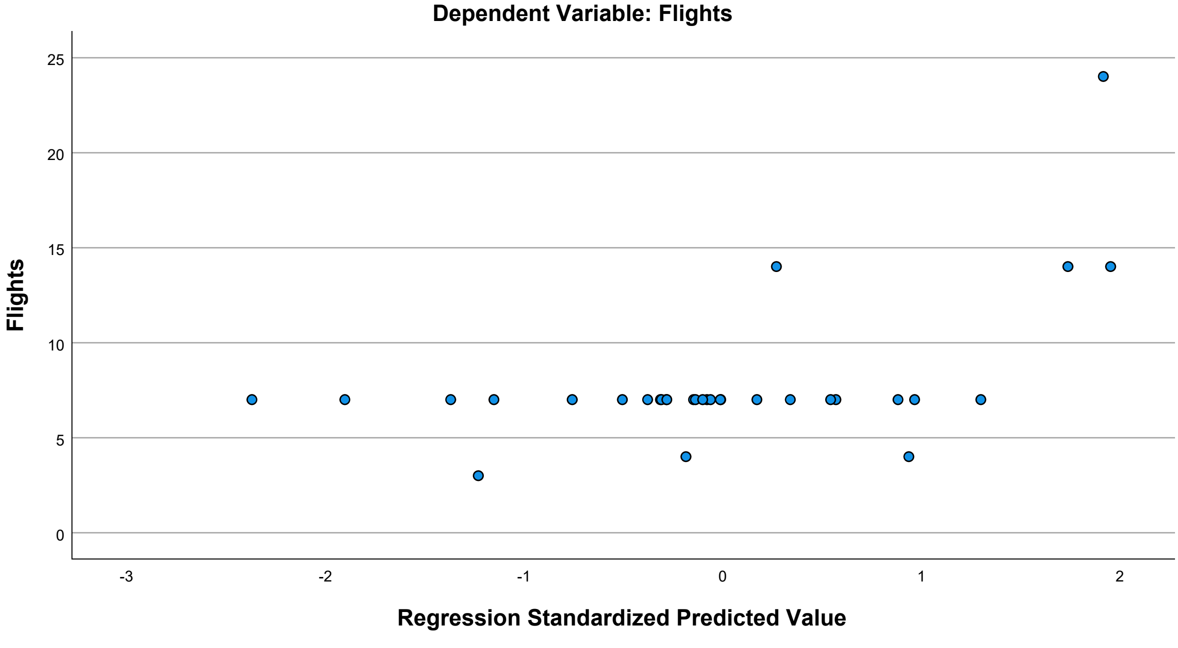
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.88	3.791	32
HomeConcentration	7.0422398125	5.5158749188	32
GLHR	.00	.000	32
PartnerConcentration	.84114400000	1.6161272508	32
Seasonality	.59146543561	.16771690959	32
Distance	4.28266	.430561	32
Language	1.23574966	2.770302216	32
Ethnicity	.73538366	.911653673	32
Urban	17.56	3.999	32

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.107	.	.246
	HomeConcentration	.107	1.000	.	-.028
	GLHR	.	.	1.000	.
	PartnerConcentration	.246	-.028	.	1.000
	Seasonality	-.061	-.094	.	.102
	Distance	-.019	.387	.	.002
	Language	.109	.292	.	-.220
	Ethnicity	-.025	-.265	.	.000
	Urban	.330	-.302	.	.033
Sig. (1-tailed)	Flights	.	.281	.000	.087
	HomeConcentration	.281	.	.000	.440
	GLHR	.000	.000	.	.000
	PartnerConcentration	.087	.440	.000	.
	Seasonality	.371	.304	.000	.288
	Distance	.458	.014	.000	.496
	Language	.276	.052	.000	.114
	Ethnicity	.446	.071	.000	.500
	Urban	.032	.047	.000	.430
N	Flights	32	32	32	32
	HomeConcentration	32	32	32	32
	GLHR	32	32	32	32
	PartnerConcentration	32	32	32	32
	Seasonality	32	32	32	32
	Distance	32	32	32	32
	Language	32	32	32	32
	Ethnicity	32	32	32	32
	Urban	32	32	32	32

Correlations

		Seasonality	Distance	Language	Ethnicity
Pearson Correlation	Flights	-.061	-.019	.109	-.025
	HomeConcentration	-.094	.387	.292	-.265
	GLHR	.	.	.	.
	PartnerConcentration	.102	.002	-.220	.000
	Seasonality	1.000	.192	-.236	-.193
	Distance	.192	1.000	-.296	-.157
	Language	-.236	-.296	1.000	.097
	Ethnicity	-.193	-.157	.097	1.000
	Urban	.002	-.201	-.284	-.227
Sig. (1-tailed)	Flights	.371	.458	.276	.446
	HomeConcentration	.304	.014	.052	.071
	GLHR	.000	.000	.000	.000
	PartnerConcentration	.288	.496	.114	.500
	Seasonality	.	.146	.097	.145
	Distance	.146	.	.050	.195
	Language	.097	.050	.	.299
	Ethnicity	.145	.195	.299	.
	Urban	.495	.135	.058	.106
N	Flights	32	32	32	32
	HomeConcentration	32	32	32	32
	GLHR	32	32	32	32
	PartnerConcentration	32	32	32	32
	Seasonality	32	32	32	32
	Distance	32	32	32	32
	Language	32	32	32	32
	Ethnicity	32	32	32	32
	Urban	32	32	32	32

Correlations

		Urban
Pearson Correlation	Flights	.330
	HomeConcentration	-.302
	GLHR	.
	PartnerConcentration	.033
	Seasonality	.002
	Distance	-.201
	Language	-.284
	Ethnicity	-.227
	Urban	1.000
Sig. (1-tailed)	Flights	.032
	HomeConcentration	.047
	GLHR	.000
	PartnerConcentration	.430
	Seasonality	.495
	Distance	.135
	Language	.058
	Ethnicity	.106
	Urban	.
N	Flights	32
	HomeConcentration	32
	GLHR	32
	PartnerConcentration	32
	Seasonality	32
	Distance	32
	Language	32
	Ethnicity	32
	Urban	32

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, PartnerConcentration, Distance, Ethnicity, Language, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.535[a]	.286	.078	3.641	.286	1.373

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	7	24	.262

a. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, Distance, Ethnicity, Language, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	127.384	7	18.198	1.373	.262[b]
	Residual	318.116	24	13.255		
	Total	445.500	31			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, Distance, Ethnicity, Language, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-7.480	9.817		-.762	.454
	HomeConcentration	.114	.157	.166	.724	.476
	PartnerConcentration	.702	.419	.299	1.674	.107
	Seasonality	-.173	4.198	-.008	-.041	.967
	Distance	1.107	1.947	.126	.569	.575
	Language	.402	.303	.294	1.327	.197
	Ethnicity	.517	.818	.124	.632	.534
	Urban	.481	.191	.507	2.523	.019

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.569	1.758
	PartnerConcentration	.932	1.073
	Seasonality	.862	1.159
	Distance	.608	1.644
	Language	.606	1.650
	Ethnicity	.768	1.302
	Urban	.736	1.359

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

				Variance Proportions		
Model	Dimension	Eigenvalue	Condition Index	(Constant)	HomeConcentration	PartnerConcentration
1	1	5.411	1.000	.00	.01	.01
	2	1.020	2.303	.00	.01	.27
	3	.655	2.874	.00	.06	.01
	4	.588	3.033	.00	.00	.68
	5	.244	4.714	.00	.54	.00
	6	.061	9.443	.00	.00	.00
	7	.019	16.740	.04	.30	.00
	8	.003	45.352	.96	.08	.02

Collinearity Diagnostics[a]

		Variance Proportions				
Model	Dimension	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.01	.00
	2	.00	.00	.28	.00	.00
	3	.00	.00	.00	.55	.00
	4	.00	.00	.25	.01	.00
	5	.02	.00	.18	.21	.01
	6	.63	.00	.00	.00	.21
	7	.35	.12	.00	.19	.53
	8	.00	.88	.27	.03	.23

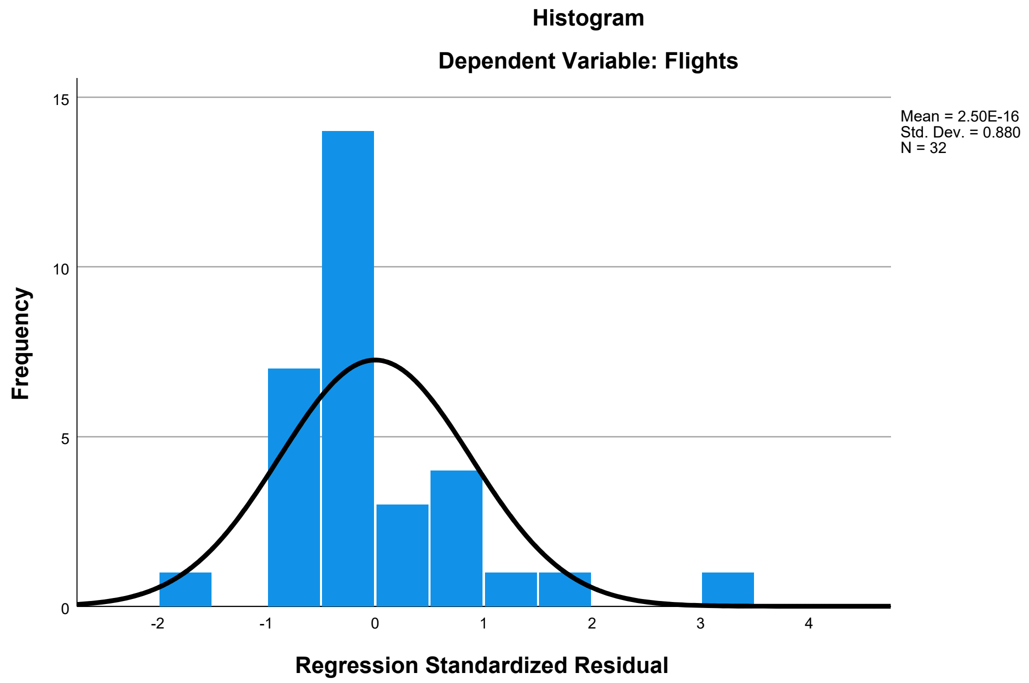
a. Dependent Variable: Flights

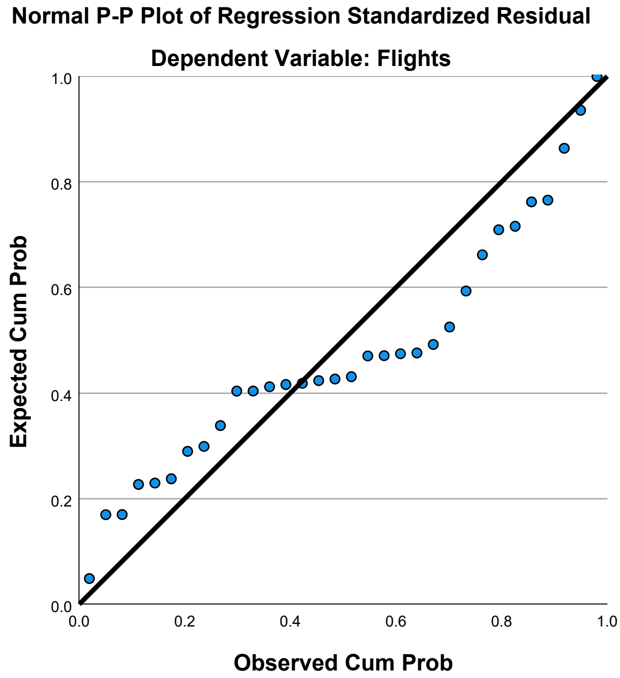
Residuals Statistics[a]

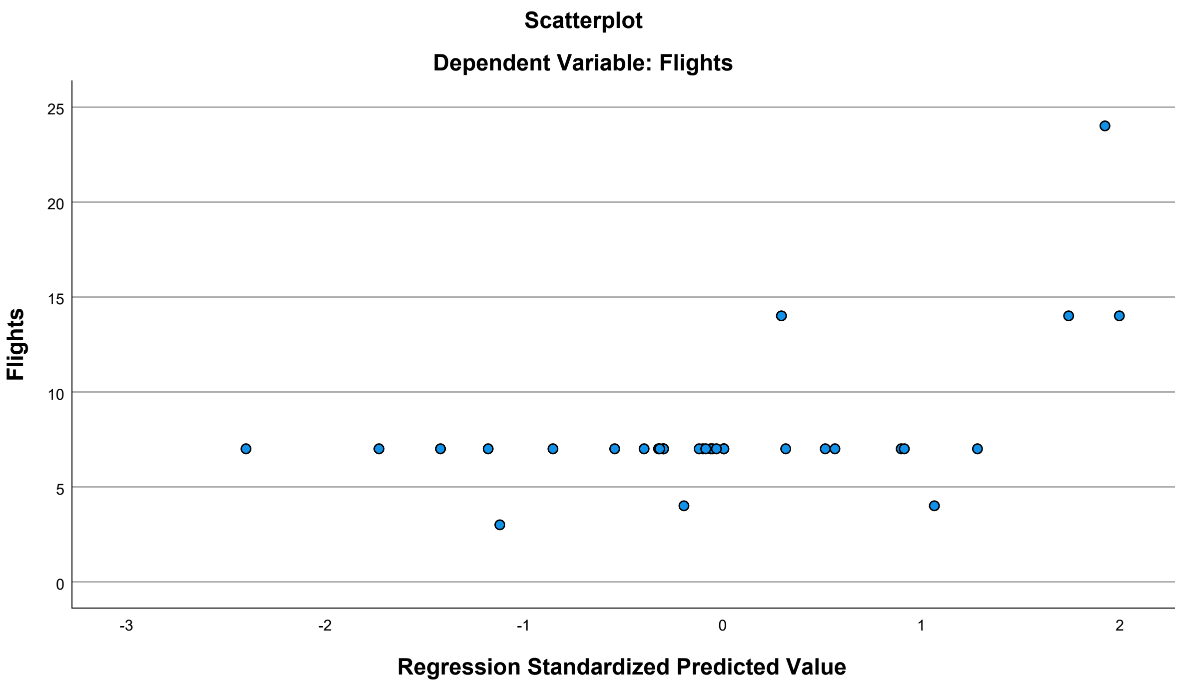
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.01	11.92	7.87	2.027	32
Residual	-6.035	12.223	.000	3.203	32
Std. Predicted Value	-2.400	1.997	.000	1.000	32
Std. Residual	-1.658	3.357	.000	.880	32

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.88	3.791	32
HomeConcentration	7.0422398125	5.5158749188	32
GLHR	.00	.000	32
PartnerConcentration	.84114400000	1.6161272508	32
Distance	4.28266	.430561	32
Language	1.23574966	2.770302216	32
Ethnicity	.73538366	.911653673	32
Urban	17.56	3.999	32

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.107	.	.246
	HomeConcentration	.107	1.000	.	-.028
	GLHR	.	.	1.000	.
	PartnerConcentration	.246	-.028	.	1.000
	Distance	-.019	.387	.	.002
	Language	.109	.292	.	-.220
	Ethnicity	-.025	-.265	.	.000
	Urban	.330	-.302	.	.033
Sig. (1-tailed)	Flights	.	.281	.000	.087
	HomeConcentration	.281	.	.000	.440
	GLHR	.000	.000	.	.000
	PartnerConcentration	.087	.440	.000	.
	Distance	.458	.014	.000	.496
	Language	.276	.052	.000	.114
	Ethnicity	.446	.071	.000	.500
	Urban	.032	.047	.000	.430
N	Flights	32	32	32	32
	HomeConcentration	32	32	32	32
	GLHR	32	32	32	32
	PartnerConcentration	32	32	32	32
	Distance	32	32	32	32
	Language	32	32	32	32
	Ethnicity	32	32	32	32
	Urban	32	32	32	32

Correlations

		Distance	Language	Ethnicity	Urban
Pearson Correlation	Flights	-.019	.109	-.025	.330
	HomeConcentration	.387	.292	-.265	-.302
	GLHR	.	.	.	.
	PartnerConcentration	.002	-.220	.000	.033
	Distance	1.000	-.296	-.157	-.201
	Language	-.296	1.000	.097	-.284
	Ethnicity	-.157	.097	1.000	-.227
	Urban	-.201	-.284	-.227	1.000
Sig. (1-tailed)	Flights	.458	.276	.446	.032
	HomeConcentration	.014	.052	.071	.047
	GLHR	.000	.000	.000	.000
	PartnerConcentration	.496	.114	.500	.430
	Distance	.	.050	.195	.135
	Language	.050	.	.299	.058
	Ethnicity	.195	.299	.	.106
	Urban	.135	.058	.106	.
N	Flights	32	32	32	32
	HomeConcentration	32	32	32	32
	GLHR	32	32	32	32
	PartnerConcentration	32	32	32	32
	Distance	32	32	32	32
	Language	32	32	32	32
	Ethnicity	32	32	32	32
	Urban	32	32	32	32

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, Ethnicity, Language, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.535[a]	.286	.114	3.567	.286	1.668

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	6	25	.170

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, Ethnicity, Language, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	127.362	6	21.227	1.668	.170[b]
	Residual	318.138	25	12.726		
	Total	445.500	31			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, Ethnicity, Language, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-7.557	9.445		-.800	.431
	HomeConcentration	.115	.151	.167	.761	.454
	PartnerConcentration	.700	.409	.299	1.710	.100
	Distance	1.094	1.883	.124	.581	.566
	Language	.403	.296	.295	1.363	.185
	Ethnicity	.525	.781	.126	.672	.508
	Urban	.482	.186	.508	2.595	.016

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.591	1.693
	PartnerConcentration	.937	1.067
	Distance	.624	1.602
	Language	.611	1.637
	Ethnicity	.811	1.234
	Urban	.744	1.343

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	PartnerConcentration
1	1	4.517	1.000	.00	.01	.01
	2	1.012	2.113	.00	.01	.31
	3	.653	2.629	.00	.07	.04
	4	.561	2.837	.00	.00	.63
	5	.228	4.448	.00	.55	.00
	6	.025	13.345	.02	.27	.00
	7	.003	41.387	.98	.09	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Distance	Language	Ethnicity	Urban
1	1	.00	.01	.01	.00
	2	.00	.27	.00	.00
	3	.00	.01	.56	.00
	4	.00	.29	.02	.00
	5	.00	.15	.25	.03
	6	.07	.00	.14	.74
	7	.92	.27	.03	.23

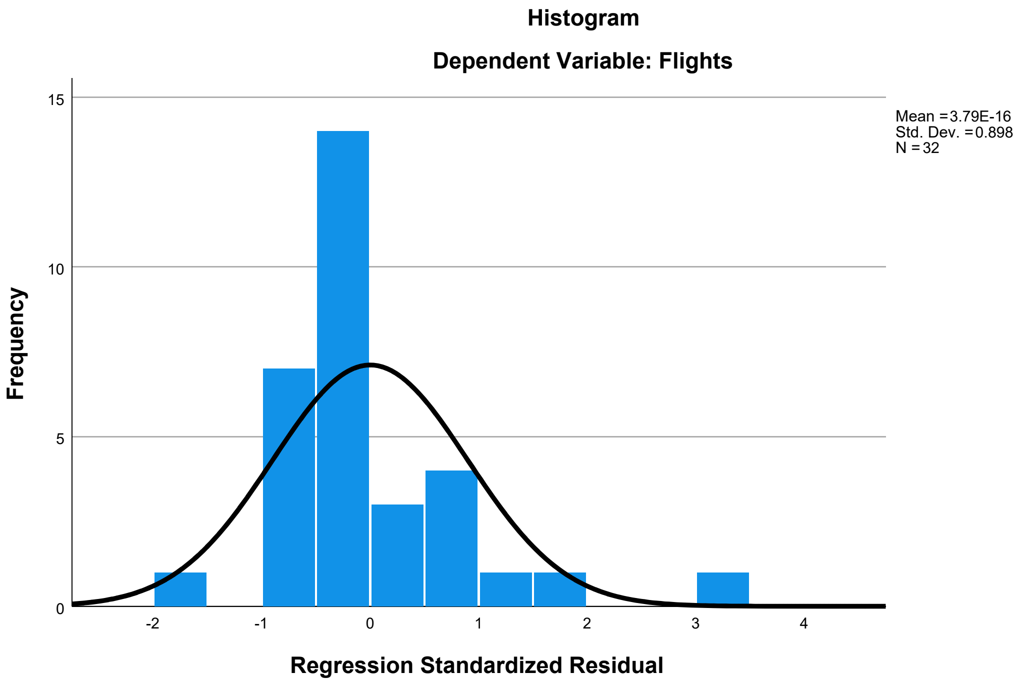
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.00	11.90	7.88	2.027	32
Residual	-6.039	12.203	.000	3.204	32
Std. Predicted Value	-2.407	1.987	.000	1.000	32
Std. Residual	-1.693	3.421	.000	.898	32

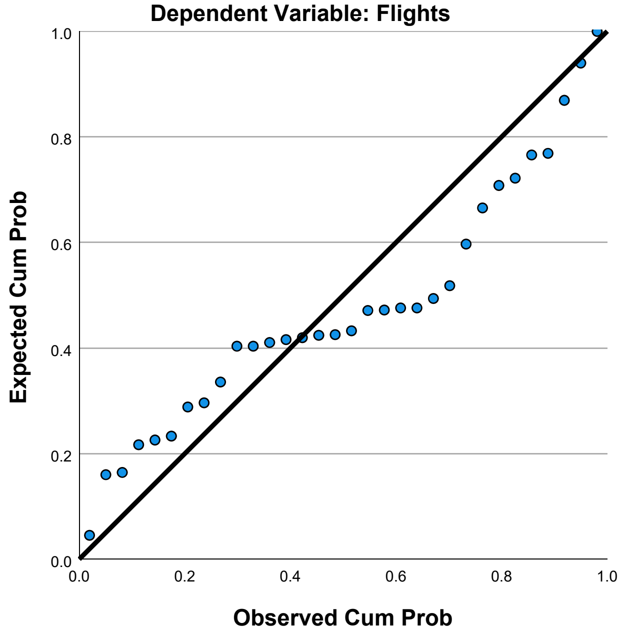
a. Dependent Variable: Flights

Charts



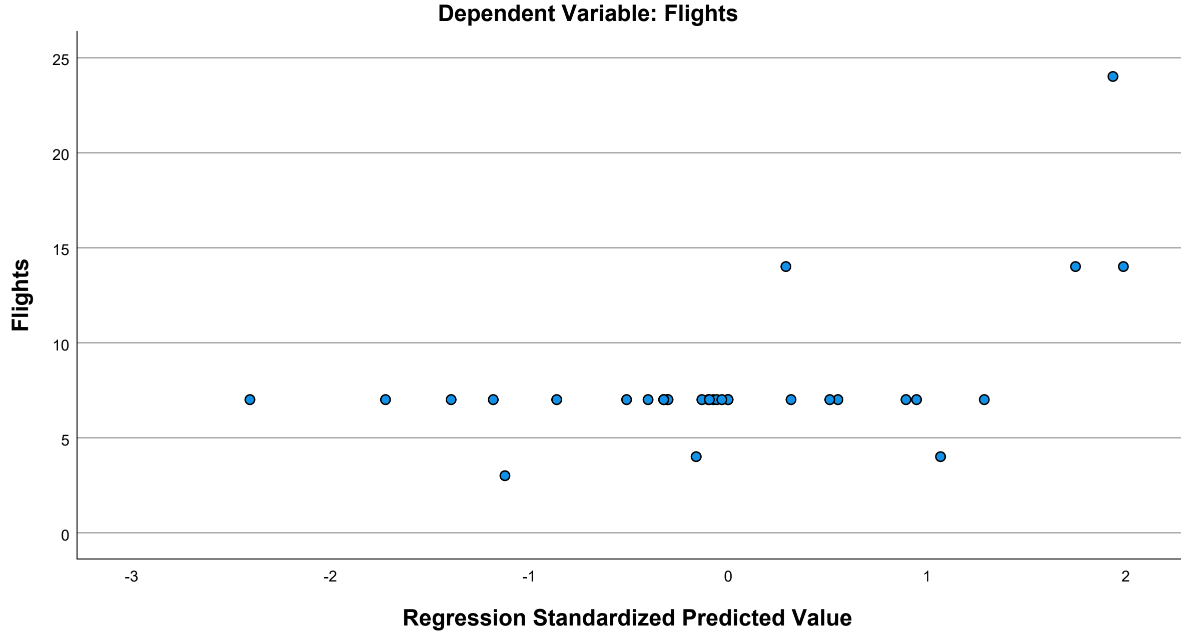
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.88	3.791	32
HomeConcentration	7.0422398125	5.5158749188	32
GLHR	.00	.000	32
PartnerConcentration	.84114400000	1.6161272508	32
Language	1.23574966	2.770302216	32
Ethnicity	.73538366	.911653673	32
Urban	17.56	3.999	32

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.107	.	.246
	HomeConcentration	.107	1.000	.	-.028
	GLHR	.	.	1.000	.
	PartnerConcentration	.246	-.028	.	1.000
	Language	.109	.292	.	-.220
	Ethnicity	-.025	-.265	.	.000
	Urban	.330	-.302	.	.033
Sig. (1-tailed)	Flights	.	.281	.000	.087
	HomeConcentration	.281	.	.000	.440
	GLHR	.000	.000	.	.000
	PartnerConcentration	.087	.440	.000	.
	Language	.276	.052	.000	.114
	Ethnicity	.446	.071	.000	.500
	Urban	.032	.047	.000	.430
N	Flights	32	32	32	32
	HomeConcentration	32	32	32	32
	GLHR	32	32	32	32
	PartnerConcentration	32	32	32	32
	Language	32	32	32	32
	Ethnicity	32	32	32	32
	Urban	32	32	32	32

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.109	-.025	.330
	HomeConcentration	.292	-.265	-.302
	GLHR	.	.	.
	PartnerConcentration	-.220	.000	.033
	Language	1.000	.097	-.284
	Ethnicity	.097	1.000	-.227
	Urban	-.284	-.227	1.000
Sig. (1-tailed)	Flights	.276	.446	.032
	HomeConcentration	.052	.071	.047
	GLHR	.000	.000	.000
	PartnerConcentration	.114	.500	.430
	Language	.	.299	.058
	Ethnicity	.299	.	.106
	Urban	.058	.106	.
N	Flights	32	32	32
	HomeConcentration	32	32	32
	GLHR	32	32	32
	PartnerConcentration	32	32	32
	Language	32	32	32
	Ethnicity	32	32	32
	Urban	32	32	32

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Ethnicity, Language, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.526[a]	.276	.137	3.522	.276	1.985

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	5	26	.114

a. Predictors: (Constant), Urban, PartnerConcentration, Ethnicity, Language, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	123.065	5	24.613	1.985	.114[b]
	Residual	322.435	26	12.401		
	Total	445.500	31			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Ethnicity, Language, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-2.571	3.895		-.660	.515
	HomeConcentration	.154	.133	.225	1.157	.258
	PartnerConcentration	.674	.402	.287	1.678	.105
	Language	.317	.253	.232	1.255	.221
	Ethnicity	.507	.770	.122	.659	.516
	Urban	.457	.178	.482	2.562	.017

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.739	1.354
	PartnerConcentration	.949	1.054
	Language	.816	1.226
	Ethnicity	.812	1.232
	Urban	.786	1.273

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	PartnerConcentration
1	1	3.577	1.000	.00	.02	.02
	2	1.008	1.883	.00	.01	.33
	3	.653	2.341	.00	.09	.06
	4	.523	2.616	.00	.02	.59
	5	.224	3.999	.01	.64	.00
	6	.015	15.259	.99	.23	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Language	Ethnicity	Urban
1	1	.02	.02	.00
	2	.34	.00	.00
	3	.02	.54	.00
	4	.43	.02	.01
	5	.17	.24	.04
	6	.02	.18	.95

a. Dependent Variable: Flights

Residuals Statistics[a]

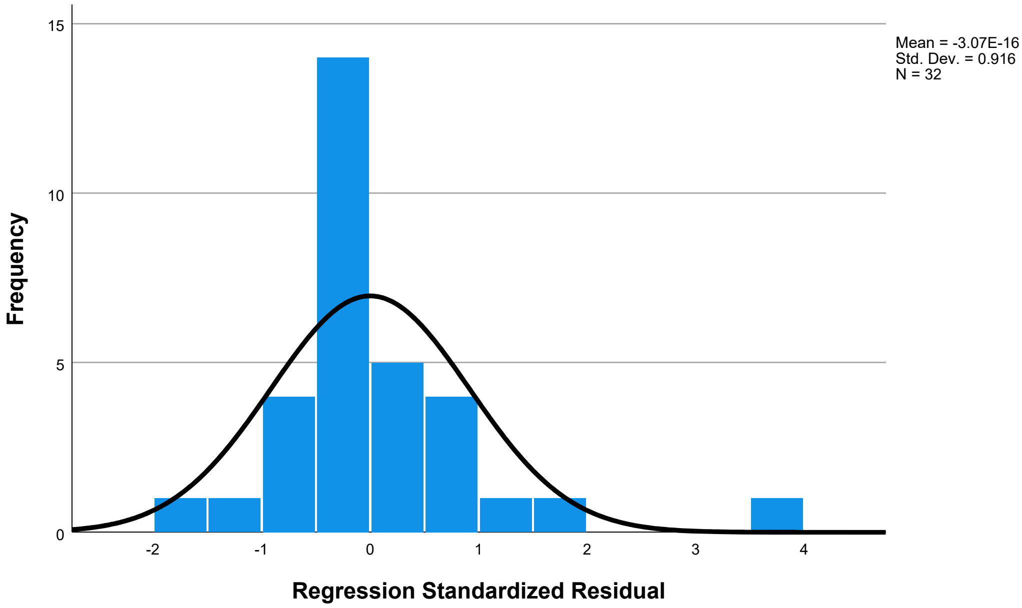
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.33	11.96	7.88	1.992	32
Residual	-6.167	12.460	.000	3.225	32
Std. Predicted Value	-2.279	2.048	.000	1.000	32
Std. Residual	-1.751	3.538	.000	.916	32

a. Dependent Variable: Flights

Charts

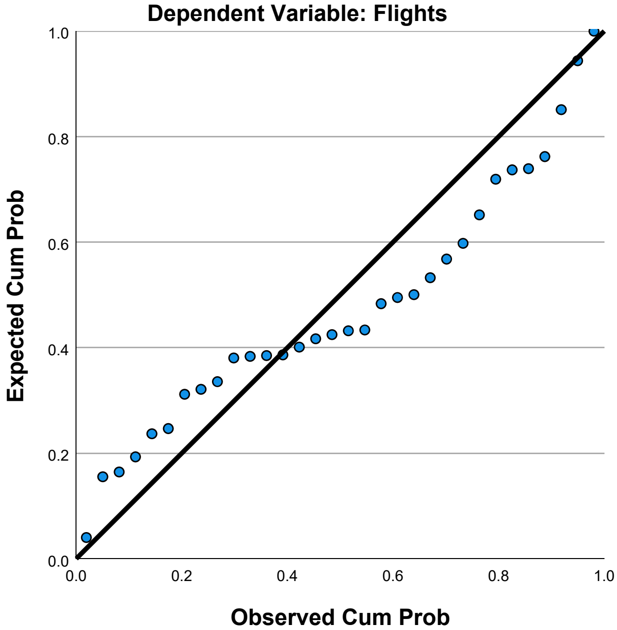
Histogram

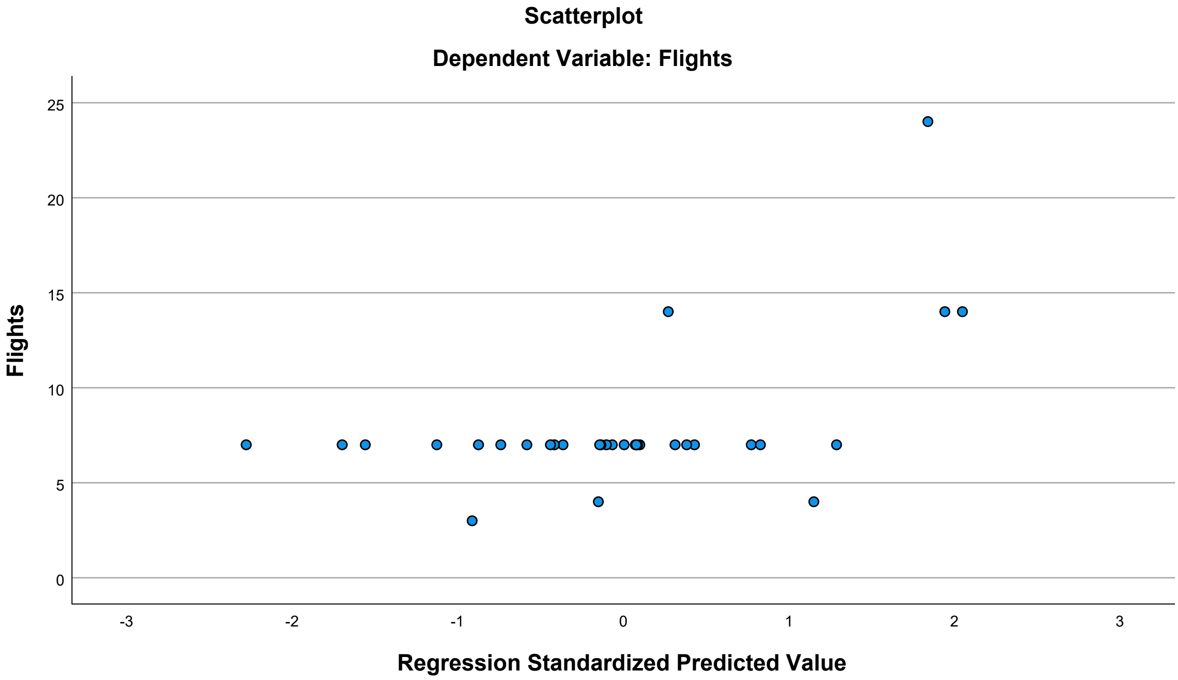
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights





Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.88	3.791	32
HomeConcentration	7.0422398125	5.5158749188	32
GLHR	.00	.000	32
PartnerConcentration	.84114400000	1.6161272508	32
Language	1.23574966	2.770302216	32
Urban	17.56	3.999	32

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.107	.	.246
	HomeConcentration	.107	1.000	.	-.028
	GLHR	.	.	1.000	.
	PartnerConcentration	.246	-.028	.	1.000
	Language	.109	.292	.	-.220
	Urban	.330	-.302	.	.033
Sig. (1-tailed)	Flights	.	.281	.000	.087
	HomeConcentration	.281	.	.000	.440
	GLHR	.000	.000	.	.000
	PartnerConcentration	.087	.440	.000	.
	Language	.276	.052	.000	.114
	Urban	.032	.047	.000	.430
N	Flights	32	32	32	32
	HomeConcentration	32	32	32	32
	GLHR	32	32	32	32
	PartnerConcentration	32	32	32	32
	Language	32	32	32	32
	Urban	32	32	32	32

Correlations

		Language	Urban
Pearson Correlation	Flights	.109	.330
	HomeConcentration	.292	-.302
	GLHR	.	.
	PartnerConcentration	-.220	.033
	Language	1.000	-.284
	Urban	-.284	1.000
Sig. (1-tailed)	Flights	.276	.032
	HomeConcentration	.052	.047
	GLHR	.000	.000
	PartnerConcentration	.114	.430
	Language	.	.058
	Urban	.058	.
N	Flights	32	32
	HomeConcentration	32	32
	GLHR	32	32
	PartnerConcentration	32	32
	Language	32	32
	Urban	32	32

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, HomeConcentration, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change
1	.514[a]	.264	.155	3.484	.264	2.423	4	27	.073

a. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	117.687	4	29.422	2.423	.073[b]
	Residual	327.813	27	12.141		
	Total	445.500	31			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-1.367	3.404		-.402	.691
	HomeConcentration	.121	.122	.176	.992	.330
	PartnerConcentration	.682	.397	.291	1.716	.098
	Language	.339	.248	.248	1.367	.183
	Urban	.421	.168	.444	2.506	.019

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.862	1.161
	PartnerConcentration	.950	1.053
	Language	.830	1.205
	Urban	.867	1.154

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions PartnerConcentration
1	1	3.168	1.000	.00	.02	.02
	2	1.008	1.773	.00	.01	.33
	3	.526	2.453	.00	.01	.64
	4	.278	3.373	.01	.82	.00
	5	.019	13.052	.98	.14	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Language	Variance Proportions Urban
1	1	.02	.00
	2	.35	.00
	3	.44	.01
	4	.13	.02
	5	.05	.96

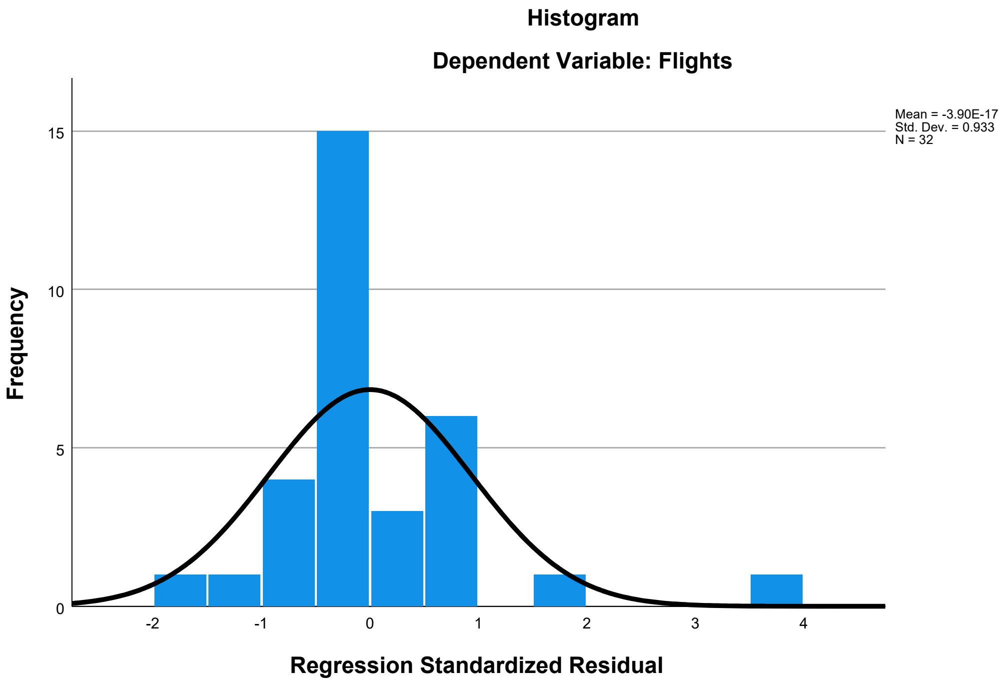
a. Dependent Variable: Flights

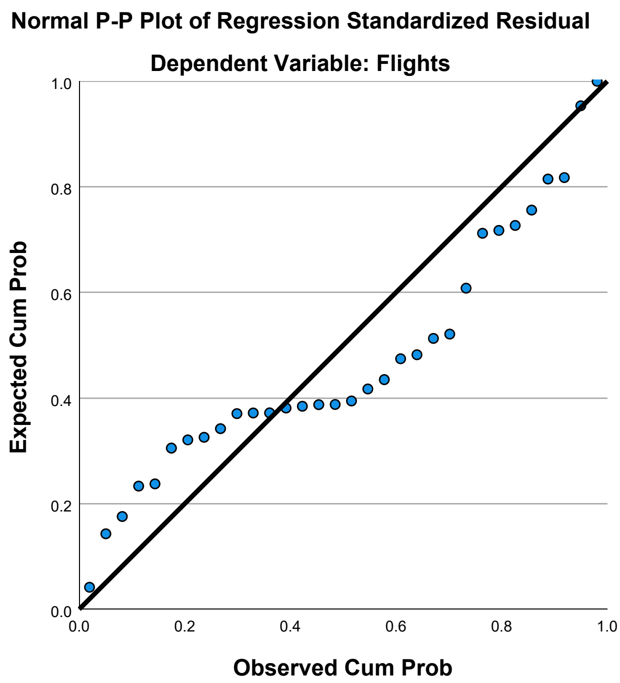
Residuals Statistics[a]

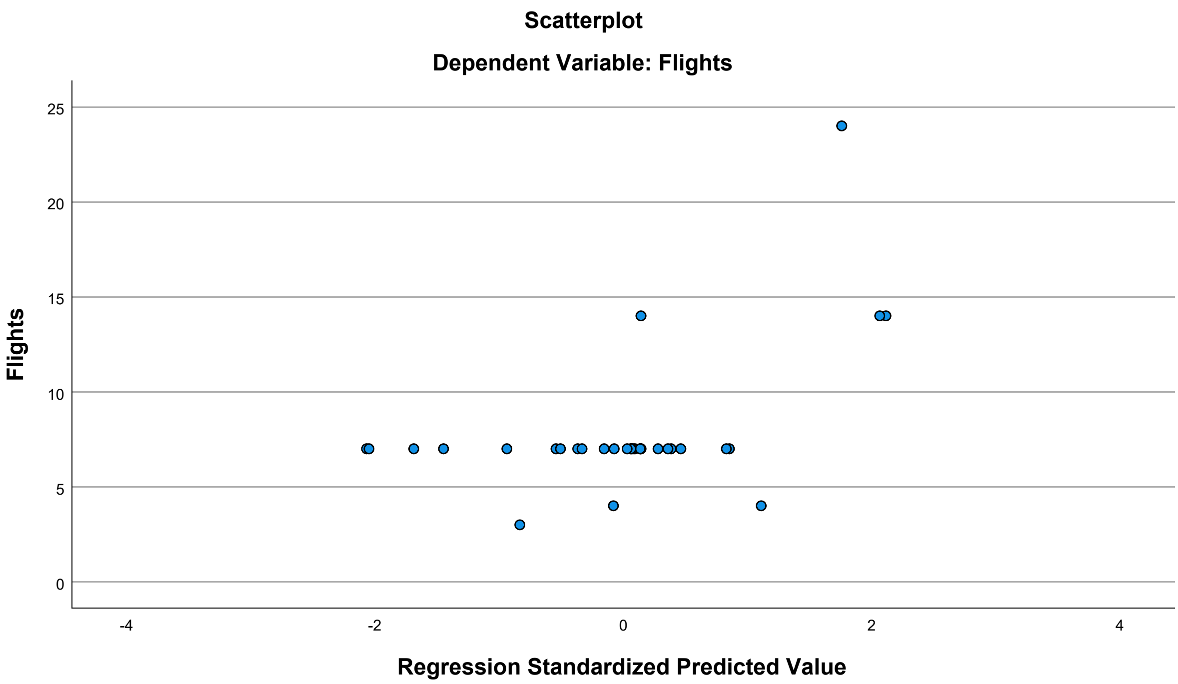
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.84	12.00	7.88	1.948	32
Residual	-6.039	12.698	.000	3.252	32
Std. Predicted Value	-2.069	2.115	.000	1.000	32
Std. Residual	-1.733	3.644	.000	.933	32

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.88	3.791	32
GLHR	.00	.000	32
PartnerConcentration	.84114400000	1.6161272508	32
Language	1.23574966	2.770302216	32
Urban	17.56	3.999	32

Correlations

		Flights	GLHR	PartnerConcentration	Language
Pearson Correlation	Flights	1.000	.	.246	.109
	GLHR	.	1.000	.	.
	PartnerConcentration	.246	.	1.000	-.220
	Language	.109	.	-.220	1.000
	Urban	.330	.	.033	-.284
Sig. (1-tailed)	Flights	.	.000	.087	.276
	GLHR	.000	.	.000	.000
	PartnerConcentration	.087	.000	.	.114
	Language	.276	.000	.114	.
	Urban	.032	.000	.430	.058
N	Flights	32	32	32	32
	GLHR	32	32	32	32
	PartnerConcentration	32	32	32	32
	Language	32	32	32	32
	Urban	32	32	32	32

Correlations

		Urban
Pearson Correlation	Flights	.330
	GLHR	.
	PartnerConcentration	.033
	Language	-.284
	Urban	1.000
Sig. (1-tailed)	Flights	.032
	GLHR	.000
	PartnerConcentration	.430
	Language	.058
	Urban	.
N	Flights	32
	GLHR	32
	PartnerConcentration	32
	Language	32
	Urban	32

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change
1	.487[a]	.237	.156	3.483	.237	2.905	3	28	.052

a. Predictors: (Constant), Urban, PartnerConcentration, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	105.751	3	35.250	2.905	.052[b]
	Residual	339.749	28	12.134		
	Total	445.500	31			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.101	3.064		.033	.974
	PartnerConcentration	.695	.397	.296	1.750	.091
	Language	.395	.241	.289	1.636	.113
	Urban	.382	.163	.403	2.338	.027

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	PartnerConcentration	.951	1.052
	Language	.875	1.143
	Urban	.918	1.089

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

				Variance Proportions		
Model	Dimension	Eigenvalue	Condition Index	(Constant)	PartnerConcentration	Language
1	1	2.471	1.000	.01	.05	.03
	2	.985	1.584	.00	.30	.45
	3	.522	2.175	.01	.65	.40
	4	.021	10.766	.99	.01	.12

Collinearity Diagnostics[a]

		Variance ...
Model	Dimension	Urban
1	1	.01
	2	.00
	3	.01
	4	.98

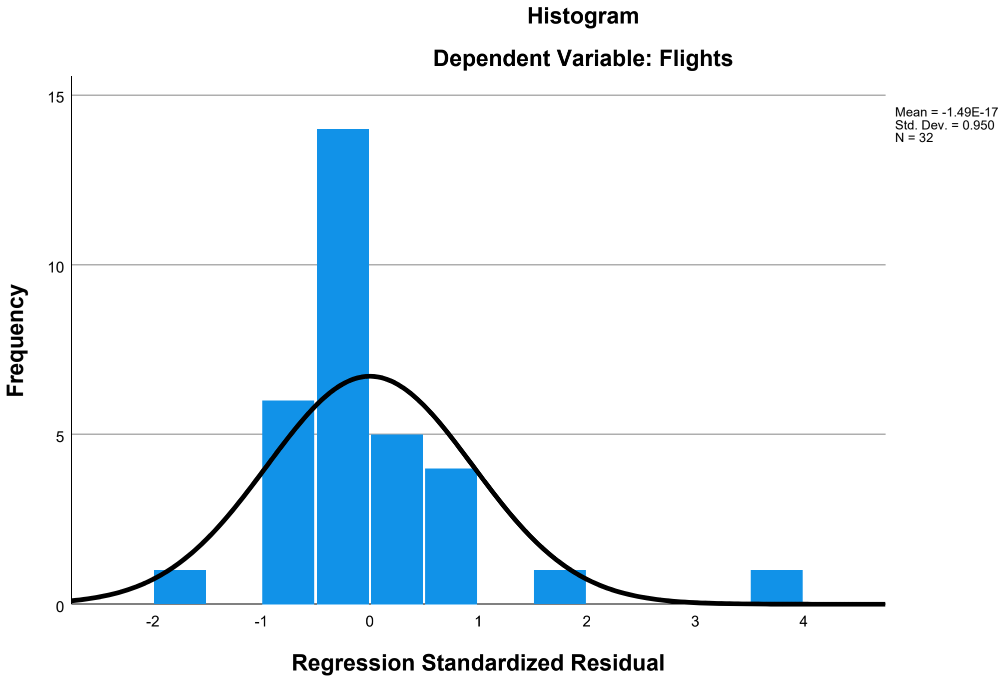
a. Dependent Variable: Flights

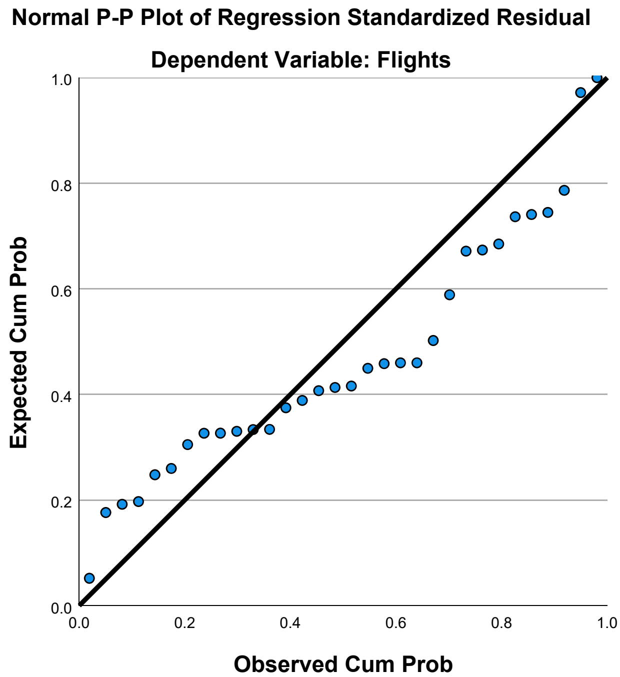
Residuals Statistics[a]

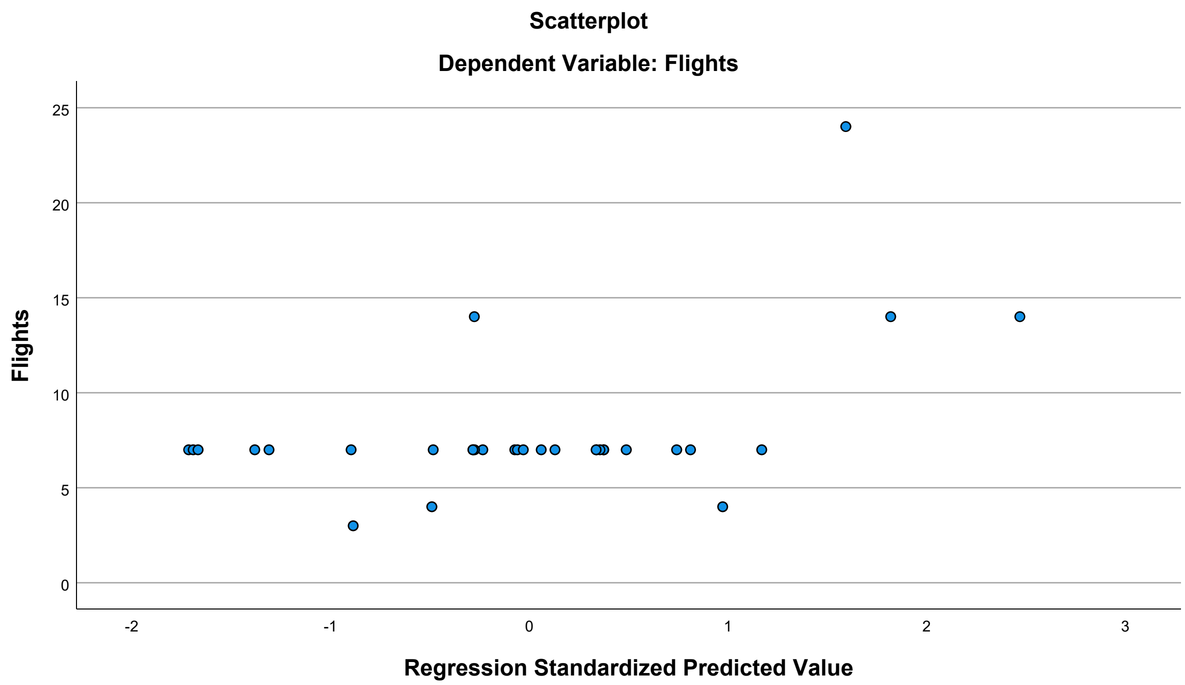
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.71	12.44	7.87	1.847	32
Residual	-5.673	13.183	.000	3.311	32
Std. Predicted Value	-1.714	2.469	.000	1.000	32
Std. Residual	-1.628	3.784	.000	.950	32

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Frequency
Regression Standardized Residual
Mean = -1.49E-17
Std. Dev. = 0.950
N = 32
15
10
5
0
-2
-1
0
1
2
3
4


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.88	3.791	32
GLHR	.00	.000	32
PartnerConcentration	.84114400000	1.6161272508	32
Urban	17.56	3.999	32

Correlations

		Flights	GLHR	PartnerConcentration	Urban
Pearson Correlation	Flights	1.000	.	.246	.330
	GLHR	.	1.000	.	.
	PartnerConcentration	.246	.	1.000	.033
	Urban	.330	.	.033	1.000
Sig. (1-tailed)	Flights	.	.000	.087	.032
	GLHR	.000	.	.000	.000
	PartnerConcentration	.087	.000	.	.430
	Urban	.032	.000	.430	.
N	Flights	32	32	32	32
	GLHR	32	32	32	32
	PartnerConcentration	32	32	32	32
	Urban	32	32	32	32

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change
1	.406[a]	.164	.107	3.583	.164	2.854

Model Summary[b]

Model	Change Statistics: df1	Change Statistics: df2	Change Statistics: Sig. F Change
1	2	29	.074

a. Predictors: (Constant), Urban, PartnerConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	73.267	2	36.633	2.854	.074[b]
	Residual	372.233	29	12.836		
	Total	445.500	31			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.040	2.906		.702	.488
	PartnerConcentration	.552	.398	.235	1.386	.176
	Urban	.306	.161	.323	1.900	.067

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	PartnerConcentration	.999	1.001
	Urban	.999	1.001

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	PartnerConcentration	Urban
1	1	2.307	1.000	.01	.07	.01
	2	.669	1.857	.01	.93	.01
	3	.024	9.764	.98	.00	.98

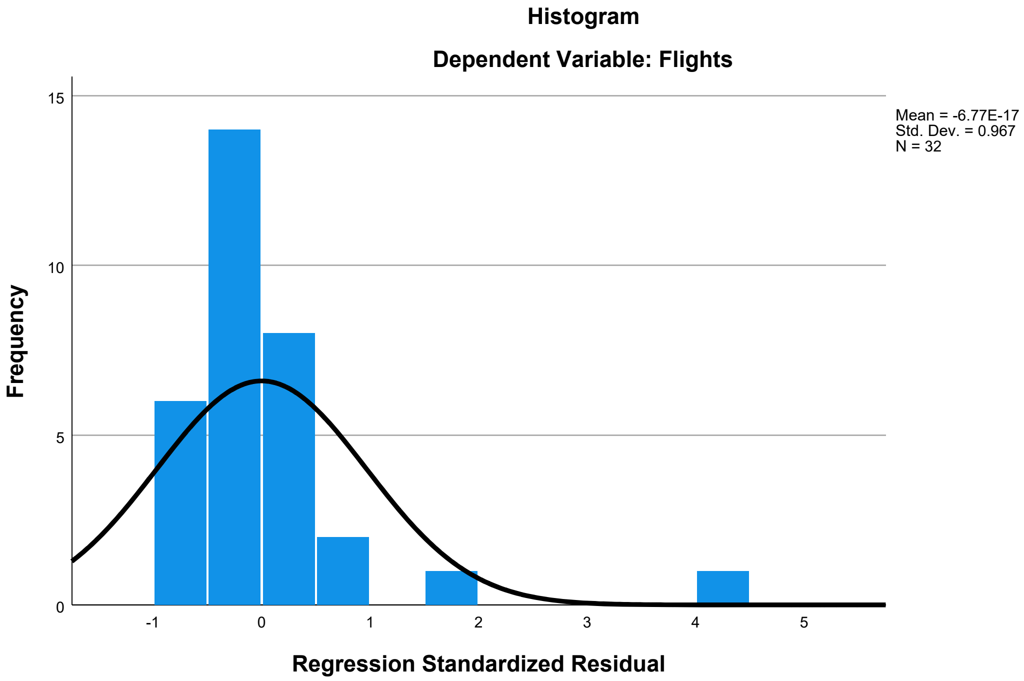
a. Dependent Variable: Flights

Residuals Statistics[a]

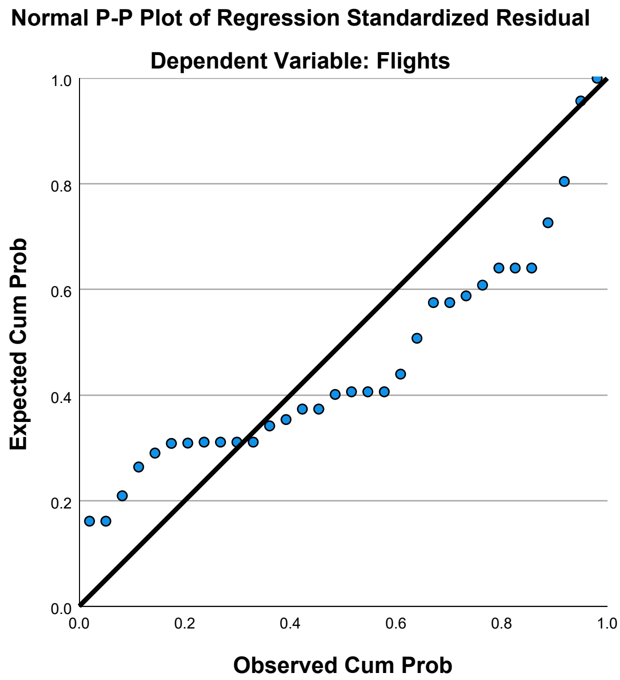
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.79	11.84	7.88	1.537	32
Residual	-3.544	15.538	.000	3.465	32
Std. Predicted Value	-2.005	2.582	.000	1.000	32
Std. Residual	-.989	4.337	.000	.967	32

a. Dependent Variable: Flights

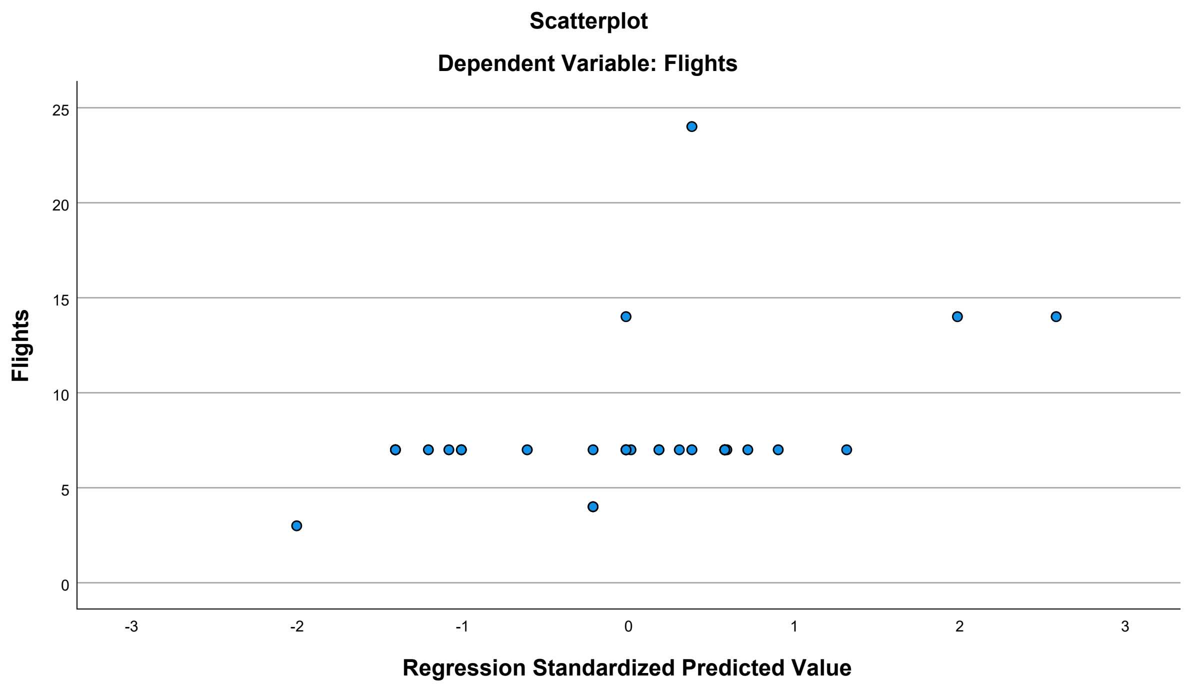
Charts



Histogram
Dependent Variable: Flights
Frequency
15
10
5
0
-1
0
1
2
3
4
5
Regression Standardized Residual
Mean = -6.77E-17
Std. Dev. = 0.967
N = 32



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.88	3.791	32
GLHR	.00	.000	32
Urban	17.56	3.999	32

Correlations

		Flights	GLHR	Urban
Pearson Correlation	Flights	1.000	.	.330
	GLHR	.	1.000	.
	Urban	.330	.	1.000
Sig. (1-tailed)	Flights	.	.000	.032
	GLHR	.000	.	.000
	Urban	.032	.000	.
N	Flights	32	32	32
	GLHR	32	32	32
	Urban	32	32	32

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.330[a]	.109	.079	3.637	.109	3.674

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	1	30	.065

a. Predictors: (Constant), Urban

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	48.606	1	48.606	3.674	.065[b]
	Residual	396.894	30	13.230		
	Total	445.500	31			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics
		B	Std. Error	Beta			Tolerance
1	(Constant)	2.376	2.940		.808	.425	
	Urban	.313	.163	.330	1.917	.065	1.000

Coefficients[a]

Model		Collinearity Statistics
		VIF
1	(Constant)	
	Urban	1.000

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	Urban
1	1	1.976	1.000	.01	.01
	2	.024	9.034	.99	.99

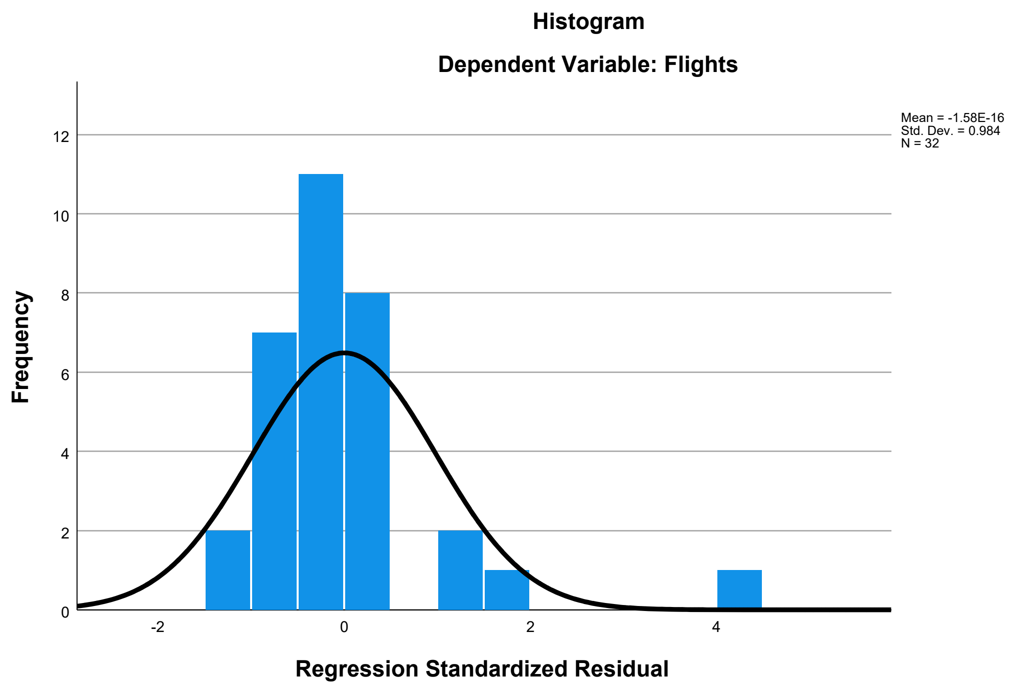
a. Dependent Variable: Flights

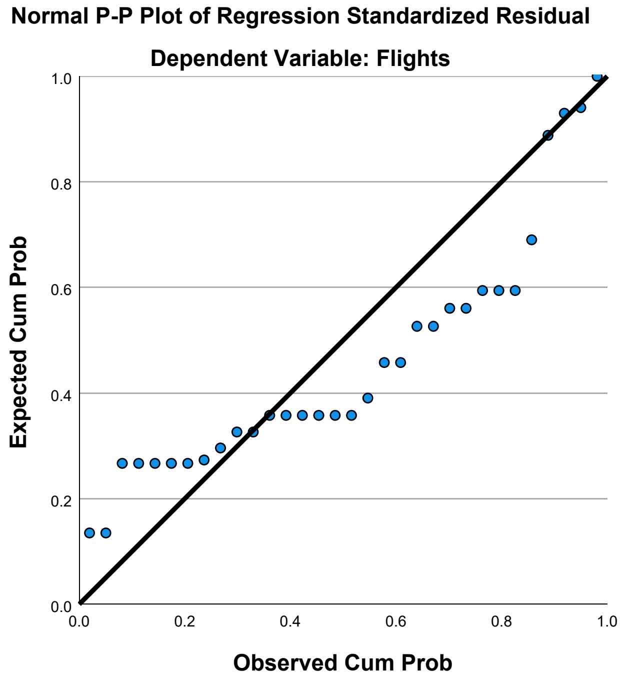
Residuals Statistics[a]

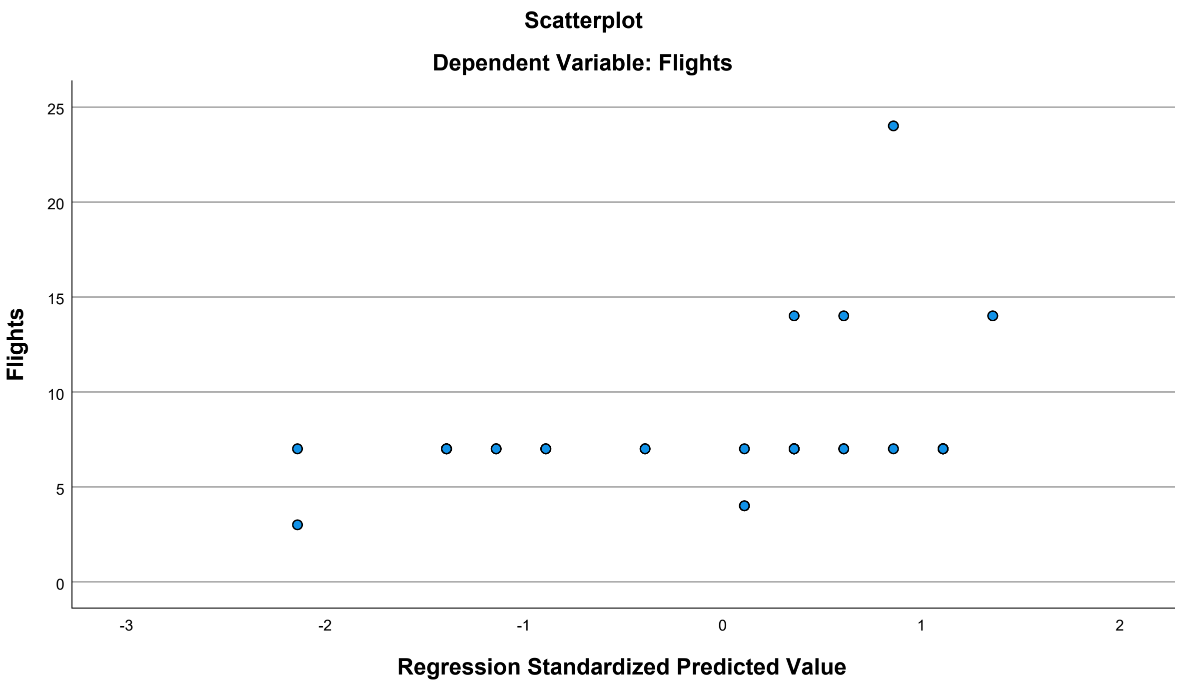
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.19	9.58	7.88	1.252	32
Residual	-4.012	15.049	.000	3.578	32
Std. Predicted Value	-2.141	1.360	.000	1.000	32
Std. Residual	-1.103	4.137	.000	.984	32

a. Dependent Variable: Flights

Charts







Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.88	3.791	32
Language	1.23574966	2.770302216	32
Urban	17.56	3.999	32

Correlations

		Flights	Language	Urban
Pearson Correlation	Flights	1.000	.109	.330
	Language	.109	1.000	-.284
	Urban	.330	-.284	1.000
Sig. (1-tailed)	Flights	.	.276	.032
	Language	.276	.	.058
	Urban	.032	.058	.
N	Flights	32	32	32
	Language	32	32	32
	Urban	32	32	32

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.392[a]	.154	.096	3.605	.154	2.639

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	2	29	.089

a. Predictors: (Constant), Urban, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	68.595	2	34.297	2.639	.089[b]
	Residual	376.905	29	12.997		
	Total	445.500	31			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance
1	(Constant)	.959	3.130		.306	.762	
	Language	.302	.244	.221	1.240	.225	.919
	Urban	.373	.169	.393	2.206	.035	.919

Coefficients[a]

Model		Collinearity Statistics VIF
1	(Constant)	
	Language	1.088
	Urban	1.088

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions Language	Variance Proportions Urban
1	1	2.213	1.000	.01	.06	.01
	2	.765	1.701	.00	.83	.01
	3	.022	10.135	.99	.11	.99

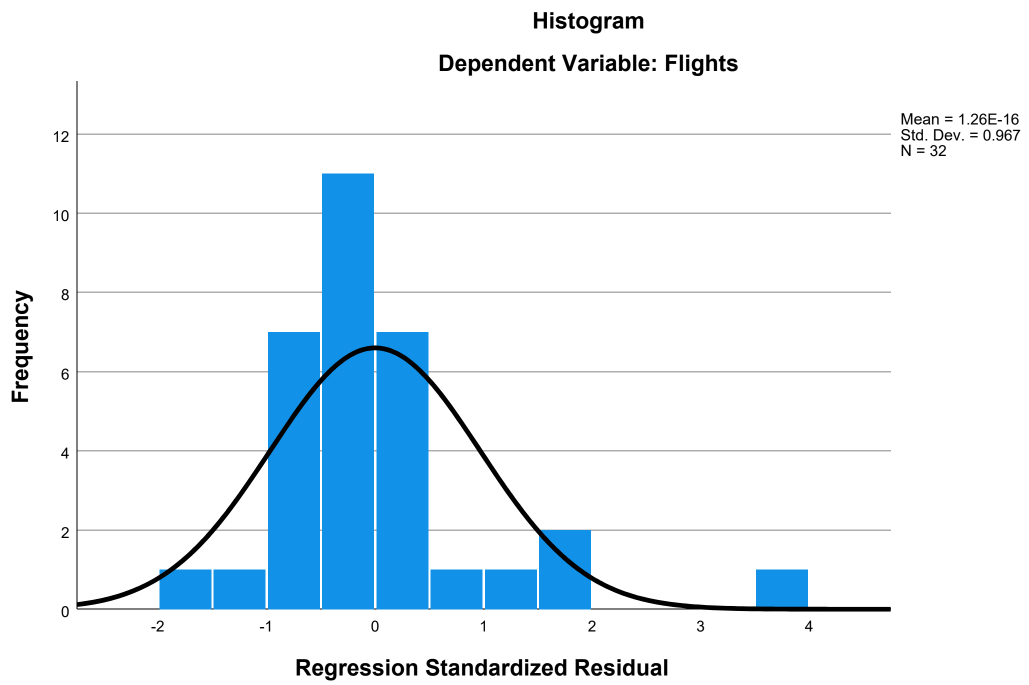
a. Dependent Variable: Flights

Residuals Statistics[a]

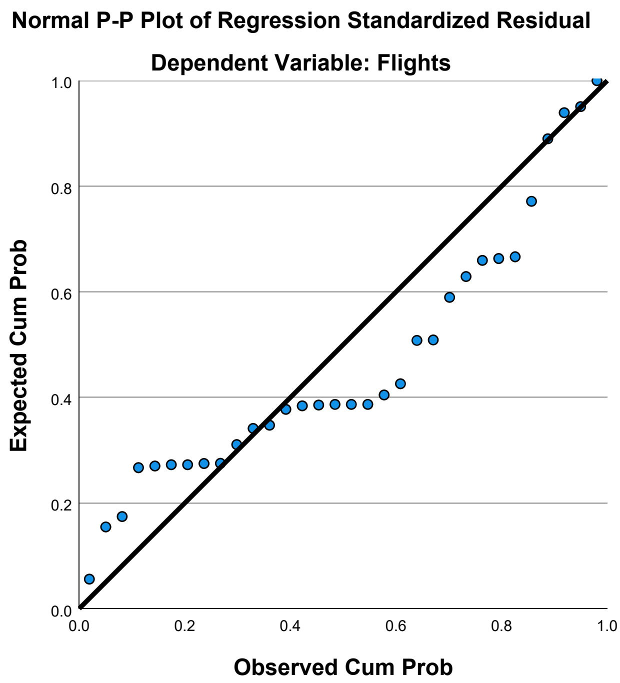
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.32	10.85	7.88	1.488	32
Residual	-5.733	13.149	.000	3.487	32
Std. Predicted Value	-2.390	2.000	.000	1.000	32
Std. Residual	-1.590	3.647	.000	.967	32

a. Dependent Variable: Flights

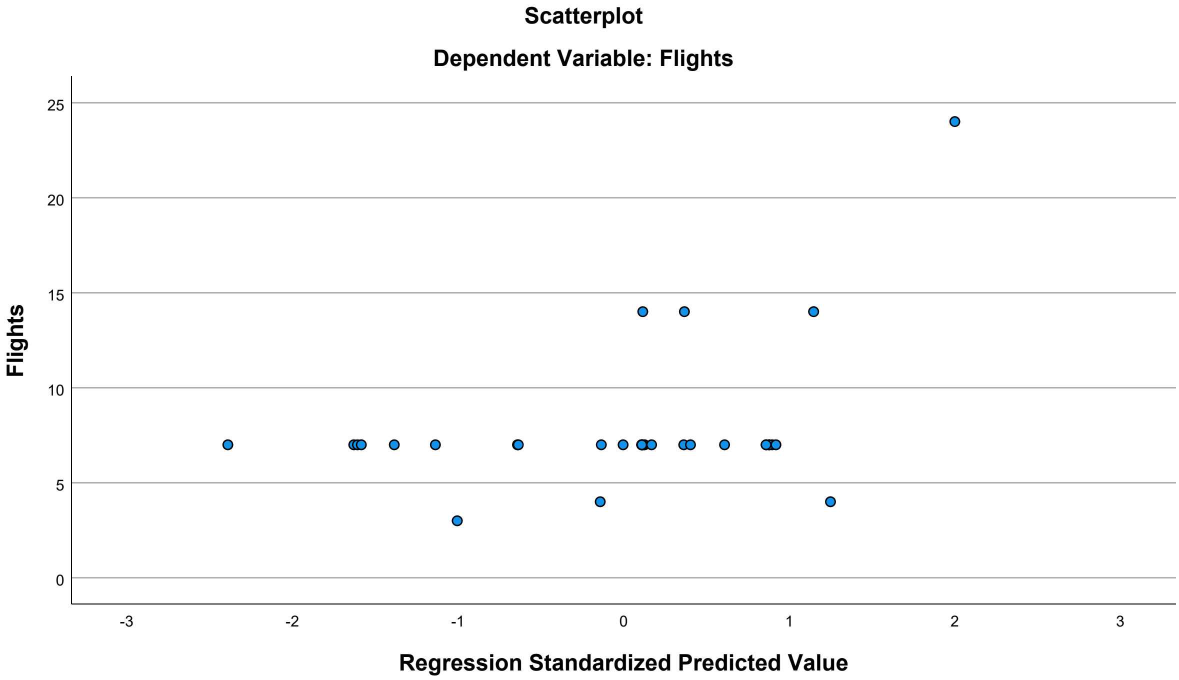
Charts



Histogram
Dependent Variable: Flights
Mean = 1.26E-16
Std. Dev. = 0.967
N = 32
Frequency
0
2
4
6
8
10
12
-2
-1
0
1
2
3
4
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
25
20
15
10
5
0
-3
-2
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

```
[DataSet13] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
\2007 - DL.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.42	2.720	55
HomeConcentration	6.0888166909	5.0406505454	55
Congestion	4.58	1.150	55
GLHR	.00	.000	55
GJFK	.44	.501	55
PartnerConcentration	.80690454545	1.5557564889	55
Seasonality	.64519825963	.17566776500	55
Distance	4.47535	.876351	55
Language	2.01755653	4.143855167	55
Ethnicity	.68177598	.916793851	55
Urban	15.84	4.307	55

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.181	-.061	.
	HomeConcentration	.181	1.000	-.783	.
	Congestion	-.061	-.783	1.000	.
	GLHR	.	.	.	1.000
	GJFK	-.123	-.895	.838	.
	PartnerConcentration	.152	-.073	.070	.
	Seasonality	-.151	.027	-.264	.
	Distance	-.163	.314	-.285	.
	Language	.168	-.164	.082	.
	Ethnicity	.150	-.405	.296	.
	Urban	.164	-.439	.678	.
Sig. (1-tailed)	Flights	.	.093	.328	.000
	HomeConcentration	.093	.	.000	.000
	Congestion	.328	.000	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.186	.000	.000	.000
	PartnerConcentration	.134	.299	.305	.000
	Seasonality	.135	.422	.026	.000
	Distance	.117	.010	.018	.000
	Language	.111	.116	.275	.000
	Ethnicity	.138	.001	.014	.000
	Urban	.116	.000	.000	.000
N	Flights	55	55	55	55
	HomeConcentration	55	55	55	55
	Congestion	55	55	55	55
	GLHR	55	55	55	55
	GJFK	55	55	55	55
	PartnerConcentration	55	55	55	55
	Seasonality	55	55	55	55
	Distance	55	55	55	55
	Language	55	55	55	55
	Ethnicity	55	55	55	55
	Urban	55	55	55	55

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	-.123	.152	-.151	-.163
	HomeConcentration	-.895	-.073	.027	.314
	Congestion	.838	.070	-.264	-.285
	GLHR	.	.	.	.
	GJFK	1.000	-.073	-.078	-.272
	PartnerConcentration	-.073	1.000	-.068	-.111
	Seasonality	-.078	-.068	1.000	.161
	Distance	-.272	-.111	.161	1.000
	Language	.159	-.248	-.062	-.386
	Ethnicity	.333	-.076	.008	-.406
	Urban	.558	.152	-.234	-.153
Sig. (1-tailed)	Flights	.186	.134	.135	.117
	HomeConcentration	.000	.299	.422	.010
	Congestion	.000	.305	.026	.018
	GLHR	.000	.000	.000	.000
	GJFK	.	.299	.286	.022
	PartnerConcentration	.299	.	.311	.210
	Seasonality	.286	.311	.	.120
	Distance	.022	.210	.120	.
	Language	.122	.034	.327	.002
	Ethnicity	.006	.291	.477	.001
	Urban	.000	.134	.043	.132
N	Flights	55	55	55	55
	HomeConcentration	55	55	55	55
	Congestion	55	55	55	55
	GLHR	55	55	55	55
	GJFK	55	55	55	55
	PartnerConcentration	55	55	55	55
	Seasonality	55	55	55	55
	Distance	55	55	55	55
	Language	55	55	55	55
	Ethnicity	55	55	55	55
	Urban	55	55	55	55

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.168	.150	.164
	HomeConcentration	-.164	-.405	-.439
	Congestion	.082	.296	.678
	GLHR	.	.	.
	GJFK	.159	.333	.558
	PartnerConcentration	-.248	-.076	.152
	Seasonality	-.062	.008	-.234
	Distance	-.386	-.406	-.153
	Language	1.000	.277	-.039
	Ethnicity	.277	1.000	.053
	Urban	-.039	.053	1.000
Sig. (1-tailed)	Flights	.111	.138	.116
	HomeConcentration	.116	.001	.000
	Congestion	.275	.014	.000
	GLHR	.000	.000	.000
	GJFK	.122	.006	.000
	PartnerConcentration	.034	.291	.134
	Seasonality	.327	.477	.043
	Distance	.002	.001	.132
	Language	.	.020	.387
	Ethnicity	.020	.	.350
	Urban	.387	.350	.
N	Flights	55	55	55
	HomeConcentration	55	55	55
	Congestion	55	55	55
	GLHR	55	55	55
	GJFK	55	55	55
	PartnerConcentration	55	55	55
	Seasonality	55	55	55
	Distance	55	55	55
	Language	55	55	55
	Ethnicity	55	55	55
	Urban	55	55	55

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, Seasonality, Ethnicity, PartnerConcentration, Distance, HomeConcentration, Congestion, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.527[a]	.278	.134	2.531	.278	1.927

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	45	.072

a. Predictors: (Constant), Urban, Language, Seasonality, Ethnicity, PartnerConcentration, Distance, HomeConcentration, Conge
GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	111.122	9	12.347	1.927	.072[b]
	Residual	288.260	45	6.406		
	Total	399.382	54			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, Seasonality, Ethnicity, PartnerConcentration, Distance, HomeConcentration, Congestion, GJFK

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.009	4.502		.891	.378
	HomeConcentration	.297	.177	.550	1.674	.101
	Congestion	-.468	.681	-.198	-.688	.495
	GJFK	1.121	1.980	.206	.566	.574
	PartnerConcentration	.401	.259	.230	1.549	.128
	Seasonality	-1.323	2.172	-.085	-.609	.545
	Distance	-.141	.478	-.045	-.295	.770
	Language	.138	.096	.210	1.430	.160
	Ethnicity	.845	.448	.285	1.887	.066
	Urban	.225	.117	.356	1.926	.060

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.148	6.743
	Congestion	.194	5.167
	GJFK	.121	8.282
	PartnerConcentration	.730	1.369
	Seasonality	.815	1.228
	Distance	.675	1.482
	Language	.743	1.346
	Ethnicity	.703	1.422
	Urban	.469	2.133

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.698	1.000	.00	.00	.00
	2	1.238	2.326	.00	.01	.00
	3	.889	2.744	.00	.01	.00
	4	.576	3.409	.00	.00	.00
	5	.439	3.904	.00	.00	.00
	6	.082	9.043	.00	.08	.01
	7	.030	14.862	.01	.38	.02
	8	.029	15.239	.00	.30	.01
	9	.014	21.675	.04	.00	.39
	10	.004	39.606	.95	.21	.58

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.01	.06	.00	.00	.11	.06
	3	.01	.25	.00	.00	.14	.00
	4	.01	.42	.00	.00	.39	.02
	5	.01	.01	.00	.00	.19	.73
	6	.00	.00	.44	.01	.00	.02
	7	.29	.02	.20	.38	.02	.00
	8	.56	.16	.10	.07	.00	.01
	9	.10	.04	.00	.34	.06	.11
	10	.00	.03	.25	.20	.08	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.07
	7	.02
	8	.51
	9	.39
	10	.02

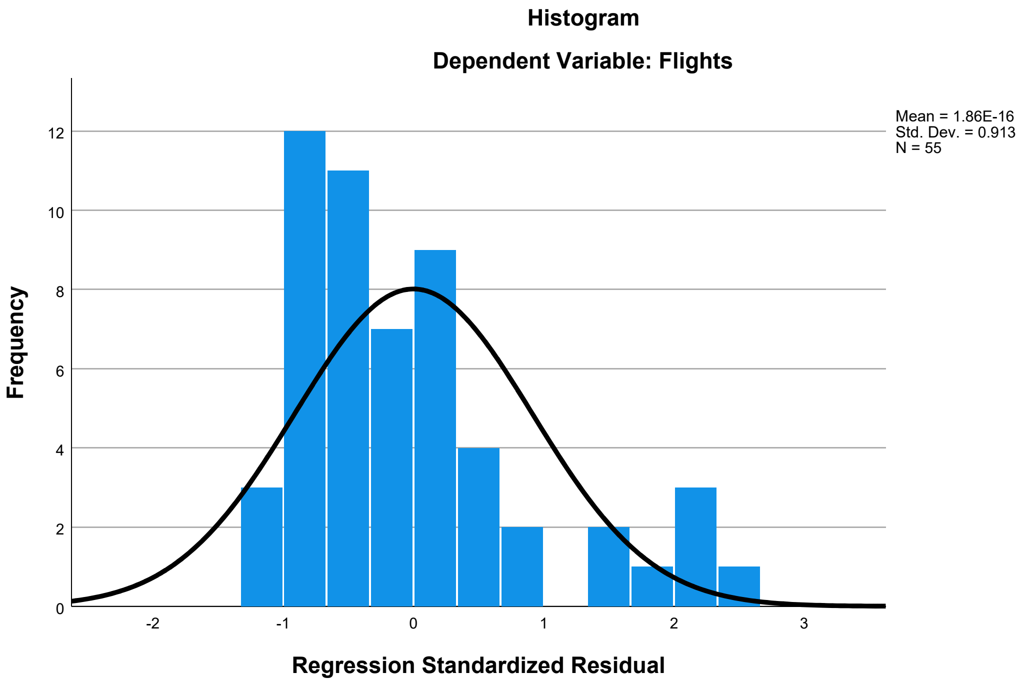
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.49	10.17	7.42	1.435	55
Residual	-3.027	5.971	.000	2.310	55
Std. Predicted Value	-2.039	1.919	.000	1.000	55
Std. Residual	-1.196	2.359	.000	.913	55

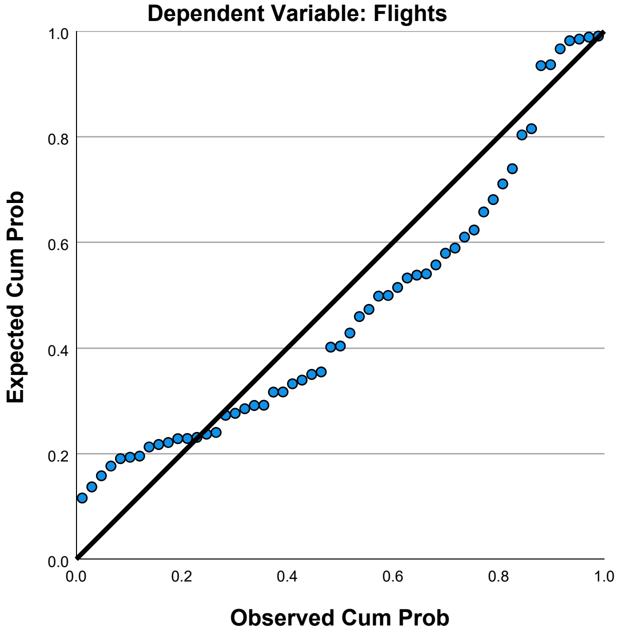
a. Dependent Variable: Flights

Charts



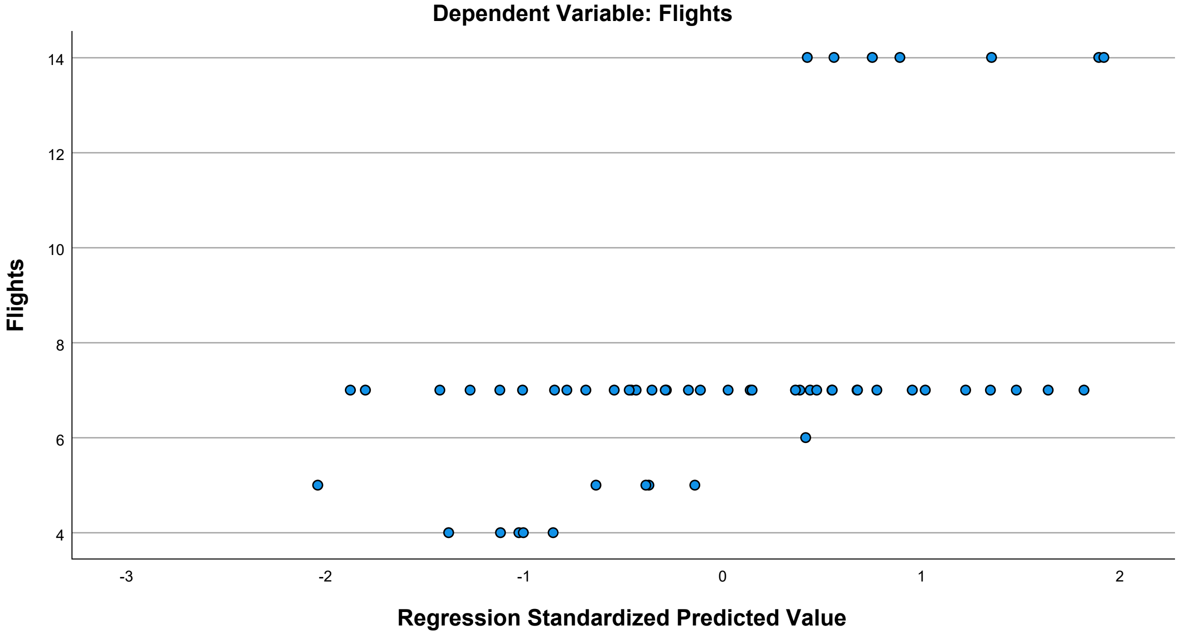
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.42	2.720	55
HomeConcentration	6.0888166909	5.0406505454	55
Congestion	4.58	1.150	55
GLHR	.00	.000	55
PartnerConcentration	.80690454545	1.5557564889	55
Seasonality	.64519825963	.17566776500	55
Distance	4.47535	.876351	55
Language	2.01755653	4.143855167	55
Ethnicity	.68177598	.916793851	55
Urban	15.84	4.307	55

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.181	-.061	.
	HomeConcentration	.181	1.000	-.783	.
	Congestion	-.061	-.783	1.000	.
	GLHR	.	.	.	1.000
	PartnerConcentration	.152	-.073	.070	.
	Seasonality	-.151	.027	-.264	.
	Distance	-.163	.314	-.285	.
	Language	.168	-.164	.082	.
	Ethnicity	.150	-.405	.296	.
	Urban	.164	-.439	.678	.
Sig. (1-tailed)	Flights	.	.093	.328	.000
	HomeConcentration	.093	.	.000	.000
	Congestion	.328	.000	.	.000
	GLHR	.000	.000	.000	.
	PartnerConcentration	.134	.299	.305	.000
	Seasonality	.135	.422	.026	.000
	Distance	.117	.010	.018	.000
	Language	.111	.116	.275	.000
	Ethnicity	.138	.001	.014	.000
	Urban	.116	.000	.000	.000
N	Flights	55	55	55	55
	HomeConcentration	55	55	55	55

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.152	-.151	-.163	.168
	HomeConcentration	-.073	.027	.314	-.164
	Congestion	.070	-.264	-.285	.082
	GLHR	.	.	.	.
	PartnerConcentration	1.000	-.068	-.111	-.248
	Seasonality	-.068	1.000	.161	-.062
	Distance	-.111	.161	1.000	-.386
	Language	-.248	-.062	-.386	1.000
	Ethnicity	-.076	.008	-.406	.277
	Urban	.152	-.234	-.153	-.039
Sig. (1-tailed)	Flights	.134	.135	.117	.111
	HomeConcentration	.299	.422	.010	.116
	Congestion	.305	.026	.018	.275
	GLHR	.000	.000	.000	.000
	PartnerConcentration	.	.311	.210	.034
	Seasonality	.311	.	.120	.327
	Distance	.210	.120	.	.002
	Language	.034	.327	.002	.
	Ethnicity	.291	.477	.001	.020
	Urban	.134	.043	.132	.387
N	Flights	55	55	55	55
	HomeConcentration	55	55	55	55

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.150	.164
	HomeConcentration	-.405	-.439
	Congestion	.296	.678
	GLHR	.	.
	PartnerConcentration	-.076	.152
	Seasonality	.008	-.234
	Distance	-.406	-.153
	Language	.277	-.039
	Ethnicity	1.000	.053
	Urban	.053	1.000
Sig. (1-tailed)	Flights	.138	.116
	HomeConcentration	.001	.000
	Congestion	.014	.000
	GLHR	.000	.000
	PartnerConcentration	.291	.134
	Seasonality	.477	.043
	Distance	.001	.132
	Language	.020	.387
	Ethnicity	.	.350
	Urban	.350	.
N	Flights	55	55
	HomeConcentration	55	55

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	55	55	55	55
	GLHR	55	55	55	55
	PartnerConcentration	55	55	55	55
	Seasonality	55	55	55	55
	Distance	55	55	55	55
	Language	55	55	55	55
	Ethnicity	55	55	55	55
	Urban	55	55	55	55

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	Congestion	55	55	55	55
	GLHR	55	55	55	55
	PartnerConcentration	55	55	55	55
	Seasonality	55	55	55	55
	Distance	55	55	55	55
	Language	55	55	55	55
	Ethnicity	55	55	55	55
	Urban	55	55	55	55

Correlations

		Ethnicity	Urban
	Congestion	55	55
	GLHR	55	55
	PartnerConcentration	55	55
	Seasonality	55	55
	Distance	55	55
	Language	55	55
	Ethnicity	55	55
	Urban	55	55

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, Seasonality, Ethnicity, PartnerConcentration, Distance, HomeConcentration, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.523[a]	.273	.147	2.512	.273	2.160

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	46	.049

a. Predictors: (Constant), Urban, Language, Seasonality, Ethnicity, PartnerConcentration, Distance, HomeConcentration, Conge

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	109.071	8	13.634	2.160	.049[b]
	Residual	290.311	46	6.311		
	Total	399.382	54			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, Seasonality, Ethnicity, PartnerConcentration, Distance, HomeConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.092	4.466		.916	.364
	HomeConcentration	.225	.122	.416	1.842	.072
	Congestion	-.334	.633	-.141	-.527	.601
	PartnerConcentration	.345	.237	.197	1.453	.153
	Seasonality	-1.225	2.149	-.079	-.570	.572
	Distance	-.144	.475	-.047	-.304	.763
	Language	.139	.096	.211	1.449	.154
	Ethnicity	.824	.443	.278	1.860	.069
	Urban	.240	.113	.380	2.129	.039

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.310	3.230
	Congestion	.220	4.536
	PartnerConcentration	.858	1.165
	Seasonality	.820	1.220
	Distance	.675	1.482
	Language	.743	1.345
	Ethnicity	.708	1.412
	Urban	.495	2.020

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

				Variance Proportions		
Model	Dimension	Eigenvalue	Condition Index	(Constant)	HomeConcentration	Congestion
1	1	6.217	1.000	.00	.00	.00
	2	1.100	2.378	.00	.01	.00
	3	.751	2.876	.00	.05	.00
	4	.507	3.503	.00	.01	.00
	5	.295	4.590	.00	.19	.01
	6	.081	8.748	.00	.09	.01
	7	.030	14.444	.00	.07	.00
	8	.015	20.339	.03	.08	.36
	9	.004	38.110	.96	.51	.62

Collinearity Diagnostics[a]

		Variance Proportions					
Model	Dimension	PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.17	.00	.00	.26	.08	.00
	3	.40	.00	.00	.00	.13	.00
	4	.28	.00	.00	.57	.22	.00
	5	.06	.00	.00	.00	.42	.01
	6	.01	.44	.00	.00	.01	.09
	7	.02	.31	.43	.02	.01	.29
	8	.01	.00	.36	.06	.10	.59
	9	.05	.24	.21	.08	.03	.02

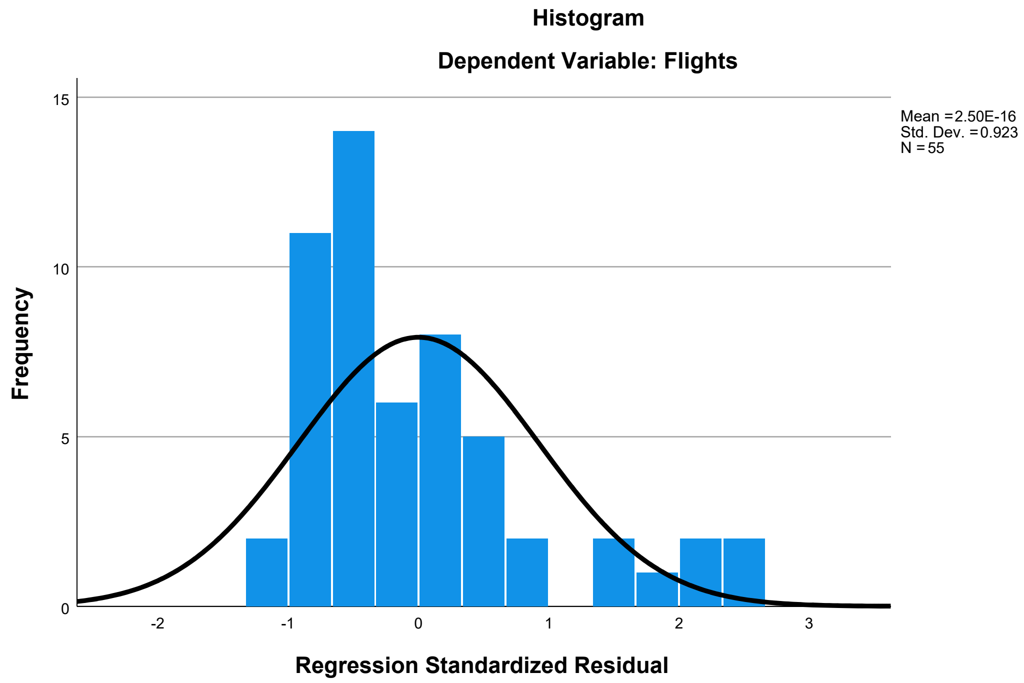
a. Dependent Variable: Flights

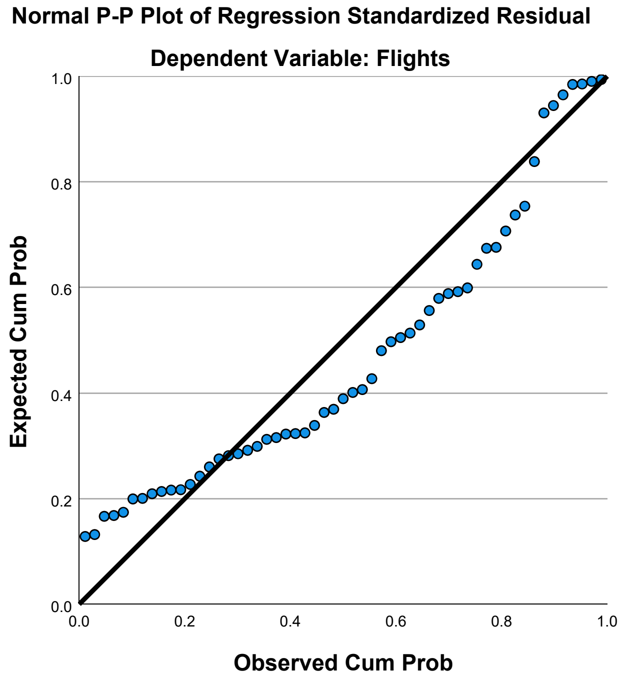
Residuals Statistics[a]

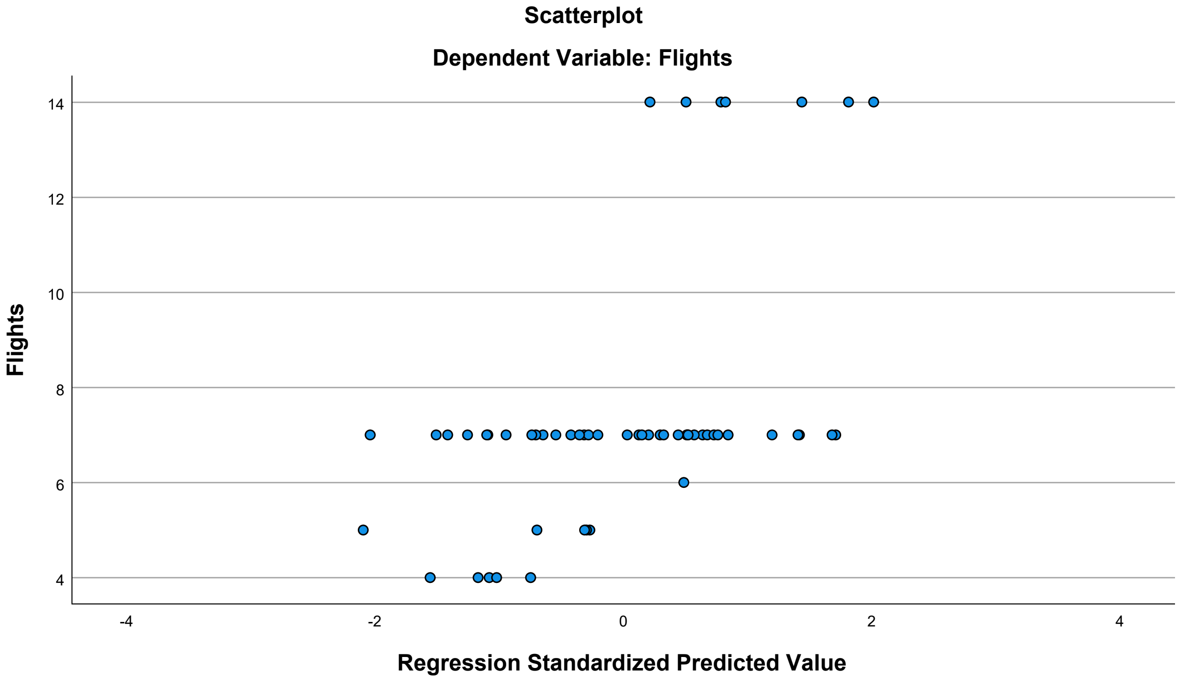
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.44	10.28	7.42	1.421	55
Residual	-2.849	6.278	.000	2.319	55
Std. Predicted Value	-2.096	2.016	.000	1.000	55
Std. Residual	-1.134	2.499	.000	.923	55

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.42	2.720	55
HomeConcentration	6.0888166909	5.0406505454	55
GLHR	.00	.000	55
PartnerConcentration	.80690454545	1.5557564889	55
Seasonality	.64519825963	.17566776500	55
Distance	4.47535	.876351	55
Language	2.01755653	4.143855167	55
Ethnicity	.68177598	.916793851	55
Urban	15.84	4.307	55

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.181	.	.152
	HomeConcentration	.181	1.000	.	-.073
	GLHR	.	.	1.000	.
	PartnerConcentration	.152	-.073	.	1.000
	Seasonality	-.151	.027	.	-.068
	Distance	-.163	.314	.	-.111
	Language	.168	-.164	.	-.248
	Ethnicity	.150	-.405	.	-.076
	Urban	.164	-.439	.	.152
Sig. (1-tailed)	Flights	.	.093	.000	.134
	HomeConcentration	.093	.	.000	.299
	GLHR	.000	.000	.	.000
	PartnerConcentration	.134	.299	.000	.
	Seasonality	.135	.422	.000	.311
	Distance	.117	.010	.000	.210
	Language	.111	.116	.000	.034
	Ethnicity	.138	.001	.000	.291
	Urban	.116	.000	.000	.134
N	Flights	55	55	55	55
	HomeConcentration	55	55	55	55
	GLHR	55	55	55	55
	PartnerConcentration	55	55	55	55
	Seasonality	55	55	55	55
	Distance	55	55	55	55
	Language	55	55	55	55
	Ethnicity	55	55	55	55
	Urban	55	55	55	55

Correlations

		Seasonality	Distance	Language	Ethnicity
Pearson Correlation	Flights	-.151	-.163	.168	.150
	HomeConcentration	.027	.314	-.164	-.405
	GLHR	.	.	.	.
	PartnerConcentration	-.068	-.111	-.248	-.076
	Seasonality	1.000	.161	-.062	.008
	Distance	.161	1.000	-.386	-.406
	Language	-.062	-.386	1.000	.277
	Ethnicity	.008	-.406	.277	1.000
	Urban	-.234	-.153	-.039	.053
Sig. (1-tailed)	Flights	.135	.117	.111	.138
	HomeConcentration	.422	.010	.116	.001
	GLHR	.000	.000	.000	.000
	PartnerConcentration	.311	.210	.034	.291
	Seasonality	.	.120	.327	.477
	Distance	.120	.	.002	.001
	Language	.327	.002	.	.020
	Ethnicity	.477	.001	.020	.
	Urban	.043	.132	.387	.350
N	Flights	55	55	55	55
	HomeConcentration	55	55	55	55
	GLHR	55	55	55	55
	PartnerConcentration	55	55	55	55
	Seasonality	55	55	55	55
	Distance	55	55	55	55
	Language	55	55	55	55
	Ethnicity	55	55	55	55
	Urban	55	55	55	55

Correlations

		Urban
Pearson Correlation	Flights	.164
	HomeConcentration	-.439
	GLHR	.
	PartnerConcentration	.152
	Seasonality	-.234
	Distance	-.153
	Language	-.039
	Ethnicity	.053
	Urban	1.000
Sig. (1-tailed)	Flights	.116
	HomeConcentration	.000
	GLHR	.000
	PartnerConcentration	.134
	Seasonality	.043
	Distance	.132
	Language	.387
	Ethnicity	.350
	Urban	.
N	Flights	55
	HomeConcentration	55
	GLHR	55
	PartnerConcentration	55
	Seasonality	55
	Distance	55
	Language	55
	Ethnicity	55
	Urban	55

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, Seasonality, Ethnicity, PartnerConcentration, Distance, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.518[a]	.269	.160	2.493	.269	2.467

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	7	47	.031

a. Predictors: (Constant), Urban, Language, Seasonality, Ethnicity, PartnerConcentration, Distance, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	107.319	7	15.331	2.467	.031[b]
	Residual	292.063	47	6.214		
	Total	399.382	54			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, Seasonality, Ethnicity, PartnerConcentration, Distance, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.535	3.323		.763	.449
	HomeConcentration	.271	.084	.502	3.213	.002
	PartnerConcentration	.358	.234	.205	1.527	.133
	Seasonality	-.869	2.024	-.056	-.429	.670
	Distance	-.136	.471	-.044	-.288	.774
	Language	.142	.095	.217	1.504	.139
	Ethnicity	.811	.439	.273	1.847	.071
	Urban	.207	.093	.328	2.234	.030

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.638	1.566
	PartnerConcentration	.867	1.153
	Seasonality	.910	1.099
	Distance	.676	1.480
	Language	.748	1.338
	Ethnicity	.710	1.408
	Urban	.724	1.381

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	PartnerConcentration
1	1	5.290	1.000	.00	.01	.01
	2	1.099	2.194	.00	.01	.17
	3	.747	2.661	.00	.09	.43
	4	.501	3.250	.00	.01	.25
	5	.252	4.582	.00	.52	.07
	6	.074	8.460	.00	.09	.02
	7	.030	13.370	.01	.18	.02
	8	.008	26.087	.99	.10	.04

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.01	.01	.00
	2	.00	.00	.26	.08	.00
	3	.00	.00	.00	.14	.00
	4	.00	.00	.57	.27	.00
	5	.01	.00	.00	.34	.03
	6	.48	.00	.00	.01	.26
	7	.37	.48	.02	.01	.32
	8	.13	.52	.14	.13	.38

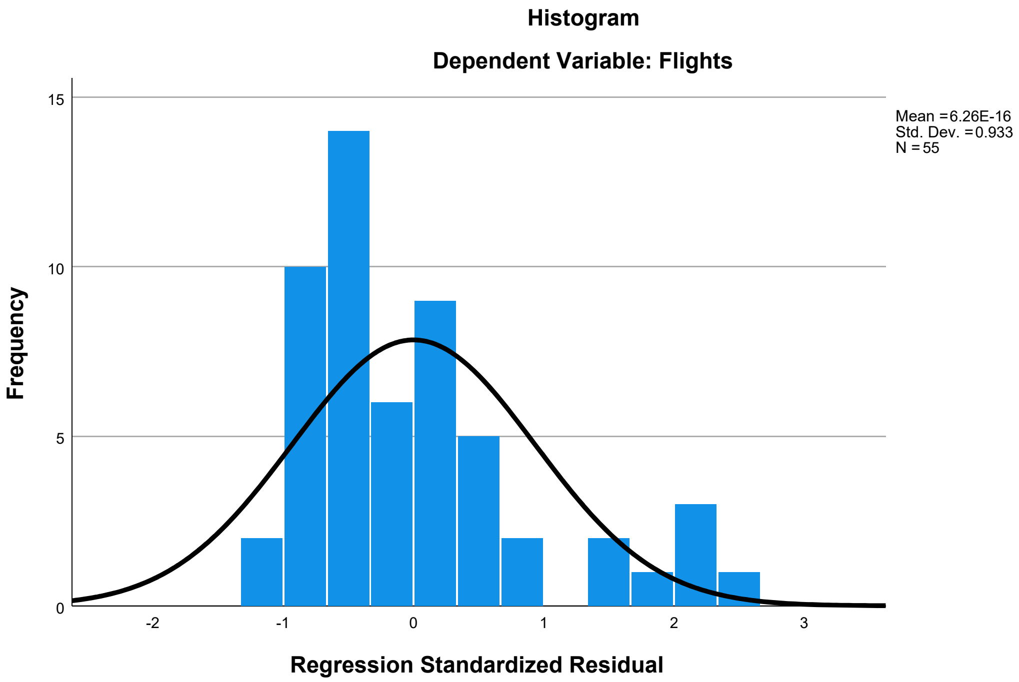
a. Dependent Variable: Flights

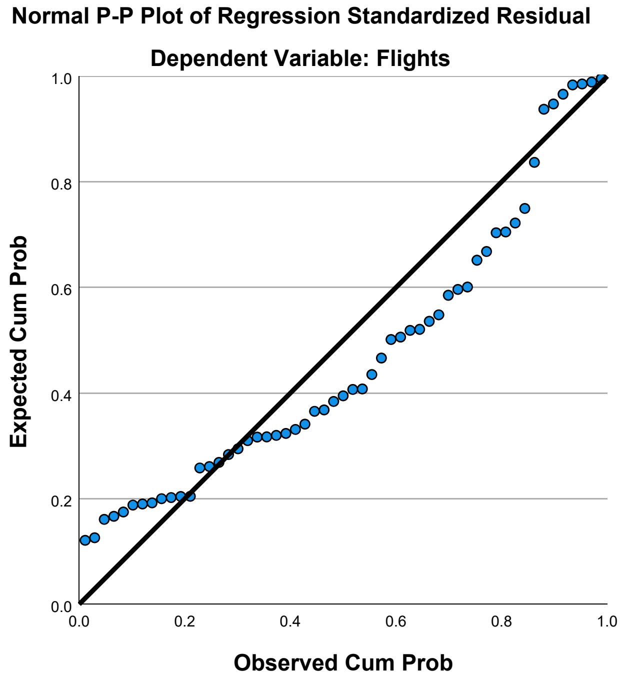
Residuals Statistics[a]

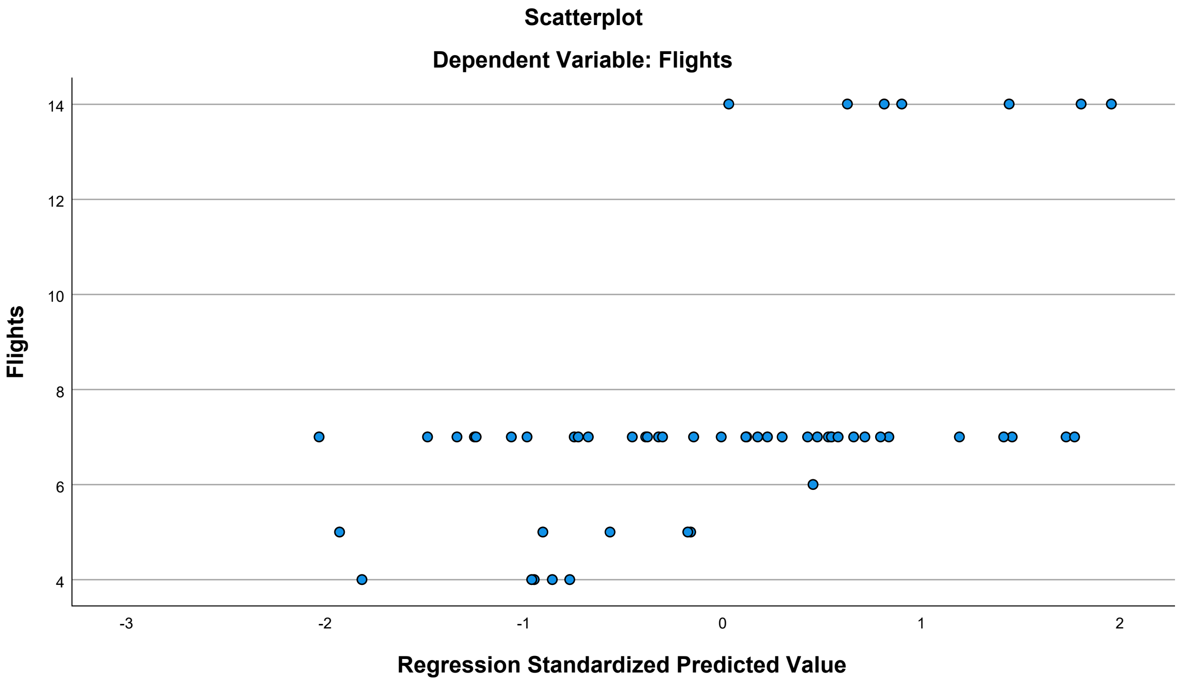
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.55	10.18	7.42	1.410	55
Residual	-2.916	6.539	.000	2.326	55
Std. Predicted Value	-2.032	1.957	.000	1.000	55
Std. Residual	-1.170	2.623	.000	.933	55

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
14
12
10
8
6
4
-3
-2
-1
0
1
2

Regression

[DataSet14] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines \2012 - DL.sav

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.12	4.576	66
HomeConcentration	3.9811305455	3.6340439911	66
Congestion	4.73	1.016	66
GLHR	.08	.267	66
GJFK	.41	.495	66
PartnerConcentration	1.38391497	1.991055054	66
Seasonality	.65284828090	.22583295885	66
Distance	4.32936	.895242	66
Language	1.44499600	3.562441152	66
Ethnicity	.52651526	.800540801	66
Urban	17.62	3.494	66

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.093	-.109	.282
	HomeConcentration	.093	1.000	-.625	.006
	Congestion	-.109	-.625	1.000	-.093
	GLHR	.282	.006	-.093	1.000
	GJFK	-.172	-.637	.867	-.122
	PartnerConcentration	.282	-.226	-.215	-.201
	Seasonality	.018	-.161	.157	-.136
	Distance	-.128	.443	-.323	-.191
	Language	.191	-.034	.047	.507
	Ethnicity	.078	-.140	.181	.097
	Urban	.224	-.086	.400	.229
Sig. (1-tailed)	Flights	.	.228	.193	.011
	HomeConcentration	.228	.	.000	.482
	Congestion	.193	.000	.	.229
	GLHR	.011	.482	.229	.
	GJFK	.084	.000	.000	.165
	PartnerConcentration	.011	.034	.041	.053
	Seasonality	.444	.098	.104	.137
	Distance	.153	.000	.004	.062
	Language	.062	.392	.354	.000
	Ethnicity	.266	.131	.073	.219
	Urban	.035	.247	.000	.032
N	Flights	66	66	66	66
	HomeConcentration	66	66	66	66

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	-.172	.282	.018	-.128
	HomeConcentration	-.637	-.226	-.161	.443
	Congestion	.867	-.215	.157	-.323
	GLHR	-.122	-.201	-.136	-.191
	GJFK	1.000	-.355	.189	-.330
	PartnerConcentration	-.355	1.000	-.057	-.066
	Seasonality	.189	-.057	1.000	-.262
	Distance	-.330	-.066	-.262	1.000
	Language	.125	-.280	-.053	-.240
	Ethnicity	.274	-.212	.037	-.256
	Urban	.251	-.069	-.266	-.104
Sig. (1-tailed)	Flights	.084	.011	.444	.153
	HomeConcentration	.000	.034	.098	.000
	Congestion	.000	.041	.104	.004
	GLHR	.165	.053	.137	.062
	GJFK	.	.002	.064	.003
	PartnerConcentration	.002	.	.324	.300
	Seasonality	.064	.324	.	.017
	Distance	.003	.300	.017	.
	Language	.159	.011	.337	.026
	Ethnicity	.013	.043	.383	.019
	Urban	.021	.290	.015	.204
N	Flights	66	66	66	66
	HomeConcentration	66	66	66	66

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.191	.078	.224
	HomeConcentration	-.034	-.140	-.086
	Congestion	.047	.181	.400
	GLHR	.507	.097	.229
	GJFK	.125	.274	.251
	PartnerConcentration	-.280	-.212	-.069
	Seasonality	-.053	.037	-.266
	Distance	-.240	-.256	-.104
	Language	1.000	.351	.073
	Ethnicity	.351	1.000	-.007
	Urban	.073	-.007	1.000
Sig. (1-tailed)	Flights	.062	.266	.035
	HomeConcentration	.392	.131	.247
	Congestion	.354	.073	.000
	GLHR	.000	.219	.032
	GJFK	.159	.013	.021
	PartnerConcentration	.011	.043	.290
	Seasonality	.337	.383	.015
	Distance	.026	.019	.204
	Language	.	.002	.280
	Ethnicity	.002	.	.478
	Urban	.280	.478	.
N	Flights	66	66	66
	HomeConcentration	66	66	66

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	66	66	66	66
	GLHR	66	66	66	66
	GJFK	66	66	66	66
	PartnerConcentration	66	66	66	66
	Seasonality	66	66	66	66
	Distance	66	66	66	66
	Language	66	66	66	66
	Ethnicity	66	66	66	66
	Urban	66	66	66	66

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	66	66	66	66
GLHR	66	66	66	66
GJFK	66	66	66	66
PartnerConcentration	66	66	66	66
Seasonality	66	66	66	66
Distance	66	66	66	66
Language	66	66	66	66
Ethnicity	66	66	66	66
Urban	66	66	66	66

Correlations

	Language	Ethnicity	Urban
Congestion	66	66	66
GLHR	66	66	66
GJFK	66	66	66
PartnerConcentration	66	66	66
Seasonality	66	66	66
Distance	66	66	66
Language	66	66	66
Ethnicity	66	66	66
Urban	66	66	66

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, HomeConcentration, GLHR, Seasonality, PartnerConcentration, Distance, Language, Congestion, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.599[a]	.359	.242	3.984	.359	3.074

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	55	.004

a. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, GLHR, Seasonality, PartnerConcentration, Distance, Language, Congestion, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	487.968	10	48.797	3.074	.004[b]
	Residual	873.063	55	15.874		
	Total	1361.030	65			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, GLHR, Seasonality, PartnerConcentration, Distance, Language, Congestion, GJFK

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-4.258	6.320		-.674	.503
	HomeConcentration	.577	.258	.458	2.236	.029
	Congestion	-.227	1.109	-.050	-.205	.839
	GLHR	5.635	2.580	.328	2.184	.033
	GJFK	2.597	2.660	.281	.976	.333
	PartnerConcentration	1.440	.392	.627	3.677	<.001
	Seasonality	3.699	2.480	.183	1.491	.142
	Distance	-.093	.682	-.018	-.136	.892
	Language	.168	.178	.130	.942	.350
	Ethnicity	.686	.696	.120	.986	.329
	Urban	.287	.184	.219	1.556	.125

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.278	3.599
	Congestion	.192	5.196
	GLHR	.516	1.937
	GJFK	.141	7.109
	PartnerConcentration	.401	2.491
	Seasonality	.779	1.284
	Distance	.656	1.525
	Language	.609	1.641
	Ethnicity	.788	1.270
	Urban	.588	1.701

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.711	1.000	.00	.00	.00
	2	1.494	2.119	.00	.00	.00
	3	1.028	2.556	.00	.02	.00
	4	.661	3.185	.00	.07	.00
	5	.543	3.517	.00	.00	.00
	6	.363	4.301	.00	.00	.00
	7	.109	7.846	.00	.03	.00
	8	.050	11.549	.01	.72	.00
	9	.027	15.691	.00	.09	.01
	10	.010	26.490	.09	.02	.40
	11	.004	39.490	.90	.04	.59

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.10	.00	.03	.00	.00	.13
	3	.09	.03	.01	.00	.00	.00
	4	.06	.00	.22	.00	.00	.01
	5	.10	.02	.05	.00	.00	.04
	6	.32	.00	.01	.00	.00	.78
	7	.00	.04	.03	.60	.01	.00
	8	.09	.33	.40	.02	.19	.01
	9	.22	.29	.20	.00	.30	.00
	10	.00	.14	.02	.27	.26	.01
	11	.01	.15	.04	.10	.25	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.03	.00
	3	.06	.00
	4	.00	.00
	5	.55	.00
	6	.31	.00
	7	.00	.02
	8	.00	.00
	9	.00	.40
	10	.02	.58
	11	.03	.00

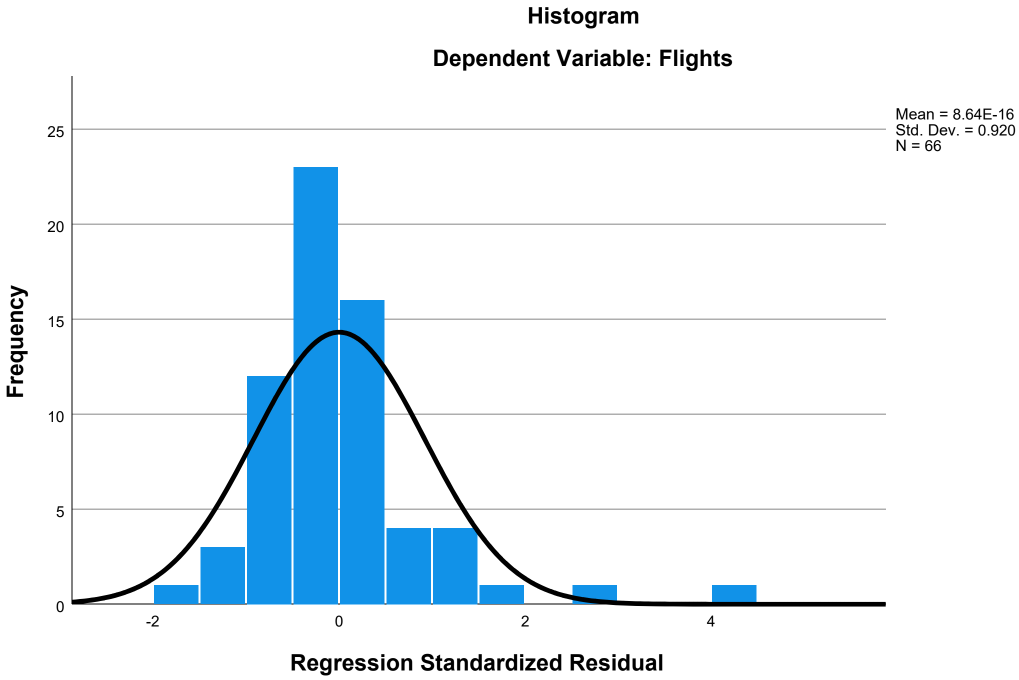
a. Dependent Variable: Flights

Residuals Statistics[a]

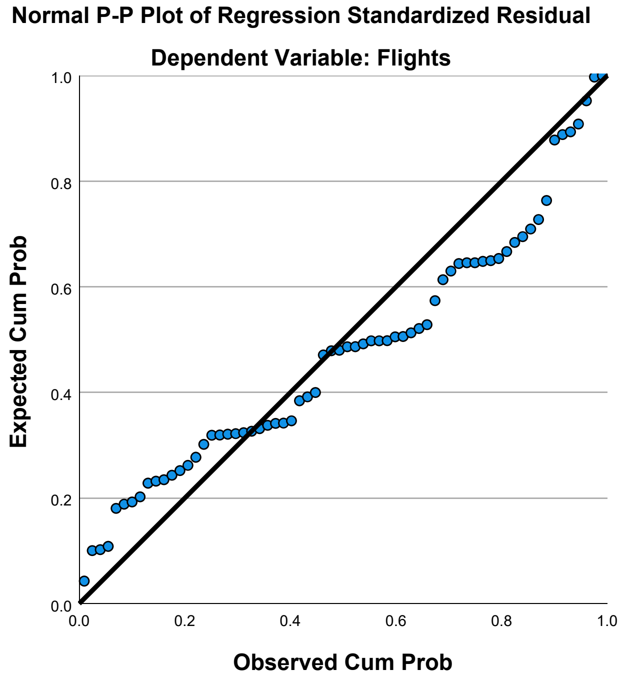
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.21	16.04	8.12	2.740	66
Residual	-6.856	17.213	.000	3.665	66
Std. Predicted Value	-1.792	2.890	.000	1.000	66
Std. Residual	-1.721	4.320	.000	.920	66

a. Dependent Variable: Flights

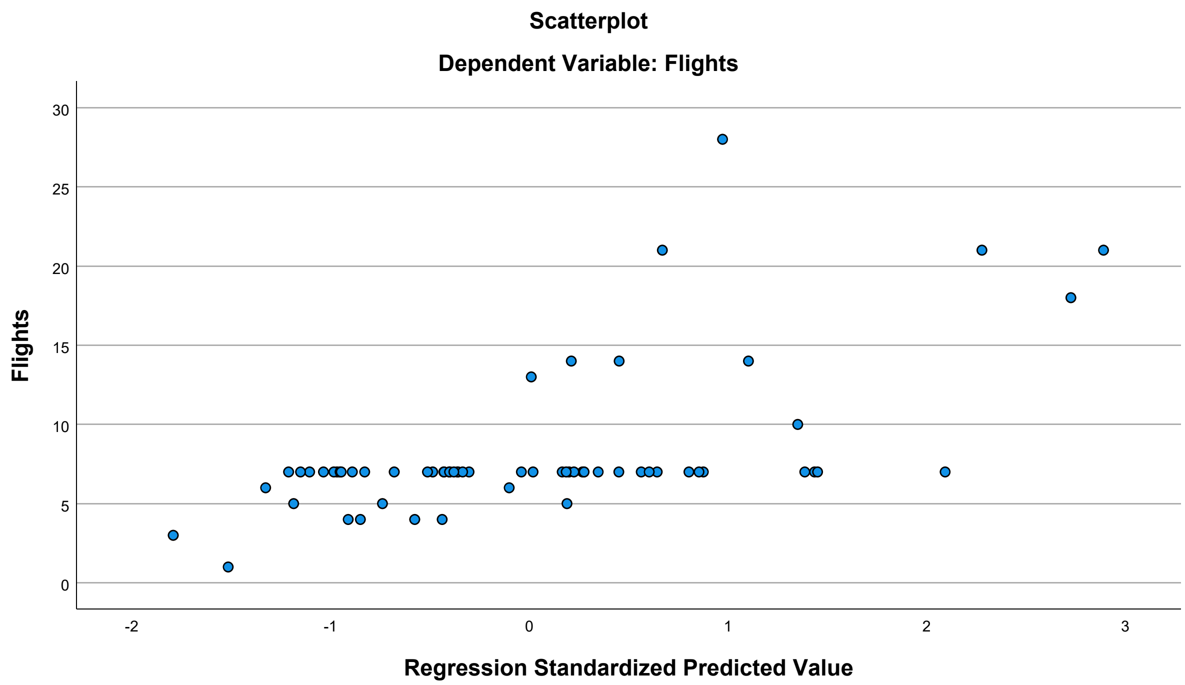
Charts



Histogram
Dependent Variable: Flights
Mean = 8.64E-16
Std. Dev. = 0.920
N = 66
Frequency
25
20
15
10
5
0
-2
0
2
4
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.12	4.576	66
HomeConcentration	3.9811305455	3.6340439911	66
Congestion	4.73	1.016	66
GLHR	.08	.267	66
PartnerConcentration	1.38391497	1.991055054	66
Seasonality	.65284828090	.22583295885	66
Distance	4.32936	.895242	66
Language	1.44499600	3.562441152	66
Ethnicity	.52651526	.800540801	66
Urban	17.62	3.494	66

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.093	-.109	.282
	HomeConcentration	.093	1.000	-.625	.006
	Congestion	-.109	-.625	1.000	-.093
	GLHR	.282	.006	-.093	1.000
	PartnerConcentration	.282	-.226	-.215	-.201
	Seasonality	.018	-.161	.157	-.136
	Distance	-.128	.443	-.323	-.191
	Language	.191	-.034	.047	.507
	Ethnicity	.078	-.140	.181	.097
	Urban	.224	-.086	.400	.229
Sig. (1-tailed)	Flights	.	.228	.193	.011
	HomeConcentration	.228	.	.000	.482
	Congestion	.193	.000	.	.229
	GLHR	.011	.482	.229	.
	PartnerConcentration	.011	.034	.041	.053
	Seasonality	.444	.098	.104	.137
	Distance	.153	.000	.004	.062
	Language	.062	.392	.354	.000
	Ethnicity	.266	.131	.073	.219
	Urban	.035	.247	.000	.032
N	Flights	66	66	66	66
	HomeConcentration	66	66	66	66
	Congestion	66	66	66	66
	GLHR	66	66	66	66
	PartnerConcentration	66	66	66	66
	Seasonality	66	66	66	66
	Distance	66	66	66	66
	Language	66	66	66	66
	Ethnicity	66	66	66	66
	Urban	66	66	66	66

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.282	.018	-.128	.191
	HomeConcentration	-.226	-.161	.443	-.034
	Congestion	-.215	.157	-.323	.047
	GLHR	-.201	-.136	-.191	.507
	PartnerConcentration	1.000	-.057	-.066	-.280
	Seasonality	-.057	1.000	-.262	-.053
	Distance	-.066	-.262	1.000	-.240
	Language	-.280	-.053	-.240	1.000
	Ethnicity	-.212	.037	-.256	.351
	Urban	-.069	-.266	-.104	.073
Sig. (1-tailed)	Flights	.011	.444	.153	.062
	HomeConcentration	.034	.098	.000	.392
	Congestion	.041	.104	.004	.354
	GLHR	.053	.137	.062	.000
	PartnerConcentration	.	.324	.300	.011
	Seasonality	.324	.	.017	.337
	Distance	.300	.017	.	.026
	Language	.011	.337	.026	.
	Ethnicity	.043	.383	.019	.002
	Urban	.290	.015	.204	.280
N	Flights	66	66	66	66
	HomeConcentration	66	66	66	66
	Congestion	66	66	66	66
	GLHR	66	66	66	66
	PartnerConcentration	66	66	66	66
	Seasonality	66	66	66	66
	Distance	66	66	66	66
	Language	66	66	66	66
	Ethnicity	66	66	66	66
	Urban	66	66	66	66

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.078	.224
	HomeConcentration	-.140	-.086
	Congestion	.181	.400
	GLHR	.097	.229
	PartnerConcentration	-.212	-.069
	Seasonality	.037	-.266
	Distance	-.256	-.104
	Language	.351	.073
	Ethnicity	1.000	-.007
	Urban	-.007	1.000
Sig. (1-tailed)	Flights	.266	.035
	HomeConcentration	.131	.247
	Congestion	.073	.000
	GLHR	.219	.032
	PartnerConcentration	.043	.290
	Seasonality	.383	.015
	Distance	.019	.204
	Language	.002	.280
	Ethnicity	.	.478
	Urban	.478	.
N	Flights	66	66
	HomeConcentration	66	66
	Congestion	66	66
	GLHR	66	66
	PartnerConcentration	66	66
	Seasonality	66	66
	Distance	66	66
	Language	66	66
	Ethnicity	66	66
	Urban	66	66

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, HomeConcentration, GLHR, Seasonality, PartnerConcentration, Distance, Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change	Change Statistics: df1	Change Statistics: df2	Change Statistics: Sig. F Change
1	.589[a]	.347	.243	3.983	.347	3.312	9	56	.003

a. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, GLHR, Seasonality, PartnerConcentration, Distance, Language, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	472.832	9	52.537	3.312	.003[b]
	Residual	888.198	56	15.861		
	Total	1361.030	65			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, GLHR, Seasonality, PartnerConcentration, Distance, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-5.543	6.179		-.897	.373
	HomeConcentration	.449	.222	.356	2.020	.048
	Congestion	.432	.879	.096	.492	.625
	GLHR	4.741	2.411	.276	1.967	.054
	PartnerConcentration	1.225	.324	.533	3.783	<.001
	Seasonality	3.739	2.479	.185	1.508	.137
	Distance	-.131	.680	-.026	-.193	.848
	Language	.191	.176	.148	1.082	.284
	Ethnicity	.762	.691	.133	1.103	.275
	Urban	.297	.184	.227	1.611	.113

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.374	2.671
	Congestion	.306	3.269
	GLHR	.591	1.693
	PartnerConcentration	.587	1.705
	Seasonality	.779	1.284
	Distance	.658	1.520
	Language	.620	1.612
	Ethnicity	.798	1.254
	Urban	.590	1.696

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.286	1.000	.00	.00	.00
	2	1.487	2.056	.00	.00	.00
	3	.723	2.949	.00	.01	.00
	4	.656	3.095	.00	.10	.00
	5	.368	4.135	.00	.03	.00
	6	.330	4.367	.00	.17	.00
	7	.099	7.969	.00	.01	.01
	8	.035	13.483	.00	.17	.02
	9	.011	23.913	.03	.29	.55
	10	.005	35.794	.97	.20	.42

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.01
	2	.13	.04	.00	.00	.14	.03
	3	.26	.04	.00	.00	.00	.41
	4	.01	.31	.00	.00	.02	.03
	5	.34	.07	.00	.00	.76	.11
	6	.05	.17	.02	.00	.06	.37
	7	.02	.01	.60	.02	.00	.00
	8	.02	.01	.00	.49	.00	.01
	9	.09	.07	.23	.12	.01	.02
	10	.08	.28	.15	.38	.01	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.03
	8	.17
	9	.79
	10	.00

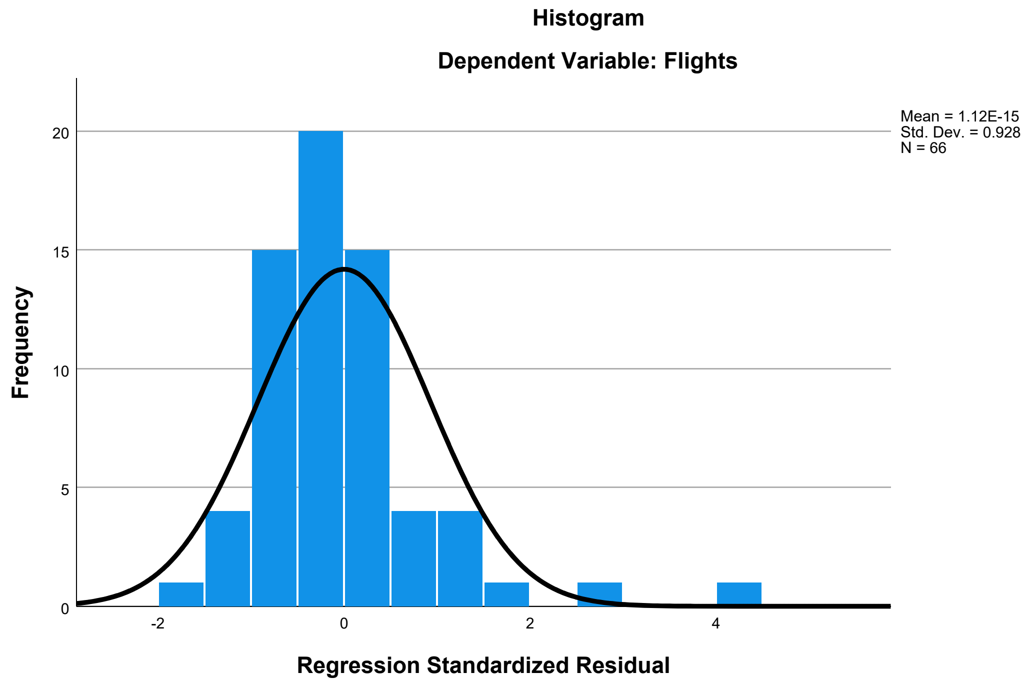
a. Dependent Variable: Flights

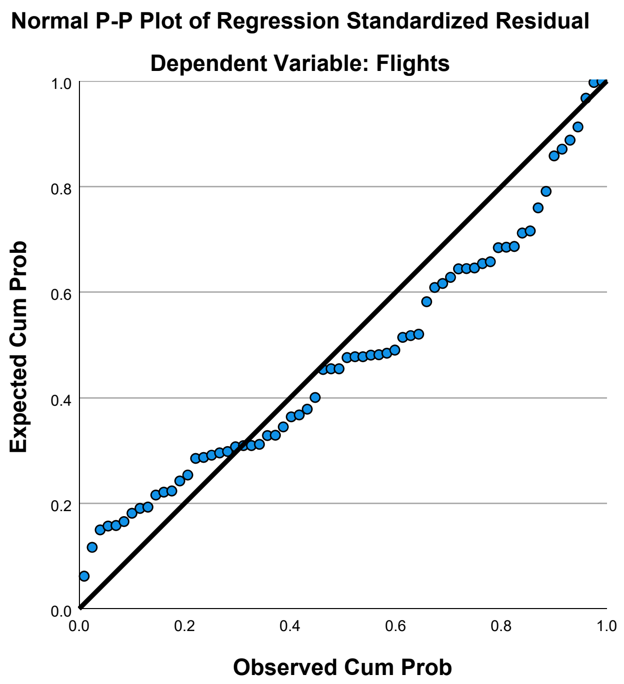
Residuals Statistics[a]

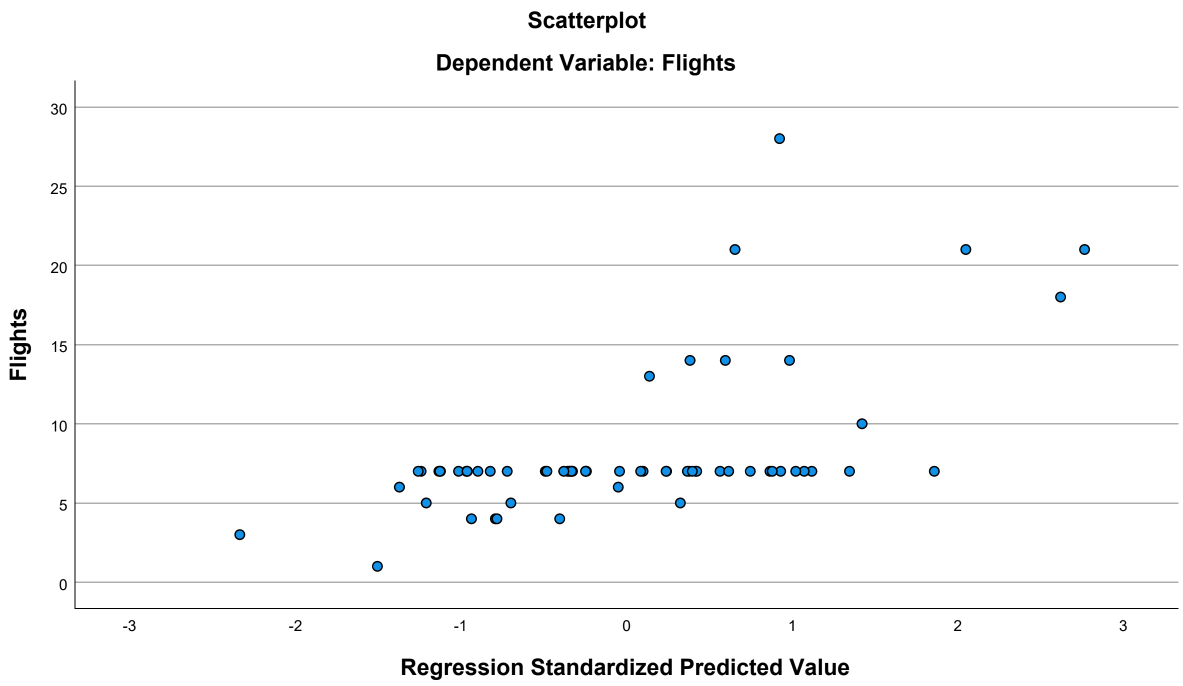
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.82	15.58	8.12	2.697	66
Residual	-6.132	17.389	.000	3.697	66
Std. Predicted Value	-2.337	2.765	.000	1.000	66
Std. Residual	-1.540	4.366	.000	.928	66

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
25
30
-3
-2
-1
0
1
2
3

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.12	4.576	66
HomeConcentration	3.9811305455	3.6340439911	66
GLHR	.08	.267	66
PartnerConcentration	1.38391497	1.991055054	66
Seasonality	.65284828090	.22583295885	66
Distance	4.32936	.895242	66
Language	1.44499600	3.562441152	66
Ethnicity	.52651526	.800540801	66
Urban	17.62	3.494	66

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.093	.282	.282
	HomeConcentration	.093	1.000	.006	-.226
	GLHR	.282	.006	1.000	-.201
	PartnerConcentration	.282	-.226	-.201	1.000
	Seasonality	.018	-.161	-.136	-.057
	Distance	-.128	.443	-.191	-.066
	Language	.191	-.034	.507	-.280
	Ethnicity	.078	-.140	.097	-.212
	Urban	.224	-.086	.229	-.069
Sig. (1-tailed)	Flights	.	.228	.011	.011
	HomeConcentration	.228	.	.482	.034
	GLHR	.011	.482	.	.053
	PartnerConcentration	.011	.034	.053	.
	Seasonality	.444	.098	.137	.324
	Distance	.153	.000	.062	.300
	Language	.062	.392	.000	.011
	Ethnicity	.266	.131	.219	.043
	Urban	.035	.247	.032	.290
N	Flights	66	66	66	66
	HomeConcentration	66	66	66	66
	GLHR	66	66	66	66
	PartnerConcentration	66	66	66	66
	Seasonality	66	66	66	66
	Distance	66	66	66	66
	Language	66	66	66	66
	Ethnicity	66	66	66	66
	Urban	66	66	66	66

Correlations

		Seasonality	Distance	Language	Ethnicity
Pearson Correlation	Flights	.018	-.128	.191	.078
	HomeConcentration	-.161	.443	-.034	-.140
	GLHR	-.136	-.191	.507	.097
	PartnerConcentration	-.057	-.066	-.280	-.212
	Seasonality	1.000	-.262	-.053	.037
	Distance	-.262	1.000	-.240	-.256
	Language	-.053	-.240	1.000	.351
	Ethnicity	.037	-.256	.351	1.000
	Urban	-.266	-.104	.073	-.007
Sig. (1-tailed)	Flights	.444	.153	.062	.266
	HomeConcentration	.098	.000	.392	.131
	GLHR	.137	.062	.000	.219
	PartnerConcentration	.324	.300	.011	.043
	Seasonality	.	.017	.337	.383
	Distance	.017	.	.026	.019
	Language	.337	.026	.	.002
	Ethnicity	.383	.019	.002	.
	Urban	.015	.204	.280	.478
N	Flights	66	66	66	66
	HomeConcentration	66	66	66	66
	GLHR	66	66	66	66
	PartnerConcentration	66	66	66	66
	Seasonality	66	66	66	66
	Distance	66	66	66	66
	Language	66	66	66	66
	Ethnicity	66	66	66	66
	Urban	66	66	66	66

Correlations

		Urban
Pearson Correlation	Flights	.224
	HomeConcentration	-.086
	GLHR	.229
	PartnerConcentration	-.069
	Seasonality	-.266
	Distance	-.104
	Language	.073
	Ethnicity	-.007
	Urban	1.000
Sig. (1-tailed)	Flights	.035
	HomeConcentration	.247
	GLHR	.032
	PartnerConcentration	.290
	Seasonality	.015
	Distance	.204
	Language	.280
	Ethnicity	.478
	Urban	.
N	Flights	66
	HomeConcentration	66
	GLHR	66
	PartnerConcentration	66
	Seasonality	66
	Distance	66
	Language	66
	Ethnicity	66
	Urban	66

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, HomeConcentration, GLHR, Seasonality, PartnerConcentration, Distance, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.587[a]	.345	.253	3.956	.345	3.746

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	8	57	.001

a. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, GLHR, Seasonality, PartnerConcentration, Distance, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	468.998	8	58.625	3.746	.001[b]
	Residual	892.032	57	15.650		
	Total	1361.030	65			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, GLHR, Seasonality, PartnerConcentration, Distance, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-3.968	5.249		-.756	.453
	HomeConcentration	.372	.156	.295	2.376	.021
	GLHR	4.317	2.236	.252	1.931	.059
	PartnerConcentration	1.143	.275	.497	4.150	<.001
	Seasonality	3.919	2.435	.193	1.609	.113
	Distance	-.151	.675	-.030	-.224	.824
	Language	.192	.175	.149	1.096	.278
	Ethnicity	.775	.686	.136	1.130	.263
	Urban	.347	.152	.265	2.275	.027

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.745	1.343
	GLHR	.677	1.477
	PartnerConcentration	.801	1.249
	Seasonality	.796	1.256
	Distance	.660	1.514
	Language	.620	1.612
	Ethnicity	.799	1.252
	Urban	.849	1.178

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	5.366	1.000	.00	.01	.00
	2	1.481	1.904	.00	.00	.15
	3	.719	2.731	.00	.01	.30
	4	.656	2.861	.00	.20	.01
	5	.364	3.838	.00	.02	.43
	6	.282	4.364	.00	.49	.01
	7	.093	7.609	.00	.11	.03
	8	.033	12.833	.00	.16	.06
	9	.006	28.911	1.00	.00	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.01	.00	.00	.00	.01	.00
	2	.06	.00	.00	.13	.03	.00
	3	.05	.00	.00	.00	.43	.00
	4	.42	.00	.00	.02	.04	.00
	5	.03	.00	.00	.81	.22	.00
	6	.32	.06	.00	.00	.23	.01
	7	.03	.55	.03	.00	.00	.07
	8	.00	.00	.43	.00	.01	.44
	9	.08	.39	.53	.03	.05	.48

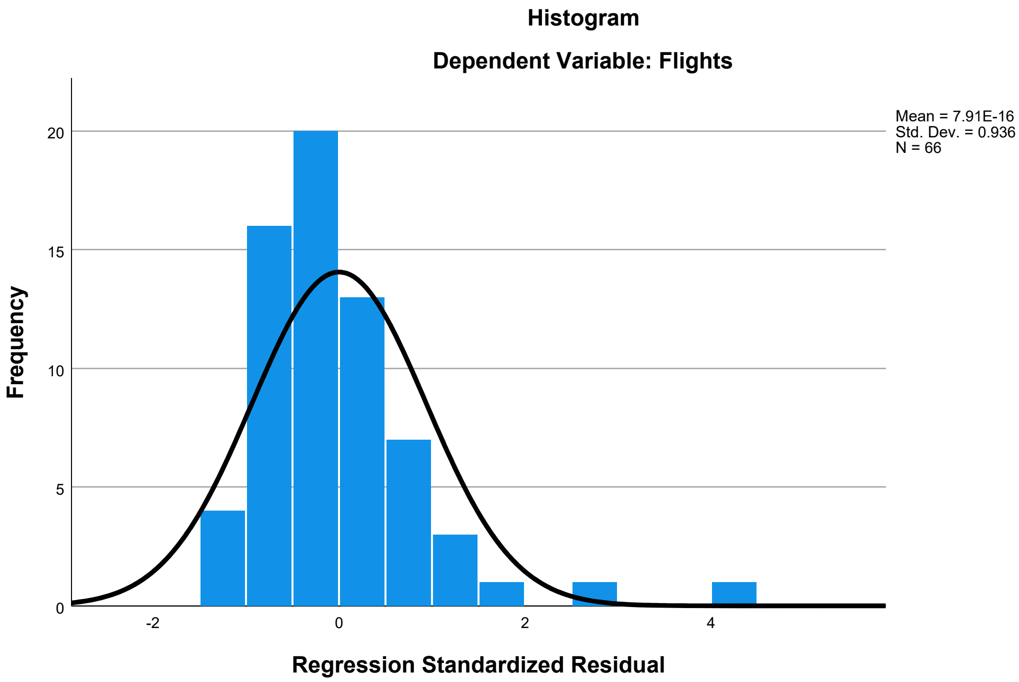
a. Dependent Variable: Flights

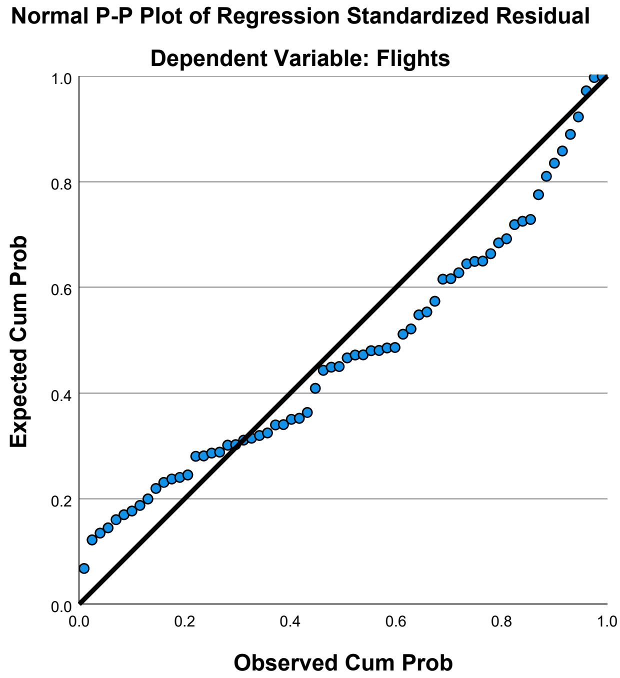
Residuals Statistics[a]

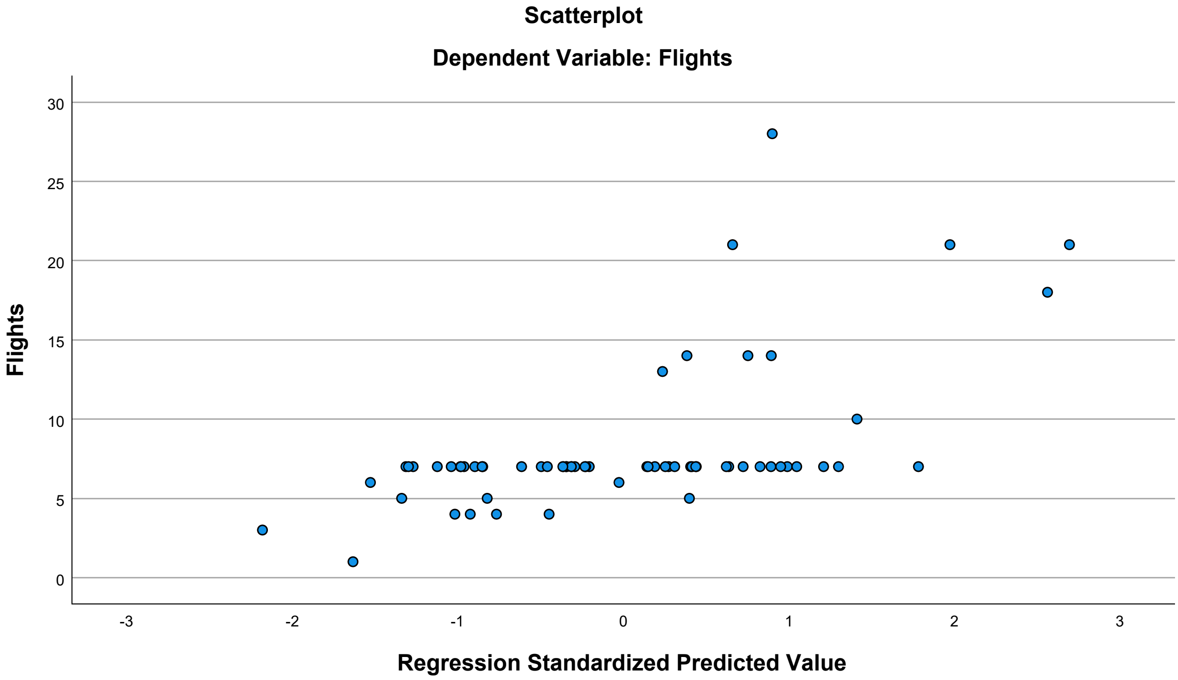
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.26	15.36	8.12	2.686	66
Residual	-5.909	17.464	.000	3.705	66
Std. Predicted Value	-2.181	2.695	.000	1.000	66
Std. Residual	-1.494	4.415	.000	.936	66

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
25
30
-3
-2
-1
0
1
2
3

Regression

```
[DataSet15] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
\2017 - DL.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.56	4.419	73
HomeConcentration	5.0973186027	3.8500305962	73
Congestion	4.68	.970	73
GLHR	.11	.315	73
GJFK	.38	.490	73
PartnerConcentration	1.5337684110	2.1463789698	73
Seasonality	.74265455031	.20994884737	73
Distance	4.16947	.809262	73
Language	1.59229788	3.616321543	73
Ethnicity	.49857445	.707210887	73
Urban	17.26	3.579	73

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.164	-.140	.225
	HomeConcentration	.164	1.000	-.485	-.072
	Congestion	-.140	-.485	1.000	-.158
	GLHR	.225	-.072	-.158	1.000
	GJFK	-.172	-.446	.843	-.187
	PartnerConcentration	.339	-.212	-.203	-.214
	Seasonality	-.195	.005	-.019	-.145
	Distance	-.042	.457	-.272	-.075
	Language	.133	-.094	.011	.438
	Ethnicity	-.055	-.064	.177	.072
	Urban	.118	-.176	.472	.098
Sig. (1-tailed)	Flights	.	.083	.119	.028
	HomeConcentration	.083	.	.000	.271
	Congestion	.119	.000	.	.090
	GLHR	.028	.271	.090	.
	GJFK	.073	.000	.000	.057
	PartnerConcentration	.002	.036	.043	.035
	Seasonality	.049	.484	.435	.110
	Distance	.362	.000	.010	.265
	Language	.130	.213	.463	.000
	Ethnicity	.322	.296	.067	.272
	Urban	.160	.068	.000	.205
N	Flights	73	73	73	73
	HomeConcentration	73	73	73	73

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	-.172	.339	-.195	-.042
	HomeConcentration	-.446	-.212	.005	.457
	Congestion	.843	-.203	-.019	-.272
	GLHR	-.187	-.214	-.145	-.075
	GJFK	1.000	-.389	.066	-.296
	PartnerConcentration	-.389	1.000	-.189	.006
	Seasonality	.066	-.189	1.000	-.099
	Distance	-.296	.006	-.099	1.000
	Language	.176	-.294	.079	-.353
	Ethnicity	.210	-.270	.057	-.181
	Urban	.386	-.035	-.318	-.134
Sig. (1-tailed)	Flights	.073	.002	.049	.362
	HomeConcentration	.000	.036	.484	.000
	Congestion	.000	.043	.435	.010
	GLHR	.057	.035	.110	.265
	GJFK	.	.000	.289	.005
	PartnerConcentration	.000	.	.055	.481
	Seasonality	.289	.055	.	.203
	Distance	.005	.481	.203	.
	Language	.068	.006	.254	.001
	Ethnicity	.037	.010	.316	.063
	Urban	.000	.385	.003	.130
N	Flights	73	73	73	73
	HomeConcentration	73	73	73	73

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.133	-.055	.118
	HomeConcentration	-.094	-.064	-.176
	Congestion	.011	.177	.472
	GLHR	.438	.072	.098
	GJFK	.176	.210	.386
	PartnerConcentration	-.294	-.270	-.035
	Seasonality	.079	.057	-.318
	Distance	-.353	-.181	-.134
	Language	1.000	.306	.107
	Ethnicity	.306	1.000	.025
	Urban	.107	.025	1.000
Sig. (1-tailed)	Flights	.130	.322	.160
	HomeConcentration	.213	.296	.068
	Congestion	.463	.067	.000
	GLHR	.000	.272	.205
	GJFK	.068	.037	.000
	PartnerConcentration	.006	.010	.385
	Seasonality	.254	.316	.003
	Distance	.001	.063	.130
	Language	.	.004	.185
	Ethnicity	.004	.	.416
	Urban	.185	.416	.
N	Flights	73	73	73
	HomeConcentration	73	73	73

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	73	73	73	73
	GLHR	73	73	73	73
	GJFK	73	73	73	73
	PartnerConcentration	73	73	73	73
	Seasonality	73	73	73	73
	Distance	73	73	73	73
	Language	73	73	73	73
	Ethnicity	73	73	73	73
	Urban	73	73	73	73

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	73	73	73	73
GLHR	73	73	73	73
GJFK	73	73	73	73
PartnerConcentration	73	73	73	73
Seasonality	73	73	73	73
Distance	73	73	73	73
Language	73	73	73	73
Ethnicity	73	73	73	73
Urban	73	73	73	73

Correlations

	Language	Ethnicity	Urban
Congestion	73	73	73
GLHR	73	73	73
GJFK	73	73	73
PartnerConcentration	73	73	73
Seasonality	73	73	73
Distance	73	73	73
Language	73	73	73
Ethnicity	73	73	73
Urban	73	73	73

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, GLHR, HomeConcentration, Seasonality, PartnerConcentration, Distance, Language, Congestion, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.643[a]	.413	.318	3.649	.413	4.361

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	62	<.001

a. Predictors: (Constant), Urban, Ethnicity, GLHR, HomeConcentration, Seasonality, PartnerConcentration, Distance, Language, Congestion, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	580.579	10	58.058	4.361	<.001[b]
	Residual	825.394	62	13.313		
	Total	1405.973	72			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, GLHR, HomeConcentration, Seasonality, PartnerConcentration, Distance, Language, Congestion, GJFK

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.881	5.630		.867	.389
	HomeConcentration	.704	.168	.614	4.198	<.001
	Congestion	-.322	.943	-.071	-.342	.734
	GLHR	6.440	1.885	.458	3.416	.001
	GJFK	4.330	2.111	.480	2.051	.045
	PartnerConcentration	1.568	.299	.761	5.247	<.001
	Seasonality	-.763	2.294	-.036	-.333	.740
	Distance	-.765	.647	-.140	-1.182	.242
	Language	.093	.160	.076	.578	.565
	Ethnicity	.135	.666	.022	.203	.840
	Urban	.021	.151	.017	.141	.888

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.443	2.257
	Congestion	.221	4.523
	GLHR	.526	1.902
	GJFK	.173	5.779
	PartnerConcentration	.450	2.224
	Seasonality	.797	1.254
	Distance	.674	1.484
	Language	.552	1.811
	Ethnicity	.834	1.199
	Urban	.629	1.589

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.916	1.000	.00	.00	.00
	2	1.407	2.217	.00	.00	.00
	3	.973	2.665	.00	.01	.00
	4	.589	3.427	.00	.11	.00
	5	.521	3.642	.00	.00	.00
	6	.401	4.154	.00	.03	.00
	7	.105	8.130	.00	.32	.00
	8	.046	12.234	.00	.45	.01
	9	.027	16.139	.00	.05	.00
	10	.011	24.782	.06	.02	.40
	11	.004	40.946	.93	.01	.59

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.09	.00	.05	.00	.00	.12
	3	.17	.04	.03	.00	.00	.00
	4	.01	.02	.18	.00	.00	.04
	5	.05	.03	.08	.00	.00	.02
	6	.28	.00	.00	.00	.00	.59
	7	.04	.11	.16	.31	.00	.00
	8	.35	.33	.46	.25	.05	.06
	9	.00	.05	.01	.07	.54	.06
	10	.00	.16	.03	.21	.19	.01
	11	.00	.26	.01	.14	.21	.10

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.03	.00
	3	.04	.00
	4	.04	.00
	5	.63	.00
	6	.20	.00
	7	.01	.01
	8	.01	.14
	9	.00	.32
	10	.03	.51
	11	.00	.02

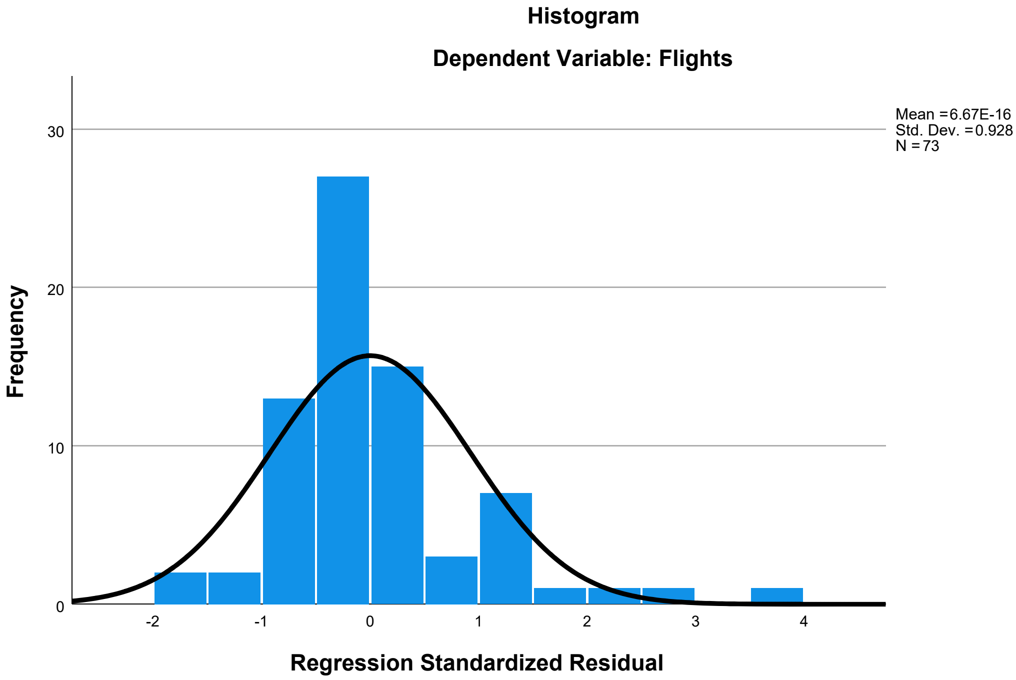
a. Dependent Variable: Flights

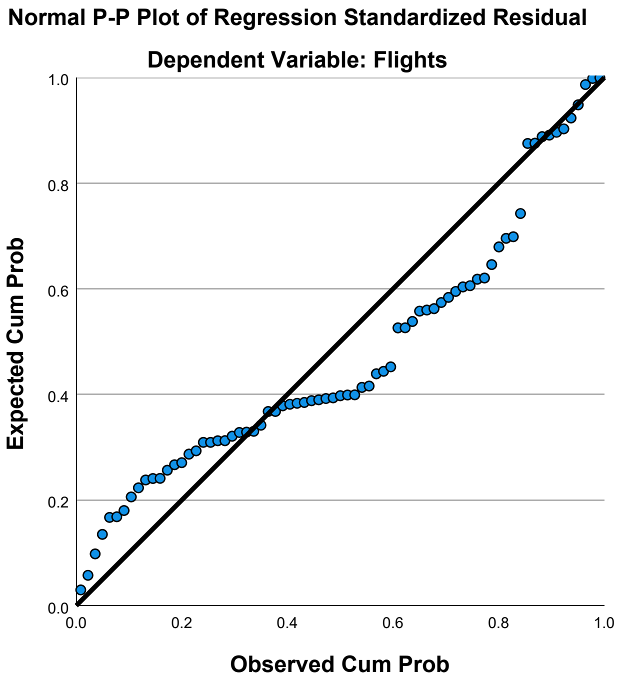
Residuals Statistics[a]

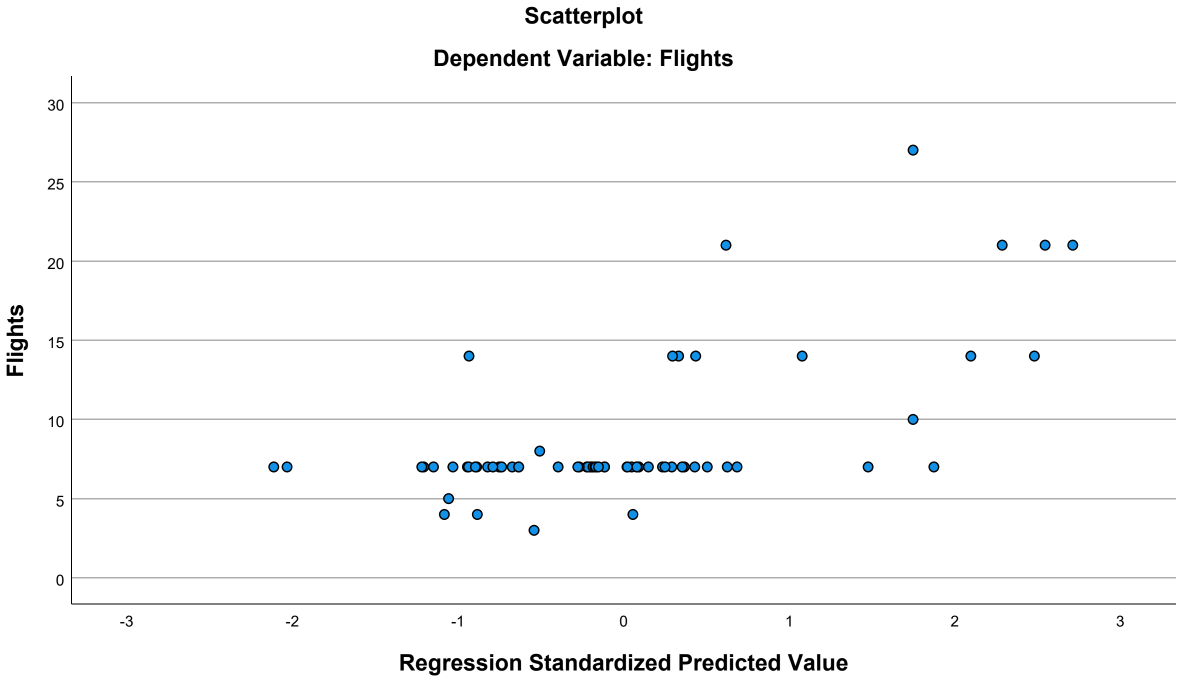
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.56	16.26	8.56	2.840	73
Residual	-6.882	13.475	.000	3.386	73
Std. Predicted Value	-2.113	2.712	.000	1.000	73
Std. Residual	-1.886	3.693	.000	.928	73

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean =6.67E-16
Std. Dev. =0.928
N =73
Frequency
30
20
10
0
-2
-1
0
1
2
3
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.56	4.419	73
HomeConcentration	5.0973186027	3.8500305962	73
Congestion	4.68	.970	73
GLHR	.11	.315	73
PartnerConcentration	1.5337684110	2.1463789698	73
Seasonality	.74265455031	.20994884737	73
Distance	4.16947	.809262	73
Language	1.59229788	3.616321543	73
Ethnicity	.49857445	.707210887	73
Urban	17.26	3.579	73

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.164	-.140	.225
	HomeConcentration	.164	1.000	-.485	-.072
	Congestion	-.140	-.485	1.000	-.158
	GLHR	.225	-.072	-.158	1.000
	PartnerConcentration	.339	-.212	-.203	-.214
	Seasonality	-.195	.005	-.019	-.145
	Distance	-.042	.457	-.272	-.075
	Language	.133	-.094	.011	.438
	Ethnicity	-.055	-.064	.177	.072
	Urban	.118	-.176	.472	.098
Sig. (1-tailed)	Flights	.	.083	.119	.028
	HomeConcentration	.083	.	.000	.271
	Congestion	.119	.000	.	.090
	GLHR	.028	.271	.090	.
	PartnerConcentration	.002	.036	.043	.035
	Seasonality	.049	.484	.435	.110
	Distance	.362	.000	.010	.265
	Language	.130	.213	.463	.000
	Ethnicity	.322	.296	.067	.272
	Urban	.160	.068	.000	.205
N	Flights	73	73	73	73
	HomeConcentration	73	73	73	73
	Congestion	73	73	73	73
	GLHR	73	73	73	73
	PartnerConcentration	73	73	73	73
	Seasonality	73	73	73	73
	Distance	73	73	73	73
	Language	73	73	73	73
	Ethnicity	73	73	73	73
	Urban	73	73	73	73

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.339	-.195	-.042	.133
	HomeConcentration	-.212	.005	.457	-.094
	Congestion	-.203	-.019	-.272	.011
	GLHR	-.214	-.145	-.075	.438
	PartnerConcentration	1.000	-.189	.006	-.294
	Seasonality	-.189	1.000	-.099	.079
	Distance	.006	-.099	1.000	-.353
	Language	-.294	.079	-.353	1.000
	Ethnicity	-.270	.057	-.181	.306
	Urban	-.035	-.318	-.134	.107
Sig. (1-tailed)	Flights	.002	.049	.362	.130
	HomeConcentration	.036	.484	.000	.213
	Congestion	.043	.435	.010	.463
	GLHR	.035	.110	.265	.000
	PartnerConcentration	.	.055	.481	.006
	Seasonality	.055	.	.203	.254
	Distance	.481	.203	.	.001
	Language	.006	.254	.001	.
	Ethnicity	.010	.316	.063	.004
	Urban	.385	.003	.130	.185
N	Flights	73	73	73	73
	HomeConcentration	73	73	73	73
	Congestion	73	73	73	73
	GLHR	73	73	73	73
	PartnerConcentration	73	73	73	73
	Seasonality	73	73	73	73
	Distance	73	73	73	73
	Language	73	73	73	73
	Ethnicity	73	73	73	73
	Urban	73	73	73	73

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	-.055	.118
	HomeConcentration	-.064	-.176
	Congestion	.177	.472
	GLHR	.072	.098
	PartnerConcentration	-.270	-.035
	Seasonality	.057	-.318
	Distance	-.181	-.134
	Language	.306	.107
	Ethnicity	1.000	.025
	Urban	.025	1.000
Sig. (1-tailed)	Flights	.322	.160
	HomeConcentration	.296	.068
	Congestion	.067	.000
	GLHR	.272	.205
	PartnerConcentration	.010	.385
	Seasonality	.316	.003
	Distance	.063	.130
	Language	.004	.185
	Ethnicity	.	.416
	Urban	.416	.
N	Flights	73	73
	HomeConcentration	73	73
	Congestion	73	73
	GLHR	73	73
	PartnerConcentration	73	73
	Seasonality	73	73
	Distance	73	73
	Language	73	73
	Ethnicity	73	73
	Urban	73	73

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, GLHR, HomeConcentration, Seasonality, PartnerConcentration, Distance, Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.611[a]	.373	.284	3.740	.373	4.166

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	63	<.001

a. Predictors: (Constant), Urban, Ethnicity, GLHR, HomeConcentration, Seasonality, PartnerConcentration, Distance, Language, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	524.595	9	58.288	4.166	<.001[b]
	Residual	881.378	63	13.990		
	Total	1405.973	72			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, GLHR, HomeConcentration, Seasonality, PartnerConcentration, Distance, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.830	5.405		.154	.878
	HomeConcentration	.585	.161	.509	3.626	<.001
	Congestion	1.023	.694	.225	1.473	.146
	GLHR	4.724	1.732	.336	2.728	.008
	PartnerConcentration	1.249	.262	.607	4.774	<.001
	Seasonality	-.897	2.350	-.043	-.382	.704
	Distance	-.726	.663	-.133	-1.095	.278
	Language	.196	.156	.161	1.260	.212
	Ethnicity	.036	.681	.006	.053	.958
	Urban	.051	.155	.042	.333	.740

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.504	1.984
	Congestion	.428	2.334
	GLHR	.655	1.527
	PartnerConcentration	.616	1.624
	Seasonality	.798	1.253
	Distance	.674	1.483
	Language	.613	1.630
	Ethnicity	.838	1.193
	Urban	.635	1.574

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Congestion
1	1	6.512	1.000	.00	.00	.00
	2	1.396	2.160	.00	.00	.00
	3	.730	2.986	.00	.00	.00
	4	.560	3.411	.00	.10	.00
	5	.407	3.999	.00	.01	.00
	6	.271	4.902	.00	.33	.01
	7	.078	9.151	.00	.01	.01
	8	.028	15.243	.00	.26	.01
	9	.014	21.690	.01	.21	.64
	10	.005	35.144	.99	.08	.32

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions					
		GLHR	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.01
	2	.14	.05	.00	.00	.14	.03
	3	.31	.12	.00	.00	.00	.29
	4	.03	.28	.00	.00	.09	.14
	5	.32	.00	.00	.00	.59	.38
	6	.00	.22	.01	.00	.03	.12
	7	.03	.01	.51	.00	.01	.00
	8	.04	.04	.12	.61	.10	.00
	9	.07	.07	.10	.06	.00	.02
	10	.06	.21	.25	.33	.04	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance ...
		Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.01
	7	.08
	8	.14
	9	.74
	10	.04

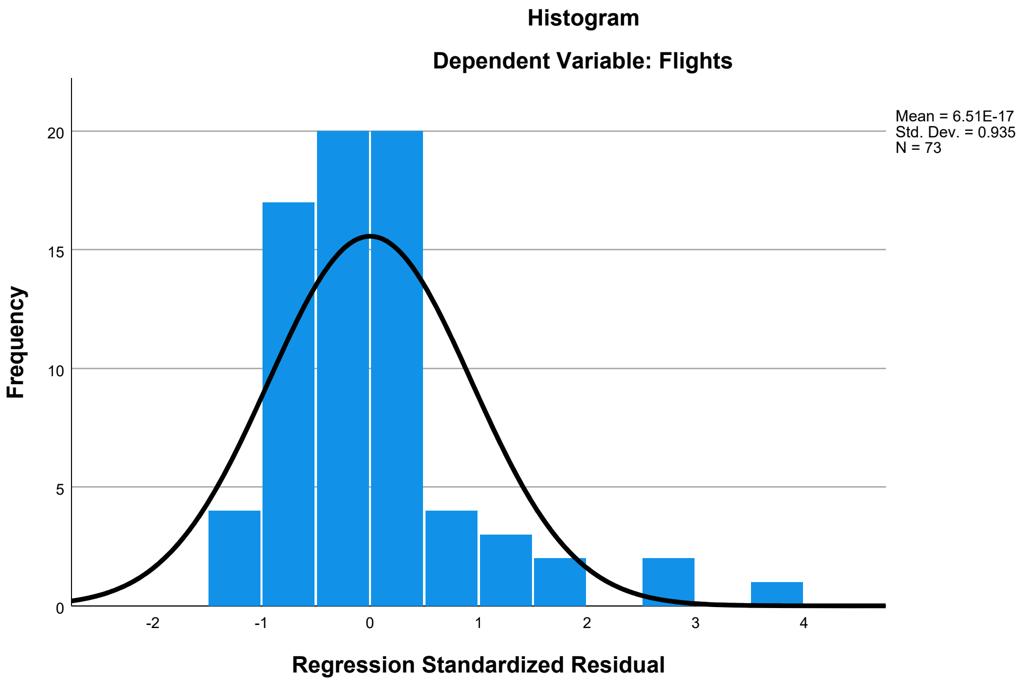
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.21	15.45	8.56	2.699	73
Residual	-5.499	14.136	.000	3.499	73
Std. Predicted Value	-1.983	2.551	.000	1.000	73
Std. Residual	-1.470	3.779	.000	.935	73

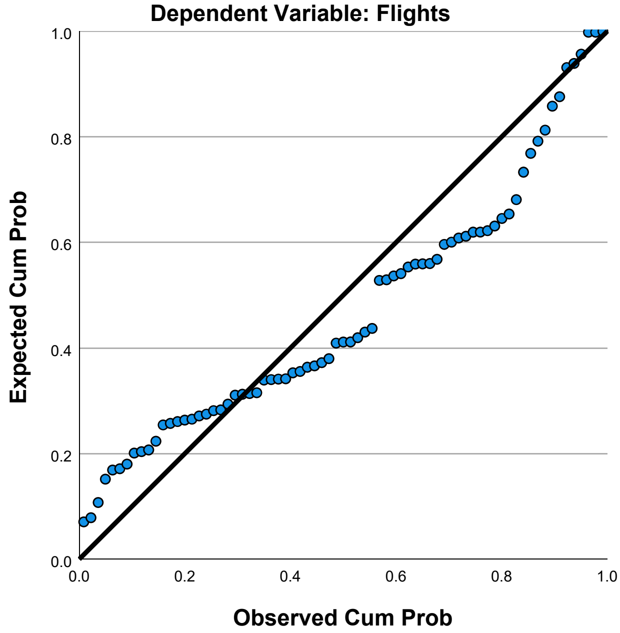
a. Dependent Variable: Flights

Charts



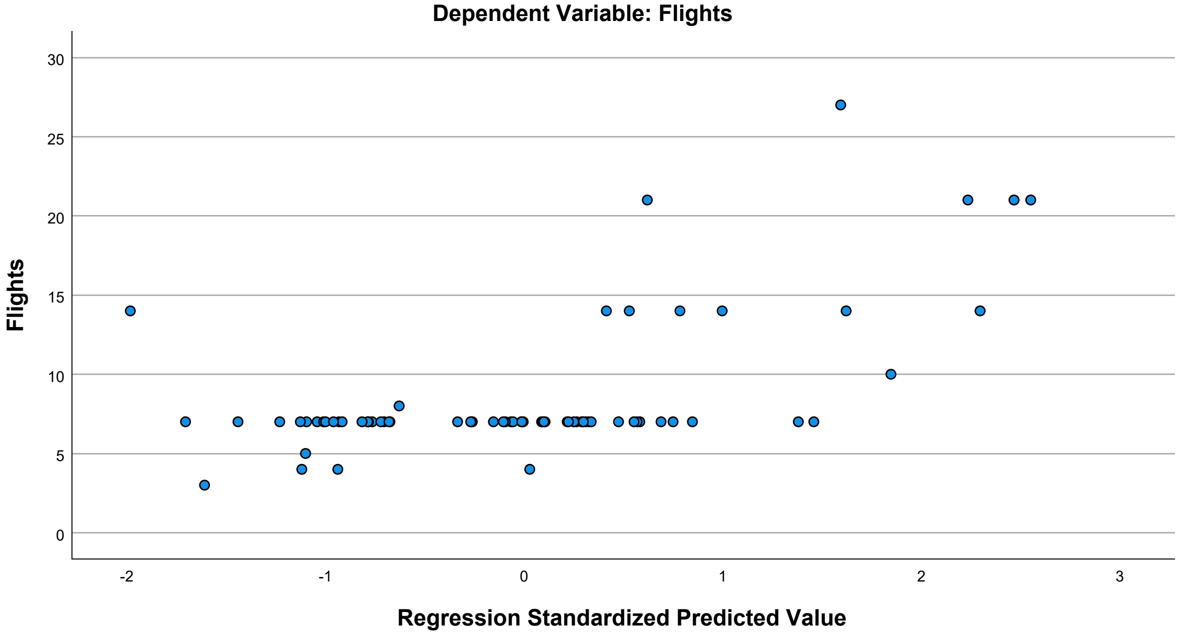
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

[DataSet32] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines \1997 - UA.sav

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.47	4.389	15
NAFlights	.27261146497	.16036361203	15
Congestion	4.87	.915	15
GLHR	.40	.507	15
GJFK	.07	.258	15
PartnerConcentration	.69622133333	1.2427774329	15
Seasonality	.54588235294	.07047843935	15
Distance	4223.87	688.250	15
Language	22659.60	25092.077	15
Ethnicity	738970.47	813205.593	15
Urban	20.27	2.251	15

Correlations

		Flights	NAFlights	Congestion	GLHR
Pearson Correlation	Flights	1.000	.232	-.072	.456
	NAFlights	.232	1.000	-.544	-.558
	Congestion	-.072	-.544	1.000	.123
	GLHR	.456	-.558	.123	1.000
	GJFK	.223	-.316	.342	.327
	PartnerConcentration	.157	.101	.159	-.251
	Seasonality	.642	.425	-.096	-.017
	Distance	-.194	-.403	-.045	-.005
	Language	-.446	.166	.279	-.763
	Ethnicity	.118	-.150	.554	-.046
	Urban	.102	-.807	.400	.776
Sig. (1-tailed)	Flights	.	.202	.399	.044
	NAFlights	.202	.	.018	.015
	Congestion	.399	.018	.	.331
	GLHR	.044	.015	.331	.
	GJFK	.213	.125	.106	.117
	PartnerConcentration	.288	.360	.286	.184
	Seasonality	.005	.057	.367	.476
	Distance	.244	.068	.436	.492
	Language	.048	.277	.157	.000
	Ethnicity	.338	.297	.016	.435
	Urban	.359	.000	.070	.000
N	Flights	15	15	15	15
	NAFlights	15	15	15	15

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.223	.157	.642	-.194
	NAFlights	-.316	.101	.425	-.403
	Congestion	.342	.159	-.096	-.045
	GLHR	.327	-.251	-.017	-.005
	GJFK	1.000	-.082	-.180	-.309
	PartnerConcentration	-.082	1.000	.444	-.023
	Seasonality	-.180	.444	1.000	-.181
	Distance	-.309	-.023	-.181	1.000
	Language	-.250	.431	-.116	.133
	Ethnicity	.129	.671	.180	-.110
	Urban	.459	-.228	-.233	.069
Sig. (1-tailed)	Flights	.213	.288	.005	.244
	NAFlights	.125	.360	.057	.068
	Congestion	.106	.286	.367	.436
	GLHR	.117	.184	.476	.492
	GJFK	.	.386	.260	.131
	PartnerConcentration	.386	.	.049	.468
	Seasonality	.260	.049	.	.259
	Distance	.131	.468	.259	.
	Language	.185	.054	.341	.318
	Ethnicity	.323	.003	.261	.348
	Urban	.043	.206	.202	.403
N	Flights	15	15	15	15
	NAFlights	15	15	15	15

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	-.446	.118	.102
	NAFlights	.166	-.150	-.807
	Congestion	.279	.554	.400
	GLHR	-.763	-.046	.776
	GJFK	-.250	.129	.459
	PartnerConcentration	.431	.671	-.228
	Seasonality	-.116	.180	-.233
	Distance	.133	-.110	.069
	Language	1.000	.447	-.502
	Ethnicity	.447	1.000	-.130
	Urban	-.502	-.130	1.000
Sig. (1-tailed)	Flights	.048	.338	.359
	NAFlights	.277	.297	.000
	Congestion	.157	.016	.070
	GLHR	.000	.435	.000
	GJFK	.185	.323	.043
	PartnerConcentration	.054	.003	.206
	Seasonality	.341	.261	.202
	Distance	.318	.348	.403
	Language	.	.047	.028
	Ethnicity	.047	.	.323
	Urban	.028	.323	.
N	Flights	15	15	15
	NAFlights	15	15	15

Correlations

		Flights	NAFlights	Congestion	GLHR
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15
	Language	15	15	15	15
	Ethnicity	15	15	15	15
	Urban	15	15	15	15

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	15	15	15	15
GLHR	15	15	15	15
GJFK	15	15	15	15
PartnerConcentration	15	15	15	15
Seasonality	15	15	15	15
Distance	15	15	15	15
Language	15	15	15	15
Ethnicity	15	15	15	15
Urban	15	15	15	15

Correlations

	Language	Ethnicity	Urban
Congestion	15	15	15
GLHR	15	15	15
GJFK	15	15	15
PartnerConcentration	15	15	15
Seasonality	15	15	15
Distance	15	15	15
Language	15	15	15
Ethnicity	15	15	15
Urban	15	15	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Ethnicity, Seasonality, GJFK, Language, PartnerConcentration, Congestion, GLHR, NAFlights[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.933[a]	.871	.549	2.949	.871	2.701

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	4	.175

a. Predictors: (Constant), Urban, Distance, Ethnicity, Seasonality, GJFK, Language, PartnerConcentration, Congestion, GLHR,

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	234.940	10	23.494	2.701	.175[b]
	Residual	34.793	4	8.698		
	Total	269.733	14			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Ethnicity, Seasonality, GJFK, Language, PartnerConcentration, Congestion, GLHR, NAFlights

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-46.313	36.266		-1.277	.271
	NAFlights	33.656	18.080	1.230	1.862	.136
	Congestion	.674	1.812	.141	.372	.729
	GLHR	6.497	5.457	.751	1.191	.300
	GJFK	5.287	4.179	.311	1.265	.275
	PartnerConcentration	-.020	1.314	-.006	-.015	.989
	Seasonality	21.286	18.568	.342	1.146	.316
	Distance	.003	.002	.463	1.487	.211
	Language	5.994E-6	.000	.034	.070	.948
	Ethnicity	1.349E-6	.000	.250	.422	.695
	Urban	.797	1.565	.409	.509	.637

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	NAFlights	.074	13.530
	Congestion	.226	4.431
	GLHR	.081	12.324
	GJFK	.534	1.874
	PartnerConcentration	.233	4.295
	Seasonality	.363	2.756
	Distance	.332	3.012
	Language	.134	7.438
	Ethnicity	.092	10.868
	Urban	.050	19.985

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	Congestion	GLHR
1	1	7.533	1.000	.00	.00	.00	.00
	2	1.475	2.260	.00	.00	.00	.01
	3	.938	2.833	.00	.00	.00	.00
	4	.552	3.694	.00	.00	.00	.03
	5	.295	5.053	.00	.02	.00	.00
	6	.143	7.248	.00	.03	.00	.00
	7	.038	14.059	.00	.04	.01	.41
	8	.017	20.829	.00	.00	.16	.00
	9	.005	39.977	.01	.05	.00	.03
	10	.004	45.480	.01	.19	.74	.10
	11	.000	173.592	.97	.66	.09	.42

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.09	.02	.00	.00	.01	.00
	3	.20	.04	.00	.00	.00	.01
	4	.28	.05	.00	.00	.02	.00
	5	.05	.14	.00	.00	.05	.02
	6	.01	.21	.00	.00	.02	.15
	7	.02	.02	.00	.02	.63	.07
	8	.15	.02	.01	.24	.00	.05
	9	.11	.10	.77	.00	.16	.02
	10	.01	.17	.20	.29	.02	.09
	11	.09	.24	.02	.44	.09	.60

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.00
	8	.00
	9	.02
	10	.03
	11	.95

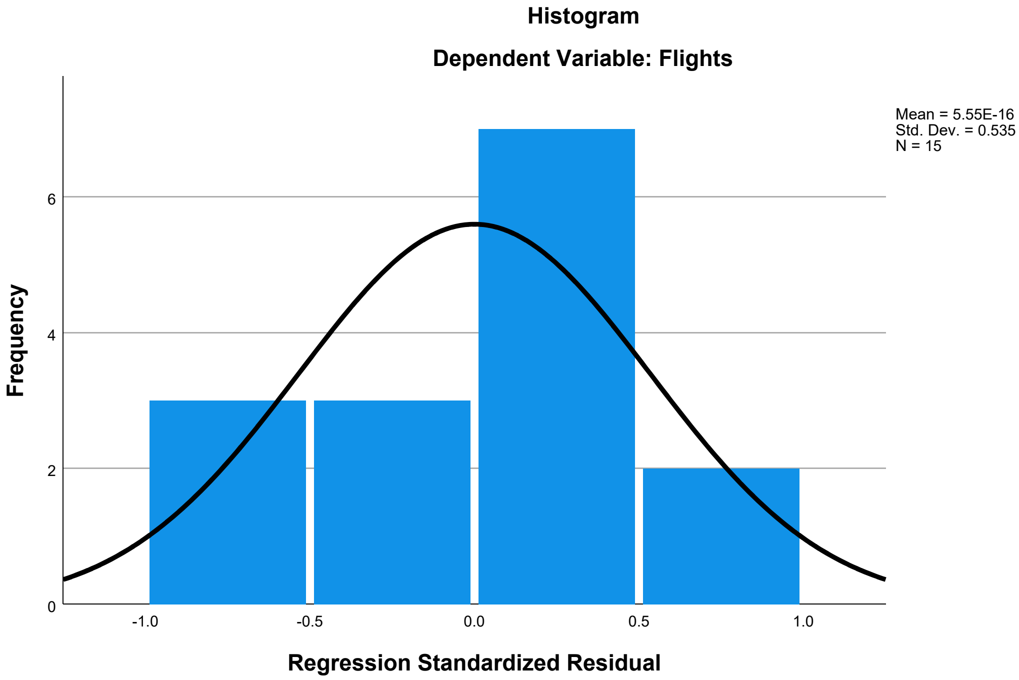
a. Dependent Variable: Flights

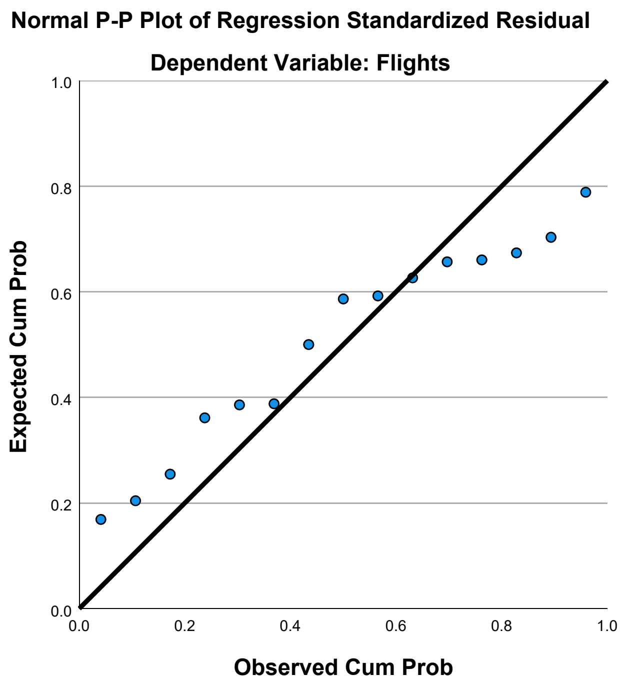
Residuals Statistics[a]

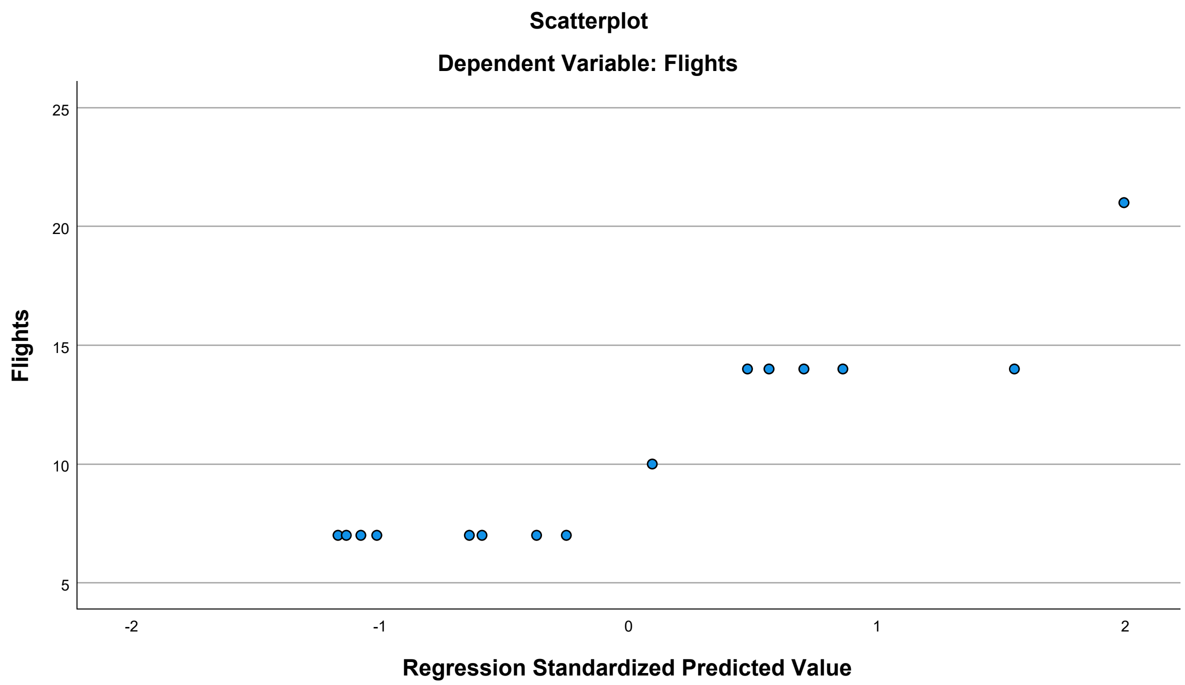
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.67	18.64	10.47	4.097	15
Residual	-2.828	2.364	.000	1.576	15
Std. Predicted Value	-1.170	1.994	.000	1.000	15
Std. Residual	-.959	.802	.000	.535	15

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 5.55E-16
Std. Dev. = 0.535
N = 15
Frequency
0
2
4
6
-1.0
-0.5
0.0
0.5
1.0
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.47	4.389	15
NAFlights	.27261146497	.16036361203	15
Congestion	4.87	.915	15
GLHR	.40	.507	15
GJFK	.07	.258	15
PartnerConcentration	.69622133333	1.2427774329	15
Seasonality	.54588235294	.07047843935	15
Distance	4223.87	688.250	15
Language	22659.60	25092.077	15
Ethnicity	738970.47	813205.593	15

Correlations

		Flights	NAFlights	Congestion	GLHR
Pearson Correlation	Flights	1.000	.232	-.072	.456
	NAFlights	.232	1.000	-.544	-.558
	Congestion	-.072	-.544	1.000	.123
	GLHR	.456	-.558	.123	1.000
	GJFK	.223	-.316	.342	.327
	PartnerConcentration	.157	.101	.159	-.251
	Seasonality	.642	.425	-.096	-.017
	Distance	-.194	-.403	-.045	-.005
	Language	-.446	.166	.279	-.763
	Ethnicity	.118	-.150	.554	-.046
Sig. (1-tailed)	Flights	.	.202	.399	.044
	NAFlights	.202	.	.018	.015
	Congestion	.399	.018	.	.331
	GLHR	.044	.015	.331	.
	GJFK	.213	.125	.106	.117
	PartnerConcentration	.288	.360	.286	.184
	Seasonality	.005	.057	.367	.476
	Distance	.244	.068	.436	.492
	Language	.048	.277	.157	.000
	Ethnicity	.338	.297	.016	.435
N	Flights	15	15	15	15
	NAFlights	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15
	Language	15	15	15	15
	Ethnicity	15	15	15	15

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.223	.157	.642	-.194
	NAFlights	-.316	.101	.425	-.403
	Congestion	.342	.159	-.096	-.045
	GLHR	.327	-.251	-.017	-.005
	GJFK	1.000	-.082	-.180	-.309
	PartnerConcentration	-.082	1.000	.444	-.023
	Seasonality	-.180	.444	1.000	-.181
	Distance	-.309	-.023	-.181	1.000
	Language	-.250	.431	-.116	.133
	Ethnicity	.129	.671	.180	-.110
Sig. (1-tailed)	Flights	.213	.288	.005	.244
	NAFlights	.125	.360	.057	.068
	Congestion	.106	.286	.367	.436
	GLHR	.117	.184	.476	.492
	GJFK	.	.386	.260	.131
	PartnerConcentration	.386	.	.049	.468
	Seasonality	.260	.049	.	.259
	Distance	.131	.468	.259	.
	Language	.185	.054	.341	.318
	Ethnicity	.323	.003	.261	.348
N	Flights	15	15	15	15
	NAFlights	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15
	Language	15	15	15	15
	Ethnicity	15	15	15	15

Correlations

		Language	Ethnicity
Pearson Correlation	Flights	-.446	.118
	NAFlights	.166	-.150
	Congestion	.279	.554
	GLHR	-.763	-.046
	GJFK	-.250	.129
	PartnerConcentration	.431	.671
	Seasonality	-.116	.180
	Distance	.133	-.110
	Language	1.000	.447
	Ethnicity	.447	1.000
Sig. (1-tailed)	Flights	.048	.338
	NAFlights	.277	.297
	Congestion	.157	.016
	GLHR	.000	.435
	GJFK	.185	.323
	PartnerConcentration	.054	.003
	Seasonality	.341	.261
	Distance	.318	.348
	Language	.	.047
	Ethnicity	.047	.
N	Flights	15	15
	NAFlights	15	15
	Congestion	15	15
	GLHR	15	15
	GJFK	15	15
	PartnerConcentration	15	15
	Seasonality	15	15
	Distance	15	15
	Language	15	15
	Ethnicity	15	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Ethnicity, GLHR, Distance, Seasonality, GJFK, Congestion, PartnerConcentration, NAFlights, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.929[a]	.863	.615	2.722	.863	3.489

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	5	.091

a. Predictors: (Constant), Ethnicity, GLHR, Distance, Seasonality, GJFK, Congestion, PartnerConcentration, NAFlights, Langua

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	232.685	9	25.854	3.489	.091[b]
	Residual	37.048	5	7.410		
	Total	269.733	14			

a. Dependent Variable: Flights

b. Predictors: (Constant), Ethnicity, GLHR, Distance, Seasonality, GJFK, Congestion, PartnerConcentration, NAFlights, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-29.271	12.886		-2.271	.072
	NAFlights	26.843	11.221	.981	2.392	.062
	Congestion	1.060	1.519	.221	.698	.516
	GLHR	8.487	3.515	.980	2.414	.061
	GJFK	6.056	3.596	.356	1.684	.153
	PartnerConcentration	.316	1.049	.089	.301	.776
	Seasonality	22.967	16.864	.369	1.362	.231
	Distance	.002	.002	.379	1.555	.181
	Language	2.063E-5	.000	.118	.277	.793
	Ethnicity	2.341E-8	.000	.004	.014	.990

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	NAFlights	.163	6.118
	Congestion	.274	3.653
	GLHR	.167	6.004
	GJFK	.614	1.629
	PartnerConcentration	.311	3.214
	Seasonality	.375	2.669
	Distance	.461	2.167
	Language	.152	6.601
	Ethnicity	.274	3.653

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	Congestion	GLHR
1	1	6.587	1.000	.00	.00	.00	.00
	2	1.447	2.133	.00	.00	.00	.02
	3	.920	2.676	.00	.00	.00	.00
	4	.552	3.455	.00	.00	.00	.05
	5	.294	4.732	.00	.05	.00	.01
	6	.138	6.910	.00	.07	.00	.00
	7	.038	13.203	.00	.10	.01	.82
	8	.017	19.824	.00	.01	.25	.00
	9	.004	39.105	.04	.31	.28	.00
	10	.002	53.959	.96	.46	.45	.10

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.12	.02	.00	.00	.01	.00
	3	.22	.06	.00	.00	.00	.03
	4	.32	.07	.00	.00	.02	.01
	5	.06	.19	.00	.00	.06	.05
	6	.02	.27	.00	.01	.02	.47
	7	.02	.02	.01	.03	.69	.19
	8	.14	.03	.01	.30	.00	.18
	9	.06	.33	.98	.05	.20	.01
	10	.05	.01	.00	.61	.00	.05

a. Dependent Variable: Flights

Residuals Statistics[a]

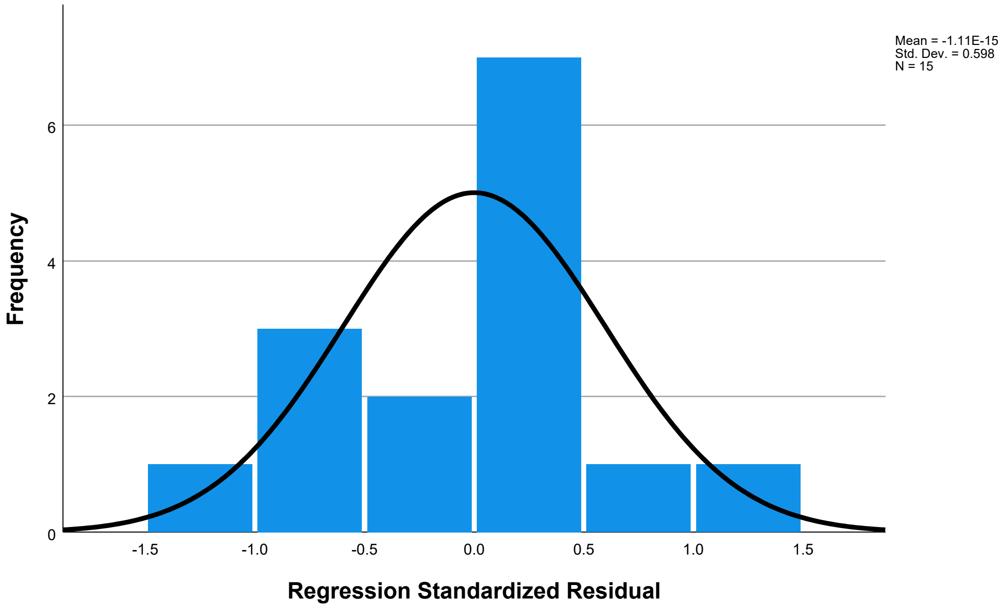
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.59	18.19	10.47	4.077	15
Residual	-3.053	2.810	.000	1.627	15
Std. Predicted Value	-1.196	1.894	.000	1.000	15
Std. Residual	-1.122	1.032	.000	.598	15

a. Dependent Variable: Flights

Charts

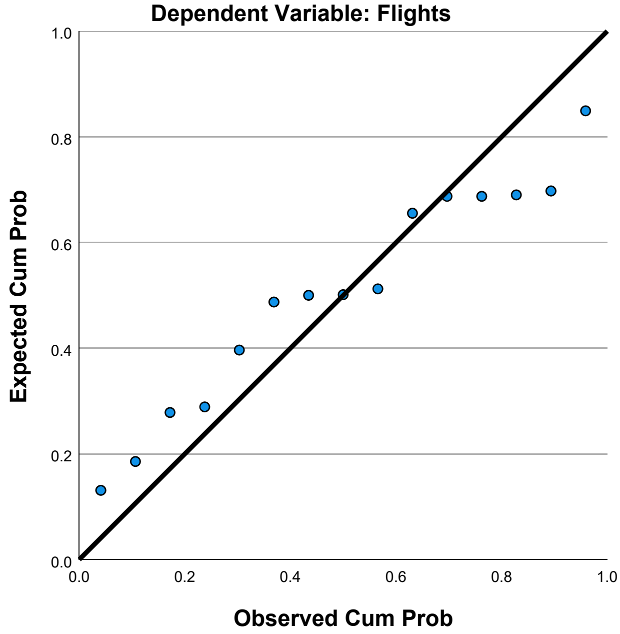
Histogram

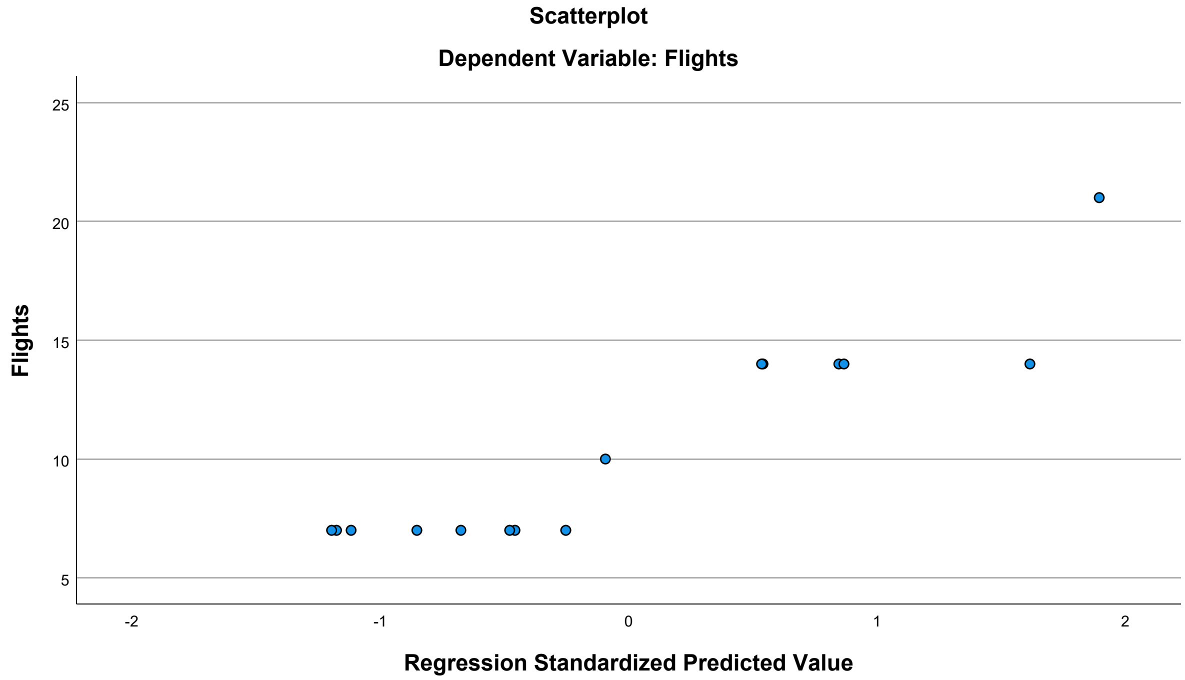
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights





Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.47	4.389	15
NAFlights	.27261146497	.16036361203	15
Congestion	4.87	.915	15
GLHR	.40	.507	15
GJFK	.07	.258	15
PartnerConcentration	.69622133333	1.2427774329	15
Seasonality	.54588235294	.07047843935	15
Distance	4223.87	688.250	15
Ethnicity	738970.47	813205.593	15

Correlations

		Flights	NAFlights	Congestion	GLHR
Pearson Correlation	Flights	1.000	.232	-.072	.456
	NAFlights	.232	1.000	-.544	-.558
	Congestion	-.072	-.544	1.000	.123
	GLHR	.456	-.558	.123	1.000
	GJFK	.223	-.316	.342	.327
	PartnerConcentration	.157	.101	.159	-.251
	Seasonality	.642	.425	-.096	-.017
	Distance	-.194	-.403	-.045	-.005
	Ethnicity	.118	-.150	.554	-.046
Sig. (1-tailed)	Flights	.	.202	.399	.044
	NAFlights	.202	.	.018	.015
	Congestion	.399	.018	.	.331
	GLHR	.044	.015	.331	.
	GJFK	.213	.125	.106	.117
	PartnerConcentration	.288	.360	.286	.184
	Seasonality	.005	.057	.367	.476
	Distance	.244	.068	.436	.492
	Ethnicity	.338	.297	.016	.435
N	Flights	15	15	15	15
	NAFlights	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15
	Ethnicity	15	15	15	15

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.223	.157	.642	-.194
	NAFlights	-.316	.101	.425	-.403
	Congestion	.342	.159	-.096	-.045
	GLHR	.327	-.251	-.017	-.005
	GJFK	1.000	-.082	-.180	-.309
	PartnerConcentration	-.082	1.000	.444	-.023
	Seasonality	-.180	.444	1.000	-.181
	Distance	-.309	-.023	-.181	1.000
	Ethnicity	.129	.671	.180	-.110
Sig. (1-tailed)	Flights	.213	.288	.005	.244
	NAFlights	.125	.360	.057	.068
	Congestion	.106	.286	.367	.436
	GLHR	.117	.184	.476	.492
	GJFK	.	.386	.260	.131
	PartnerConcentration	.386	.	.049	.468
	Seasonality	.260	.049	.	.259
	Distance	.131	.468	.259	.
	Ethnicity	.323	.003	.261	.348
N	Flights	15	15	15	15
	NAFlights	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15
	Ethnicity	15	15	15	15

Correlations

		Ethnicity
Pearson Correlation	Flights	.118
	NAFlights	-.150
	Congestion	.554
	GLHR	-.046
	GJFK	.129
	PartnerConcentration	.671
	Seasonality	.180
	Distance	-.110
	Ethnicity	1.000
Sig. (1-tailed)	Flights	.338
	NAFlights	.297
	Congestion	.016
	GLHR	.435
	GJFK	.323
	PartnerConcentration	.003
	Seasonality	.261
	Distance	.348
	Ethnicity	.
N	Flights	15
	NAFlights	15
	Congestion	15
	GLHR	15
	GJFK	15
	PartnerConcentration	15
	Seasonality	15
	Distance	15
	Ethnicity	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Ethnicity, GLHR, Distance, Seasonality, GJFK, Congestion, PartnerConcentration, NAFlights[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.928[a]	.861	.675	2.504	.861	4.628

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	6	.039

a. Predictors: (Constant), Ethnicity, GLHR, Distance, Seasonality, GJFK, Congestion, PartnerConcentration, NAFlights

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	232.117	8	29.015	4.628	.039[b]
	Residual	37.617	6	6.269		
	Total	269.733	14			

a. Dependent Variable: Flights

b. Predictors: (Constant), Ethnicity, GLHR, Distance, Seasonality, GJFK, Congestion, PartnerConcentration, NAFlights

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-28.820	11.758		-2.451	.050
	NAFlights	27.018	10.305	.987	2.622	.039
	Congestion	1.201	1.317	.250	.912	.397
	GLHR	7.792	2.267	.900	3.437	.014
	GJFK	5.803	3.199	.341	1.814	.120
	PartnerConcentration	.371	.948	.105	.391	.709
	Seasonality	21.235	14.407	.341	1.474	.191
	Distance	.003	.001	.393	1.785	.124
	Ethnicity	1.949E-7	.000	.036	.133	.899

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	NAFlights	.164	6.098
	Congestion	.308	3.246
	GLHR	.339	2.951
	GJFK	.656	1.523
	PartnerConcentration	.323	3.100
	Seasonality	.434	2.302
	Distance	.480	2.082
	Ethnicity	.315	3.174

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	Congestion	GLHR
1	1	6.067	1.000	.00	.00	.00	.00
	2	1.200	2.248	.00	.00	.00	.04
	3	.911	2.580	.00	.00	.00	.00
	4	.480	3.556	.00	.02	.00	.20
	5	.197	5.556	.00	.01	.00	.10
	6	.121	7.088	.00	.14	.01	.14
	7	.017	19.015	.00	.01	.28	.00
	8	.005	34.068	.03	.36	.20	.33
	9	.002	51.781	.97	.46	.52	.19

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Ethnicity
1	1	.00	.00	.00	.00	.00
	2	.24	.04	.00	.00	.00
	3	.16	.09	.00	.00	.05
	4	.34	.01	.00	.00	.01
	5	.03	.42	.00	.00	.34
	6	.00	.09	.00	.02	.22
	7	.15	.03	.01	.32	.23
	8	.02	.32	.99	.02	.09
	9	.05	.01	.00	.63	.05

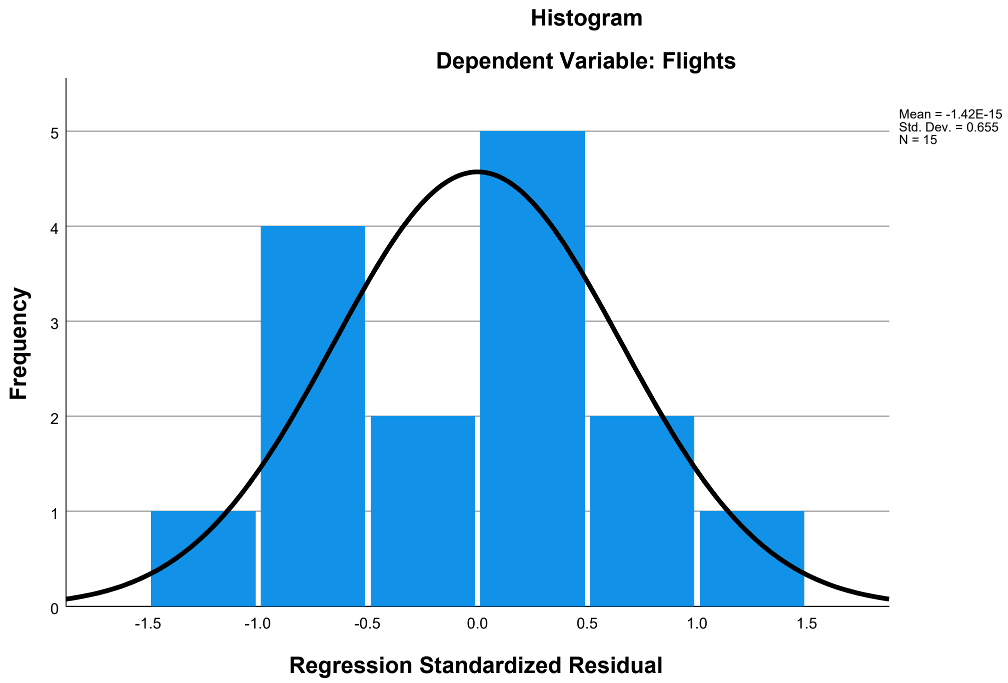
a. Dependent Variable: Flights

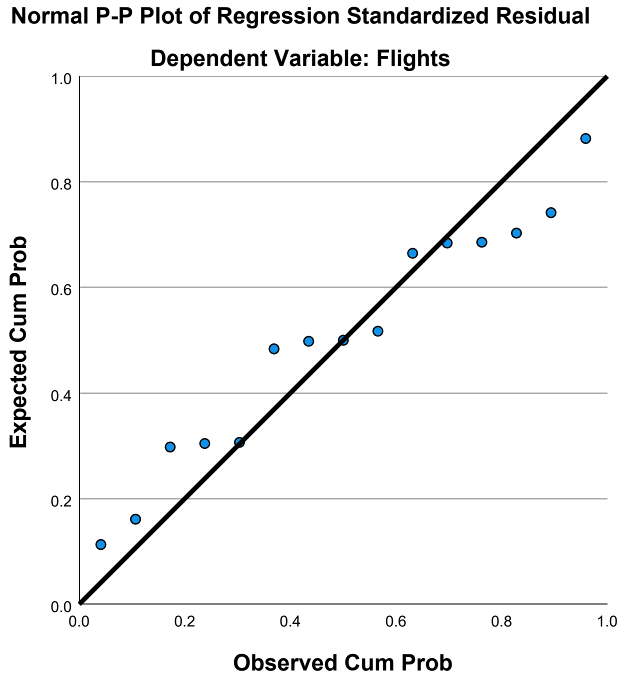
Residuals Statistics[a]

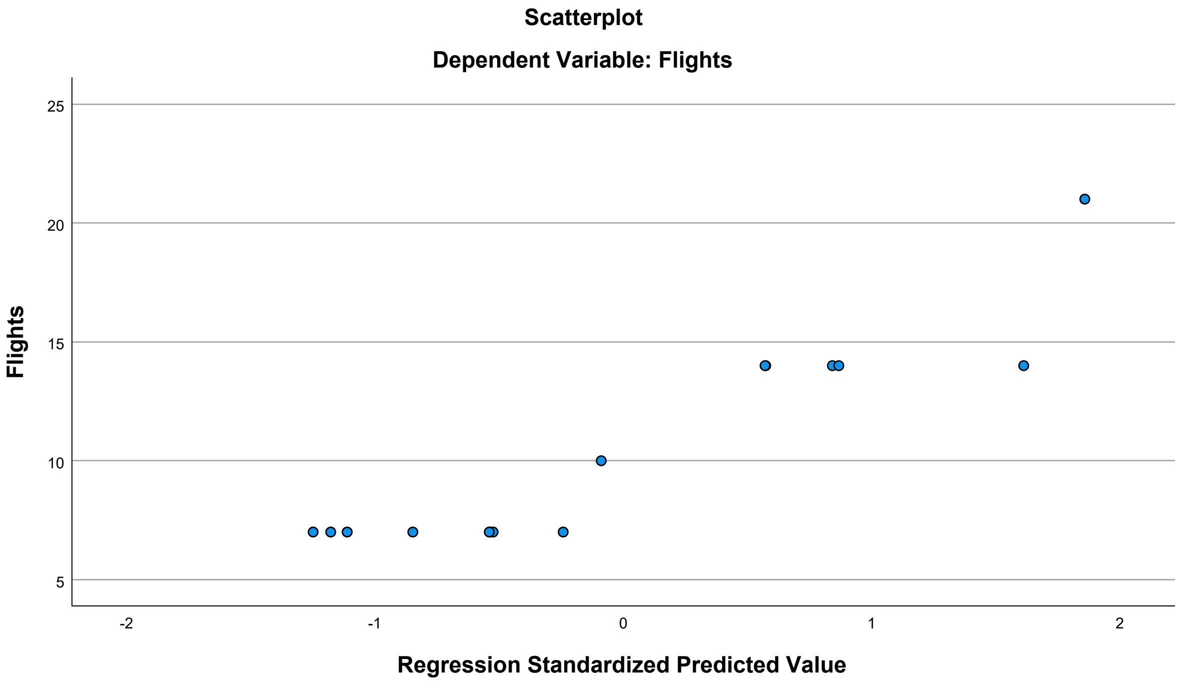
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.38	18.03	10.47	4.072	15
Residual	-3.032	2.967	.000	1.639	15
Std. Predicted Value	-1.250	1.858	.000	1.000	15
Std. Residual	-1.211	1.185	.000	.655	15

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
25
20
15
10
5
-2
-1
0
1
2

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.47	4.389	15
NAFlights	.27261146497	.16036361203	15
Congestion	4.87	.915	15
GLHR	.40	.507	15
GJFK	.07	.258	15
PartnerConcentration	.69622133333	1.2427774329	15
Seasonality	.54588235294	.07047843935	15
Distance	4223.87	688.250	15

Correlations

		Flights	NAFlights	Congestion	GLHR
Pearson Correlation	Flights	1.000	.232	-.072	.456
	NAFlights	.232	1.000	-.544	-.558
	Congestion	-.072	-.544	1.000	.123
	GLHR	.456	-.558	.123	1.000
	GJFK	.223	-.316	.342	.327
	PartnerConcentration	.157	.101	.159	-.251
	Seasonality	.642	.425	-.096	-.017
	Distance	-.194	-.403	-.045	-.005
Sig. (1-tailed)	Flights	.	.202	.399	.044
	NAFlights	.202	.	.018	.015
	Congestion	.399	.018	.	.331
	GLHR	.044	.015	.331	.
	GJFK	.213	.125	.106	.117
	PartnerConcentration	.288	.360	.286	.184
	Seasonality	.005	.057	.367	.476
	Distance	.244	.068	.436	.492
N	Flights	15	15	15	15
	NAFlights	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.223	.157	.642	-.194
	NAFlights	-.316	.101	.425	-.403
	Congestion	.342	.159	-.096	-.045
	GLHR	.327	-.251	-.017	-.005
	GJFK	1.000	-.082	-.180	-.309
	PartnerConcentration	-.082	1.000	.444	-.023
	Seasonality	-.180	.444	1.000	-.181
	Distance	-.309	-.023	-.181	1.000
Sig. (1-tailed)	Flights	.213	.288	.005	.244
	NAFlights	.125	.360	.057	.068
	Congestion	.106	.286	.367	.436
	GLHR	.117	.184	.476	.492
	GJFK	.	.386	.260	.131
	PartnerConcentration	.386	.	.049	.468
	Seasonality	.260	.049	.	.259
	Distance	.131	.468	.259	.
N	Flights	15	15	15	15
	NAFlights	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Distance, GLHR, Congestion, Seasonality, PartnerConcentration, GJFK, NAFlights[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.927[a]	.860	.720	2.322	.860	6.150

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	7	7	.014

a. Predictors: (Constant), Distance, GLHR, Congestion, Seasonality, PartnerConcentration, GJFK, NAFlights

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	232.006	7	33.144	6.150	.014[b]
	Residual	37.728	7	5.390		
	Total	269.733	14			

a. Dependent Variable: Flights

b. Predictors: (Constant), Distance, GLHR, Congestion, Seasonality, PartnerConcentration, GJFK, NAFlights

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-29.087	10.742		-2.708	.030
	NAFlights	27.310	9.335	.998	2.925	.022
	Congestion	1.299	1.013	.271	1.282	.241
	GLHR	7.863	2.043	.908	3.849	.006
	GJFK	5.790	2.965	.341	1.953	.092
	PartnerConcentration	.459	.625	.130	.735	.486
	Seasonality	20.789	12.992	.334	1.600	.154
	Distance	.003	.001	.393	1.927	.095

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	NAFlights	.172	5.821
	Congestion	.448	2.234
	GLHR	.359	2.787
	GJFK	.657	1.522
	PartnerConcentration	.638	1.567
	Seasonality	.459	2.178
	Distance	.480	2.082

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	Congestion	GLHR
1	1	5.486	1.000	.00	.00	.00	.00
	2	1.183	2.154	.00	.00	.00	.04
	3	.705	2.789	.00	.00	.00	.02
	4	.454	3.476	.00	.02	.00	.21
	5	.141	6.230	.00	.15	.02	.23
	6	.022	15.636	.00	.00	.32	.00
	7	.006	30.944	.01	.43	.16	.35
	8	.002	48.043	.99	.40	.50	.14

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance
1	1	.00	.01	.00	.00
	2	.28	.06	.00	.00
	3	.24	.41	.00	.00
	4	.22	.19	.00	.00
	5	.01	.03	.00	.01
	6	.19	.03	.00	.25
	7	.01	.26	.99	.08
	8	.06	.02	.01	.66

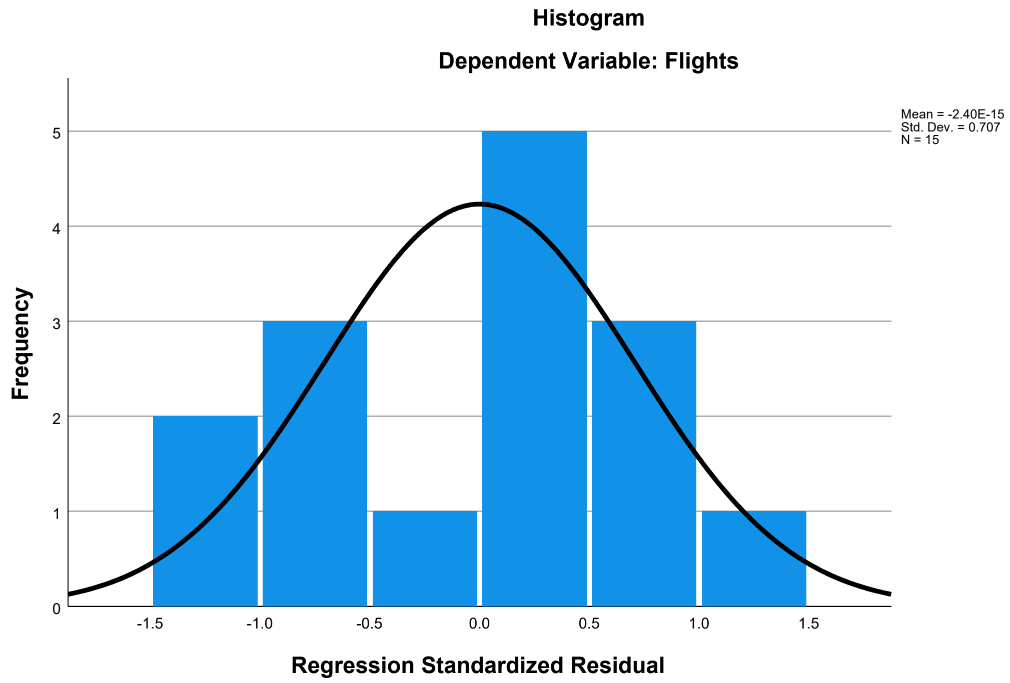
a. Dependent Variable: Flights

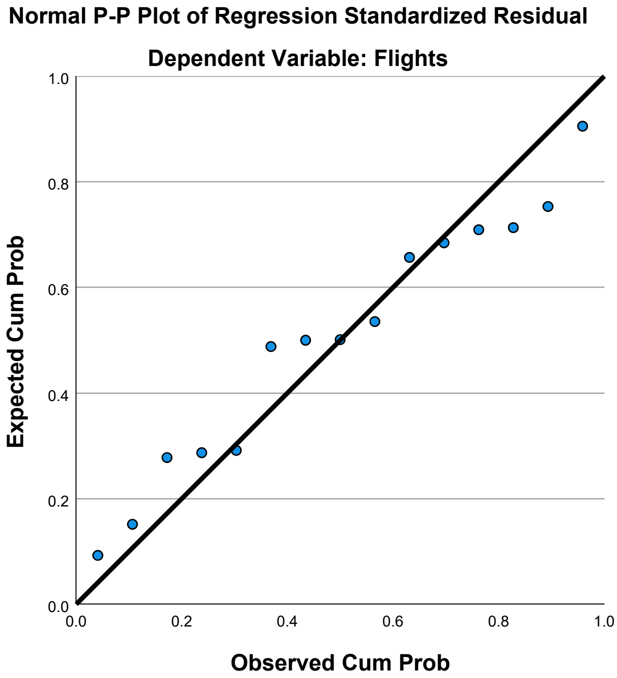
Residuals Statistics[a]

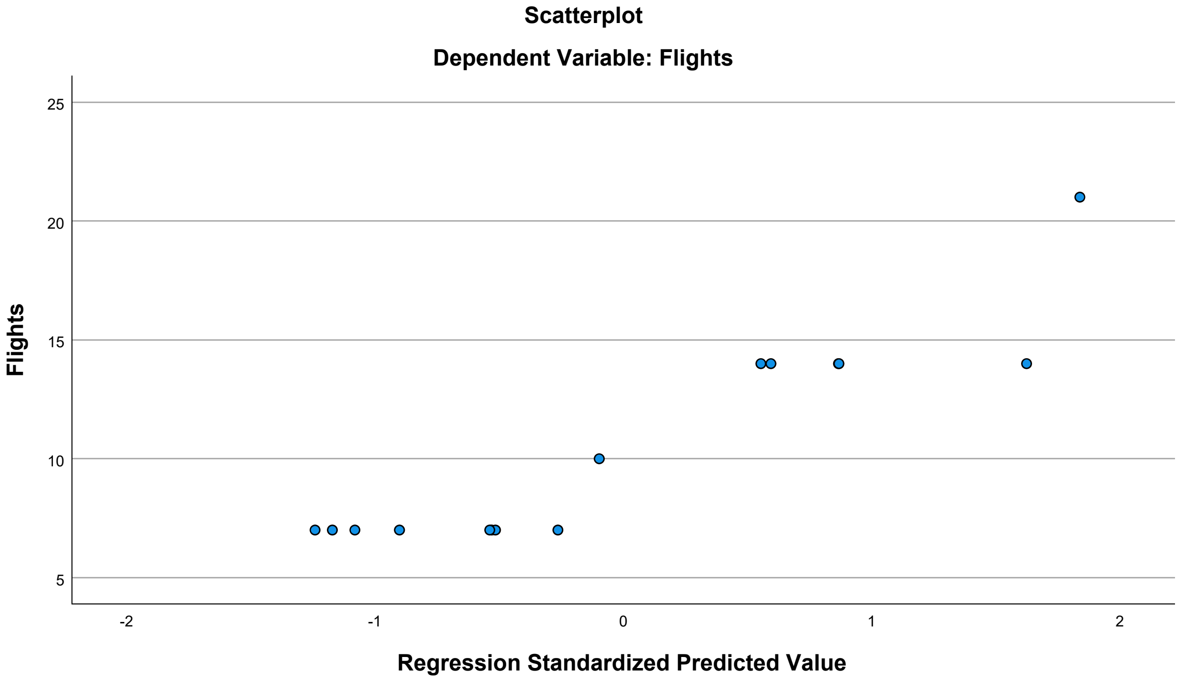
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.41	17.95	10.47	4.071	15
Residual	-3.078	3.048	.000	1.642	15
Std. Predicted Value	-1.242	1.839	.000	1.000	15
Std. Residual	-1.326	1.313	.000	.707	15

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
5
10
15
20
25
-2
-1
0
1
2

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.47	4.389	15
NAFlights	.27261146497	.16036361203	15
GLHR	.40	.507	15
GJFK	.07	.258	15
PartnerConcentration	.69622133333	1.2427774329	15
Seasonality	.54588235294	.07047843935	15
Distance	4223.87	688.250	15

Correlations

		Flights	NAFlights	GLHR	GJFK
Pearson Correlation	Flights	1.000	.232	.456	.223
	NAFlights	.232	1.000	-.558	-.316
	GLHR	.456	-.558	1.000	.327
	GJFK	.223	-.316	.327	1.000
	PartnerConcentration	.157	.101	-.251	-.082
	Seasonality	.642	.425	-.017	-.180
	Distance	-.194	-.403	-.005	-.309
Sig. (1-tailed)	Flights	.	.202	.044	.213
	NAFlights	.202	.	.015	.125
	GLHR	.044	.015	.	.117
	GJFK	.213	.125	.117	.
	PartnerConcentration	.288	.360	.184	.386
	Seasonality	.005	.057	.476	.260
	Distance	.244	.068	.492	.131
N	Flights	15	15	15	15
	NAFlights	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15

Correlations

		PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.157	.642	-.194
	NAFlights	.101	.425	-.403
	GLHR	-.251	-.017	-.005
	GJFK	-.082	-.180	-.309
	PartnerConcentration	1.000	.444	-.023
	Seasonality	.444	1.000	-.181
	Distance	-.023	-.181	1.000
Sig. (1-tailed)	Flights	.288	.005	.244
	NAFlights	.360	.057	.068
	GLHR	.184	.476	.492
	GJFK	.386	.260	.131
	PartnerConcentration	.	.049	.468
	Seasonality	.049	.	.259
	Distance	.468	.259	.
N	Flights	15	15	15
	NAFlights	15	15	15
	GLHR	15	15	15
	GJFK	15	15	15
	PartnerConcentration	15	15	15
	Seasonality	15	15	15
	Distance	15	15	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Distance, GLHR, Seasonality, GJFK, PartnerConcentration, NAFlights[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change
1	.910[a]	.827	.698	2.413	.827	6.387

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	8	.010

a. Predictors: (Constant), Distance, GLHR, Seasonality, GJFK, PartnerConcentration, NAFlights

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	223.151	6	37.192	6.387	.010[b]
	Residual	46.583	8	5.823		
	Total	269.733	14			

a. Dependent Variable: Flights

b. Predictors: (Constant), Distance, GLHR, Seasonality, GJFK, PartnerConcentration, NAFlights

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-19.944	8.349		-2.389	.044
	NAFlights	19.227	7.154	.702	2.687	.028
	GLHR	6.662	1.886	.770	3.531	.008
	GJFK	6.228	3.061	.366	2.035	.076
	PartnerConcentration	.464	.650	.131	.714	.495
	Seasonality	25.864	12.861	.415	2.011	.079
	Distance	.002	.001	.284	1.474	.179

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	NAFlights	.316	3.165
	GLHR	.454	2.200
	GJFK	.666	1.502
	PartnerConcentration	.638	1.567
	Seasonality	.506	1.976
	Distance	.582	1.719

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	NAFlights	GLHR	GJFK
1	1	4.532	1.000	.00	.00	.01	.00
	2	1.182	1.958	.00	.00	.06	.29
	3	.704	2.536	.00	.00	.03	.24
	4	.453	3.162	.00	.04	.26	.22
	5	.117	6.233	.00	.31	.32	.00
	6	.008	23.191	.03	.65	.32	.09
	7	.004	34.850	.97	.00	.01	.16

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions		
		PartnerConcentration	Seasonality	Distance
1	1	.01	.00	.00
	2	.05	.00	.00
	3	.41	.00	.00
	4	.19	.00	.00
	5	.03	.00	.04
	6	.20	.47	.60
	7	.11	.53	.36

a. Dependent Variable: Flights

Residuals Statistics[a]

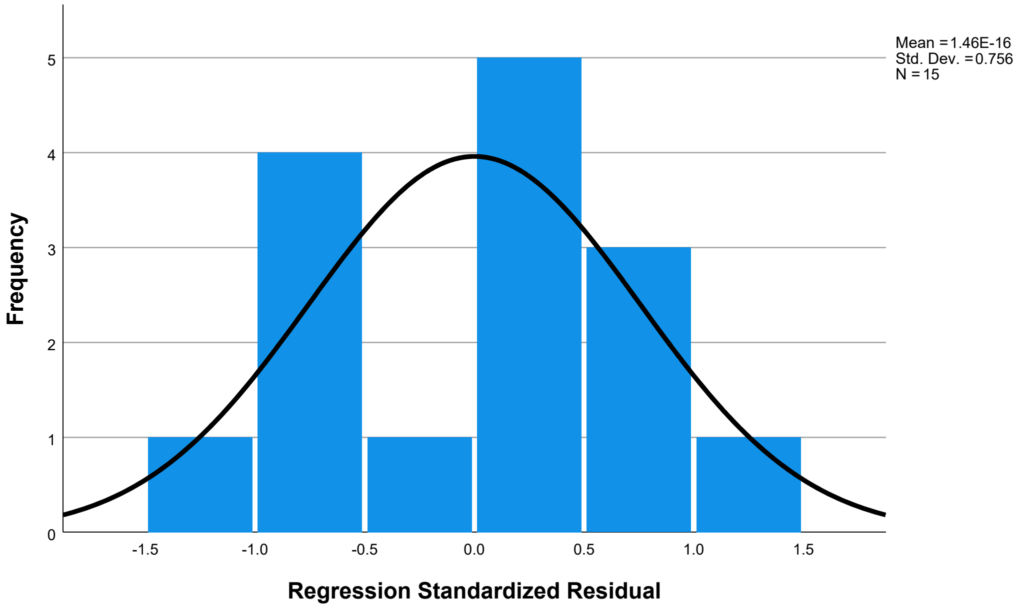
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.12	17.59	10.47	3.992	15
Residual	-3.523	3.409	.000	1.824	15
Std. Predicted Value	-1.339	1.784	.000	1.000	15
Std. Residual	-1.460	1.413	.000	.756	15

a. Dependent Variable: Flights

Charts

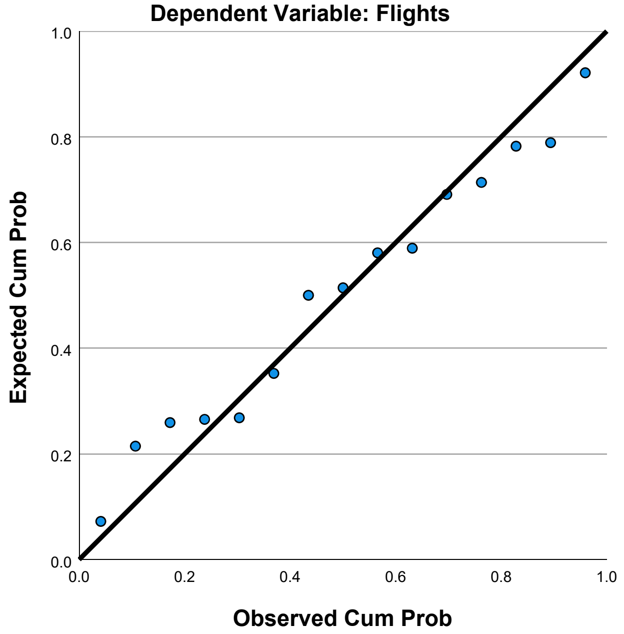
Histogram

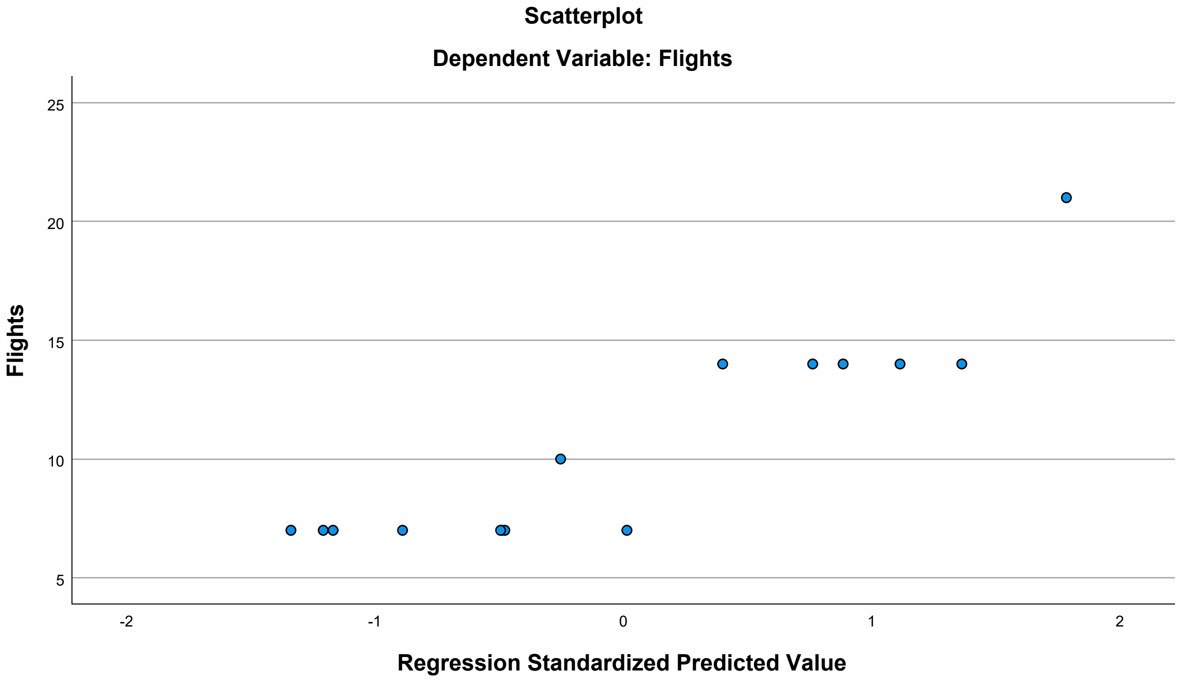
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights




Scatterplot
Dependent Variable: Flights
Flights
25
20
15
10
5
-2
-1
0
1
2
Regression Standardized Predicted Value

Regression

```
[DataSet33] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
\2002 - UA.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.68	5.888	19
HomeConcentration	3.9717507895	2.2542338020	19
Congestion	4.58	.607	19
GLHR	.37	.496	19
GJFK	.05	.229	19
PartnerConcentration	1.7238244211	1.7288571484	19
Seasonality	.57017543860	.16020616996	19
Distance	4.23016	.736689	19
Language	2.46378368	3.812763749	19
Ethnicity	.62132316	.590768258	19
Urban	19.79	2.507	19

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.161	.023	.442
	HomeConcentration	.161	1.000	.073	-.403
	Congestion	.023	.073	1.000	.360
	GLHR	.442	-.403	.360	1.000
	GJFK	.136	-.389	.567	.309
	PartnerConcentration	.163	.032	.076	-.085
	Seasonality	-.014	.247	-.155	-.227
	Distance	-.216	.182	.296	-.157
	Language	.467	-.350	.518	.857
	Ethnicity	.358	.158	.157	.103
	Urban	.240	-.116	.815	.647
Sig. (1-tailed)	Flights	.	.255	.463	.029
	HomeConcentration	.255	.	.383	.044
	Congestion	.463	.383	.	.065
	GLHR	.029	.044	.065	.
	GJFK	.289	.050	.006	.099
	PartnerConcentration	.252	.449	.378	.365
	Seasonality	.477	.154	.263	.175
	Distance	.187	.228	.109	.261
	Language	.022	.071	.012	.000
	Ethnicity	.066	.258	.260	.337
	Urban	.161	.318	.000	.001
N	Flights	19	19	19	19
	HomeConcentration	19	19	19	19

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.136	.163	-.014	-.216
	HomeConcentration	-.389	.032	.247	.182
	Congestion	.567	.076	-.155	.296
	GLHR	.309	-.085	-.227	-.157
	GJFK	1.000	-.026	-.106	-.255
	PartnerConcentration	-.026	1.000	-.272	.235
	Seasonality	-.106	-.272	1.000	-.173
	Distance	-.255	.235	-.173	1.000
	Language	.656	-.071	-.207	-.314
	Ethnicity	.204	.665	-.038	-.169
	Urban	.407	-.094	-.330	.114
Sig. (1-tailed)	Flights	.289	.252	.477	.187
	HomeConcentration	.050	.449	.154	.228
	Congestion	.006	.378	.263	.109
	GLHR	.099	.365	.175	.261
	GJFK	.	.457	.333	.146
	PartnerConcentration	.457	.	.130	.166
	Seasonality	.333	.130	.	.239
	Distance	.146	.166	.239	.
	Language	.001	.387	.197	.096
	Ethnicity	.201	.001	.439	.245
	Urban	.042	.352	.084	.321
N	Flights	19	19	19	19
	HomeConcentration	19	19	19	19

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.467	.358	.240
	HomeConcentration	-.350	.158	-.116
	Congestion	.518	.157	.815
	GLHR	.857	.103	.647
	GJFK	.656	.204	.407
	PartnerConcentration	-.071	.665	-.094
	Seasonality	-.207	-.038	-.330
	Distance	-.314	-.169	.114
	Language	1.000	.207	.658
	Ethnicity	.207	1.000	-.030
	Urban	.658	-.030	1.000
Sig. (1-tailed)	Flights	.022	.066	.161
	HomeConcentration	.071	.258	.318
	Congestion	.012	.260	.000
	GLHR	.000	.337	.001
	GJFK	.001	.201	.042
	PartnerConcentration	.387	.001	.352
	Seasonality	.197	.439	.084
	Distance	.096	.245	.321
	Language	.	.198	.001
	Ethnicity	.198	.	.451
	Urban	.001	.451	.
N	Flights	19	19	19
	HomeConcentration	19	19	19

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	19	19	19	19
	GLHR	19	19	19	19
	GJFK	19	19	19	19
	PartnerConcentration	19	19	19	19
	Seasonality	19	19	19	19
	Distance	19	19	19	19
	Language	19	19	19	19
	Ethnicity	19	19	19	19
	Urban	19	19	19	19

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	19	19	19	19
GLHR	19	19	19	19
GJFK	19	19	19	19
PartnerConcentration	19	19	19	19
Seasonality	19	19	19	19
Distance	19	19	19	19
Language	19	19	19	19
Ethnicity	19	19	19	19
Urban	19	19	19	19

Correlations

	Language	Ethnicity	Urban
Congestion	19	19	19
GLHR	19	19	19
GJFK	19	19	19
PartnerConcentration	19	19	19
Seasonality	19	19	19
Distance	19	19	19
Language	19	19	19
Ethnicity	19	19	19
Urban	19	19	19

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, HomeConcentration, Distance, Seasonality, GJFK, GLHR, PartnerConcentration, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.902[a]	.814	.581	3.810	.814	3.499

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	10	8	.044

a. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Distance, Seasonality, GJFK, GLHR, PartnerConcentration, Co Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	507.979	10	50.798	3.499	.044[b]
	Residual	116.126	8	14.516		
	Total	624.105	18			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Distance, Seasonality, GJFK, GLHR, PartnerConcentration, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.926	13.215		.070	.946
	HomeConcentration	2.165	.688	.829	3.146	.014
	Congestion	-20.314	5.198	-2.094	-3.908	.004
	GLHR	2.004	6.346	.169	.316	.760
	GJFK	22.985	10.518	.896	2.185	.060
	PartnerConcentration	1.205	.926	.354	1.302	.229
	Seasonality	11.615	7.194	.316	1.615	.145
	Distance	3.765	2.151	.471	1.750	.118
	Language	.606	.922	.392	.657	.530
	Ethnicity	1.720	2.882	.173	.597	.567
	Urban	3.287	1.126	1.399	2.920	.019

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.335	2.982
	Congestion	.081	12.342
	GLHR	.082	12.265
	GJFK	.139	7.220
	PartnerConcentration	.315	3.175
	Seasonality	.607	1.647
	Distance	.321	3.114
	Language	.065	15.333
	Ethnicity	.278	3.595
	Urban	.101	9.878

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.740	1.000	.00	.00	.00
	2	1.628	2.180	.00	.00	.00
	3	.706	3.310	.00	.00	.00
	4	.530	3.822	.00	.00	.00
	5	.211	6.059	.00	.12	.00
	6	.102	8.707	.00	.27	.00
	7	.044	13.245	.00	.00	.00
	8	.025	17.575	.02	.28	.00
	9	.009	28.779	.03	.04	.00
	10	.004	44.862	.66	.24	.10
	11	.001	104.276	.29	.03	.90

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.01	.03	.00	.00	.00	.01
	3	.01	.02	.08	.00	.00	.00
	4	.03	.10	.03	.00	.00	.00
	5	.00	.00	.16	.00	.00	.01
	6	.00	.00	.14	.11	.00	.03
	7	.03	.02	.36	.44	.02	.13
	8	.62	.41	.08	.08	.00	.54
	9	.10	.04	.13	.02	.61	.25
	10	.11	.22	.01	.12	.01	.02
	11	.09	.16	.00	.22	.37	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.00	.00
	3	.06	.00
	4	.01	.00
	5	.16	.00
	6	.23	.00
	7	.25	.00
	8	.06	.00
	9	.10	.03
	10	.05	.04
	11	.09	.93

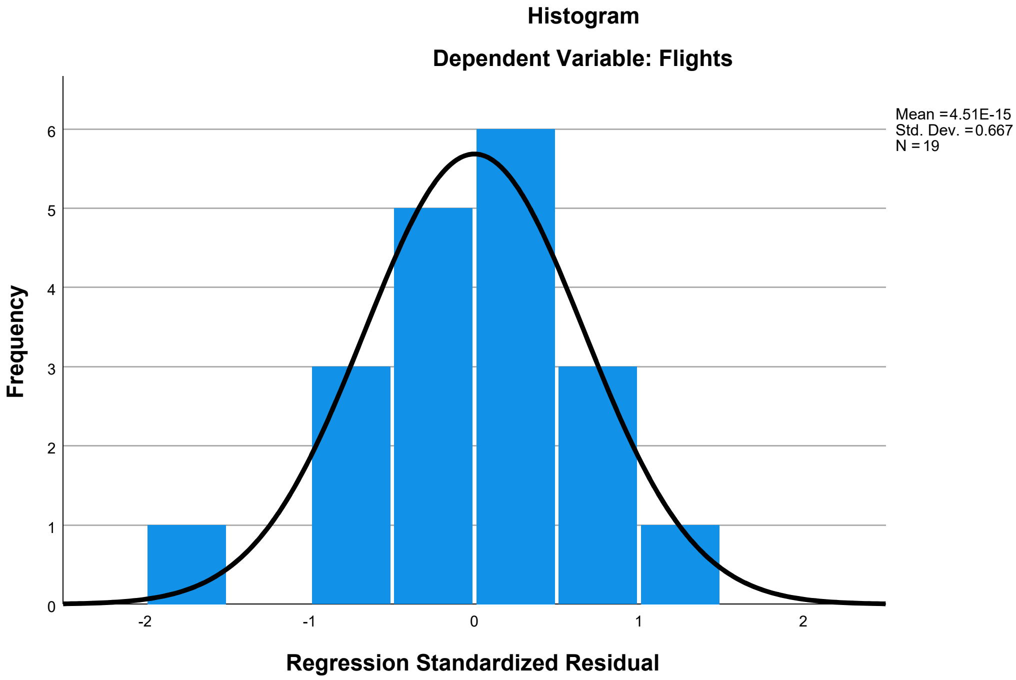
a. Dependent Variable: Flights

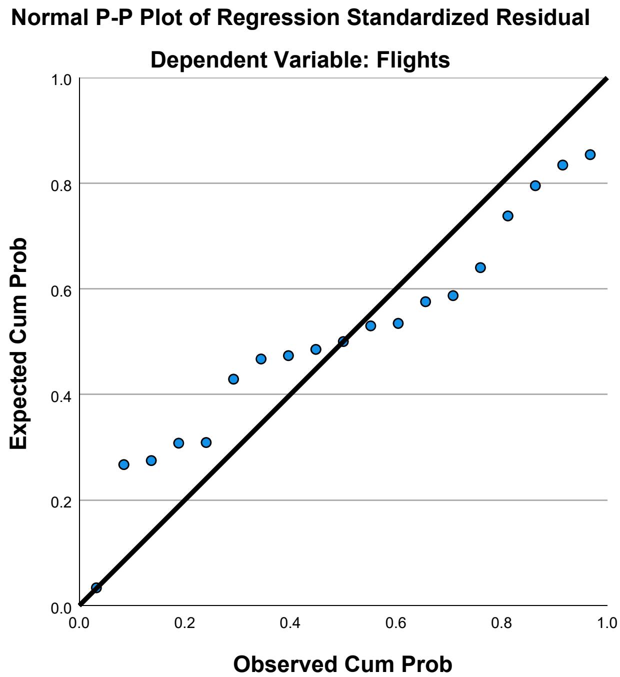
Residuals Statistics[a]

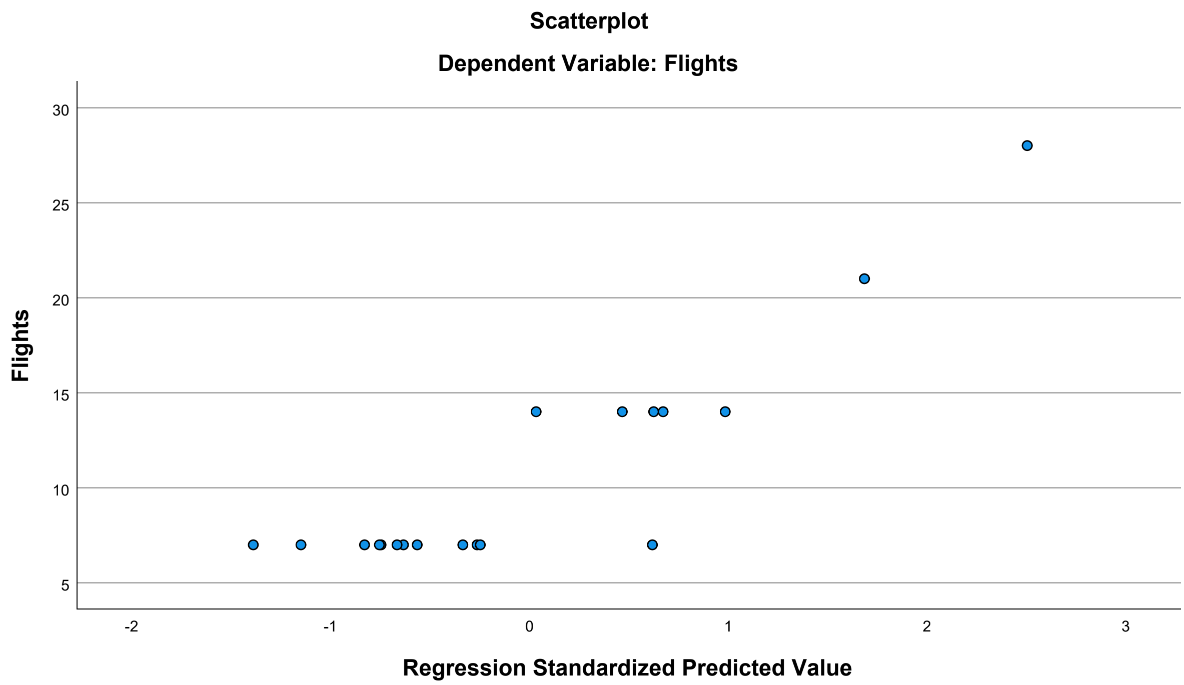
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.30	23.98	10.68	5.312	19
Residual	-6.966	4.015	.000	2.540	19
Std. Predicted Value	-1.390	2.504	.000	1.000	19
Std. Residual	-1.828	1.054	.000	.667	19

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean =4.51E-15
Std. Dev. =0.667
N = 19
Frequency
Regression Standardized Residual
0
1
2
3
4
5
6
-2
-1
0
1
2


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.68	5.888	19
HomeConcentration	3.9717507895	2.2542338020	19
Congestion	4.58	.607	19
GLHR	.37	.496	19
GJFK	.05	.229	19
PartnerConcentration	1.7238244211	1.7288571484	19
Seasonality	.57017543860	.16020616996	19
Distance	4.23016	.736689	19
Ethnicity	.62132316	.590768258	19
Urban	19.79	2.507	19

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.161	.023	.442
	HomeConcentration	.161	1.000	.073	-.403
	Congestion	.023	.073	1.000	.360
	GLHR	.442	-.403	.360	1.000
	GJFK	.136	-.389	.567	.309
	PartnerConcentration	.163	.032	.076	-.085
	Seasonality	-.014	.247	-.155	-.227
	Distance	-.216	.182	.296	-.157
	Ethnicity	.358	.158	.157	.103
	Urban	.240	-.116	.815	.647
Sig. (1-tailed)	Flights	.	.255	.463	.029
	HomeConcentration	.255	.	.383	.044
	Congestion	.463	.383	.	.065
	GLHR	.029	.044	.065	.
	GJFK	.289	.050	.006	.099
	PartnerConcentration	.252	.449	.378	.365
	Seasonality	.477	.154	.263	.175
	Distance	.187	.228	.109	.261
	Ethnicity	.066	.258	.260	.337
	Urban	.161	.318	.000	.001
N	Flights	19	19	19	19
	HomeConcentration	19	19	19	19
	Congestion	19	19	19	19
	GLHR	19	19	19	19
	GJFK	19	19	19	19
	PartnerConcentration	19	19	19	19
	Seasonality	19	19	19	19
	Distance	19	19	19	19
	Ethnicity	19	19	19	19
	Urban	19	19	19	19

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.136	.163	-.014	-.216
	HomeConcentration	-.389	.032	.247	.182
	Congestion	.567	.076	-.155	.296
	GLHR	.309	-.085	-.227	-.157
	GJFK	1.000	-.026	-.106	-.255
	PartnerConcentration	-.026	1.000	-.272	.235
	Seasonality	-.106	-.272	1.000	-.173
	Distance	-.255	.235	-.173	1.000
	Ethnicity	.204	.665	-.038	-.169
	Urban	.407	-.094	-.330	.114
Sig. (1-tailed)	Flights	.289	.252	.477	.187
	HomeConcentration	.050	.449	.154	.228
	Congestion	.006	.378	.263	.109
	GLHR	.099	.365	.175	.261
	GJFK	.	.457	.333	.146
	PartnerConcentration	.457	.	.130	.166
	Seasonality	.333	.130	.	.239
	Distance	.146	.166	.239	.
	Ethnicity	.201	.001	.439	.245
	Urban	.042	.352	.084	.321
N	Flights	19	19	19	19
	HomeConcentration	19	19	19	19
	Congestion	19	19	19	19
	GLHR	19	19	19	19
	GJFK	19	19	19	19
	PartnerConcentration	19	19	19	19
	Seasonality	19	19	19	19
	Distance	19	19	19	19
	Ethnicity	19	19	19	19
	Urban	19	19	19	19

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.358	.240
	HomeConcentration	.158	-.116
	Congestion	.157	.815
	GLHR	.103	.647
	GJFK	.204	.407
	PartnerConcentration	.665	-.094
	Seasonality	-.038	-.330
	Distance	-.169	.114
	Ethnicity	1.000	-.030
	Urban	-.030	1.000
Sig. (1-tailed)	Flights	.066	.161
	HomeConcentration	.258	.318
	Congestion	.260	.000
	GLHR	.337	.001
	GJFK	.201	.042
	PartnerConcentration	.001	.352
	Seasonality	.439	.084
	Distance	.245	.321
	Ethnicity	.	.451
	Urban	.451	.
N	Flights	19	19
	HomeConcentration	19	19
	Congestion	19	19
	GLHR	19	19
	GJFK	19	19
	PartnerConcentration	19	19
	Seasonality	19	19
	Distance	19	19
	Ethnicity	19	19
	Urban	19	19

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, HomeConcentration, Distance, Seasonality, GJFK, GLHR, PartnerConcentration, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.897[a]	.804	.608	3.688	.804	4.100

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	9	.024

a. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Distance, Seasonality, GJFK, GLHR, PartnerConcentration, Co

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	501.721	9	55.747	4.100	.024[b]
	Residual	122.384	9	13.598		
	Total	624.105	18			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Distance, Seasonality, GJFK, GLHR, PartnerConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.462	12.589		.196	.849
	HomeConcentration	2.344	.611	.897	3.835	.004
	Congestion	-20.070	5.018	-2.069	-4.000	.003
	GLHR	5.634	3.014	.474	1.869	.094
	GJFK	27.392	7.836	1.067	3.496	.007
	PartnerConcentration	1.297	.885	.381	1.465	.177
	Seasonality	10.958	6.895	.298	1.589	.146
	Distance	3.256	1.942	.407	1.677	.128
	Ethnicity	1.420	2.754	.142	.516	.619
	Urban	3.242	1.088	1.380	2.981	.015

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.398	2.513
	Congestion	.081	12.278
	GLHR	.339	2.954
	GJFK	.234	4.278
	PartnerConcentration	.322	3.102
	Seasonality	.619	1.615
	Distance	.369	2.709
	Ethnicity	.285	3.505
	Urban	.102	9.842

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.328	1.000	.00	.00	.00
	2	1.145	2.530	.00	.01	.00
	3	.691	3.257	.00	.00	.00
	4	.490	3.866	.00	.01	.00
	5	.200	6.054	.00	.12	.00
	6	.092	8.921	.00	.43	.00
	7	.038	13.828	.01	.15	.00
	8	.011	25.495	.05	.00	.00
	9	.004	43.326	.66	.22	.10
	10	.001	100.966	.28	.06	.90

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.03	.13	.00	.00	.00	.00
	3	.04	.01	.09	.00	.00	.06
	4	.25	.11	.02	.00	.00	.01
	5	.02	.00	.21	.00	.00	.22
	6	.04	.05	.08	.17	.00	.15
	7	.17	.06	.50	.46	.02	.37
	8	.07	.04	.09	.03	.58	.07
	9	.19	.25	.00	.12	.02	.04
	10	.19	.36	.00	.22	.37	.08

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.00
	8	.03
	9	.04
	10	.93

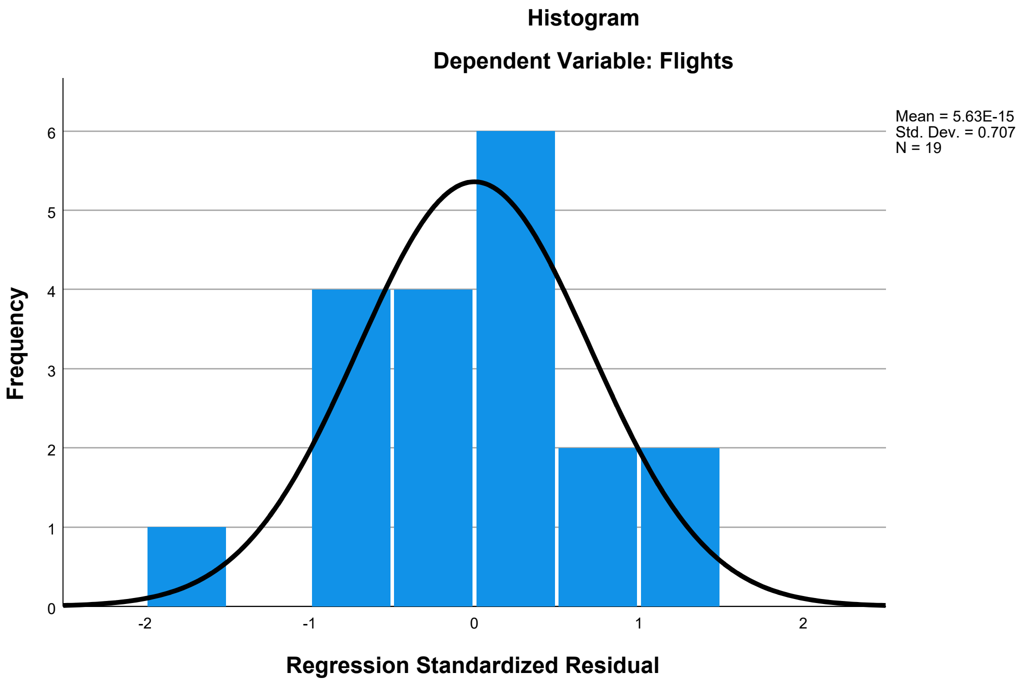
a. Dependent Variable: Flights

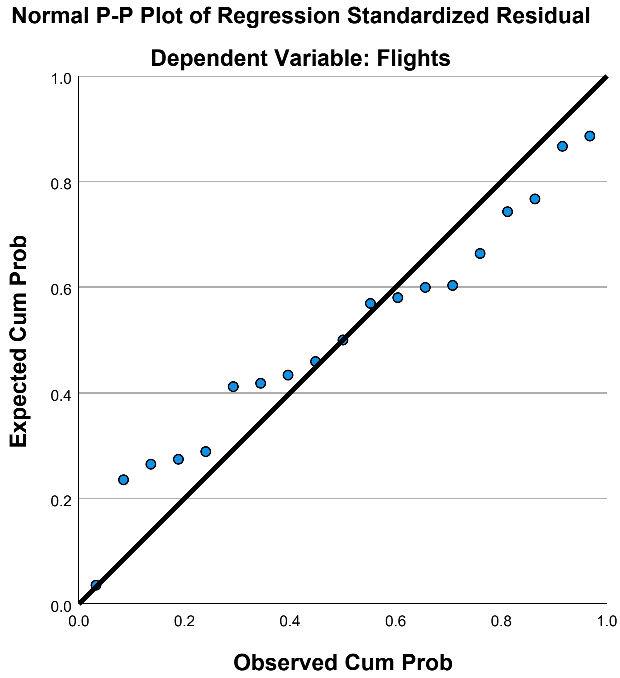
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.55	23.90	10.68	5.280	19
Residual	-6.649	4.449	.000	2.608	19
Std. Predicted Value	-1.540	2.504	.000	1.000	19
Std. Residual	-1.803	1.206	.000	.707	19

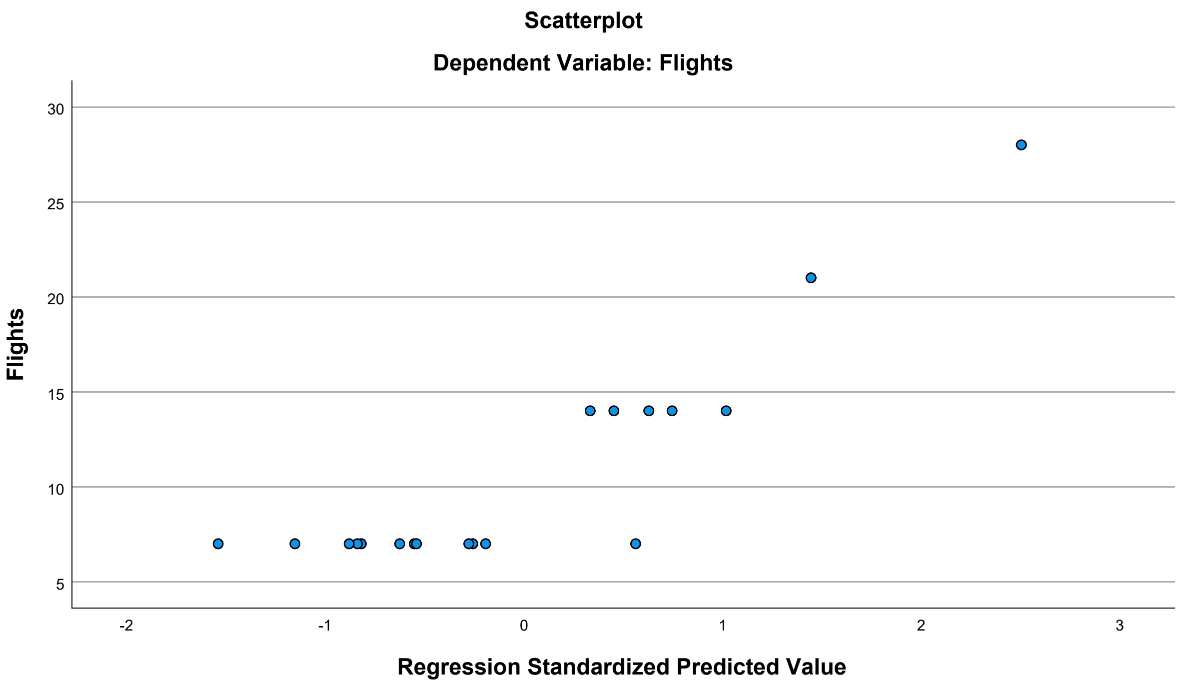
a. Dependent Variable: Flights

Charts





Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0



Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
30
25
20
15
10
5
-2
-1
0
1
2
3

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.68	5.888	19
HomeConcentration	3.9717507895	2.2542338020	19
GLHR	.37	.496	19
GJFK	.05	.229	19
PartnerConcentration	1.7238244211	1.7288571484	19
Seasonality	.57017543860	.16020616996	19
Distance	4.23016	.736689	19
Ethnicity	.62132316	.590768258	19
Urban	19.79	2.507	19

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.161	.442	.136
	HomeConcentration	.161	1.000	-.403	-.389
	GLHR	.442	-.403	1.000	.309
	GJFK	.136	-.389	.309	1.000
	PartnerConcentration	.163	.032	-.085	-.026
	Seasonality	-.014	.247	-.227	-.106
	Distance	-.216	.182	-.157	-.255
	Ethnicity	.358	.158	.103	.204
	Urban	.240	-.116	.647	.407
Sig. (1-tailed)	Flights	.	.255	.029	.289
	HomeConcentration	.255	.	.044	.050
	GLHR	.029	.044	.	.099
	GJFK	.289	.050	.099	.
	PartnerConcentration	.252	.449	.365	.457
	Seasonality	.477	.154	.175	.333
	Distance	.187	.228	.261	.146
	Ethnicity	.066	.258	.337	.201
	Urban	.161	.318	.001	.042
N	Flights	19	19	19	19
	HomeConcentration	19	19	19	19
	GLHR	19	19	19	19
	GJFK	19	19	19	19
	PartnerConcentration	19	19	19	19
	Seasonality	19	19	19	19
	Distance	19	19	19	19
	Ethnicity	19	19	19	19
	Urban	19	19	19	19

Correlations

		PartnerConcentration	Seasonality	Distance	Ethnicity
Pearson Correlation	Flights	.163	-.014	-.216	.358
	HomeConcentration	.032	.247	.182	.158
	GLHR	-.085	-.227	-.157	.103
	GJFK	-.026	-.106	-.255	.204
	PartnerConcentration	1.000	-.272	.235	.665
	Seasonality	-.272	1.000	-.173	-.038
	Distance	.235	-.173	1.000	-.169
	Ethnicity	.665	-.038	-.169	1.000
	Urban	-.094	-.330	.114	-.030
Sig. (1-tailed)	Flights	.252	.477	.187	.066
	HomeConcentration	.449	.154	.228	.258
	GLHR	.365	.175	.261	.337
	GJFK	.457	.333	.146	.201
	PartnerConcentration	.	.130	.166	.001
	Seasonality	.130	.	.239	.439
	Distance	.166	.239	.	.245
	Ethnicity	.001	.439	.245	.
	Urban	.352	.084	.321	.451
N	Flights	19	19	19	19
	HomeConcentration	19	19	19	19
	GLHR	19	19	19	19
	GJFK	19	19	19	19
	PartnerConcentration	19	19	19	19
	Seasonality	19	19	19	19
	Distance	19	19	19	19
	Ethnicity	19	19	19	19
	Urban	19	19	19	19

Correlations

		Urban
Pearson Correlation	Flights	.240
	HomeConcentration	-.116
	GLHR	.647
	GJFK	.407
	PartnerConcentration	-.094
	Seasonality	-.330
	Distance	.114
	Ethnicity	-.030
	Urban	1.000
Sig. (1-tailed)	Flights	.161
	HomeConcentration	.318
	GLHR	.001
	GJFK	.042
	PartnerConcentration	.352
	Seasonality	.084
	Distance	.321
	Ethnicity	.451
	Urban	.
N	Flights	19
	HomeConcentration	19
	GLHR	19
	GJFK	19
	PartnerConcentration	19
	Seasonality	19
	Distance	19
	Ethnicity	19
	Urban	19

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, HomeConcentration, Distance, Seasonality, GJFK, GLHR, PartnerConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.675[a]	.455	.020	5.830	.455	1.045

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	10	.465

a. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Distance, Seasonality, GJFK, GLHR, PartnerConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	284.176	8	35.522	1.045	.465[b]
	Residual	339.929	10	33.993		
	Total	624.105	18			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Distance, Seasonality, GJFK, GLHR, PartnerConcentration

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	15.680	19.206		.816	.433
	HomeConcentration	1.397	.891	.535	1.568	.148
	GLHR	8.615	4.618	.725	1.866	.092
	GJFK	4.171	8.321	.162	.501	.627
	PartnerConcentration	1.049	1.397	.308	.751	.470
	Seasonality	.710	10.121	.019	.070	.945
	Distance	-1.772	2.340	-.222	-.757	.466
	Ethnicity	-.816	4.264	-.082	-.191	.852
	Urban	-.412	.933	-.175	-.441	.668

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.468	2.136
	GLHR	.361	2.773
	GJFK	.518	1.930
	PartnerConcentration	.324	3.087
	Seasonality	.718	1.392
	Distance	.635	1.574
	Ethnicity	.298	3.360
	Urban	.345	2.899

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions GLHR
1	1	6.355	1.000	.00	.00	.00
	2	1.145	2.356	.00	.01	.04
	3	.677	3.063	.00	.00	.05
	4	.485	3.621	.00	.01	.25
	5	.197	5.683	.00	.13	.02
	6	.092	8.319	.00	.51	.05
	7	.036	13.206	.01	.15	.17
	8	.011	23.917	.08	.00	.07
	9	.003	48.307	.91	.18	.36

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	Variance Proportions PartnerConcentration	Variance Proportions Seasonality	Variance Proportions Distance	Variance Proportions Ethnicity	Variance Proportions Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.29	.00	.00	.00	.00	.00
	3	.02	.09	.00	.00	.06	.00
	4	.25	.02	.00	.00	.01	.00
	5	.00	.22	.00	.01	.23	.00
	6	.11	.08	.19	.00	.17	.00
	7	.08	.50	.55	.07	.38	.01
	8	.05	.09	.04	.92	.07	.10
	9	.19	.00	.22	.00	.08	.88

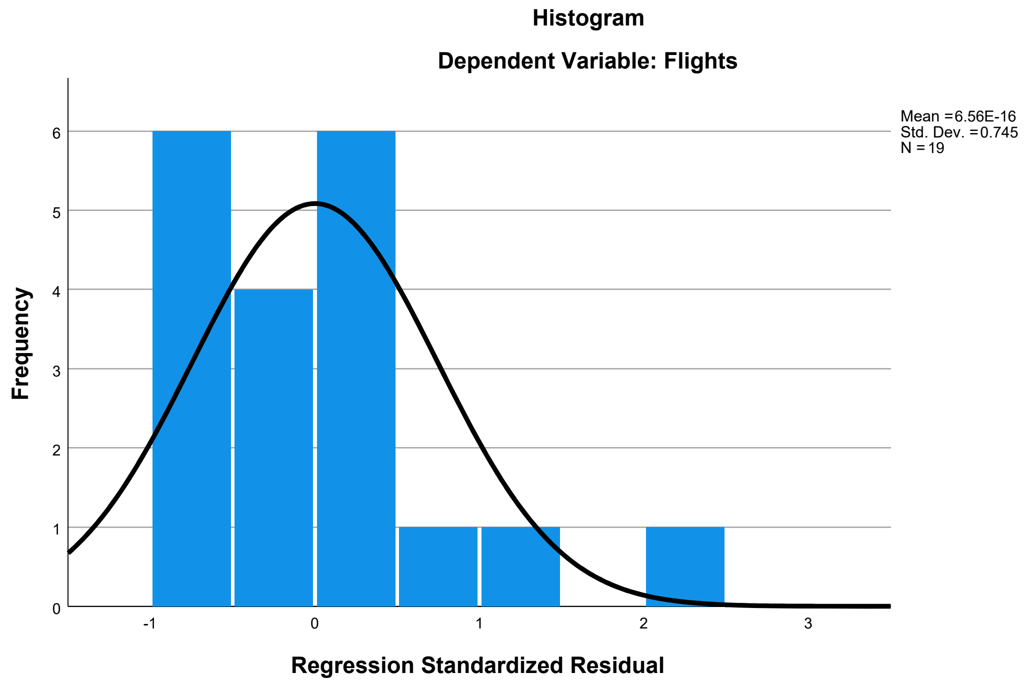
a. Dependent Variable: Flights

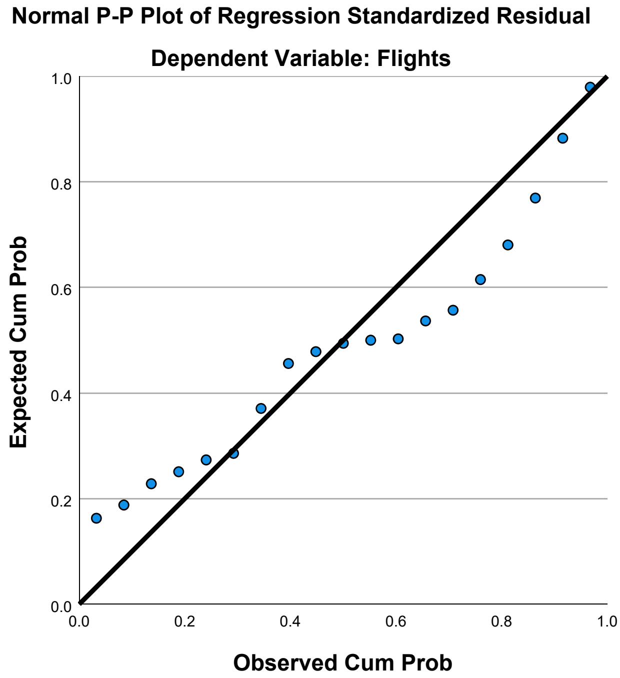
Residuals Statistics[a]

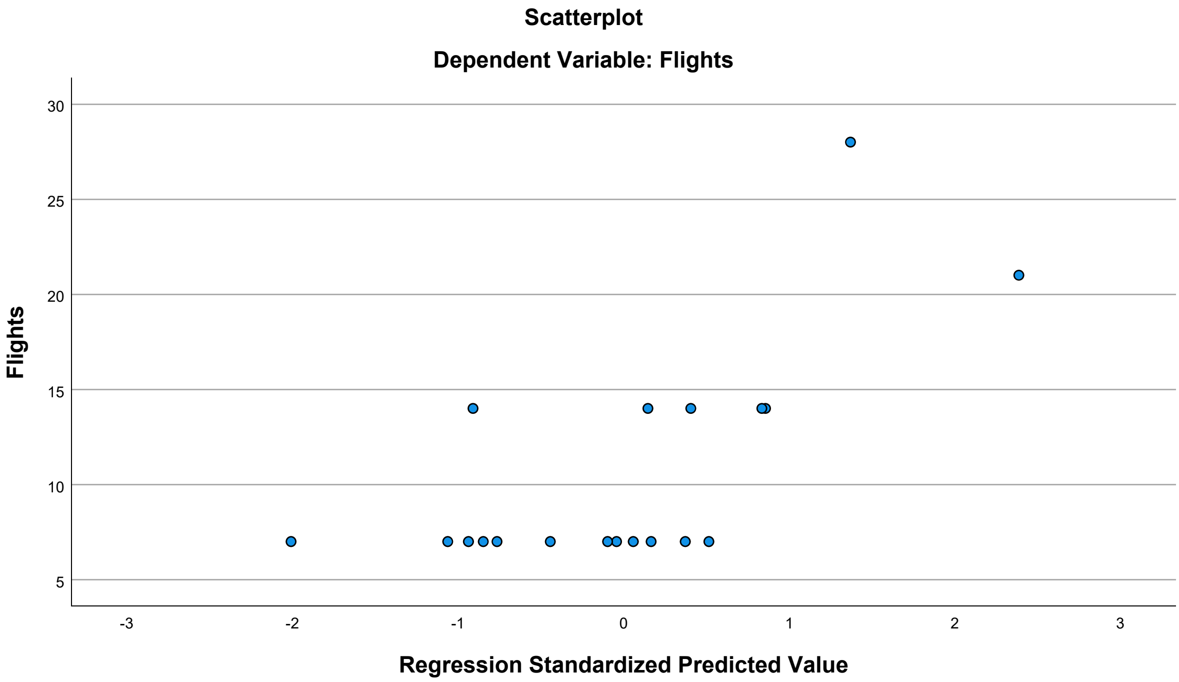
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.70	20.17	10.68	3.973	19
Residual	-5.730	11.873	.000	4.346	19
Std. Predicted Value	-2.008	2.387	.000	1.000	19
Std. Residual	-.983	2.036	.000	.745	19

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
30
25
20
15
10
5
-3
-2
-1
0
1
2
3

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.68	5.888	19
HomeConcentration	3.9717507895	2.2542338020	19
GLHR	.37	.496	19
GJFK	.05	.229	19
PartnerConcentration	1.7238244211	1.7288571484	19
Distance	4.23016	.736689	19
Ethnicity	.62132316	.590768258	19
Urban	19.79	2.507	19

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.161	.442	.136
	HomeConcentration	.161	1.000	-.403	-.389
	GLHR	.442	-.403	1.000	.309
	GJFK	.136	-.389	.309	1.000
	PartnerConcentration	.163	.032	-.085	-.026
	Distance	-.216	.182	-.157	-.255
	Ethnicity	.358	.158	.103	.204
	Urban	.240	-.116	.647	.407
Sig. (1-tailed)	Flights	.	.255	.029	.289
	HomeConcentration	.255	.	.044	.050
	GLHR	.029	.044	.	.099
	GJFK	.289	.050	.099	.
	PartnerConcentration	.252	.449	.365	.457
	Distance	.187	.228	.261	.146
	Ethnicity	.066	.258	.337	.201
	Urban	.161	.318	.001	.042
N	Flights	19	19	19	19
	HomeConcentration	19	19	19	19
	GLHR	19	19	19	19
	GJFK	19	19	19	19
	PartnerConcentration	19	19	19	19
	Distance	19	19	19	19
	Ethnicity	19	19	19	19
	Urban	19	19	19	19

Correlations

		PartnerConcentration	Distance	Ethnicity	Urban
Pearson Correlation	Flights	.163	-.216	.358	.240
	HomeConcentration	.032	.182	.158	-.116
	GLHR	-.085	-.157	.103	.647
	GJFK	-.026	-.255	.204	.407
	PartnerConcentration	1.000	.235	.665	-.094
	Distance	.235	1.000	-.169	.114
	Ethnicity	.665	-.169	1.000	-.030
	Urban	-.094	.114	-.030	1.000
Sig. (1-tailed)	Flights	.252	.187	.066	.161
	HomeConcentration	.449	.228	.258	.318
	GLHR	.365	.261	.337	.001
	GJFK	.457	.146	.201	.042
	PartnerConcentration	.	.166	.001	.352
	Distance	.166	.	.245	.321
	Ethnicity	.001	.245	.	.451
	Urban	.352	.321	.451	.
N	Flights	19	19	19	19
	HomeConcentration	19	19	19	19
	GLHR	19	19	19	19
	GJFK	19	19	19	19
	PartnerConcentration	19	19	19	19
	Distance	19	19	19	19
	Ethnicity	19	19	19	19
	Urban	19	19	19	19

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, HomeConcentration, Distance, GJFK, GLHR, PartnerConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.675[a]	.455	.108	5.560	.455	1.312

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	7	11	.330

a. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Distance, GJFK, GLHR, PartnerConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	284.009	7	40.573	1.312	.330[b]
	Residual	340.097	11	30.918		
	Total	624.105	18			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Distance, GJFK, GLHR, PartnerConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	16.431	15.209		1.080	.303
	HomeConcentration	1.410	.832	.540	1.694	.118
	GLHR	8.627	4.401	.726	1.960	.076
	GJFK	4.216	7.912	.164	.533	.605
	PartnerConcentration	1.022	1.281	.300	.798	.442
	Distance	-1.775	2.232	-.222	-.796	.443
	Ethnicity	-.786	4.046	-.079	-.194	.849
	Urban	-.430	.854	-.183	-.503	.625

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.488	2.050
	GLHR	.361	2.769
	GJFK	.521	1.918
	PartnerConcentration	.350	2.854
	Distance	.636	1.573
	Ethnicity	.301	3.327
	Urban	.374	2.672

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	5.482	1.000	.00	.00	.00
	2	1.133	2.200	.00	.01	.04
	3	.651	2.903	.00	.00	.08
	4	.457	3.463	.00	.03	.22
	5	.196	5.283	.00	.15	.02
	6	.066	9.087	.01	.66	.17
	7	.012	21.722	.11	.00	.03
	8	.003	40.150	.87	.15	.45

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00
	2	.30	.00	.00	.00	.00
	3	.04	.08	.00	.06	.00
	4	.23	.04	.00	.02	.00
	5	.00	.24	.01	.23	.00
	6	.18	.41	.01	.42	.00
	7	.03	.18	.98	.14	.07
	8	.22	.04	.00	.13	.93

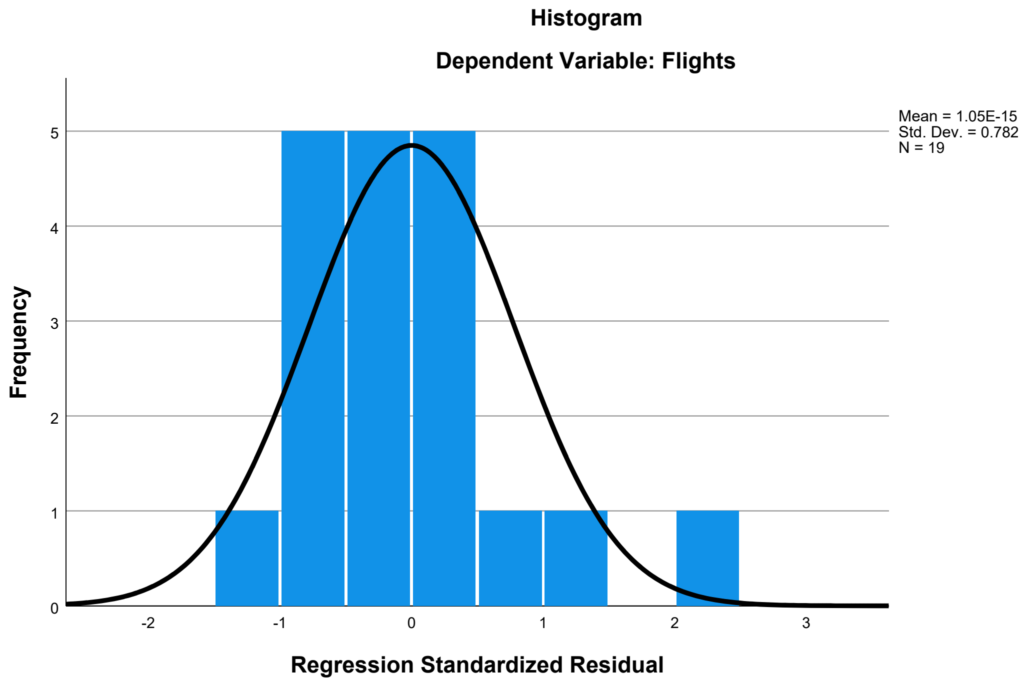
a. Dependent Variable: Flights

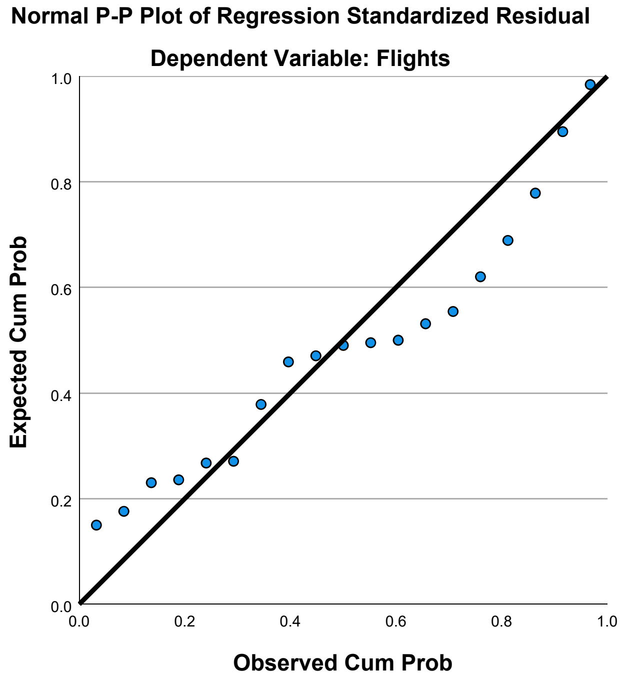
Residuals Statistics[a]

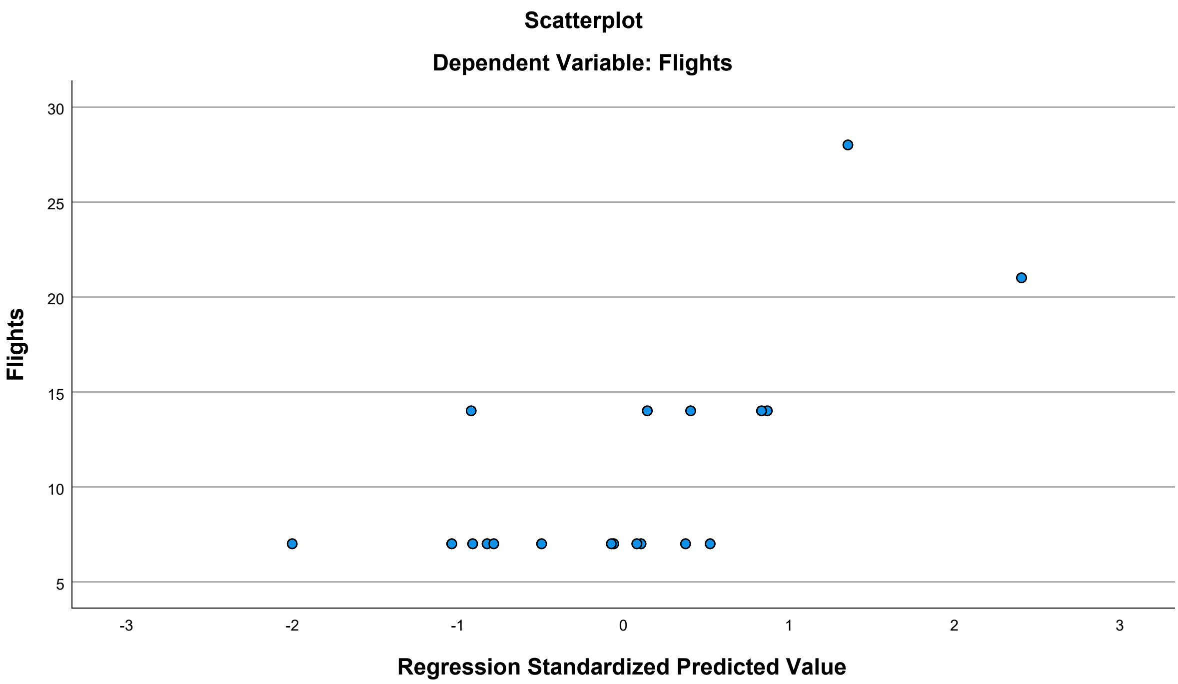
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.73	20.24	10.68	3.972	19
Residual	-5.766	11.928	.000	4.347	19
Std. Predicted Value	-2.001	2.405	.000	1.000	19
Std. Residual	-1.037	2.145	.000	.782	19

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
5
10
15
20
25
30
-3
-2
-1
0
1
2
3

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.68	5.888	19
HomeConcentration	3.9717507895	2.2542338020	19
GLHR	.37	.496	19
GJFK	.05	.229	19
PartnerConcentration	1.7238244211	1.7288571484	19
Distance	4.23016	.736689	19
Urban	19.79	2.507	19

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.161	.442	.136
	HomeConcentration	.161	1.000	-.403	-.389
	GLHR	.442	-.403	1.000	.309
	GJFK	.136	-.389	.309	1.000
	PartnerConcentration	.163	.032	-.085	-.026
	Distance	-.216	.182	-.157	-.255
	Urban	.240	-.116	.647	.407
Sig. (1-tailed)	Flights	.	.255	.029	.289
	HomeConcentration	.255	.	.044	.050
	GLHR	.029	.044	.	.099
	GJFK	.289	.050	.099	.
	PartnerConcentration	.252	.449	.365	.457
	Distance	.187	.228	.261	.146
	Urban	.161	.318	.001	.042
N	Flights	19	19	19	19
	HomeConcentration	19	19	19	19
	GLHR	19	19	19	19
	GJFK	19	19	19	19
	PartnerConcentration	19	19	19	19
	Distance	19	19	19	19
	Urban	19	19	19	19

Correlations

		PartnerConcentration	Distance	Urban
Pearson Correlation	Flights	.163	-.216	.240
	HomeConcentration	.032	.182	-.116
	GLHR	-.085	-.157	.647
	GJFK	-.026	-.255	.407
	PartnerConcentration	1.000	.235	-.094
	Distance	.235	1.000	.114
	Urban	-.094	.114	1.000
Sig. (1-tailed)	Flights	.252	.187	.161
	HomeConcentration	.449	.228	.318
	GLHR	.365	.261	.001
	GJFK	.457	.146	.042
	PartnerConcentration	.	.166	.352
	Distance	.166	.	.321
	Urban	.352	.321	.
N	Flights	19	19	19
	HomeConcentration	19	19	19
	GLHR	19	19	19
	GJFK	19	19	19
	PartnerConcentration	19	19	19
	Distance	19	19	19
	Urban	19	19	19

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, HomeConcentration, Distance, GJFK, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.673[a]	.453	.180	5.333	.453	1.658

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	12	.215

a. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, GJFK, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	282.841	6	47.140	1.658	.215[b]
	Residual	341.264	12	28.439		
	Total	624.105	18			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, GJFK, GLHR

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	15.223	13.312		1.144	.275
	HomeConcentration	1.324	.677	.507	1.956	.074
	GLHR	8.298	3.896	.698	2.130	.055
	GJFK	3.592	6.936	.140	.518	.614
	PartnerConcentration	.826	.759	.243	1.088	.298
	Distance	-1.614	1.987	-.202	-.812	.432
	Urban	-.386	.790	-.164	-.489	.634

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.678	1.475
	GLHR	.424	2.360
	GJFK	.624	1.602
	PartnerConcentration	.916	1.091
	Distance	.737	1.356
	Urban	.402	2.485

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	4.805	1.000	.00	.01	.01
	2	1.131	2.061	.00	.01	.04
	3	.532	3.004	.00	.00	.27
	4	.402	3.456	.00	.06	.08
	5	.112	6.549	.01	.84	.15
	6	.014	18.780	.17	.03	.06
	7	.004	35.276	.82	.06	.40

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Urban
1	1	.00	.01	.00	.00
	2	.36	.01	.00	.00
	3	.26	.19	.00	.00
	4	.07	.69	.00	.00
	5	.06	.05	.03	.00
	6	.10	.04	.93	.04
	7	.15	.02	.04	.95

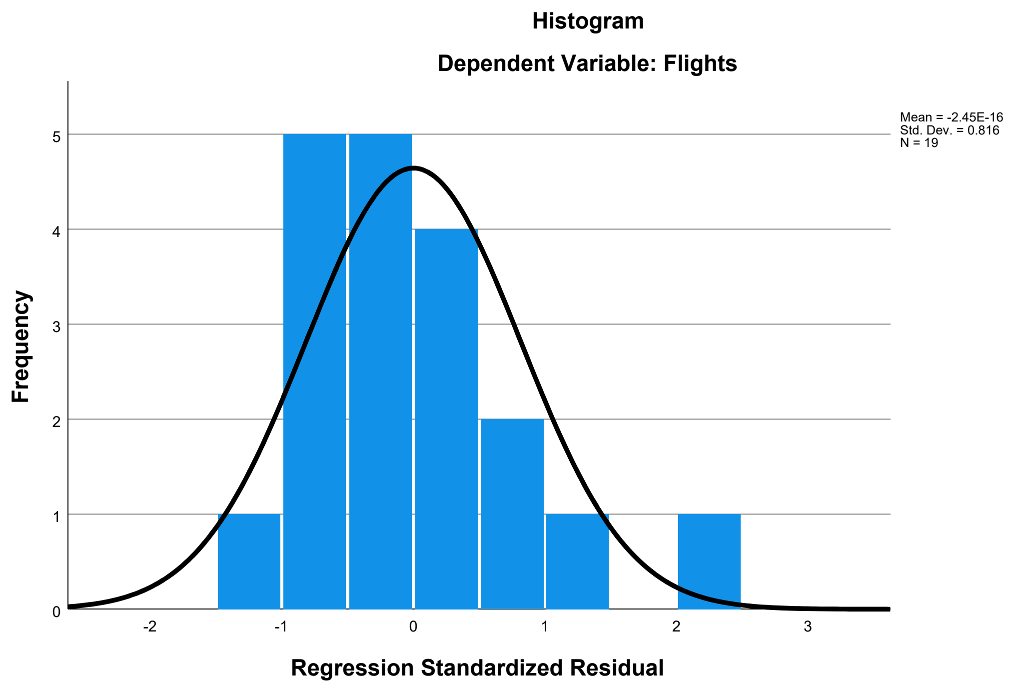
a. Dependent Variable: Flights

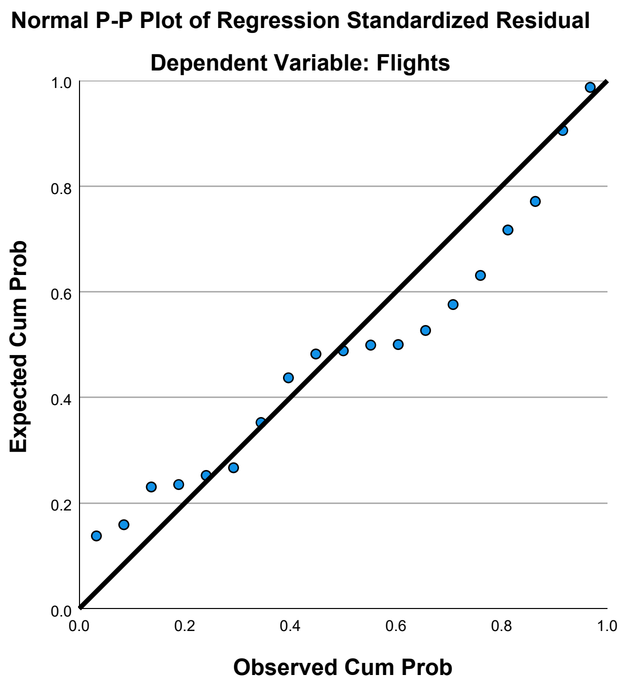
Residuals Statistics[a]

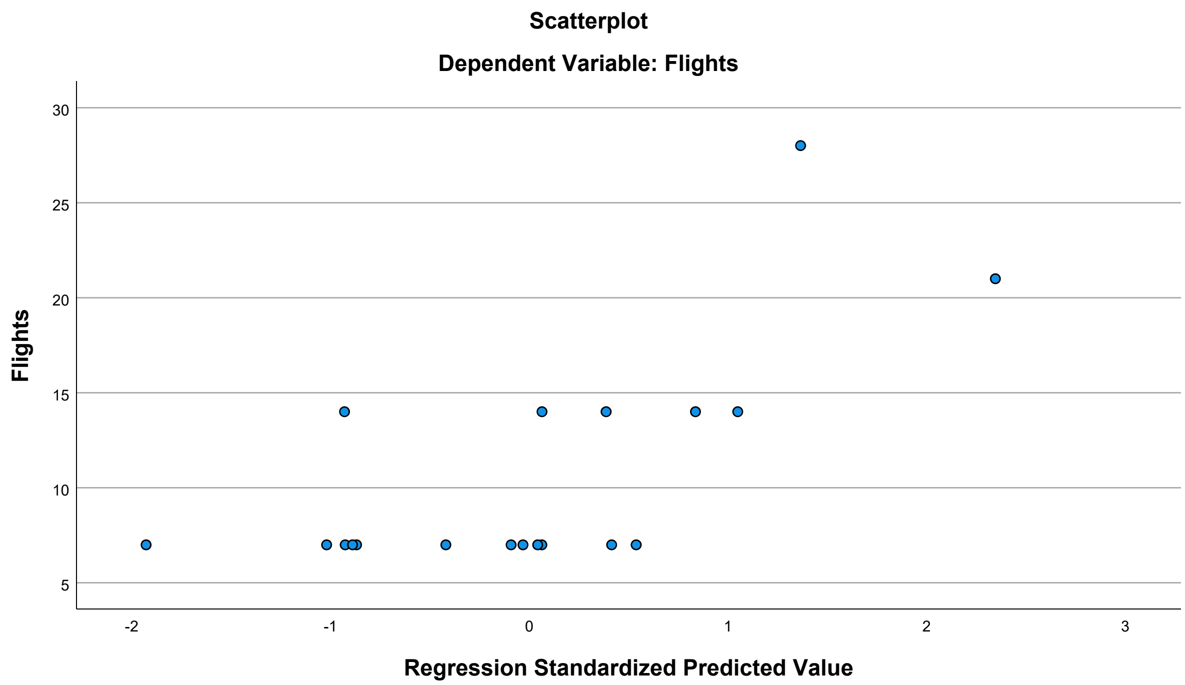
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.04	19.98	10.68	3.964	19
Residual	-5.817	11.904	.000	4.354	19
Std. Predicted Value	-1.928	2.345	.000	1.000	19
Std. Residual	-1.091	2.232	.000	.816	19

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -2.45E-16
Std. Dev. = 0.816
N = 19
Frequency
0
1
2
3
4
5
-2
-1
0
1
2
3
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.68	5.888	19
HomeConcentration	3.9717507895	2.2542338020	19
GLHR	.37	.496	19
PartnerConcentration	1.7238244211	1.7288571484	19
Distance	4.23016	.736689	19
Urban	19.79	2.507	19

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.161	.442	.163
	HomeConcentration	.161	1.000	-.403	.032
	GLHR	.442	-.403	1.000	-.085
	PartnerConcentration	.163	.032	-.085	1.000
	Distance	-.216	.182	-.157	.235
	Urban	.240	-.116	.647	-.094
Sig. (1-tailed)	Flights	.	.255	.029	.252
	HomeConcentration	.255	.	.044	.449
	GLHR	.029	.044	.	.365
	PartnerConcentration	.252	.449	.365	.
	Distance	.187	.228	.261	.166
	Urban	.161	.318	.001	.352
N	Flights	19	19	19	19
	HomeConcentration	19	19	19	19
	GLHR	19	19	19	19
	PartnerConcentration	19	19	19	19
	Distance	19	19	19	19
	Urban	19	19	19	19

Correlations

		Distance	Urban
Pearson Correlation	Flights	-.216	.240
	HomeConcentration	.182	-.116
	GLHR	-.157	.647
	PartnerConcentration	.235	-.094
	Distance	1.000	.114
	Urban	.114	1.000
Sig. (1-tailed)	Flights	.187	.161
	HomeConcentration	.228	.318
	GLHR	.261	.001
	PartnerConcentration	.166	.352
	Distance	.	.321
	Urban	.321	.
N	Flights	19	19
	HomeConcentration	19	19
	GLHR	19	19
	PartnerConcentration	19	19
	Distance	19	19
	Urban	19	19

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, HomeConcentration, Distance, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.664[a]	.441	.226	5.181	.441	2.051

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	5	13	.138

a. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	275.211	5	55.042	2.051	.138[b]
	Residual	348.894	13	26.838		
	Total	624.105	18			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, GLHR

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	13.800	12.654		1.091	.295
	HomeConcentration	1.189	.607	.455	1.959	.072
	GLHR	7.881	3.703	.663	2.128	.053
	PartnerConcentration	.870	.733	.255	1.186	.257
	Distance	-1.965	1.815	-.246	-1.083	.299
	Urban	-.199	.682	-.085	-.291	.776

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.797	1.255
	GLHR	.443	2.259
	PartnerConcentration	.928	1.078
	Distance	.834	1.199
	Urban	.509	1.964

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	4.742	1.000	.00	.01	.01
	2	.699	2.604	.00	.03	.31
	3	.419	3.365	.00	.07	.01
	4	.120	6.289	.01	.88	.22
	5	.015	17.538	.12	.00	.10
	6	.005	32.394	.87	.01	.35

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Distance	Urban
1	1	.01	.00	.00
	2	.06	.00	.00
	3	.83	.00	.00
	4	.05	.03	.00
	5	.04	.97	.07
	6	.01	.00	.92

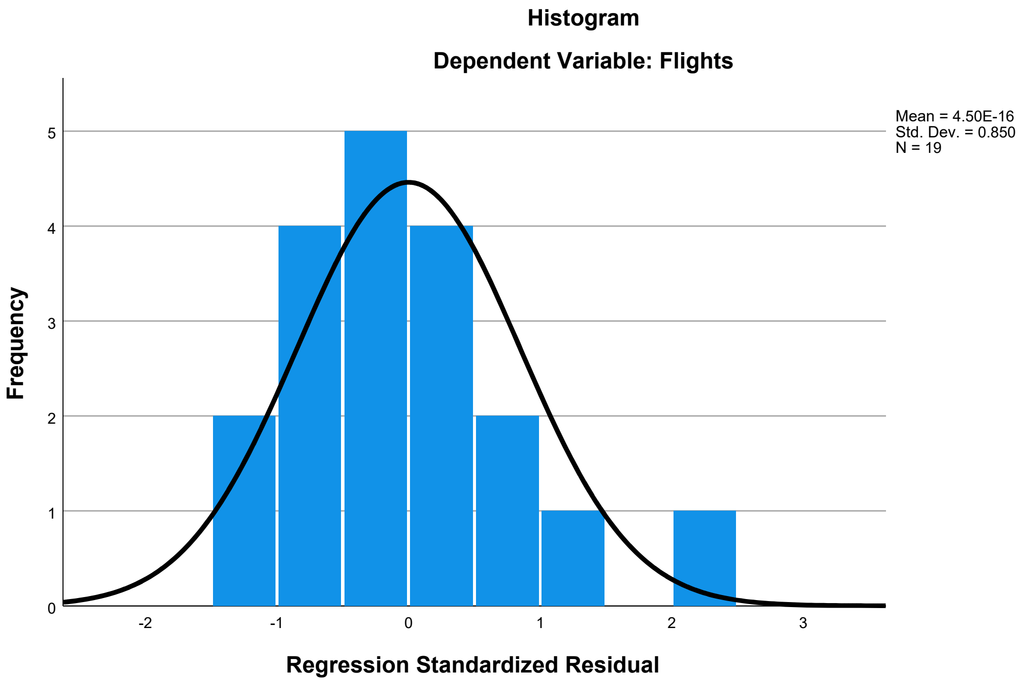
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.16	19.92	10.68	3.910	19
Residual	-6.397	11.715	.000	4.403	19
Std. Predicted Value	-1.925	2.363	.000	1.000	19
Std. Residual	-1.235	2.261	.000	.850	19

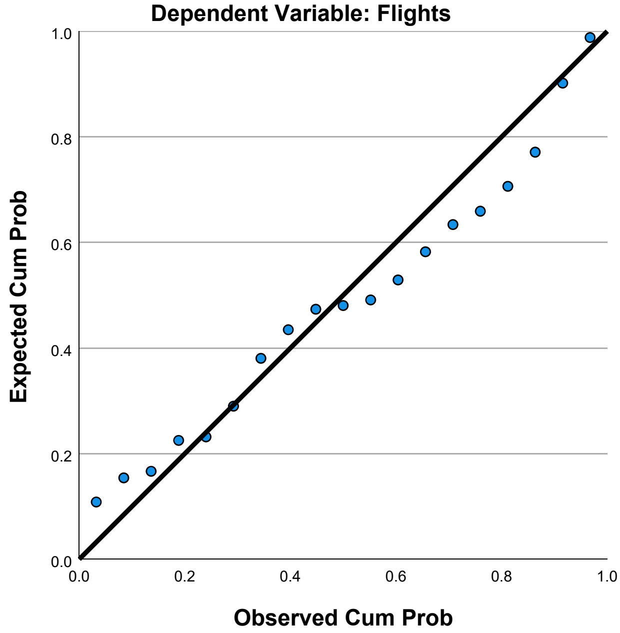
a. Dependent Variable: Flights

Charts



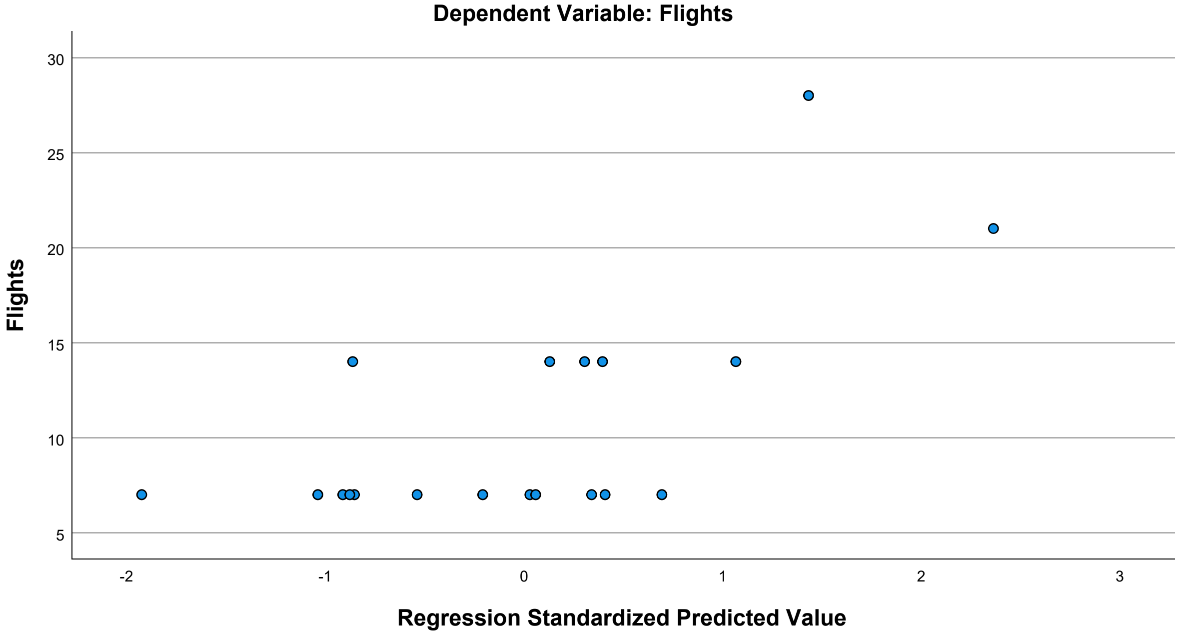
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.68	5.888	19
HomeConcentration	3.9717507895	2.2542338020	19
GLHR	.37	.496	19
PartnerConcentration	1.7238244211	1.7288571484	19
Distance	4.23016	.736689	19

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.161	.442	.163
	HomeConcentration	.161	1.000	-.403	.032
	GLHR	.442	-.403	1.000	-.085
	PartnerConcentration	.163	.032	-.085	1.000
	Distance	-.216	.182	-.157	.235
Sig. (1-tailed)	Flights	.	.255	.029	.252
	HomeConcentration	.255	.	.044	.449
	GLHR	.029	.044	.	.365
	PartnerConcentration	.252	.449	.365	.
	Distance	.187	.228	.261	.166
N	Flights	19	19	19	19
	HomeConcentration	19	19	19	19
	GLHR	19	19	19	19
	PartnerConcentration	19	19	19	19
	Distance	19	19	19	19

Correlations

		Distance
Pearson Correlation	Flights	-.216
	HomeConcentration	.182
	GLHR	-.157
	PartnerConcentration	.235
	Distance	1.000
Sig. (1-tailed)	Flights	.187
	HomeConcentration	.228
	GLHR	.261
	PartnerConcentration	.166
	Distance	.
N	Flights	19
	HomeConcentration	19
	GLHR	19
	PartnerConcentration	19
	Distance	19

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Distance, GLHR, PartnerConcentration, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.661[a]	.437	.277	5.008	.437	2.720

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	4	14	.073

a. Predictors: (Constant), Distance, GLHR, PartnerConcentration, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	272.937	4	68.234	2.720	.073[b]
	Residual	351.168	14	25.083		
	Total	624.105	18			

a. Dependent Variable: Flights

b. Predictors: (Constant), Distance, GLHR, PartnerConcentration, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	10.860	7.367		1.474	.163
	HomeConcentration	1.158	.578	.443	2.005	.065
	GLHR	7.146	2.619	.601	2.729	.016
	PartnerConcentration	.895	.704	.263	1.272	.224
	Distance	-2.116	1.681	-.265	-1.259	.229

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.822	1.216
	GLHR	.827	1.209
	PartnerConcentration	.941	1.063
	Distance	.909	1.100

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	3.775	1.000	.00	.01	.02
	2	.696	2.328	.00	.03	.61
	3	.406	3.048	.00	.09	.01
	4	.109	5.891	.04	.87	.32
	5	.013	16.988	.95	.00	.05

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Distance
1	1	.02	.00
	2	.05	.00
	3	.83	.00
	4	.08	.05
	5	.02	.94

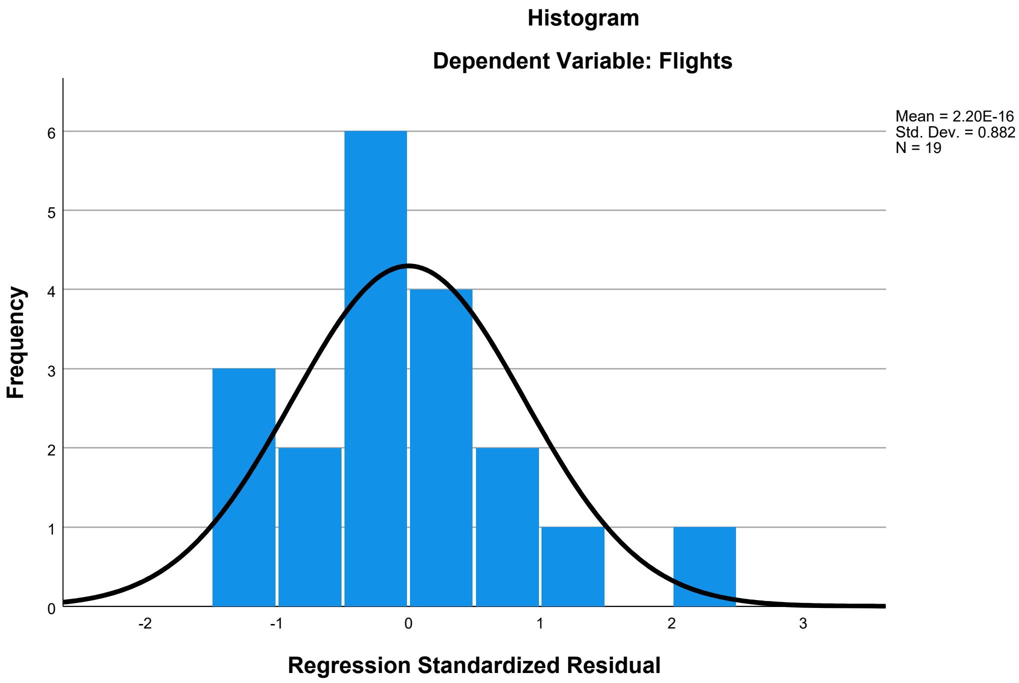
a. Dependent Variable: Flights

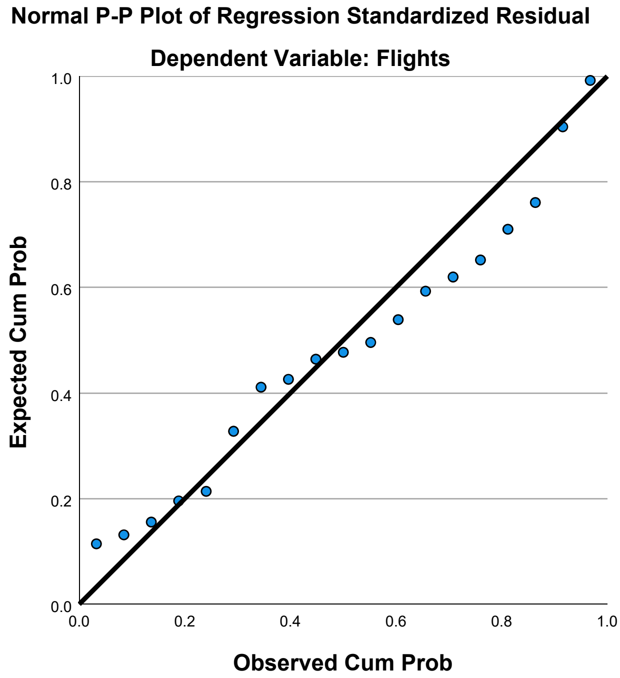
Residuals Statistics[a]

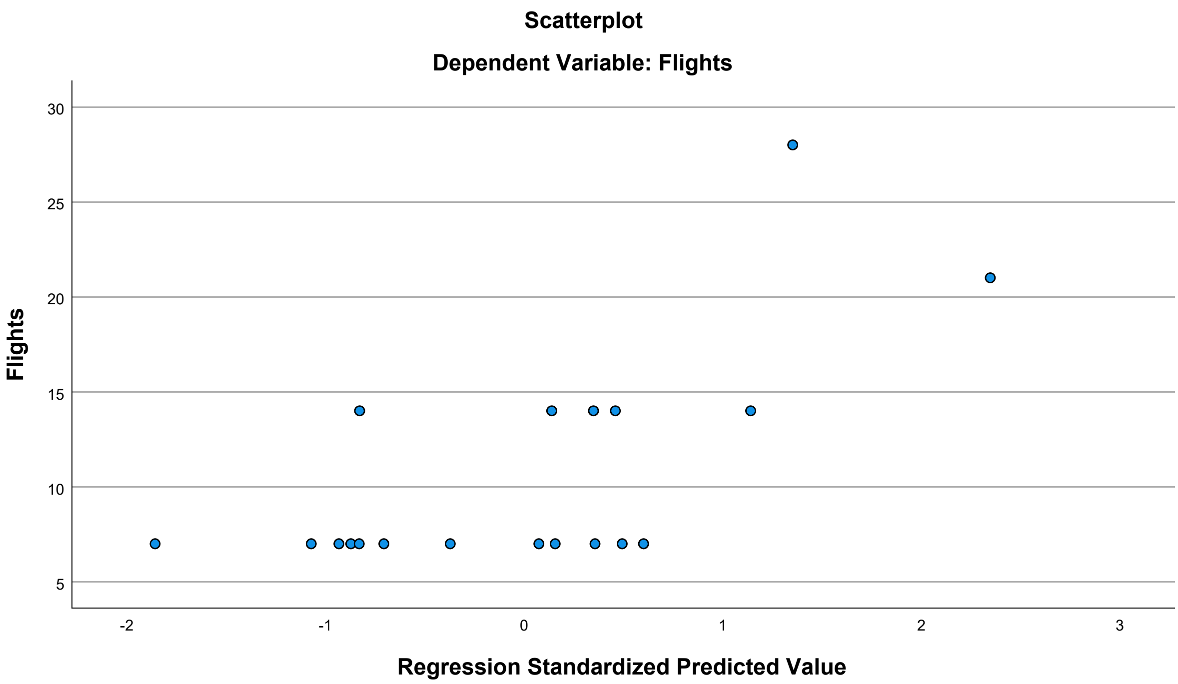
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.45	19.82	10.68	3.894	19
Residual	-6.026	12.049	.000	4.417	19
Std. Predicted Value	-1.858	2.347	.000	1.000	19
Std. Residual	-1.203	2.406	.000	.882	19

a. Dependent Variable: Flights

Charts







Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.68	5.888	19
HomeConcentration	3.9717507895	2.2542338020	19
GLHR	.37	.496	19
PartnerConcentration	1.7238244211	1.7288571484	19

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.161	.442	.163
	HomeConcentration	.161	1.000	-.403	.032
	GLHR	.442	-.403	1.000	-.085
	PartnerConcentration	.163	.032	-.085	1.000
Sig. (1-tailed)	Flights	.	.255	.029	.252
	HomeConcentration	.255	.	.044	.449
	GLHR	.029	.044	.	.365
	PartnerConcentration	.252	.449	.365	.
N	Flights	19	19	19	19
	HomeConcentration	19	19	19	19
	GLHR	19	19	19	19
	PartnerConcentration	19	19	19	19

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	PartnerConcentration, HomeConcentration, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.611[a]	.374	.248	5.105	.374	2.983

Model Summary[b]

	Change Statistics		
Model	df1	df2	Sig. F Change
1	3	15	.065

a. Predictors: (Constant), PartnerConcentration, HomeConcentration, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	233.193	3	77.731	2.983	.065[b]
	Residual	390.912	15	26.061		
	Total	624.105	18			

a. Dependent Variable: Flights

b. Predictors: (Constant), PartnerConcentration, HomeConcentration, GLHR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.557	3.343		.765	.456
	HomeConcentration	1.059	.583	.405	1.816	.089
	GLHR	7.398	2.661	.623	2.780	.014
	PartnerConcentration	.693	.699	.204	.992	.337

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.838	1.194
	GLHR	.832	1.201
	PartnerConcentration	.993	1.007

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	GLHR
1	1	2.837	1.000	.01	.02	.03
	2	.693	2.023	.00	.03	.59
	3	.393	2.688	.02	.14	.00
	4	.078	6.045	.97	.80	.37

Collinearity Diagnostics[a]

Model	Dimension	Variance ... PartnerConcentration
1	1	.04
	2	.07
	3	.81
	4	.09

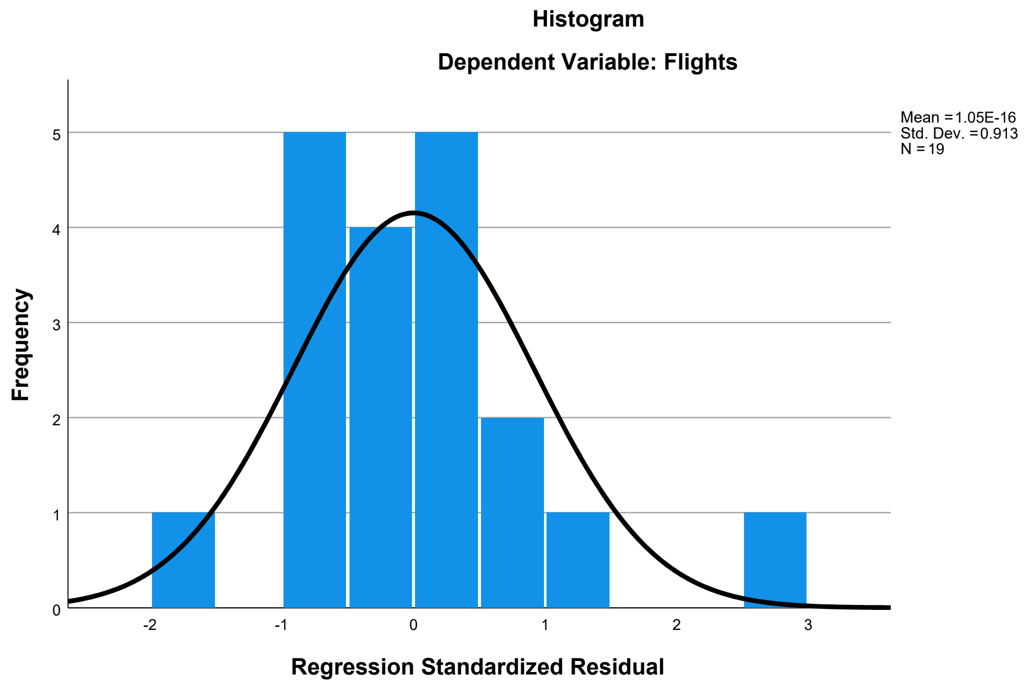
a. Dependent Variable: Flights

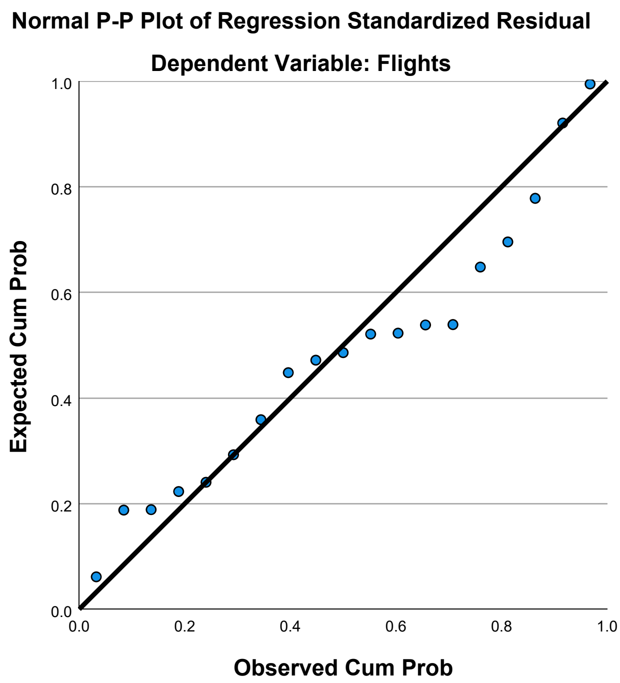
Residuals Statistics[a]

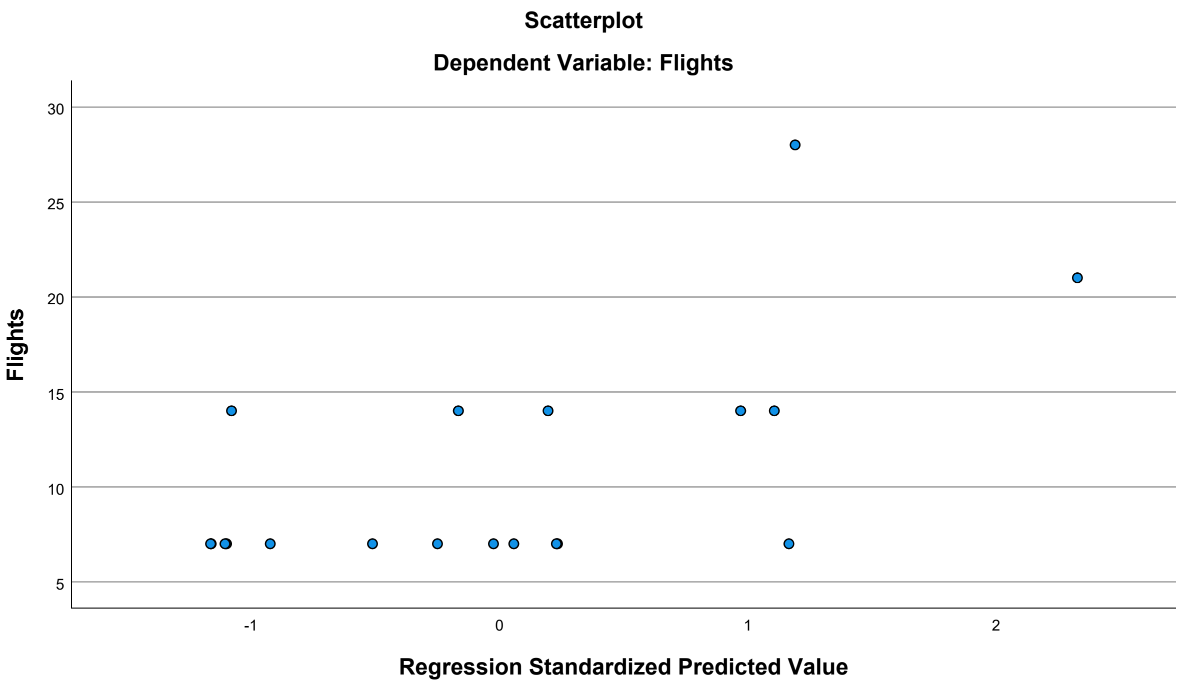
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6.50	19.06	10.68	3.599	19
Residual	-7.880	13.030	.000	4.660	19
Std. Predicted Value	-1.163	2.327	.000	1.000	19
Std. Residual	-1.544	2.552	.000	.913	19

a. Dependent Variable: Flights

Charts







Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.68	5.888	19
HomeConcentration	3.9717507895	2.2542338020	19
GLHR	.37	.496	19

Correlations

		Flights	HomeConcentration	GLHR
Pearson Correlation	Flights	1.000	.161	.442
	HomeConcentration	.161	1.000	-.403
	GLHR	.442	-.403	1.000
Sig. (1-tailed)	Flights	.	.255	.029
	HomeConcentration	.255	.	.044
	GLHR	.029	.044	.
N	Flights	19	19	19
	HomeConcentration	19	19	19
	GLHR	19	19	19

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	GLHR, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.577[a]	.333	.249	5.103	.333	3.985

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	2	16	.039

a. Predictors: (Constant), GLHR, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	207.526	2	103.763	3.985	.039[b]
	Residual	416.579	16	26.036		
	Total	624.105	18			

a. Dependent Variable: Flights

b. Predictors: (Constant), GLHR, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.836	3.084		1.244	.231
	HomeConcentration	1.057	.583	.405	1.814	.088
	GLHR	7.189	2.652	.605	2.711	.015

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.838	1.194
	GLHR	.838	1.194

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions GLHR
1	1	2.262	1.000	.03	.03	.06
	2	.654	1.860	.01	.08	.57
	3	.084	5.203	.97	.89	.38

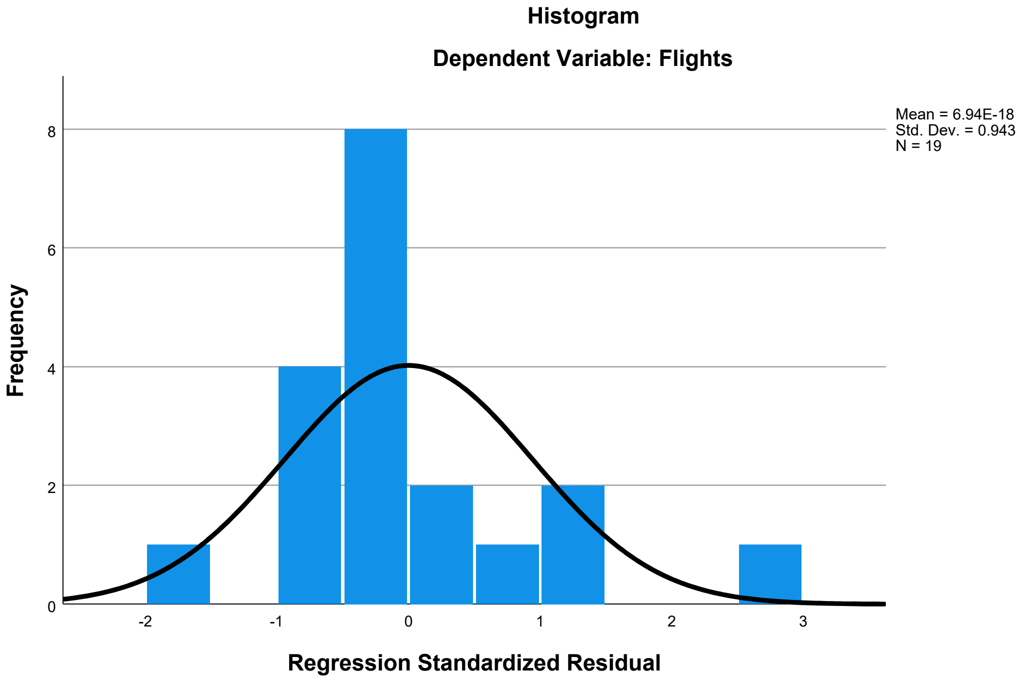
a. Dependent Variable: Flights

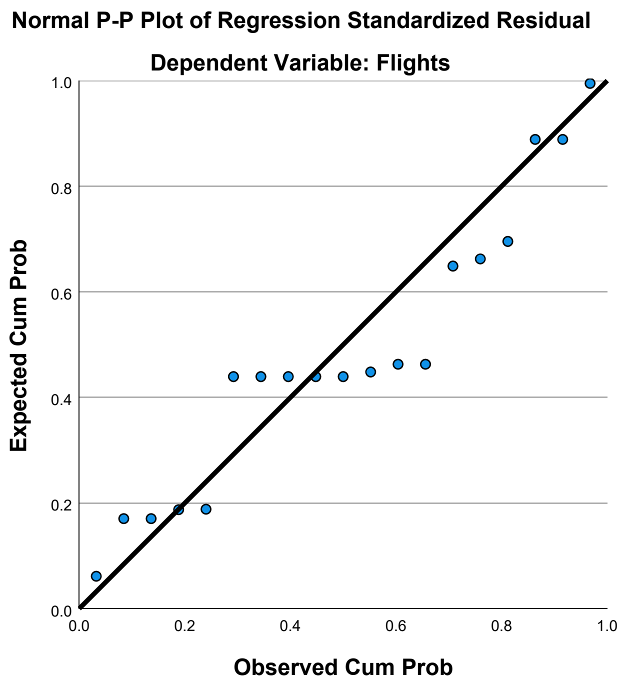
Residuals Statistics[a]

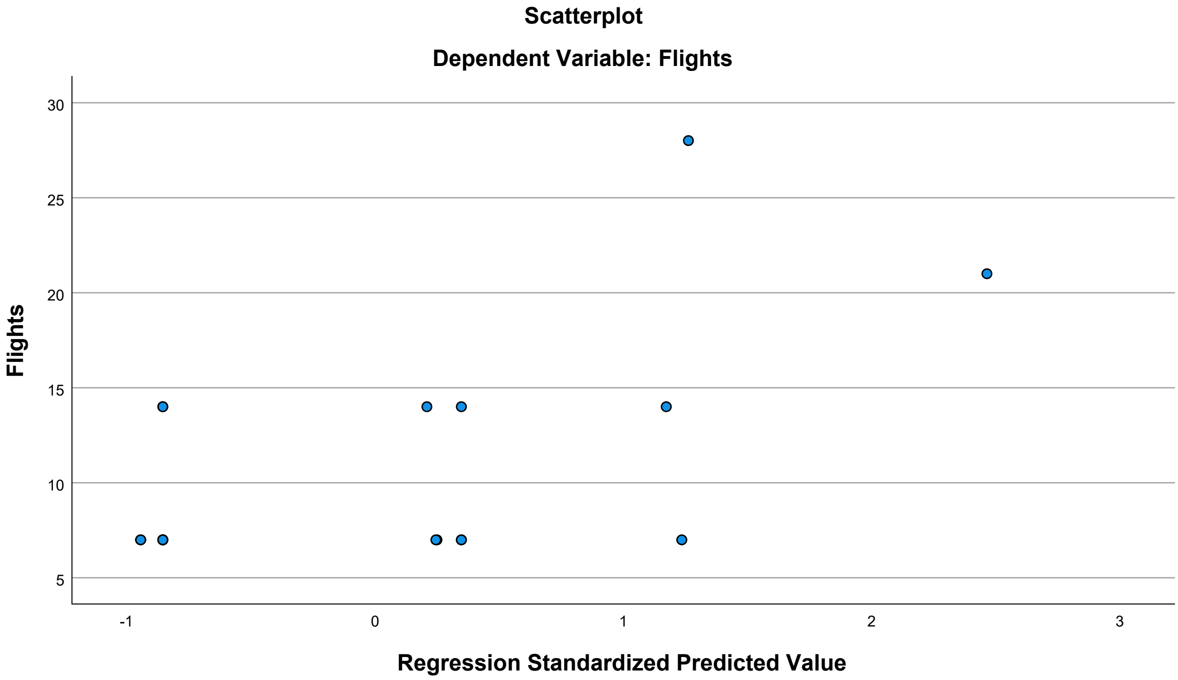
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	7.48	19.05	10.68	3.395	19
Residual	-7.878	13.032	.000	4.811	19
Std. Predicted Value	-.945	2.464	.000	1.000	19
Std. Residual	-1.544	2.554	.000	.943	19

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 6.94E-18
Std. Dev. = 0.943
N = 19
Frequency
0
2
4
6
8
-2
-1
0
1
2
3
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
30
25
20
15
10
5
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

```
[DataSet34] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
\2007 - UA.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GJFK. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.88	6.800	17
HomeConcentration	2.95195600	.971042806	17
Congestion	4.65	1.115	17
GLHR	.24	.437	17
GJFK	.00	.000	17
PartnerConcentration	1.9934732941	2.2207304107	17
Seasonality	.54341736695	.12520824324	17
Distance	4.47835	.799639	17
Language	1.37485341	2.780470819	17
Ethnicity	.64919524	.788766564	17
Urban	18.12	3.219	17

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	-.029	.176	.556
	HomeConcentration	-.029	1.000	.830	.148
	Congestion	.176	.830	1.000	.181
	GLHR	.556	.148	.181	1.000
	GJFK	.	.	.	.
	PartnerConcentration	.361	.061	.236	-.143
	Seasonality	-.015	-.262	-.139	-.117
	Distance	-.291	-.078	-.270	.088
	Language	.599	.282	.234	.896
	Ethnicity	.273	.498	.473	-.004
	Urban	.380	.603	.848	.512
Sig. (1-tailed)	Flights	.	.456	.250	.010
	HomeConcentration	.456	.	.000	.285
	Congestion	.250	.000	.	.243
	GLHR	.010	.285	.243	.
	GJFK	.000	.000	.000	.000
	PartnerConcentration	.077	.409	.181	.293
	Seasonality	.478	.155	.297	.328
	Distance	.128	.383	.147	.368
	Language	.006	.136	.183	.000
	Ethnicity	.145	.021	.028	.493
	Urban	.066	.005	.000	.018
N	Flights	17	17	17	17
	HomeConcentration	17	17	17	17
	Congestion	17	17	17	17
	GLHR	17	17	17	17
	GJFK	17	17	17	17
	PartnerConcentration	17	17	17	17
	Seasonality	17	17	17	17
	Distance	17	17	17	17
	Language	17	17	17	17
	Ethnicity	17	17	17	17
	Urban	17	17	17	17

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.	.361	-.015	-.291
	HomeConcentration	.	.061	-.262	-.078
	Congestion	.	.236	-.139	-.270
	GLHR	.	-.143	-.117	.088
	GJFK	1.000	.	.	.
	PartnerConcentration	.	1.000	-.096	.083
	Seasonality	.	-.096	1.000	.090
	Distance	.	.083	.090	1.000
	Language	.	-.124	-.104	-.071
	Ethnicity	.	.677	-.145	-.105
	Urban	.	.155	-.287	-.326
Sig. (1-tailed)	Flights	.000	.077	.478	.128
	HomeConcentration	.000	.409	.155	.383
	Congestion	.000	.181	.297	.147
	GLHR	.000	.293	.328	.368
	GJFK	.	.000	.000	.000
	PartnerConcentration	.000	.	.357	.376
	Seasonality	.000	.357	.	.366
	Distance	.000	.376	.366	.
	Language	.000	.318	.345	.394
	Ethnicity	.000	.001	.290	.344
	Urban	.000	.277	.132	.101
N	Flights	17	17	17	17
	HomeConcentration	17	17	17	17
	Congestion	17	17	17	17
	GLHR	17	17	17	17
	GJFK	17	17	17	17
	PartnerConcentration	17	17	17	17
	Seasonality	17	17	17	17
	Distance	17	17	17	17
	Language	17	17	17	17
	Ethnicity	17	17	17	17
	Urban	17	17	17	17

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.599	.273	.380
	HomeConcentration	.282	.498	.603
	Congestion	.234	.473	.848
	GLHR	.896	-.004	.512
	GJFK	.	.	.
	PartnerConcentration	-.124	.677	.155
	Seasonality	-.104	-.145	-.287
	Distance	-.071	-.105	-.326
	Language	1.000	.052	.481
	Ethnicity	.052	1.000	.260
	Urban	.481	.260	1.000
Sig. (1-tailed)	Flights	.006	.145	.066
	HomeConcentration	.136	.021	.005
	Congestion	.183	.028	.000
	GLHR	.000	.493	.018
	GJFK	.000	.000	.000
	PartnerConcentration	.318	.001	.277
	Seasonality	.345	.290	.132
	Distance	.394	.344	.101
	Language	.	.421	.025
	Ethnicity	.421	.	.156
	Urban	.025	.156	.
N	Flights	17	17	17
	HomeConcentration	17	17	17
	Congestion	17	17	17
	GLHR	17	17	17
	GJFK	17	17	17
	PartnerConcentration	17	17	17
	Seasonality	17	17	17
	Distance	17	17	17
	Language	17	17	17
	Ethnicity	17	17	17
	Urban	17	17	17

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Seasonality, Distance, Language, HomeConcentration, Ethnicity, GLHR, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	.863[a]	.744	.415	5.201	.744	2.261	9	7	.147

a. Predictors: (Constant), Urban, PartnerConcentration, Seasonality, Distance, Language, HomeConcentration, Ethnicity, GLHR, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	550.439	9	61.160	2.261	.147[b]
	Residual	189.326	7	27.047		
	Total	739.765	16			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Seasonality, Distance, Language, HomeConcentration, Ethnicity, GLHR, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	35.781	26.885		1.331	.225
	HomeConcentration	-1.604	4.987	-.229	-.322	.757
	Congestion	2.802	5.554	.459	.504	.629
	GLHR	11.036	13.551	.710	.814	.442
	PartnerConcentration	1.995	1.474	.652	1.354	.218
	Seasonality	.921	14.015	.017	.066	.949
	Distance	-4.153	3.220	-.488	-1.290	.238
	Language	.605	1.666	.248	.363	.727
	Ethnicity	-1.586	4.293	-.184	-.369	.723
	Urban	-1.185	1.822	-.561	-.650	.536

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.072	13.871
	Congestion	.044	22.674
	GLHR	.048	20.767
	PartnerConcentration	.158	6.338
	Seasonality	.549	1.822
	Distance	.255	3.923
	Language	.079	12.698
	Ethnicity	.147	6.782
	Urban	.049	20.336

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Congestion
1	1	7.441	1.000	.00	.00	.00
	2	1.423	2.287	.00	.00	.00
	3	.716	3.223	.00	.00	.00
	4	.213	5.910	.00	.00	.00
	5	.086	9.283	.00	.00	.00
	6	.069	10.381	.00	.01	.00
	7	.034	14.768	.00	.01	.01
	8	.014	23.077	.06	.10	.00
	9	.002	59.548	.13	.87	.41
	10	.001	101.328	.81	.00	.58

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions					
		GLHR	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.01	.01	.00	.00	.02	.00
	3	.00	.03	.00	.00	.00	.05
	4	.01	.18	.00	.00	.00	.11
	5	.15	.05	.00	.01	.24	.10
	6	.04	.02	.15	.00	.10	.07
	7	.01	.00	.15	.11	.03	.00
	8	.05	.08	.26	.00	.05	.11
	9	.32	.45	.19	.57	.44	.28
	10	.41	.17	.24	.31	.12	.27

Collinearity Diagnostics[a]

Model	Dimension	Variance ...
		Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.00
	8	.02
	9	.00
	10	.98

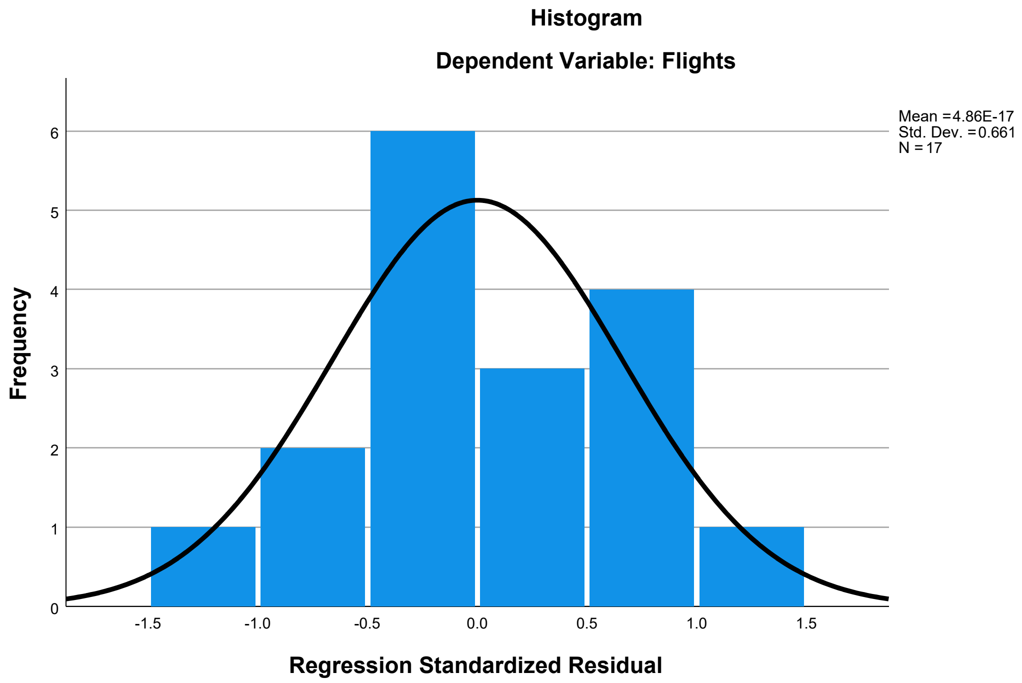
a. Dependent Variable: Flights

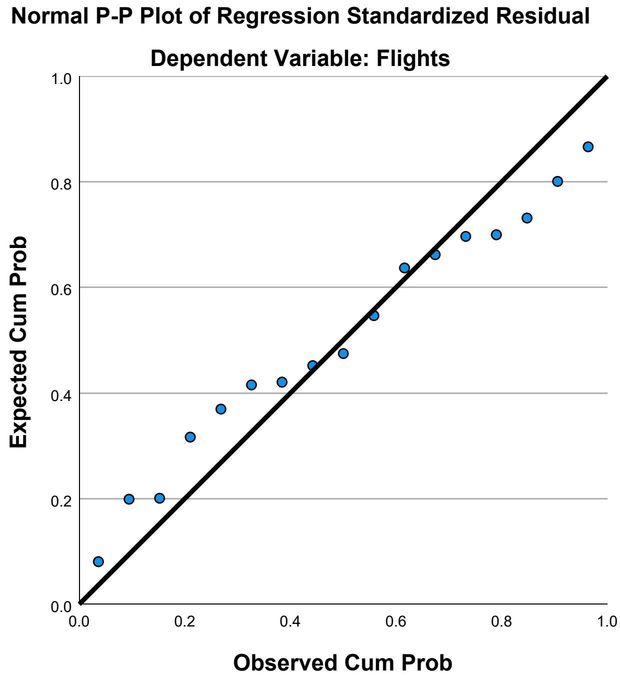
Residuals Statistics[a]

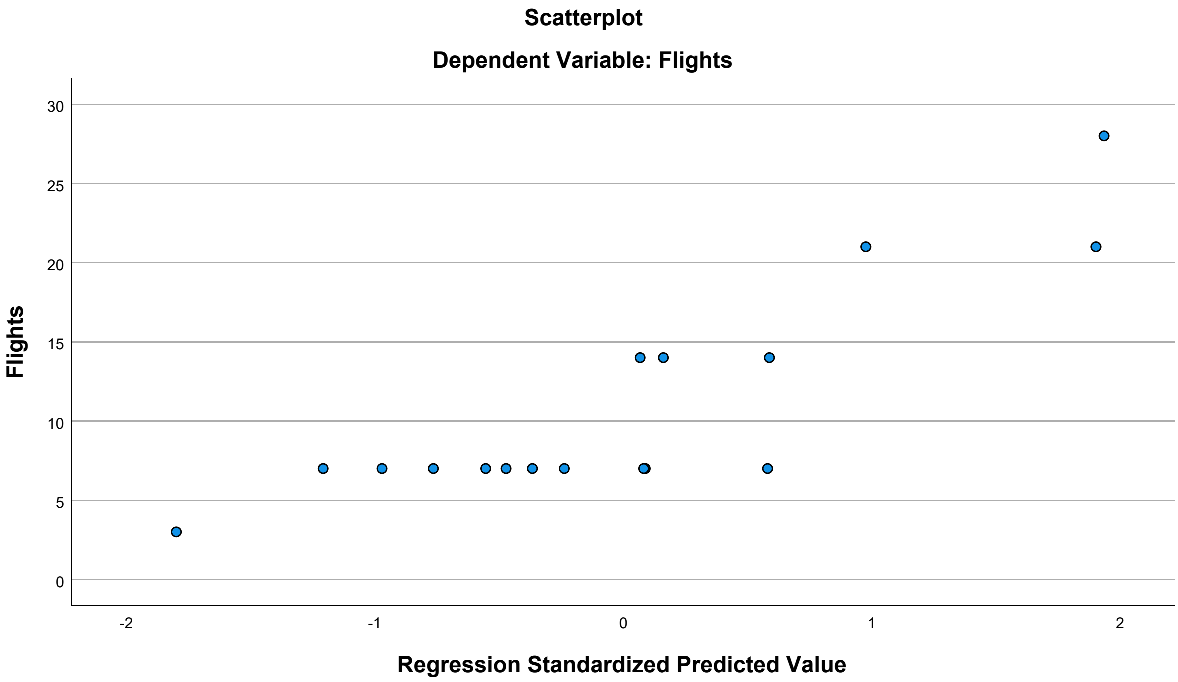
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.32	22.23	10.88	5.865	17
Residual	-7.287	5.768	.000	3.440	17
Std. Predicted Value	-1.800	1.935	.000	1.000	17
Std. Residual	-1.401	1.109	.000	.661	17

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GJFK. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.88	6.800	17
HomeConcentration	2.95195600	.971042806	17
GLHR	.24	.437	17
GJFK	.00	.000	17
PartnerConcentration	1.9934732941	2.2207304107	17
Seasonality	.54341736695	.12520824324	17
Distance	4.47835	.799639	17
Language	1.37485341	2.780470819	17
Ethnicity	.64919524	.788766564	17
Urban	18.12	3.219	17

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	-.029	.556	.
	HomeConcentration	-.029	1.000	.148	.
	GLHR	.556	.148	1.000	.
	GJFK	.	.	.	1.000
	PartnerConcentration	.361	.061	-.143	.
	Seasonality	-.015	-.262	-.117	.
	Distance	-.291	-.078	.088	.
	Language	.599	.282	.896	.
	Ethnicity	.273	.498	-.004	.
	Urban	.380	.603	.512	.
Sig. (1-tailed)	Flights	.	.456	.010	.000
	HomeConcentration	.456	.	.285	.000
	GLHR	.010	.285	.	.000
	GJFK	.000	.000	.000	.
	PartnerConcentration	.077	.409	.293	.000
	Seasonality	.478	.155	.328	.000
	Distance	.128	.383	.368	.000
	Language	.006	.136	.000	.000
	Ethnicity	.145	.021	.493	.000
	Urban	.066	.005	.018	.000
N	Flights	17	17	17	17
	HomeConcentration	17	17	17	17

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.361	-.015	-.291	.599
	HomeConcentration	.061	-.262	-.078	.282
	GLHR	-.143	-.117	.088	.896
	GJFK	.	.	.	.
	PartnerConcentration	1.000	-.096	.083	-.124
	Seasonality	-.096	1.000	.090	-.104
	Distance	.083	.090	1.000	-.071
	Language	-.124	-.104	-.071	1.000
	Ethnicity	.677	-.145	-.105	.052
	Urban	.155	-.287	-.326	.481
Sig. (1-tailed)	Flights	.077	.478	.128	.006
	HomeConcentration	.409	.155	.383	.136
	GLHR	.293	.328	.368	.000
	GJFK	.000	.000	.000	.000
	PartnerConcentration	.	.357	.376	.318
	Seasonality	.357	.	.366	.345
	Distance	.376	.366	.	.394
	Language	.318	.345	.394	.
	Ethnicity	.001	.290	.344	.421
	Urban	.277	.132	.101	.025
N	Flights	17	17	17	17
	HomeConcentration	17	17	17	17

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.273	.380
	HomeConcentration	.498	.603
	GLHR	-.004	.512
	GJFK	.	.
	PartnerConcentration	.677	.155
	Seasonality	-.145	-.287
	Distance	-.105	-.326
	Language	.052	.481
	Ethnicity	1.000	.260
	Urban	.260	1.000
Sig. (1-tailed)	Flights	.145	.066
	HomeConcentration	.021	.005
	GLHR	.493	.018
	GJFK	.000	.000
	PartnerConcentration	.001	.277
	Seasonality	.290	.132
	Distance	.344	.101
	Language	.421	.025
	Ethnicity	.	.156
	Urban	.156	.
N	Flights	17	17
	HomeConcentration	17	17

Correlations

		Flights	HomeConcentration	GLHR	GJFK
	GLHR	17	17	17	17
	GJFK	17	17	17	17
	PartnerConcentration	17	17	17	17
	Seasonality	17	17	17	17
	Distance	17	17	17	17
	Language	17	17	17	17
	Ethnicity	17	17	17	17
	Urban	17	17	17	17

Correlations

	PartnerConcentration	Seasonality	Distance	Language
GLHR	17	17	17	17
GJFK	17	17	17	17
PartnerConcentration	17	17	17	17
Seasonality	17	17	17	17
Distance	17	17	17	17
Language	17	17	17	17
Ethnicity	17	17	17	17
Urban	17	17	17	17

Correlations

	Ethnicity	Urban
GLHR	17	17
GJFK	17	17
PartnerConcentration	17	17
Seasonality	17	17
Distance	17	17
Language	17	17
Ethnicity	17	17
Urban	17	17

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Seasonality, Distance, Language, HomeConcentration, Ethnicity, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.857[a]	.735	.470	4.952	.735	2.770

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	8	.085

a. Predictors: (Constant), Urban, PartnerConcentration, Seasonality, Distance, Language, HomeConcentration, Ethnicity, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	543.555	8	67.944	2.770	.085[b]
	Residual	196.209	8	24.526		
	Total	739.765	16			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Seasonality, Distance, Language, HomeConcentration, Ethnicity, GLHR

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	29.873	23.045		1.296	.231
	HomeConcentration	-.106	3.815	-.015	-.028	.978
	GLHR	10.047	12.768	.646	.787	.454
	PartnerConcentration	2.063	1.398	.674	1.476	.178
	Seasonality	5.243	10.562	.097	.496	.633
	Distance	-4.196	3.065	-.493	-1.369	.208
	Language	.500	1.574	.205	.318	.759
	Ethnicity	-1.379	4.069	-.160	-.339	.743
	Urban	-.497	1.151	-.235	-.432	.677

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.112	8.953
	GLHR	.049	20.332
	PartnerConcentration	.159	6.285
	Seasonality	.876	1.141
	Distance	.255	3.920
	Language	.080	12.499
	Ethnicity	.149	6.720
	Urban	.112	8.950

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	6.483	1.000	.00	.00	.00
	2	1.416	2.140	.00	.00	.01
	3	.705	3.033	.00	.00	.00
	4	.208	5.589	.00	.01	.01
	5	.085	8.744	.00	.01	.18
	6	.060	10.367	.00	.04	.01
	7	.028	15.088	.00	.00	.02
	8	.013	21.942	.08	.22	.06
	9	.001	74.428	.92	.72	.71

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.01	.00	.00	.02	.00	.00
	3	.03	.01	.00	.00	.05	.00
	4	.19	.00	.00	.00	.13	.00
	5	.04	.00	.00	.30	.07	.00
	6	.03	.34	.00	.04	.09	.01
	7	.00	.14	.15	.05	.00	.03
	8	.11	.51	.00	.07	.14	.02
	9	.59	.00	.84	.51	.52	.94

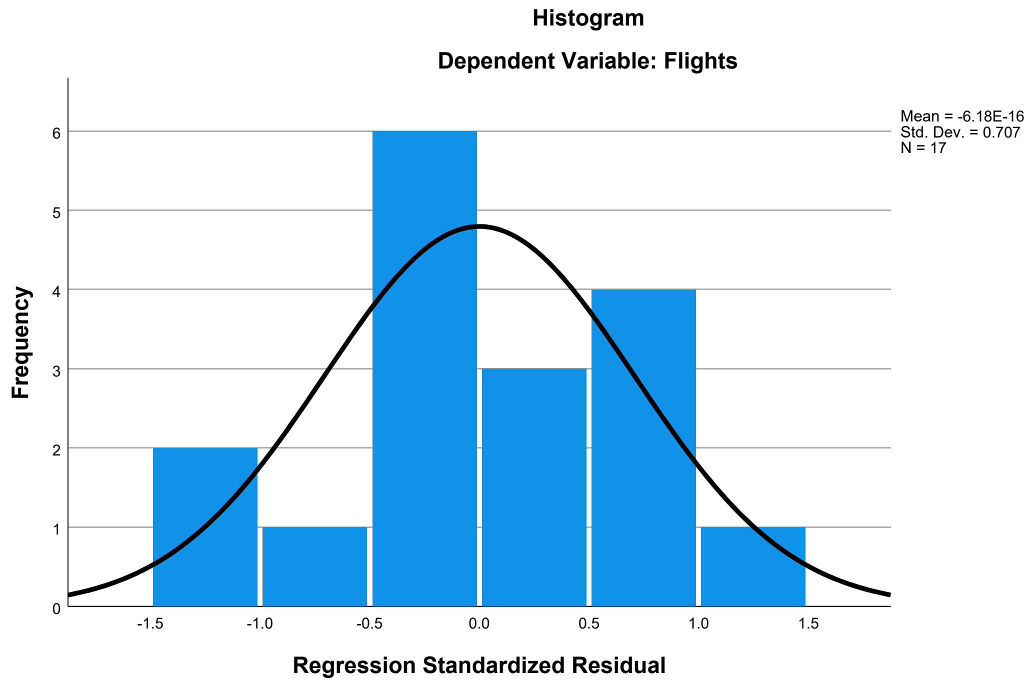
a. Dependent Variable: Flights

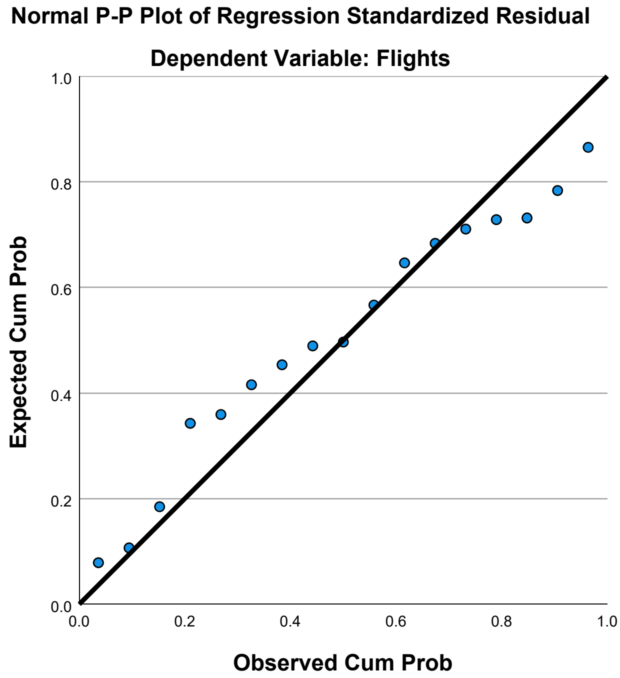
Residuals Statistics[a]

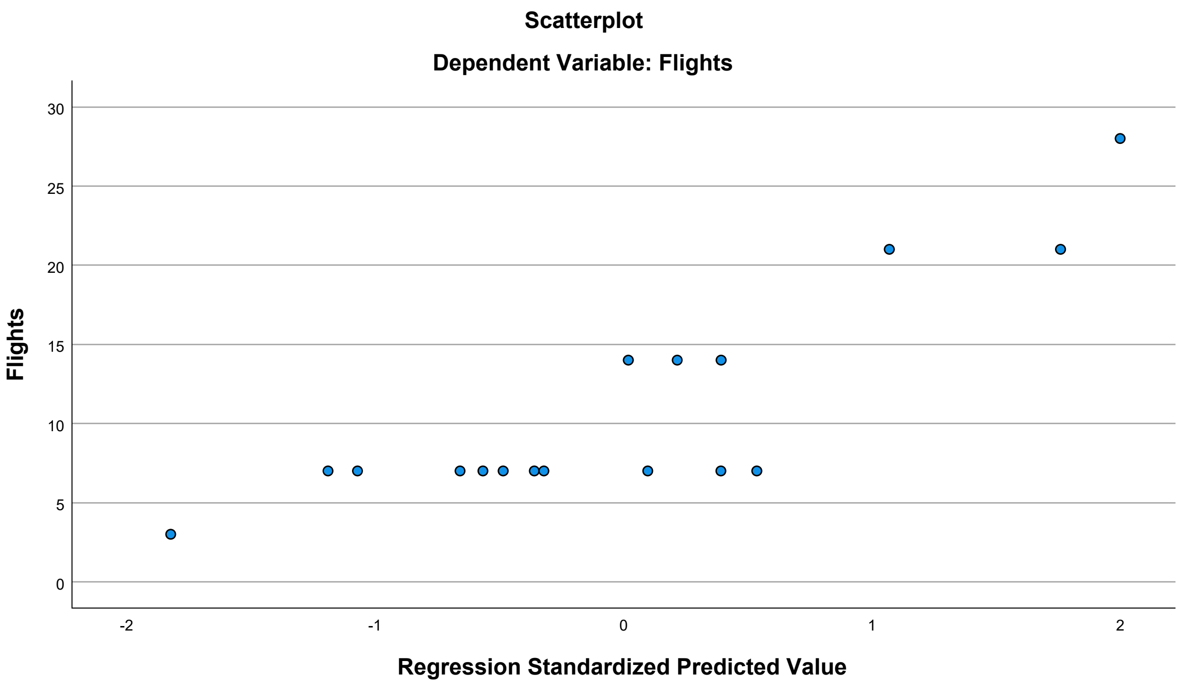
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.25	22.53	10.88	5.829	17
Residual	-7.006	5.467	.000	3.502	17
Std. Predicted Value	-1.824	1.999	.000	1.000	17
Std. Residual	-1.415	1.104	.000	.707	17

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
25
30
-2
-1
0
1
2

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.88	6.800	17
HomeConcentration	2.95195600	.971042806	17
PartnerConcentration	1.9934732941	2.2207304107	17
Seasonality	.54341736695	.12520824324	17
Distance	4.47835	.799639	17
Language	1.37485341	2.780470819	17
Ethnicity	.64919524	.788766564	17
Urban	18.12	3.219	17

Correlations

		Flights	HomeConcentration	PartnerConcentration	Seasonality
Pearson Correlation	Flights	1.000	-.029	.361	-.015
	HomeConcentration	-.029	1.000	.061	-.262
	PartnerConcentration	.361	.061	1.000	-.096
	Seasonality	-.015	-.262	-.096	1.000
	Distance	-.291	-.078	.083	.090
	Language	.599	.282	-.124	-.104
	Ethnicity	.273	.498	.677	-.145
	Urban	.380	.603	.155	-.287
Sig. (1-tailed)	Flights	.	.456	.077	.478
	HomeConcentration	.456	.	.409	.155
	PartnerConcentration	.077	.409	.	.357
	Seasonality	.478	.155	.357	.
	Distance	.128	.383	.376	.366
	Language	.006	.136	.318	.345
	Ethnicity	.145	.021	.001	.290
	Urban	.066	.005	.277	.132
N	Flights	17	17	17	17
	HomeConcentration	17	17	17	17
	PartnerConcentration	17	17	17	17
	Seasonality	17	17	17	17
	Distance	17	17	17	17
	Language	17	17	17	17
	Ethnicity	17	17	17	17
	Urban	17	17	17	17

Correlations

		Distance	Language	Ethnicity	Urban
Pearson Correlation	Flights	-.291	.599	.273	.380
	HomeConcentration	-.078	.282	.498	.603
	PartnerConcentration	.083	-.124	.677	.155
	Seasonality	.090	-.104	-.145	-.287
	Distance	1.000	-.071	-.105	-.326
	Language	-.071	1.000	.052	.481
	Ethnicity	-.105	.052	1.000	.260
	Urban	-.326	.481	.260	1.000
Sig. (1-tailed)	Flights	.128	.006	.145	.066
	HomeConcentration	.383	.136	.021	.005
	PartnerConcentration	.376	.318	.001	.277
	Seasonality	.366	.345	.290	.132
	Distance	.	.394	.344	.101
	Language	.394	.	.421	.025
	Ethnicity	.344	.421	.	.156
	Urban	.101	.025	.156	.
N	Flights	17	17	17	17
	HomeConcentration	17	17	17	17
	PartnerConcentration	17	17	17	17
	Seasonality	17	17	17	17
	Distance	17	17	17	17
	Language	17	17	17	17
	Ethnicity	17	17	17	17
	Urban	17	17	17	17

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Seasonality, Distance, Language, HomeConcentration, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.845[a]	.714	.492	4.846	.714	3.214

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	7	9	.053

a. Predictors: (Constant), Urban, PartnerConcentration, Seasonality, Distance, Language, HomeConcentration, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	528.369	7	75.481	3.214	.053[b]
	Residual	211.395	9	23.488		
	Total	739.765	16			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Seasonality, Distance, Language, HomeConcentration, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	16.508	15.243		1.083	.307
	HomeConcentration	-2.534	2.196	-.362	-1.154	.278
	PartnerConcentration	1.286	.968	.420	1.329	.217
	Seasonality	3.901	10.201	.072	.382	.711
	Distance	-2.259	1.789	-.266	-1.263	.238
	Language	1.664	.527	.681	3.157	.012
	Ethnicity	.731	2.995	.085	.244	.813
	Urban	.250	.637	.118	.392	.704

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.323	3.098
	PartnerConcentration	.318	3.148
	Seasonality	.900	1.111
	Distance	.718	1.393
	Language	.683	1.463
	Ethnicity	.263	3.801
	Urban	.349	2.863

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	PartnerConcentration
1	1	6.154	1.000	.00	.00	.00
	2	.880	2.644	.00	.00	.05
	3	.656	3.063	.00	.00	.03
	4	.197	5.584	.00	.02	.41
	5	.061	10.013	.00	.15	.09
	6	.030	14.220	.00	.00	.03
	7	.017	19.078	.07	.62	.23
	8	.004	40.772	.93	.20	.17

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00
	2	.00	.00	.33	.03	.00
	3	.01	.00	.32	.06	.00
	4	.00	.00	.09	.25	.00
	5	.31	.00	.05	.23	.02
	6	.24	.45	.02	.04	.05
	7	.33	.00	.02	.26	.16
	8	.11	.54	.17	.13	.77

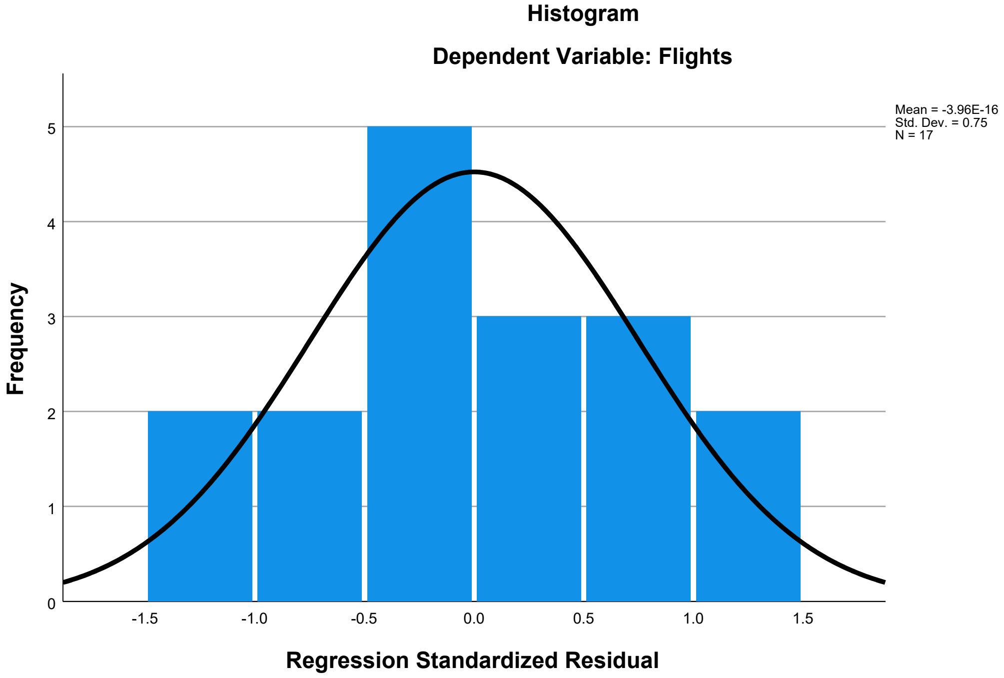
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.32	22.17	10.88	5.747	17
Residual	-6.467	6.173	.000	3.635	17
Std. Predicted Value	-1.838	1.965	.000	1.000	17
Std. Residual	-1.334	1.274	.000	.750	17

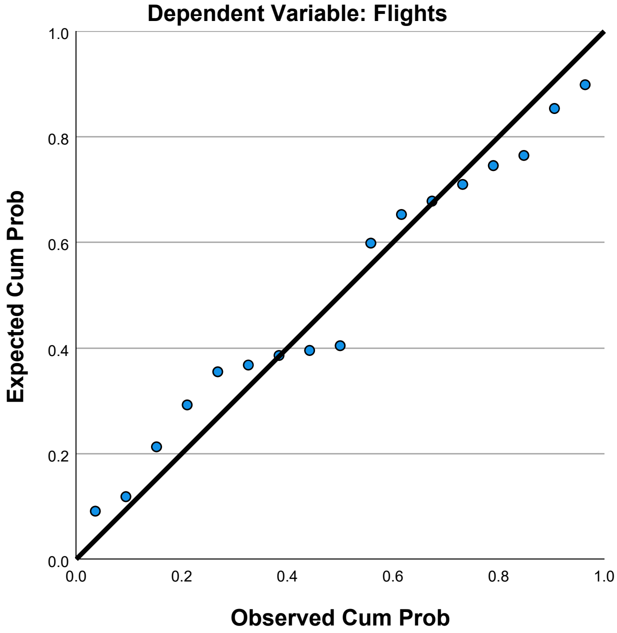
a. Dependent Variable: Flights

Charts



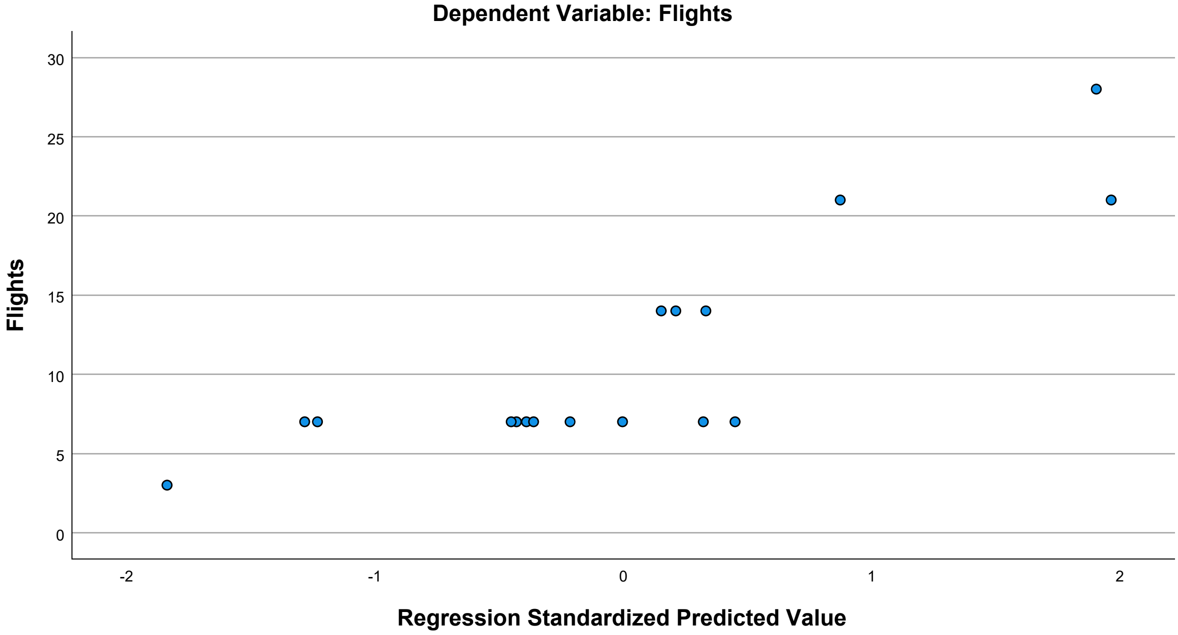
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.88	6.800	17
HomeConcentration	2.95195600	.971042806	17
PartnerConcentration	1.9934732941	2.2207304107	17
Seasonality	.54341736695	.12520824324	17
Distance	4.47835	.799639	17
Language	1.37485341	2.780470819	17
Urban	18.12	3.219	17

Correlations

		Flights	HomeConcentration	PartnerConcentration	Seasonality
Pearson Correlation	Flights	1.000	-.029	.361	-.015
	HomeConcentration	-.029	1.000	.061	-.262
	PartnerConcentration	.361	.061	1.000	-.096
	Seasonality	-.015	-.262	-.096	1.000
	Distance	-.291	-.078	.083	.090
	Language	.599	.282	-.124	-.104
	Urban	.380	.603	.155	-.287
Sig. (1-tailed)	Flights	.	.456	.077	.478
	HomeConcentration	.456	.	.409	.155
	PartnerConcentration	.077	.409	.	.357
	Seasonality	.478	.155	.357	.
	Distance	.128	.383	.376	.366
	Language	.006	.136	.318	.345
	Urban	.066	.005	.277	.132
N	Flights	17	17	17	17
	HomeConcentration	17	17	17	17
	PartnerConcentration	17	17	17	17
	Seasonality	17	17	17	17
	Distance	17	17	17	17
	Language	17	17	17	17
	Urban	17	17	17	17

Correlations

		Distance	Language	Urban
Pearson Correlation	Flights	-.291	.599	.380
	HomeConcentration	-.078	.282	.603
	PartnerConcentration	.083	-.124	.155
	Seasonality	.090	-.104	-.287
	Distance	1.000	-.071	-.326
	Language	-.071	1.000	.481
	Urban	-.326	.481	1.000
Sig. (1-tailed)	Flights	.128	.006	.066
	HomeConcentration	.383	.136	.005
	PartnerConcentration	.376	.318	.277
	Seasonality	.366	.345	.132
	Distance	.	.394	.101
	Language	.394	.	.025
	Urban	.101	.025	.
N	Flights	17	17	17
	HomeConcentration	17	17	17
	PartnerConcentration	17	17	17
	Seasonality	17	17	17
	Distance	17	17	17
	Language	17	17	17
	Urban	17	17	17

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Seasonality, Distance, Language, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.844[a]	.712	.540	4.613	.712	4.127

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	6	10	.024

a. Predictors: (Constant), Urban, PartnerConcentration, Seasonality, Distance, Language, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	526.969	6	87.828	4.127	.024[b]
	Residual	212.795	10	21.280		
	Total	739.765	16			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Seasonality, Distance, Language, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	17.309	14.168		1.222	.250
	HomeConcentration	-2.166	1.523	-.309	-1.422	.185
	PartnerConcentration	1.476	.551	.482	2.681	.023
	Seasonality	3.991	9.703	.073	.411	.690
	Distance	-2.422	1.580	-.285	-1.532	.156
	Language	1.690	.492	.691	3.438	.006
	Urban	.186	.554	.088	.337	.743

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.608	1.645
	PartnerConcentration	.890	1.124
	Seasonality	.901	1.110
	Distance	.833	1.201
	Language	.712	1.405
	Urban	.418	2.390

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	PartnerConcentration
1	1	5.602	1.000	.00	.00	.01
	2	.809	2.631	.00	.00	.09
	3	.441	3.565	.00	.00	.80
	4	.090	7.908	.00	.37	.02
	5	.032	13.160	.00	.02	.01
	6	.022	15.935	.03	.54	.03
	7	.004	36.536	.96	.07	.04

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Distance	Language	Urban
1	1	.00	.00	.01	.00
	2	.00	.00	.57	.00
	3	.01	.00	.14	.00
	4	.13	.02	.10	.01
	5	.48	.44	.00	.01
	6	.22	.06	.04	.27
	7	.16	.48	.14	.71

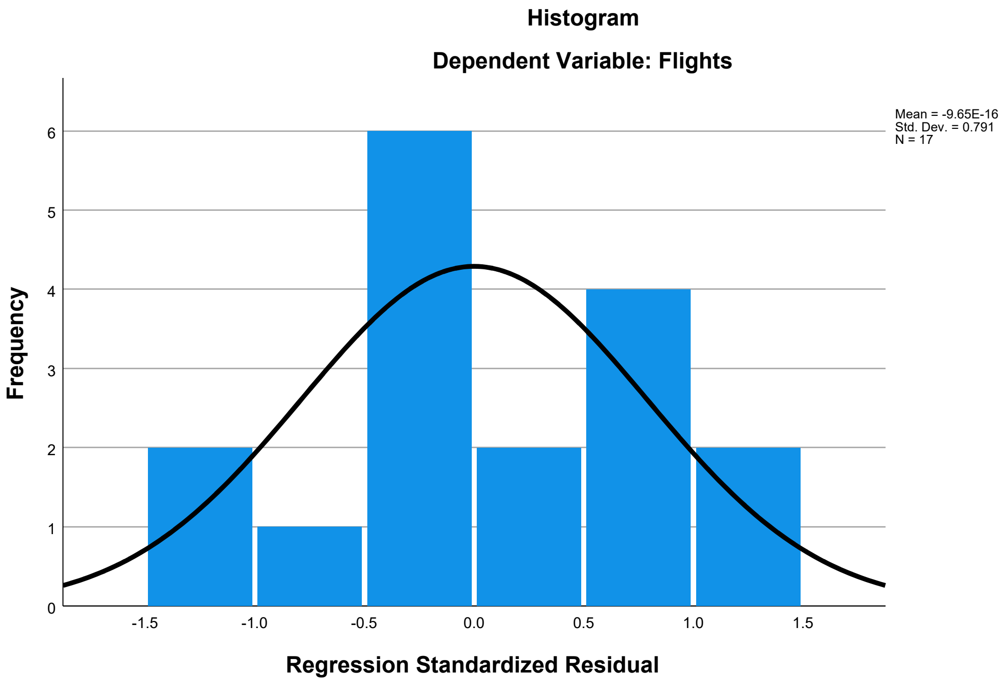
a. Dependent Variable: Flights

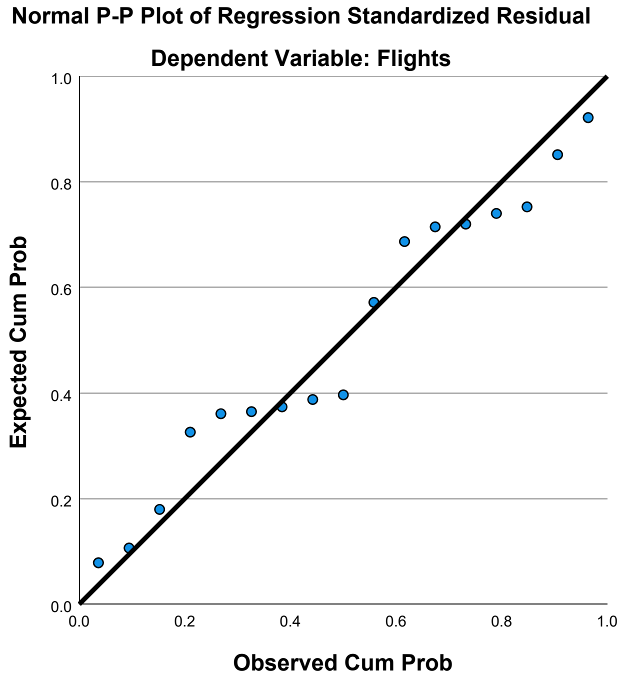
Residuals Statistics[a]

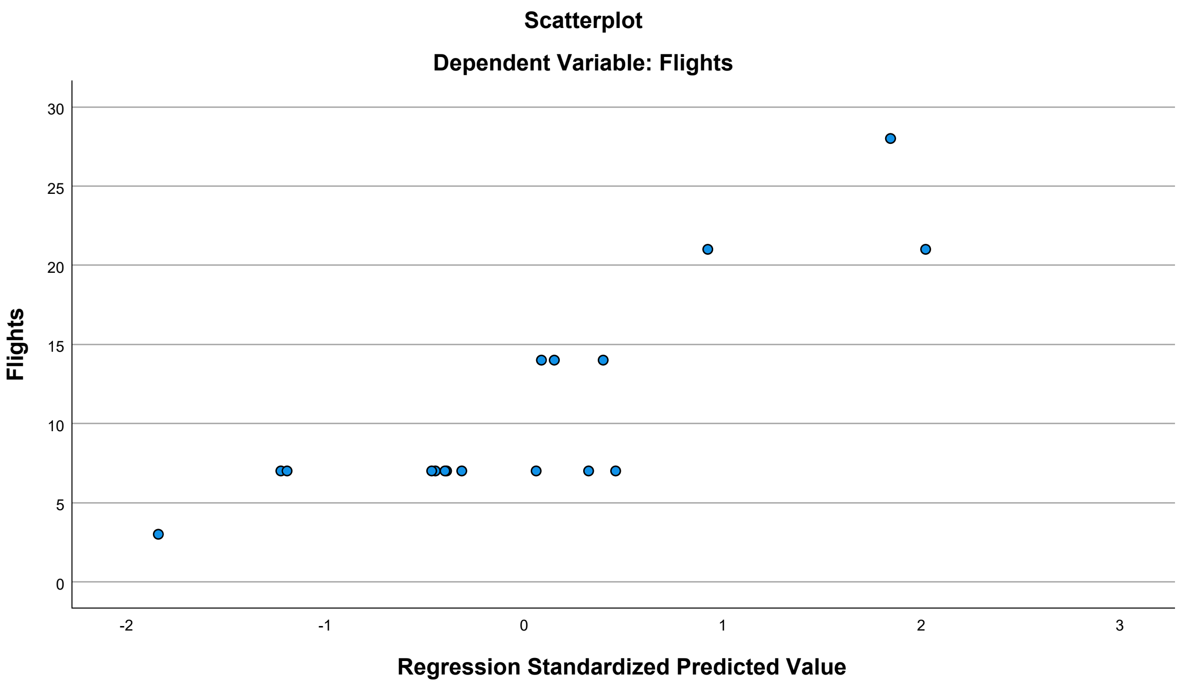
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.31	22.48	10.88	5.739	17
Residual	-6.529	6.530	.000	3.647	17
Std. Predicted Value	-1.841	2.022	.000	1.000	17
Std. Residual	-1.415	1.416	.000	.791	17

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
25
30
-2
-1
0
1
2
3

Regression

```
[DataSet35] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.27	5.407	59
HomeConcentration	4.6050294915	1.4394263512	59
Congestion	4.97	1.050	59
GLHR	.10	.305	59
PartnerConcentration	1.1462897966	1.8075584278	59
Seasonality	.56426534044	.16539946636	59
Distance	4.30653	1.055862	59
Language	1.49239903	2.625611113	59
Ethnicity	.45762600	.599703744	59
Urban	19.47	2.231	59

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	-.056	.029	.663
	HomeConcentration	-.056	1.000	.275	-.105
	Congestion	.029	.275	1.000	-.043
	GLHR	.663	-.105	-.043	1.000
	PartnerConcentration	.247	-.003	.021	-.001
	Seasonality	.087	-.133	-.023	.041
	Distance	-.098	-.002	-.234	.047
	Language	.387	-.072	-.050	.521
	Ethnicity	.172	.052	.078	.061
	Urban	.321	.069	.625	.333
Sig. (1-tailed)	Flights	.	.336	.414	<.001
	HomeConcentration	.336	.	.017	.215
	Congestion	.414	.017	.	.373
	GLHR	.000	.215	.373	.
	PartnerConcentration	.029	.492	.438	.497
	Seasonality	.257	.158	.433	.379
	Distance	.230	.493	.038	.363
	Language	.001	.294	.355	.000
	Ethnicity	.097	.349	.278	.324
	Urban	.007	.303	.000	.005
N	Flights	59	59	59	59
	HomeConcentration	59	59	59	59
	Congestion	59	59	59	59
	GLHR	59	59	59	59
	PartnerConcentration	59	59	59	59

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.247	.087	-.098	.387
	HomeConcentration	-.003	-.133	-.002	-.072
	Congestion	.021	-.023	-.234	-.050
	GLHR	-.001	.041	.047	.521
	PartnerConcentration	1.000	-.077	.003	-.223
	Seasonality	-.077	1.000	-.178	.264
	Distance	.003	-.178	1.000	-.346
	Language	-.223	.264	-.346	1.000
	Ethnicity	.440	.096	-.193	.167
	Urban	.107	-.051	.007	-.137
Sig. (1-tailed)	Flights	.029	.257	.230	.001
	HomeConcentration	.492	.158	.493	.294
	Congestion	.438	.433	.038	.355
	GLHR	.497	.379	.363	.000
	PartnerConcentration	.	.281	.492	.045
	Seasonality	.281	.	.089	.022
	Distance	.492	.089	.	.004
	Language	.045	.022	.004	.
	Ethnicity	.000	.235	.071	.104
	Urban	.211	.351	.478	.150
N	Flights	59	59	59	59
	HomeConcentration	59	59	59	59
	Congestion	59	59	59	59
	GLHR	59	59	59	59
	PartnerConcentration	59	59	59	59

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.172	.321
	HomeConcentration	.052	.069
	Congestion	.078	.625
	GLHR	.061	.333
	PartnerConcentration	.440	.107
	Seasonality	.096	-.051
	Distance	-.193	.007
	Language	.167	-.137
	Ethnicity	1.000	.006
	Urban	.006	1.000
Sig. (1-tailed)	Flights	.097	.007
	HomeConcentration	.349	.303
	Congestion	.278	.000
	GLHR	.324	.005
	PartnerConcentration	.000	.211
	Seasonality	.235	.351
	Distance	.071	.478
	Language	.104	.150
	Ethnicity	.	.482
	Urban	.482	.
N	Flights	59	59
	HomeConcentration	59	59
	Congestion	59	59
	GLHR	59	59
	PartnerConcentration	59	59

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Seasonality	59	59	59	59
	Distance	59	59	59	59
	Language	59	59	59	59
	Ethnicity	59	59	59	59
	Urban	59	59	59	59

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	Seasonality	59	59	59	59
	Distance	59	59	59	59
	Language	59	59	59	59
	Ethnicity	59	59	59	59
	Urban	59	59	59	59

Correlations

	Ethnicity	Urban
Seasonality	59	59
Distance	59	59
Language	59	59
Ethnicity	59	59
Urban	59	59

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, HomeConcentration, Seasonality, Distance, GLHR, PartnerConcentration, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.737[a]	.543	.459	3.978	.543	6.464

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	49	<.001

a. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Seasonality, Distance, GLHR, PartnerConcentration, Congestic Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	920.387	9	102.265	6.464	<.001[b]
	Residual	775.274	49	15.822		
	Total	1695.661	58			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Seasonality, Distance, GLHR, PartnerConcentration, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.007	7.047		.001	.999
	HomeConcentration	.117	.387	.031	.302	.764
	Congestion	-.552	.767	-.107	-.719	.475
	GLHR	8.837	2.706	.498	3.266	.002
	PartnerConcentration	.848	.349	.284	2.433	.019
	Seasonality	1.319	3.346	.040	.394	.695
	Distance	-.428	.580	-.084	-.737	.465
	Language	.376	.320	.183	1.177	.245
	Ethnicity	-.255	1.036	-.028	-.246	.807
	Urban	.526	.394	.217	1.336	.188

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.880	1.136
	Congestion	.421	2.375
	GLHR	.401	2.495
	PartnerConcentration	.687	1.456
	Seasonality	.891	1.123
	Distance	.727	1.376
	Language	.387	2.582
	Ethnicity	.707	1.414
	Urban	.353	2.831

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.946	1.000	.00	.00	.00
	2	1.244	2.363	.00	.00	.00
	3	.852	2.856	.00	.00	.00
	4	.504	3.711	.00	.00	.00
	5	.247	5.306	.00	.00	.00
	6	.090	8.784	.00	.44	.00
	7	.057	10.993	.00	.02	.05
	8	.047	12.172	.00	.49	.12
	9	.011	25.618	.21	.00	.47
	10	.003	50.963	.79	.04	.35

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.14	.04	.00	.00	.09	.00
	3	.02	.26	.00	.00	.00	.17
	4	.24	.10	.00	.00	.14	.25
	5	.14	.58	.00	.00	.34	.55
	6	.00	.00	.33	.01	.02	.00
	7	.05	.00	.17	.45	.12	.01
	8	.02	.00	.36	.00	.03	.00
	9	.00	.02	.13	.48	.02	.00
	10	.38	.00	.01	.05	.24	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.00
	8	.01
	9	.07
	10	.92

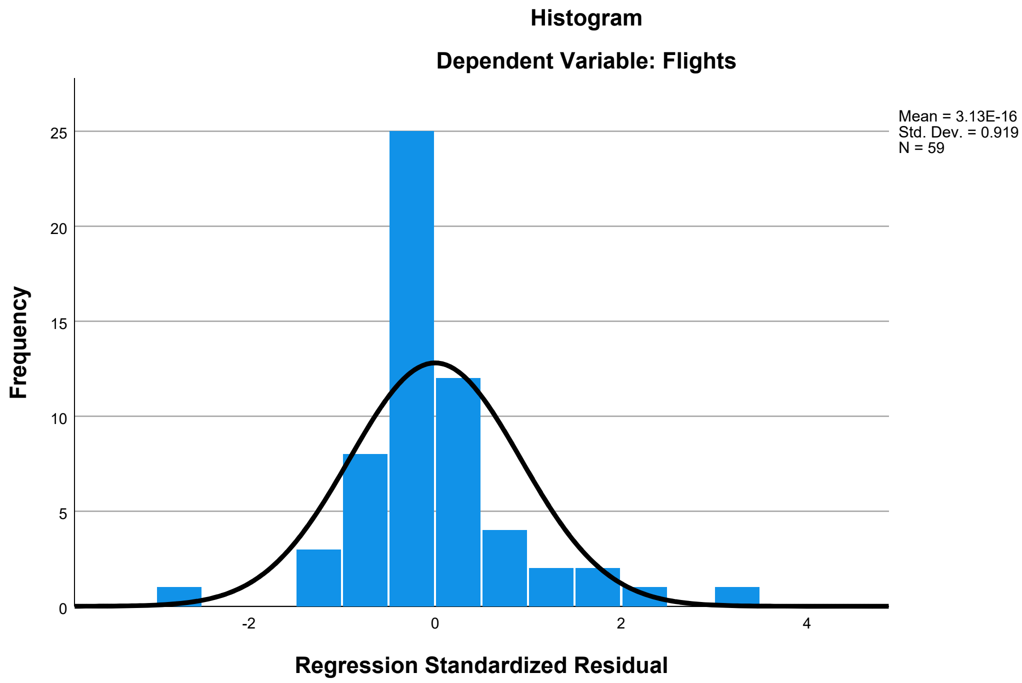
a. Dependent Variable: Flights

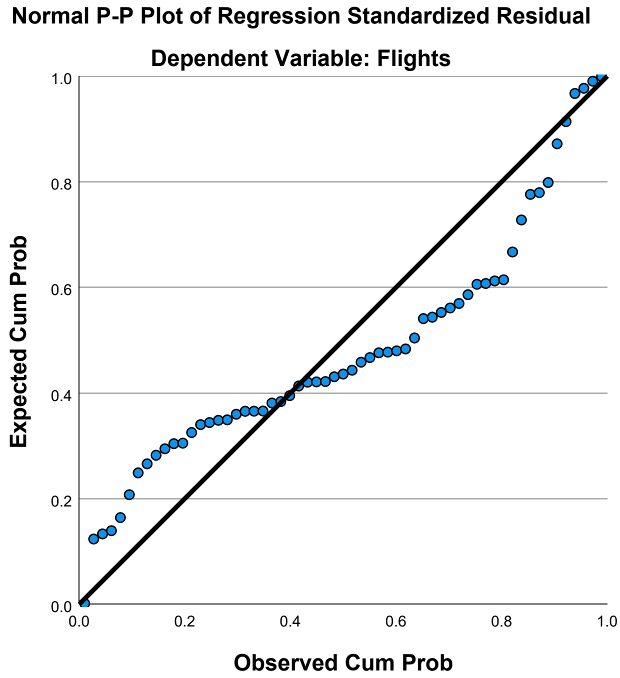
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.94	21.69	9.27	3.984	59
Residual	-11.885	13.746	.000	3.656	59
Std. Predicted Value	-1.339	3.118	.000	1.000	59
Std. Residual	-2.988	3.456	.000	.919	59

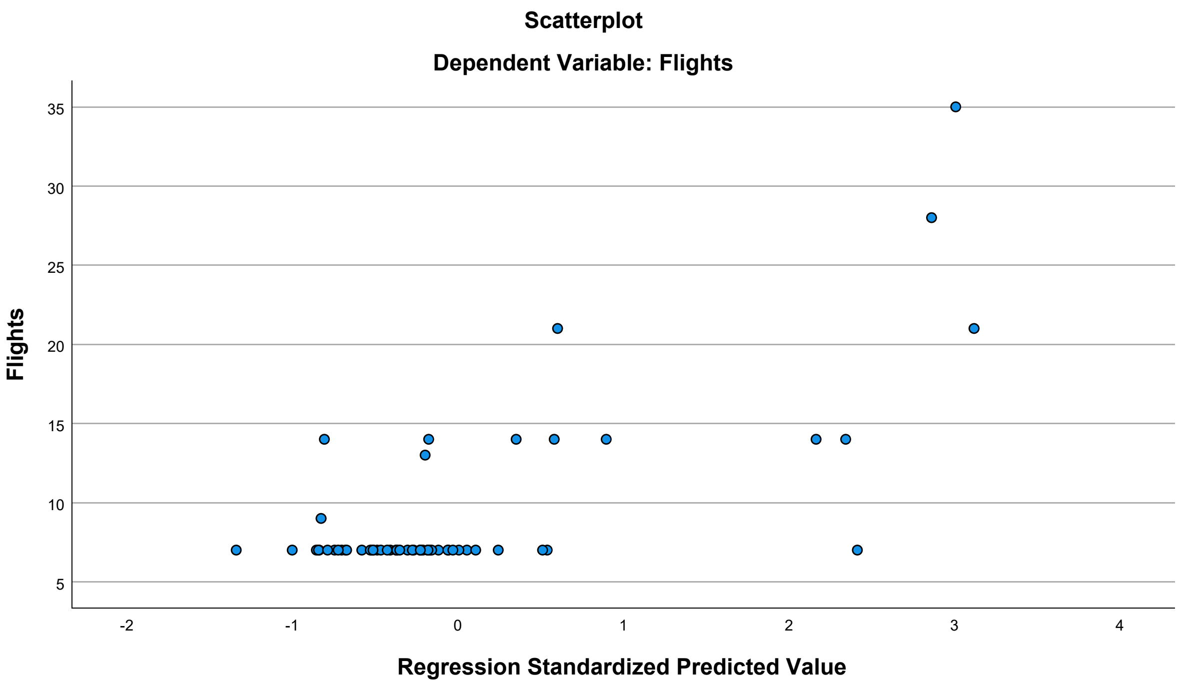
a. Dependent Variable: Flights

Charts





Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0



Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
35
30
25
20
15
10
5
-2
-1
0
1
2
3
4

Regression

```
[DataSet36] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
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Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GJFK. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.10	5.513	60
HomeConcentration	3.8952288333	1.0179021959	60
Congestion	4.57	.593	60
GLHR	.10	.303	60
GJFK	.00	.000	60
PartnerConcentration	1.2133569000	2.0416370999	60
Seasonality	.70674436674	.21651620256	60
Distance	4.29377	1.015564	60
Language	1.73076682	3.019595935	60
Ethnicity	.48805107	.582162600	60
Urban	19.17	2.598	60

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.018	.102	.654
	HomeConcentration	.018	1.000	-.006	-.081
	Congestion	.102	-.006	1.000	.057
	GLHR	.654	-.081	.057	1.000
	GJFK	.	.	.	.
	PartnerConcentration	-.026	.048	.046	-.200
	Seasonality	-.247	-.048	-.133	-.309
	Distance	-.102	-.002	.194	.052
	Language	.336	-.078	-.217	.422
	Ethnicity	.078	-.014	.059	.017
	Urban	.356	.037	.576	.323
Sig. (1-tailed)	Flights	.	.445	.220	<.001
	HomeConcentration	.445	.	.481	.270
	Congestion	.220	.481	.	.333
	GLHR	.000	.270	.333	.
	GJFK	.000	.000	.000	.000
	PartnerConcentration	.421	.357	.363	.063
	Seasonality	.029	.358	.156	.008
	Distance	.218	.493	.069	.346
	Language	.004	.277	.048	.000
	Ethnicity	.278	.459	.326	.449
	Urban	.003	.389	.000	.006
N	Flights	60	60	60	60
	HomeConcentration	60	60	60	60
	Congestion	60	60	60	60
	GLHR	60	60	60	60
	GJFK	60	60	60	60
	PartnerConcentration	60	60	60	60
	Seasonality	60	60	60	60
	Distance	60	60	60	60
	Language	60	60	60	60
	Ethnicity	60	60	60	60
	Urban	60	60	60	60

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.	-.026	-.247	-.102
	HomeConcentration	.	.048	-.048	-.002
	Congestion	.	.046	-.133	.194
	GLHR	.	-.200	-.309	.052
	GJFK	1.000	.	.	.
	PartnerConcentration	.	1.000	-.125	.176
	Seasonality	.	-.125	1.000	-.092
	Distance	.	.176	-.092	1.000
	Language	.	-.340	-.097	-.340
	Ethnicity	.	.280	-.051	-.171
	Urban	.	-.009	-.282	.102
Sig. (1-tailed)	Flights	.000	.421	.029	.218
	HomeConcentration	.000	.357	.358	.493
	Congestion	.000	.363	.156	.069
	GLHR	.000	.063	.008	.346
	GJFK	.	.000	.000	.000
	PartnerConcentration	.000	.	.170	.089
	Seasonality	.000	.170	.	.243
	Distance	.000	.089	.243	.
	Language	.000	.004	.230	.004
	Ethnicity	.000	.015	.349	.095
	Urban	.000	.474	.015	.220
N	Flights	60	60	60	60
	HomeConcentration	60	60	60	60
	Congestion	60	60	60	60
	GLHR	60	60	60	60
	GJFK	60	60	60	60
	PartnerConcentration	60	60	60	60
	Seasonality	60	60	60	60
	Distance	60	60	60	60
	Language	60	60	60	60
	Ethnicity	60	60	60	60
	Urban	60	60	60	60

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.336	.078	.356
	HomeConcentration	-.078	-.014	.037
	Congestion	-.217	.059	.576
	GLHR	.422	.017	.323
	GJFK	.	.	.
	PartnerConcentration	-.340	.280	-.009
	Seasonality	-.097	-.051	-.282
	Distance	-.340	-.171	.102
	Language	1.000	.226	-.224
	Ethnicity	.226	1.000	-.254
	Urban	-.224	-.254	1.000
Sig. (1-tailed)	Flights	.004	.278	.003
	HomeConcentration	.277	.459	.389
	Congestion	.048	.326	.000
	GLHR	.000	.449	.006
	GJFK	.000	.000	.000
	PartnerConcentration	.004	.015	.474
	Seasonality	.230	.349	.015
	Distance	.004	.095	.220
	Language	.	.041	.043
	Ethnicity	.041	.	.025
	Urban	.043	.025	.
N	Flights	60	60	60
	HomeConcentration	60	60	60
	Congestion	60	60	60
	GLHR	60	60	60
	GJFK	60	60	60
	PartnerConcentration	60	60	60
	Seasonality	60	60	60
	Distance	60	60	60
	Language	60	60	60
	Ethnicity	60	60	60
	Urban	60	60	60

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, HomeConcentration, Distance, Seasonality, Ethnicity, GLHR, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.715[a]	.511	.423	4.187	.511	5.811

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	50	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, Seasonality, Ethnicity, GLHR, Congestic
Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	916.820	9	101.869	5.811	<.001[b]
	Residual	876.580	50	17.532		
	Total	1793.400	59			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, Seasonality, Ethnicity, GLHR, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-1.511	7.317		-.206	.837
	HomeConcentration	.325	.541	.060	.601	.551
	Congestion	-.226	1.236	-.024	-.182	.856
	GLHR	10.007	2.419	.549	4.137	<.001
	PartnerConcentration	.416	.319	.154	1.303	.198
	Seasonality	.556	2.790	.022	.199	.843
	Distance	-.617	.617	-.114	-1.000	.322
	Language	.309	.254	.169	1.219	.229
	Ethnicity	.340	1.146	.036	.297	.768
	Urban	.544	.325	.256	1.674	.100

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.981	1.019
	Congestion	.554	1.806
	GLHR	.555	1.803
	PartnerConcentration	.700	1.428
	Seasonality	.814	1.228
	Distance	.756	1.322
	Language	.507	1.973
	Ethnicity	.667	1.499
	Urban	.417	2.400

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.931	1.000	.00	.00	.00
	2	1.318	2.293	.00	.00	.00
	3	.711	3.123	.00	.00	.00
	4	.585	3.441	.00	.00	.00
	5	.282	4.960	.00	.00	.00
	6	.074	9.657	.00	.21	.00
	7	.054	11.315	.00	.58	.01
	8	.034	14.239	.00	.11	.04
	9	.006	33.741	.26	.06	.84
	10	.004	42.575	.74	.03	.11

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.16	.09	.00	.00	.10	.00
	3	.02	.24	.00	.00	.02	.23
	4	.40	.12	.00	.00	.14	.09
	5	.06	.46	.00	.00	.47	.50
	6	.08	.04	.63	.00	.00	.00
	7	.09	.02	.12	.22	.03	.00
	8	.01	.01	.02	.57	.01	.01
	9	.02	.02	.05	.00	.03	.06
	10	.16	.00	.17	.21	.19	.11

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.00
	8	.05
	9	.17
	10	.78

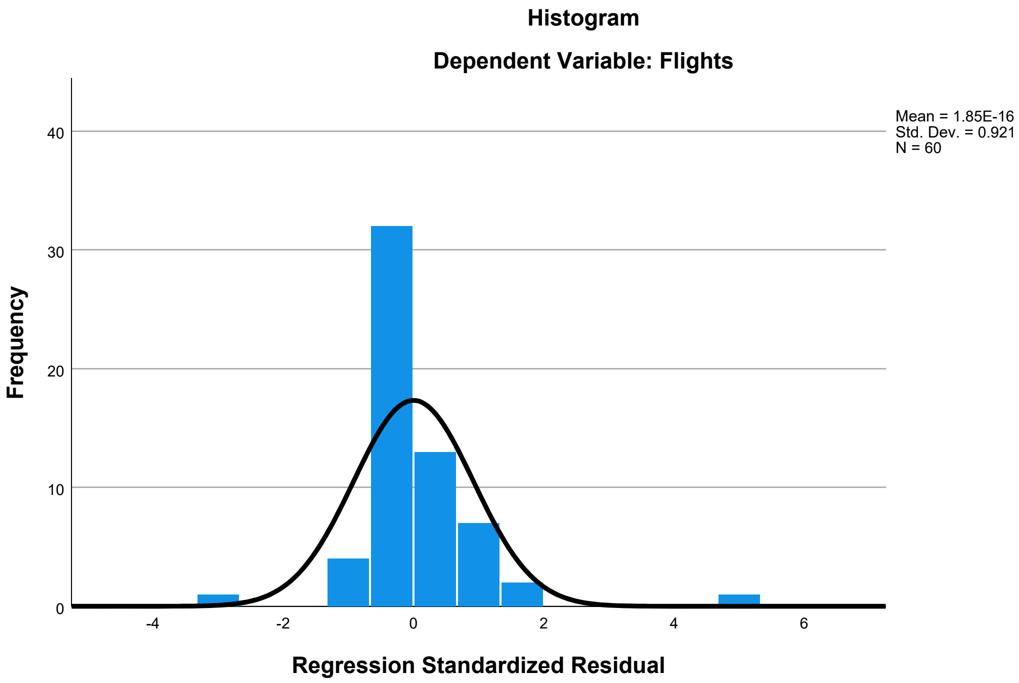
a. Dependent Variable: Flights

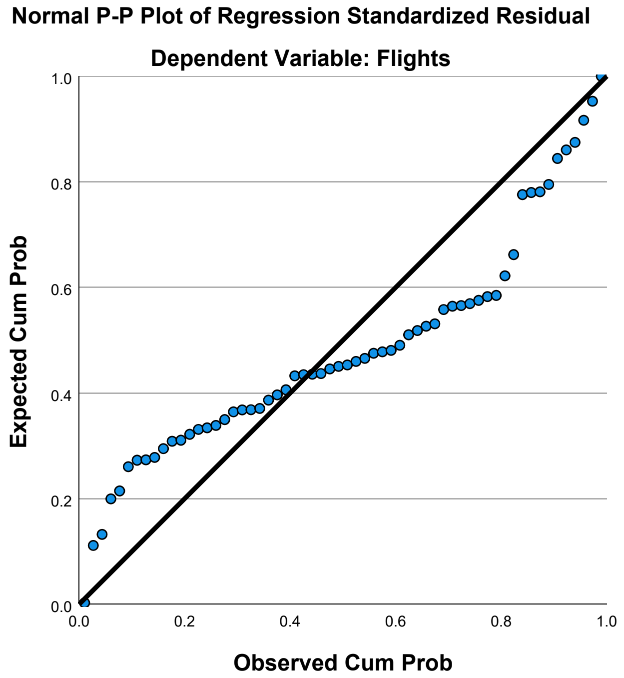
Residuals Statistics[a]

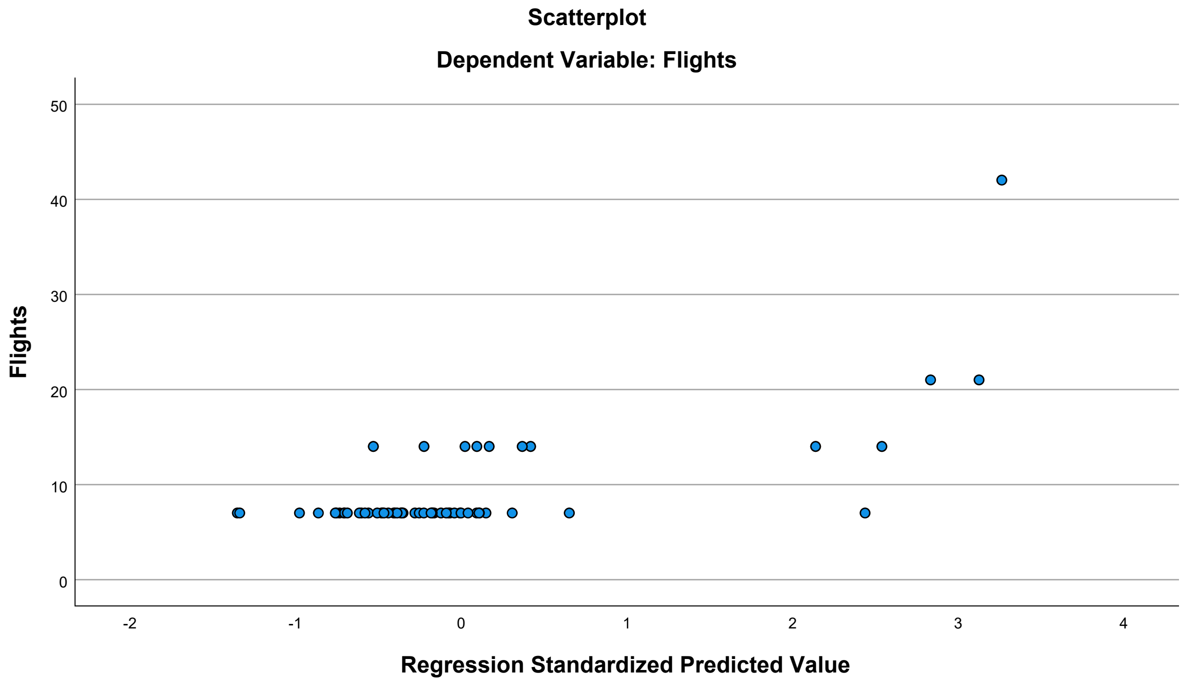
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.77	21.96	9.10	3.942	60
Residual	-11.708	20.037	.000	3.855	60
Std. Predicted Value	-1.352	3.263	.000	1.000	60
Std. Residual	-2.796	4.785	.000	.921	60

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GJFK. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.10	5.513	60
HomeConcentration	3.8952288333	1.0179021959	60
GLHR	.10	.303	60
GJFK	.00	.000	60
PartnerConcentration	1.2133569000	2.0416370999	60
Seasonality	.70674436674	.21651620256	60
Distance	4.29377	1.015564	60
Language	1.73076682	3.019595935	60
Ethnicity	.48805107	.582162600	60
Urban	19.17	2.598	60

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.018	.654	.
	HomeConcentration	.018	1.000	-.081	.
	GLHR	.654	-.081	1.000	.
	GJFK	.	.	.	1.000
	PartnerConcentration	-.026	.048	-.200	.
	Seasonality	-.247	-.048	-.309	.
	Distance	-.102	-.002	.052	.
	Language	.336	-.078	.422	.
	Ethnicity	.078	-.014	.017	.
	Urban	.356	.037	.323	.
Sig. (1-tailed)	Flights	.	.445	<.001	.000
	HomeConcentration	.445	.	.270	.000
	GLHR	.000	.270	.	.000
	GJFK	.000	.000	.000	.
	PartnerConcentration	.421	.357	.063	.000
	Seasonality	.029	.358	.008	.000
	Distance	.218	.493	.346	.000
	Language	.004	.277	.000	.000
	Ethnicity	.278	.459	.449	.000
	Urban	.003	.389	.006	.000
N	Flights	60	60	60	60
	HomeConcentration	60	60	60	60

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	-.026	-.247	-.102	.336
	HomeConcentration	.048	-.048	-.002	-.078
	GLHR	-.200	-.309	.052	.422
	GJFK	.	.	.	.
	PartnerConcentration	1.000	-.125	.176	-.340
	Seasonality	-.125	1.000	-.092	-.097
	Distance	.176	-.092	1.000	-.340
	Language	-.340	-.097	-.340	1.000
	Ethnicity	.280	-.051	-.171	.226
	Urban	-.009	-.282	.102	-.224
Sig. (1-tailed)	Flights	.421	.029	.218	.004
	HomeConcentration	.357	.358	.493	.277
	GLHR	.063	.008	.346	.000
	GJFK	.000	.000	.000	.000
	PartnerConcentration	.	.170	.089	.004
	Seasonality	.170	.	.243	.230
	Distance	.089	.243	.	.004
	Language	.004	.230	.004	.
	Ethnicity	.015	.349	.095	.041
	Urban	.474	.015	.220	.043
N	Flights	60	60	60	60
	HomeConcentration	60	60	60	60

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.078	.356
	HomeConcentration	-.014	.037
	GLHR	.017	.323
	GJFK	.	.
	PartnerConcentration	.280	-.009
	Seasonality	-.051	-.282
	Distance	-.171	.102
	Language	.226	-.224
	Ethnicity	1.000	-.254
	Urban	-.254	1.000
Sig. (1-tailed)	Flights	.278	.003
	HomeConcentration	.459	.389
	GLHR	.449	.006
	GJFK	.000	.000
	PartnerConcentration	.015	.474
	Seasonality	.349	.015
	Distance	.095	.220
	Language	.041	.043
	Ethnicity	.	.025
	Urban	.025	.
N	Flights	60	60
	HomeConcentration	60	60

Correlations

		Flights	HomeConcentration	GLHR	GJFK
	GLHR	60	60	60	60
	GJFK	60	60	60	60
	PartnerConcentration	60	60	60	60
	Seasonality	60	60	60	60
	Distance	60	60	60	60
	Language	60	60	60	60
	Ethnicity	60	60	60	60
	Urban	60	60	60	60

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	GLHR	60	60	60	60
	GJFK	60	60	60	60
	PartnerConcentration	60	60	60	60
	Seasonality	60	60	60	60
	Distance	60	60	60	60
	Language	60	60	60	60
	Ethnicity	60	60	60	60
	Urban	60	60	60	60

Correlations

		Ethnicity	Urban
	GLHR	60	60
	GJFK	60	60
	PartnerConcentration	60	60
	Seasonality	60	60
	Distance	60	60
	Language	60	60
	Ethnicity	60	60
	Urban	60	60

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, HomeConcentration, Distance, Seasonality, Ethnicity, GLHR, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.715[a]	.511	.434	4.147	.511	6.659

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	51	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, Seasonality, Ethnicity, GLHR, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	916.236	8	114.530	6.659	<.001[b]
	Residual	877.164	51	17.199		
	Total	1793.400	59			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, Seasonality, Ethnicity, GLHR, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.730	7.149		-.242	.810
	HomeConcentration	.330	.535	.061	.617	.540
	GLHR	10.094	2.349	.554	4.298	<.001
	PartnerConcentration	.423	.313	.157	1.350	.183
	Seasonality	.543	2.762	.021	.197	.845
	Distance	-.644	.594	-.119	-1.084	.284
	Language	.310	.251	.170	1.234	.223
	Ethnicity	.269	1.067	.028	.252	.802
	Urban	.508	.256	.239	1.987	.052

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.984	1.017
	GLHR	.577	1.732
	PartnerConcentration	.712	1.405
	Seasonality	.815	1.227
	Distance	.801	1.248
	Language	.507	1.972
	Ethnicity	.756	1.323
	Urban	.661	1.513

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	5.967	1.000	.00	.00	.00
	2	1.316	2.129	.00	.00	.16
	3	.694	2.932	.00	.00	.03
	4	.585	3.193	.00	.00	.41
	5	.281	4.610	.00	.00	.07
	6	.074	9.004	.00	.28	.07
	7	.052	10.742	.00	.45	.10
	8	.028	14.610	.02	.22	.04
	9	.004	38.669	.98	.05	.12

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.01	.00
	2	.09	.00	.00	.10	.00	.00
	3	.24	.01	.00	.02	.26	.00
	4	.12	.00	.00	.14	.11	.00
	5	.47	.00	.00	.48	.56	.00
	6	.04	.59	.01	.00	.00	.00
	7	.03	.13	.39	.03	.01	.00
	8	.00	.06	.41	.01	.00	.21
	9	.00	.21	.19	.22	.06	.78

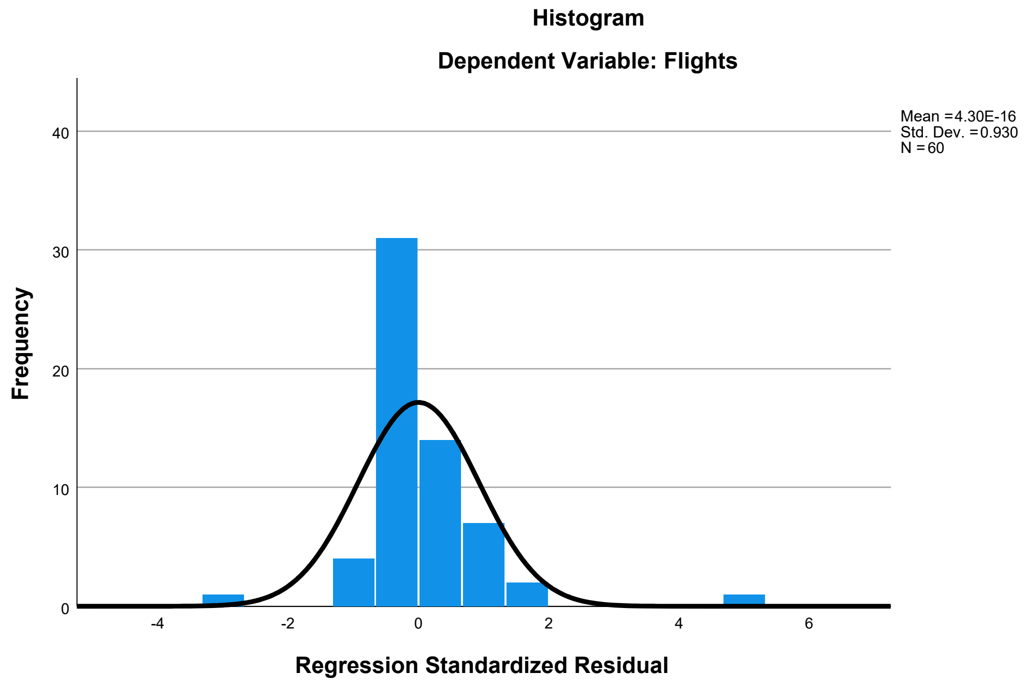
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.84	21.99	9.10	3.941	60
Residual	-11.734	20.008	.000	3.856	60
Std. Predicted Value	-1.335	3.271	.000	1.000	60
Std. Residual	-2.829	4.825	.000	.930	60

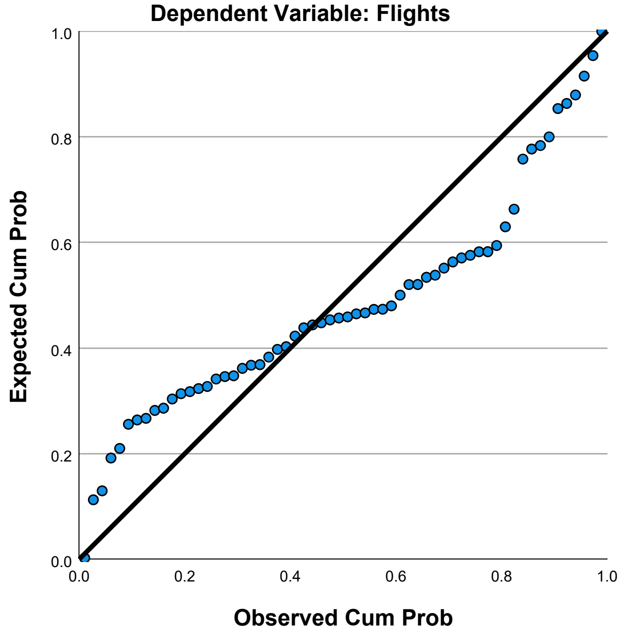
a. Dependent Variable: Flights

Charts



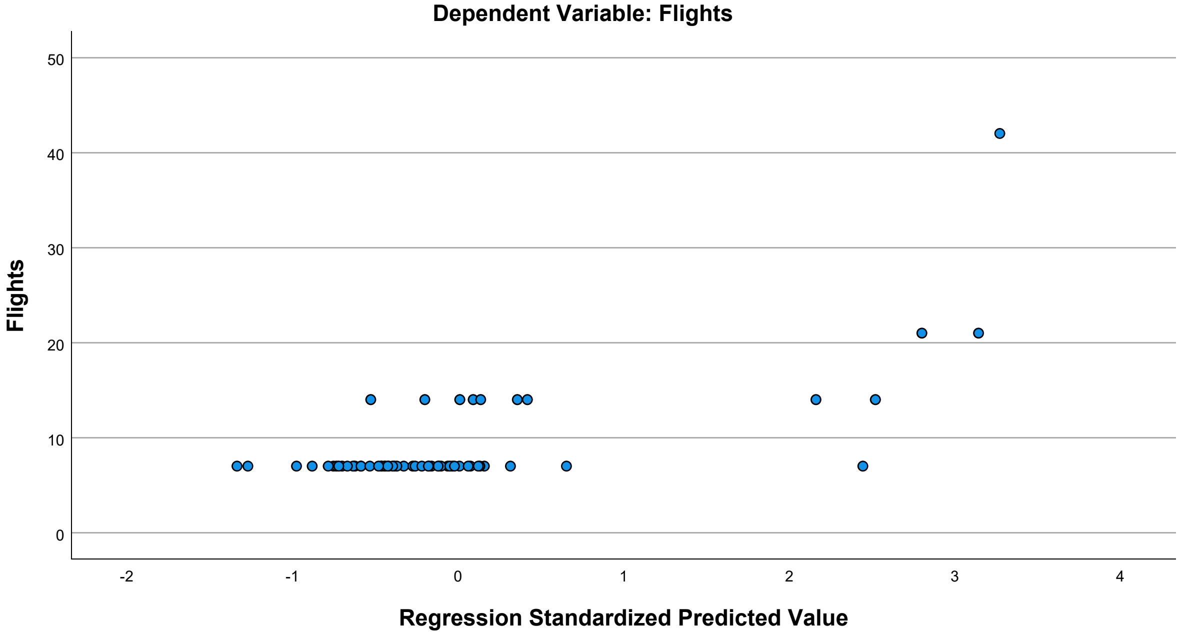
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GJFK. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.10	5.513	60
HomeConcentration	3.8952288333	1.0179021959	60
GLHR	.10	.303	60
GJFK	.00	.000	60
PartnerConcentration	1.2133569000	2.0416370999	60
Distance	4.29377	1.015564	60
Language	1.73076682	3.019595935	60
Ethnicity	.48805107	.582162600	60
Urban	19.17	2.598	60

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.018	.654	.
	HomeConcentration	.018	1.000	-.081	.
	GLHR	.654	-.081	1.000	.
	GJFK	.	.	.	1.000
	PartnerConcentration	-.026	.048	-.200	.
	Distance	-.102	-.002	.052	.
	Language	.336	-.078	.422	.
	Ethnicity	.078	-.014	.017	.
	Urban	.356	.037	.323	.
Sig. (1-tailed)	Flights	.	.445	<.001	.000
	HomeConcentration	.445	.	.270	.000
	GLHR	.000	.270	.	.000
	GJFK	.000	.000	.000	.
	PartnerConcentration	.421	.357	.063	.000
	Distance	.218	.493	.346	.000
	Language	.004	.277	.000	.000
	Ethnicity	.278	.459	.449	.000
	Urban	.003	.389	.006	.000
N	Flights	60	60	60	60
	HomeConcentration	60	60	60	60
	GLHR	60	60	60	60
	GJFK	60	60	60	60
	PartnerConcentration	60	60	60	60
	Distance	60	60	60	60
	Language	60	60	60	60
	Ethnicity	60	60	60	60
	Urban	60	60	60	60

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
Pearson Correlation	Flights	-.026	-.102	.336	.078
	HomeConcentration	.048	-.002	-.078	-.014
	GLHR	-.200	.052	.422	.017
	GJFK	.	.	.	.
	PartnerConcentration	1.000	.176	-.340	.280
	Distance	.176	1.000	-.340	-.171
	Language	-.340	-.340	1.000	.226
	Ethnicity	.280	-.171	.226	1.000
	Urban	-.009	.102	-.224	-.254
Sig. (1-tailed)	Flights	.421	.218	.004	.278
	HomeConcentration	.357	.493	.277	.459
	GLHR	.063	.346	.000	.449
	GJFK	.000	.000	.000	.000
	PartnerConcentration	.	.089	.004	.015
	Distance	.089	.	.004	.095
	Language	.004	.004	.	.041
	Ethnicity	.015	.095	.041	.
	Urban	.474	.220	.043	.025
N	Flights	60	60	60	60
	HomeConcentration	60	60	60	60
	GLHR	60	60	60	60
	GJFK	60	60	60	60
	PartnerConcentration	60	60	60	60
	Distance	60	60	60	60
	Language	60	60	60	60
	Ethnicity	60	60	60	60
	Urban	60	60	60	60

Correlations

		Urban
Pearson Correlation	Flights	.356
	HomeConcentration	.037
	GLHR	.323
	GJFK	.
	PartnerConcentration	-.009
	Distance	.102
	Language	-.224
	Ethnicity	-.254
	Urban	1.000
Sig. (1-tailed)	Flights	.003
	HomeConcentration	.389
	GLHR	.006
	GJFK	.000
	PartnerConcentration	.474
	Distance	.220
	Language	.043
	Ethnicity	.025
	Urban	.
N	Flights	60
	HomeConcentration	60
	GLHR	60
	GJFK	60
	PartnerConcentration	60
	Distance	60
	Language	60
	Ethnicity	60
	Urban	60

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, HomeConcentration, Distance, GLHR, Ethnicity, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.715[a]	.511	.445	4.109	.511	7.748

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	7	52	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, GLHR, Ethnicity, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	915.571	7	130.796	7.748	<.001[b]
	Residual	877.829	52	16.881		
	Total	1793.400	59			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, GLHR, Ethnicity, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.022	6.119		-.167	.868
	HomeConcentration	.323	.529	.060	.611	.544
	GLHR	10.018	2.295	.550	4.365	<.001
	PartnerConcentration	.412	.305	.153	1.349	.183
	Distance	-.653	.586	-.120	-1.114	.270
	Language	.304	.247	.166	1.230	.224
	Ethnicity	.261	1.056	.028	.248	.805
	Urban	.496	.246	.234	2.014	.049

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.988	1.012
	GLHR	.594	1.685
	PartnerConcentration	.736	1.359
	Distance	.807	1.240
	Language	.515	1.940
	Ethnicity	.757	1.322
	Urban	.697	1.434

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	GLHR
1	1	5.103	1.000	.00	.00	.00
	2	1.307	1.976	.00	.00	.16
	3	.650	2.802	.00	.01	.00
	4	.571	2.989	.00	.00	.50
	5	.280	4.267	.00	.00	.06
	6	.055	9.655	.00	.73	.03
	7	.029	13.177	.03	.23	.00
	8	.005	32.119	.97	.04	.24

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions				
		PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.01	.00	.00	.01	.00
	2	.11	.00	.09	.00	.00
	3	.14	.00	.05	.33	.00
	4	.22	.00	.12	.03	.00
	5	.51	.00	.48	.55	.00
	6	.00	.25	.02	.00	.00
	7	.01	.55	.01	.00	.17
	8	.00	.19	.22	.06	.82

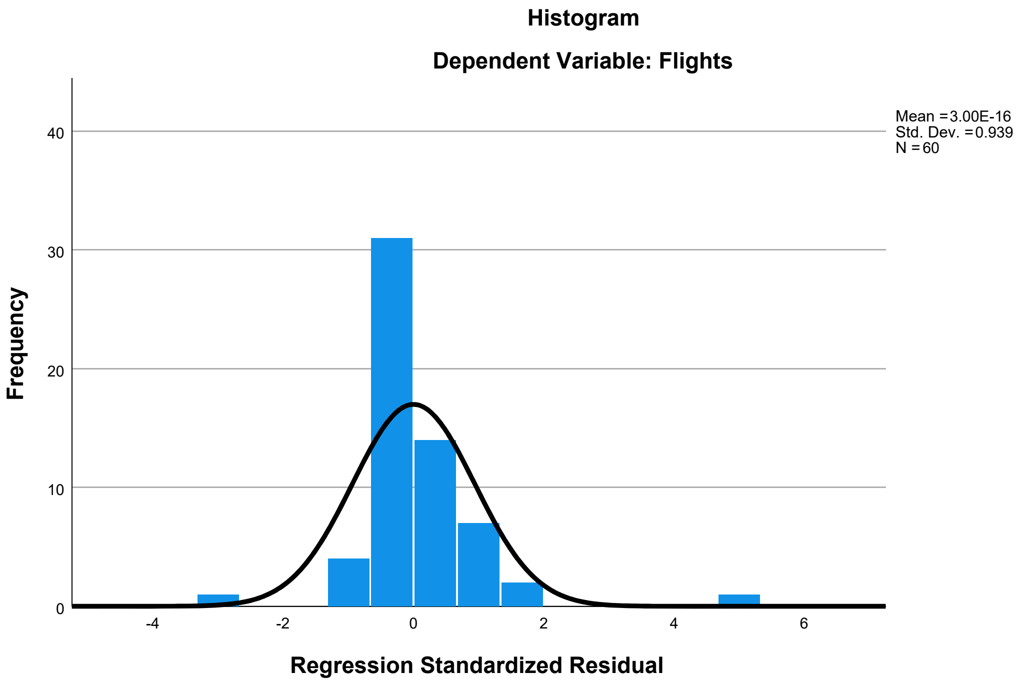
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.98	21.95	9.10	3.939	60
Residual	-11.738	20.053	.000	3.857	60
Std. Predicted Value	-1.300	3.261	.000	1.000	60
Std. Residual	-2.857	4.881	.000	.939	60

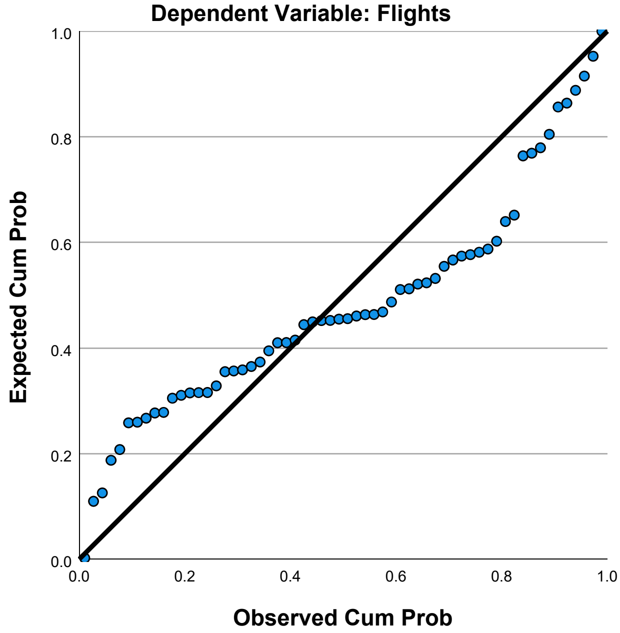
a. Dependent Variable: Flights

Charts



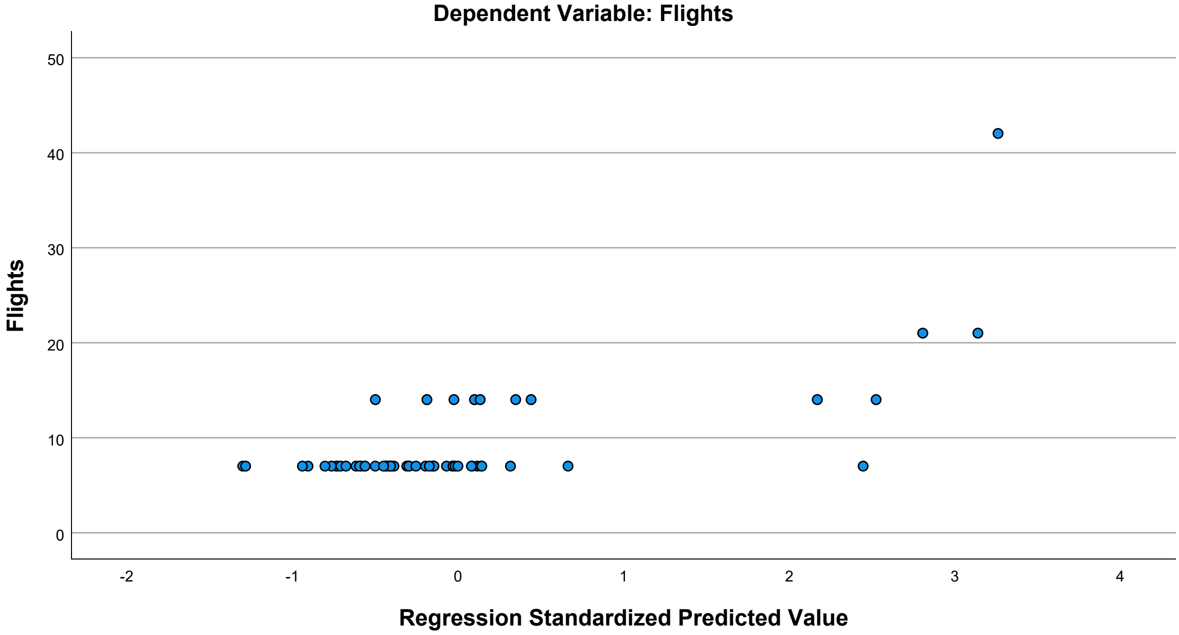
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

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[DataSet12] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
\1997 - AC.sav
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Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GJFK. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.75	5.180	20
NAFlights	.24222222222	.22705721301	20
Congestion	4.95	.999	20
GLHR	.40	.503	20
GJFK	.00	.000	20
PartnerConcentration	.86544800000	1.4475475825	20
Seasonality	.69559232026	.21485387660	20
Distance	3941.45	856.482	20
Language	340588.75	1266465.083	20
Ethnicity	1086375.00	1103118.041	20
Urban	15.50	3.517	20

Correlations

		Flights	NAFlights	Congestion	GLHR
Pearson Correlation	Flights	1.000	.552	.415	.182
	NAFlights	.552	1.000	.718	-.432
	Congestion	.415	.718	1.000	-.377
	GLHR	.182	-.432	-.377	1.000
	GJFK	.	.	.	.
	PartnerConcentration	-.082	-.144	-.016	-.311
	Seasonality	-.336	-.325	-.036	-.124
	Distance	-.119	.094	.399	-.360
	Language	.026	-.107	-.190	-.225
	Ethnicity	.536	.282	.133	.110
	Urban	.698	.466	.592	.000
Sig. (1-tailed)	Flights	.	.006	.035	.221
	NAFlights	.006	.	.000	.028
	Congestion	.035	.000	.	.050
	GLHR	.221	.028	.050	.
	GJFK	.000	.000	.000	.000
	PartnerConcentration	.365	.272	.473	.091
	Seasonality	.074	.081	.440	.302
	Distance	.308	.346	.040	.060
	Language	.457	.327	.212	.170
	Ethnicity	.007	.115	.288	.322
	Urban	.000	.019	.003	.500
N	Flights	20	20	20	20
	NAFlights	20	20	20	20
	Congestion	20	20	20	20
	GLHR	20	20	20	20
	GJFK	20	20	20	20
	PartnerConcentration	20	20	20	20
	Seasonality	20	20	20	20
	Distance	20	20	20	20
	Language	20	20	20	20
	Ethnicity	20	20	20	20
	Urban	20	20	20	20

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.	-.082	-.336	-.119
	NAFlights	.	-.144	-.325	.094
	Congestion	.	-.016	-.036	.399
	GLHR	.	-.311	-.124	-.360
	GJFK	1.000	.	.	.
	PartnerConcentration	.	1.000	.176	.131
	Seasonality	.	.176	1.000	.136
	Distance	.	.131	.136	1.000
	Language	.	-.135	-.216	-.135
	Ethnicity	.	-.257	-.102	-.326
	Urban	.	-.114	-.320	.104
Sig. (1-tailed)	Flights	.000	.365	.074	.308
	NAFlights	.000	.272	.081	.346
	Congestion	.000	.473	.440	.040
	GLHR	.000	.091	.302	.060
	GJFK	.	.000	.000	.000
	PartnerConcentration	.000	.	.229	.292
	Seasonality	.000	.229	.	.284
	Distance	.000	.292	.284	.
	Language	.000	.285	.180	.285
	Ethnicity	.000	.137	.335	.080
	Urban	.000	.316	.084	.331
N	Flights	20	20	20	20
	NAFlights	20	20	20	20
	Congestion	20	20	20	20
	GLHR	20	20	20	20
	GJFK	20	20	20	20
	PartnerConcentration	20	20	20	20
	Seasonality	20	20	20	20
	Distance	20	20	20	20
	Language	20	20	20	20
	Ethnicity	20	20	20	20
	Urban	20	20	20	20

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.026	.536	.698
	NAFlights	-.107	.282	.466
	Congestion	-.190	.133	.592
	GLHR	-.225	.110	.000
	GJFK	.	.	.
	PartnerConcentration	-.135	-.257	-.114
	Seasonality	-.216	-.102	-.320
	Distance	-.135	-.326	.104
	Language	1.000	.372	.210
	Ethnicity	.372	1.000	.246
	Urban	.210	.246	1.000
Sig. (1-tailed)	Flights	.457	.007	<.001
	NAFlights	.327	.115	.019
	Congestion	.212	.288	.003
	GLHR	.170	.322	.500
	GJFK	.000	.000	.000
	PartnerConcentration	.285	.137	.316
	Seasonality	.180	.335	.084
	Distance	.285	.080	.331
	Language	.	.053	.187
	Ethnicity	.053	.	.148
	Urban	.187	.148	.
N	Flights	20	20	20
	NAFlights	20	20	20
	Congestion	20	20	20
	GLHR	20	20	20
	GJFK	20	20	20
	PartnerConcentration	20	20	20
	Seasonality	20	20	20
	Distance	20	20	20
	Language	20	20	20
	Ethnicity	20	20	20
	Urban	20	20	20

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, GLHR, Ethnicity, Seasonality, PartnerConcentration, Distance, Language, Congestion, NAFlights[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.901[a]	.811	.641	3.104	.811	4.766

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	10	.011

a. Predictors: (Constant), Urban, GLHR, Ethnicity, Seasonality, PartnerConcentration, Distance, Language, Congestion, NAFligl

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	413.372	9	45.930	4.766	.011[b]
	Residual	96.378	10	9.638		
	Total	509.750	19			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, GLHR, Ethnicity, Seasonality, PartnerConcentration, Distance, Language, Congestion, NAFlights

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-8.966	6.678		-1.343	.209
	NAFlights	14.546	7.661	.638	1.899	.087
	Congestion	-1.424	1.501	-.275	-.949	.365
	GLHR	4.418	3.150	.429	1.403	.191
	PartnerConcentration	.923	.619	.258	1.490	.167
	Seasonality	1.214	4.563	.050	.266	.796
	Distance	.001	.001	.092	.517	.616
	Language	-1.537E-7	.000	-.038	-.138	.893
	Ethnicity	1.560E-6	.000	.332	1.615	.137
	Urban	.774	.354	.525	2.186	.054

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	NAFlights	.168	5.965
	Congestion	.226	4.431
	GLHR	.202	4.941
	PartnerConcentration	.631	1.585
	Seasonality	.528	1.895
	Distance	.596	1.678
	Language	.257	3.895
	Ethnicity	.447	2.238
	Urban	.327	3.054

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	NAFlights	Congestion	GLHR
1	1	6.725	1.000	.00	.00	.00	.00
	2	1.121	2.449	.00	.00	.00	.00
	3	.920	2.703	.00	.00	.00	.07
	4	.678	3.150	.00	.06	.00	.03
	5	.330	4.512	.00	.00	.00	.01
	6	.158	6.524	.00	.09	.00	.13
	7	.033	14.190	.00	.20	.00	.07
	8	.019	18.955	.05	.39	.04	.21
	9	.009	27.215	.71	.26	.07	.25
	10	.006	33.284	.23	.00	.88	.24

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions					
		PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.07	.00	.00	.14	.03	.00
	3	.19	.00	.00	.02	.01	.00
	4	.12	.00	.00	.04	.00	.00
	5	.26	.00	.01	.03	.37	.00
	6	.13	.10	.00	.07	.19	.01
	7	.02	.45	.37	.11	.26	.00
	8	.07	.01	.14	.17	.04	.46
	9	.09	.43	.46	.12	.01	.03
	10	.06	.00	.03	.30	.09	.50

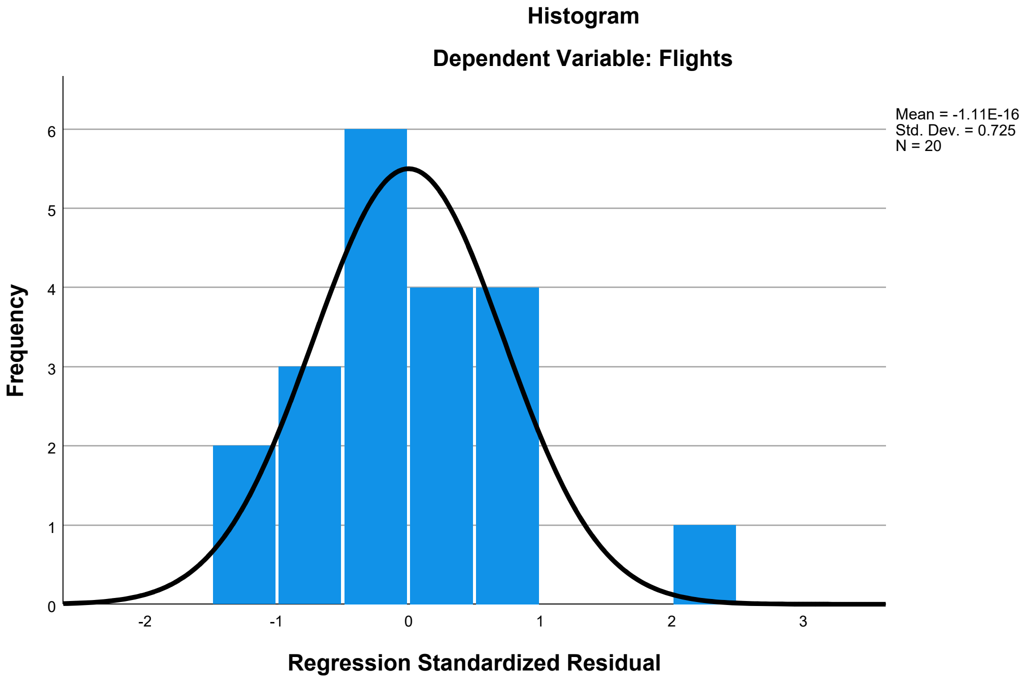
a. Dependent Variable: Flights

Residuals Statistics[a]

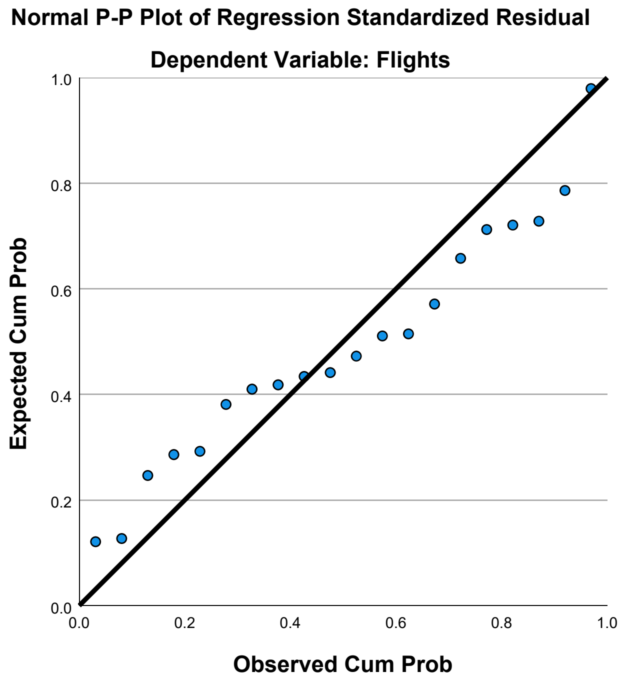
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.19	19.68	6.75	4.664	20
Residual	-3.634	6.323	.000	2.252	20
Std. Predicted Value	-1.407	2.771	.000	1.000	20
Std. Residual	-1.171	2.037	.000	.725	20

a. Dependent Variable: Flights

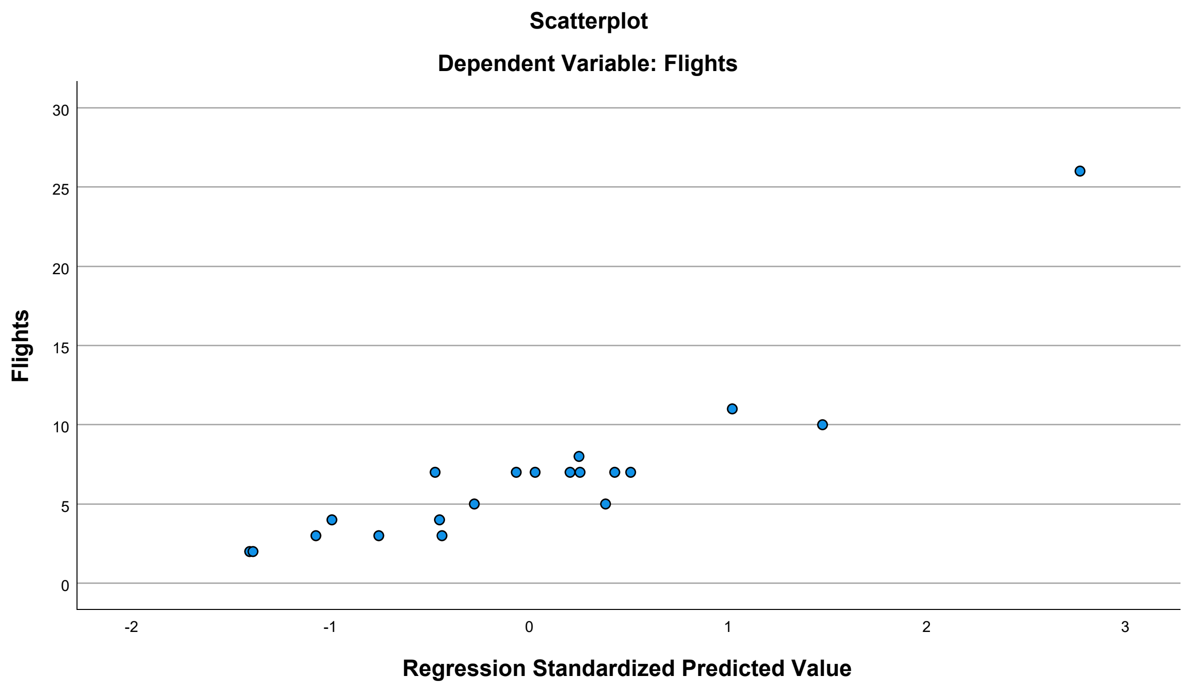
Charts



Histogram
Dependent Variable: Flights
Mean = -1.11E-16
Std. Dev. = 0.725
N = 20
Frequency
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.75	5.180	20
Congestion	4.95	.999	20
GLHR	.40	.503	20
PartnerConcentration	.86544800000	1.4475475825	20
Seasonality	.69559232026	.21485387660	20
Distance	3941.45	856.482	20
Language	340588.75	1266465.083	20
Ethnicity	1086375.00	1103118.041	20
Urban	15.50	3.517	20

Correlations

		Flights	Congestion	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.415	.182	-.082
	Congestion	.415	1.000	-.377	-.016
	GLHR	.182	-.377	1.000	-.311
	PartnerConcentration	-.082	-.016	-.311	1.000
	Seasonality	-.336	-.036	-.124	.176
	Distance	-.119	.399	-.360	.131
	Language	.026	-.190	-.225	-.135
	Ethnicity	.536	.133	.110	-.257
	Urban	.698	.592	.000	-.114
Sig. (1-tailed)	Flights	.	.035	.221	.365
	Congestion	.035	.	.050	.473
	GLHR	.221	.050	.	.091
	PartnerConcentration	.365	.473	.091	.
	Seasonality	.074	.440	.302	.229
	Distance	.308	.040	.060	.292
	Language	.457	.212	.170	.285
	Ethnicity	.007	.288	.322	.137
	Urban	.000	.003	.500	.316
N	Flights	20	20	20	20
	Congestion	20	20	20	20
	GLHR	20	20	20	20
	PartnerConcentration	20	20	20	20
	Seasonality	20	20	20	20
	Distance	20	20	20	20
	Language	20	20	20	20
	Ethnicity	20	20	20	20
	Urban	20	20	20	20

Correlations

		Seasonality	Distance	Language	Ethnicity
Pearson Correlation	Flights	-.336	-.119	.026	.536
	Congestion	-.036	.399	-.190	.133
	GLHR	-.124	-.360	-.225	.110
	PartnerConcentration	.176	.131	-.135	-.257
	Seasonality	1.000	.136	-.216	-.102
	Distance	.136	1.000	-.135	-.326
	Language	-.216	-.135	1.000	.372
	Ethnicity	-.102	-.326	.372	1.000
	Urban	-.320	.104	.210	.246
Sig. (1-tailed)	Flights	.074	.308	.457	.007
	Congestion	.440	.040	.212	.288
	GLHR	.302	.060	.170	.322
	PartnerConcentration	.229	.292	.285	.137
	Seasonality	.	.284	.180	.335
	Distance	.284	.	.285	.080
	Language	.180	.285	.	.053
	Ethnicity	.335	.080	.053	.
	Urban	.084	.331	.187	.148
N	Flights	20	20	20	20
	Congestion	20	20	20	20
	GLHR	20	20	20	20
	PartnerConcentration	20	20	20	20
	Seasonality	20	20	20	20
	Distance	20	20	20	20
	Language	20	20	20	20
	Ethnicity	20	20	20	20
	Urban	20	20	20	20

Correlations

		Urban
Pearson Correlation	Flights	.698
	Congestion	.592
	GLHR	.000
	PartnerConcentration	-.114
	Seasonality	-.320
	Distance	.104
	Language	.210
	Ethnicity	.246
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	Congestion	.003
	GLHR	.500
	PartnerConcentration	.316
	Seasonality	.084
	Distance	.331
	Language	.187
	Ethnicity	.148
	Urban	.
N	Flights	20
	Congestion	20
	GLHR	20
	PartnerConcentration	20
	Seasonality	20
	Distance	20
	Language	20
	Ethnicity	20
	Urban	20

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, GLHR, Ethnicity, Seasonality, PartnerConcentration, Distance, Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.862[a]	.743	.556	3.453	.743	3.970

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	11	.019

a. Predictors: (Constant), Urban, GLHR, Ethnicity, Seasonality, PartnerConcentration, Distance, Language, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	378.624	8	47.328	3.970	.019[b]
	Residual	131.126	11	11.921		
	Total	509.750	19			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, GLHR, Ethnicity, Seasonality, PartnerConcentration, Distance, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-5.304	7.110		-.746	.471
	Congestion	-.594	1.597	-.115	-.372	.717
	GLHR	.154	2.456	.015	.063	.951
	PartnerConcentration	.411	.620	.115	.662	.522
	Seasonality	-3.977	4.063	-.165	-.979	.349
	Distance	-4.116E-5	.001	-.007	-.036	.972
	Language	-1.432E-6	.000	-.350	-1.459	.172
	Ethnicity	2.467E-6	.000	.525	2.641	.023
	Urban	.988	.373	.671	2.648	.023

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.247	4.055
	GLHR	.412	2.429
	PartnerConcentration	.779	1.284
	Seasonality	.823	1.215
	Distance	.652	1.535
	Language	.406	2.462
	Ethnicity	.591	1.692
	Urban	.364	2.744

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GLHR
1	1	6.149	1.000	.00	.00	.00
	2	1.121	2.343	.00	.00	.00
	3	.914	2.594	.00	.00	.12
	4	.373	4.061	.00	.00	.27
	5	.313	4.433	.00	.00	.05
	6	.088	8.381	.00	.01	.00
	7	.026	15.287	.00	.01	.01
	8	.011	23.867	.74	.02	.04
	9	.006	31.826	.26	.96	.50

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.08	.00	.00	.22	.04	.00
	3	.26	.00	.00	.05	.01	.00
	4	.51	.00	.00	.06	.01	.00
	5	.04	.00	.00	.17	.66	.00
	6	.02	.54	.00	.01	.00	.04
	7	.00	.20	.65	.00	.14	.17
	8	.01	.25	.31	.00	.02	.22
	9	.07	.00	.03	.49	.12	.56

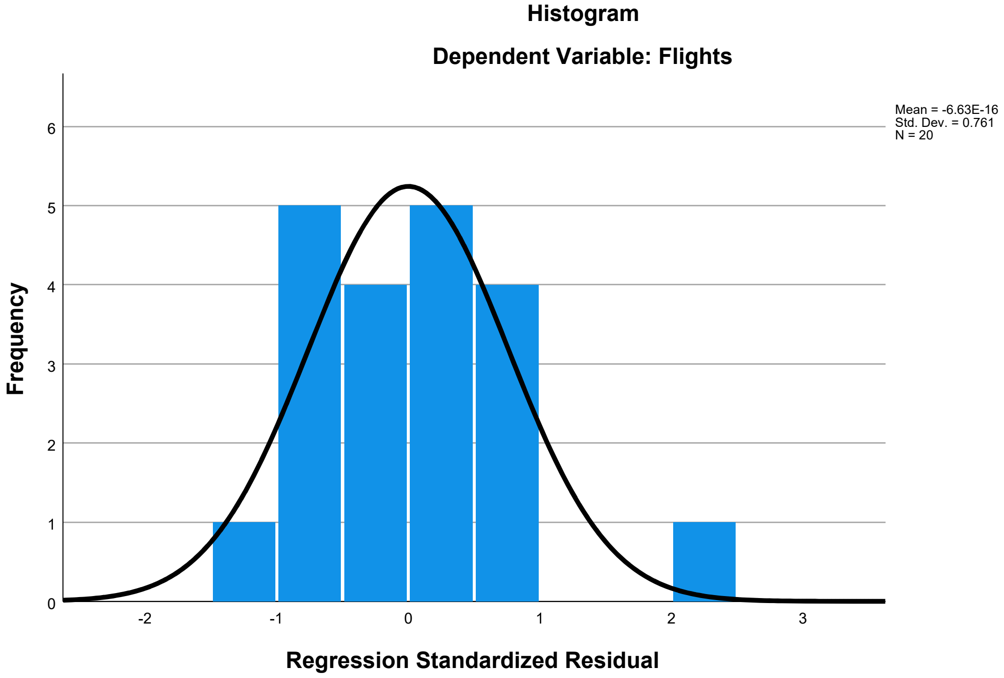
a. Dependent Variable: Flights

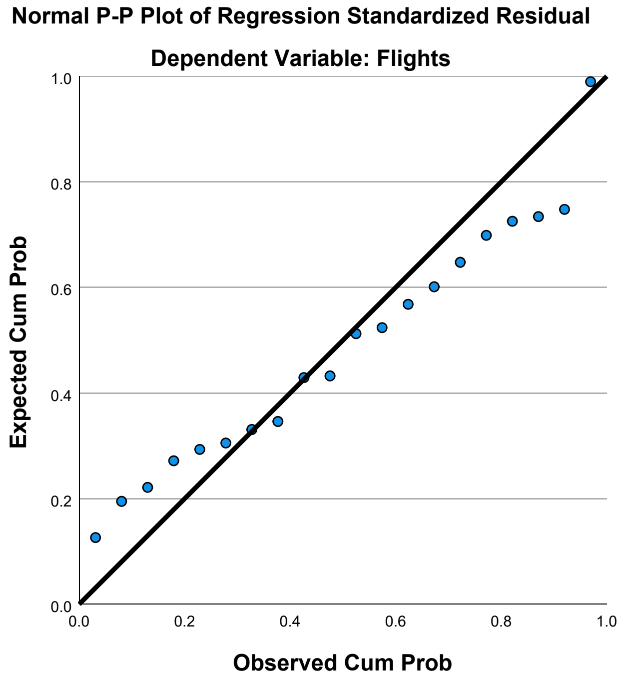
Residuals Statistics[a]

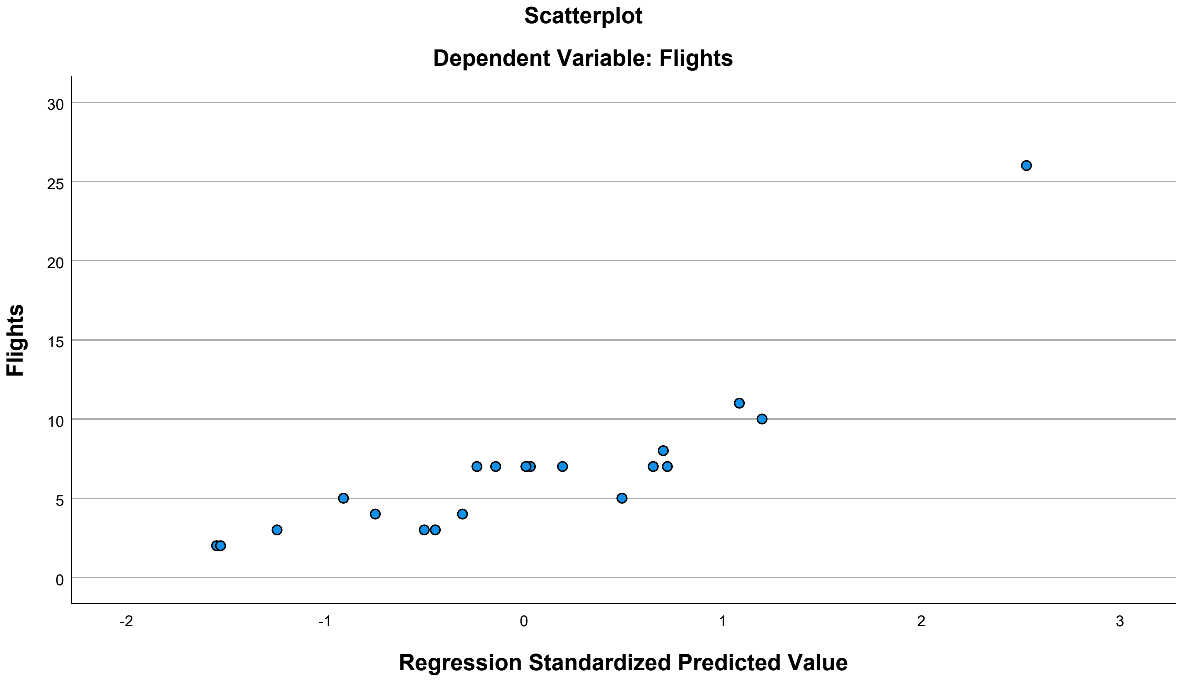
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.16	18.04	6.75	4.464	20
Residual	-3.951	7.962	.000	2.627	20
Std. Predicted Value	-1.548	2.529	.000	1.000	20
Std. Residual	-1.144	2.306	.000	.761	20

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
25
30
-2
-1
0
1
2
3

Regression

[DataSet13] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines \2002 - AC.sav

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.70	8.285	20
HomeConcentration	2.91690860	1.796644158	20
Congestion	5.05	.999	20
GLHR	.35	.489	20
PartnerConcentration	1.5646598500	1.7731125392	20
Seasonality	.70651515152	.23515111437	20
Distance	3.74910	.746175	20
Language	2.69098280	3.409085445	20
Ethnicity	1.05158950	.943113856	20
Urban	16.10	3.754	20

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.168	.237	.300
	HomeConcentration	.168	1.000	.827	-.580
	Congestion	.237	.827	1.000	-.361
	GLHR	.300	-.580	-.361	1.000
	PartnerConcentration	.069	-.332	-.213	-.012
	Seasonality	-.119	.450	.231	-.297
	Distance	.057	.279	.420	-.270
	Language	.385	.110	-.138	.132
	Ethnicity	.478	.174	.044	.072
	Urban	.483	.084	.335	.123
Sig. (1-tailed)	Flights	.	.239	.157	.099
	HomeConcentration	.239	.	.000	.004
	Congestion	.157	.000	.	.059
	GLHR	.099	.004	.059	.
	PartnerConcentration	.387	.076	.184	.480
	Seasonality	.308	.023	.164	.102
	Distance	.405	.117	.033	.125
	Language	.047	.323	.280	.289
	Ethnicity	.017	.232	.427	.382
	Urban	.015	.362	.074	.302
N	Flights	20	20	20	20
	HomeConcentration	20	20	20	20
	Congestion	20	20	20	20
	GLHR	20	20	20	20
	PartnerConcentration	20	20	20	20

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.069	-.119	.057	.385
	HomeConcentration	-.332	.450	.279	.110
	Congestion	-.213	.231	.420	-.138
	GLHR	-.012	-.297	-.270	.132
	PartnerConcentration	1.000	-.300	.130	-.356
	Seasonality	-.300	1.000	-.210	.260
	Distance	.130	-.210	1.000	-.314
	Language	-.356	.260	-.314	1.000
	Ethnicity	-.200	.179	-.210	.909
	Urban	.170	-.369	.132	-.062
Sig. (1-tailed)	Flights	.387	.308	.405	.047
	HomeConcentration	.076	.023	.117	.323
	Congestion	.184	.164	.033	.280
	GLHR	.480	.102	.125	.289
	PartnerConcentration	.	.100	.292	.062
	Seasonality	.100	.	.187	.134
	Distance	.292	.187	.	.088
	Language	.062	.134	.088	.
	Ethnicity	.199	.225	.187	.000
	Urban	.236	.055	.289	.397
N	Flights	20	20	20	20
	HomeConcentration	20	20	20	20
	Congestion	20	20	20	20
	GLHR	20	20	20	20
	PartnerConcentration	20	20	20	20

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.478	.483
	HomeConcentration	.174	.084
	Congestion	.044	.335
	GLHR	.072	.123
	PartnerConcentration	-.200	.170
	Seasonality	.179	-.369
	Distance	-.210	.132
	Language	.909	-.062
	Ethnicity	1.000	.155
	Urban	.155	1.000
Sig. (1-tailed)	Flights	.017	.015
	HomeConcentration	.232	.362
	Congestion	.427	.074
	GLHR	.382	.302
	PartnerConcentration	.199	.236
	Seasonality	.225	.055
	Distance	.187	.289
	Language	.000	.397
	Ethnicity	.	.257
	Urban	.257	.
N	Flights	20	20
	HomeConcentration	20	20
	Congestion	20	20
	GLHR	20	20
	PartnerConcentration	20	20

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Seasonality	20	20	20	20
	Distance	20	20	20	20
	Language	20	20	20	20
	Ethnicity	20	20	20	20
	Urban	20	20	20	20

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	Seasonality	20	20	20	20
	Distance	20	20	20	20
	Language	20	20	20	20
	Ethnicity	20	20	20	20
	Urban	20	20	20	20

Correlations

	Ethnicity	Urban
Seasonality	20	20
Distance	20	20
Language	20	20
Ethnicity	20	20
Urban	20	20

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, HomeConcentration, Distance, PartnerConcentration, GLHR, Seasonality, Congestion, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.768[a]	.590	.221	7.312	.590	1.599

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	10	.237

a. Predictors: (Constant), Urban, Language, HomeConcentration, Distance, PartnerConcentration, GLHR, Seasonality, Congest
Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	769.579	9	85.509	1.599	.237[b]
	Residual	534.621	10	53.462		
	Total	1304.200	19			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, HomeConcentration, Distance, PartnerConcentration, GLHR, Seasonality, Congestion, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-19.566	20.158		-.971	.355
	HomeConcentration	1.949	2.672	.423	.730	.482
	Congestion	.686	4.794	.083	.143	.889
	GLHR	8.012	5.108	.473	1.569	.148
	PartnerConcentration	1.479	1.245	.317	1.188	.262
	Seasonality	-3.095	9.890	-.088	-.313	.761
	Distance	.926	2.841	.083	.326	.751
	Language	1.257	1.920	.517	.655	.527
	Ethnicity	-.476	6.154	-.054	-.077	.940
	Urban	.673	.610	.305	1.103	.296

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.122	8.189
	Congestion	.123	8.148
	GLHR	.450	2.220
	PartnerConcentration	.577	1.732
	Seasonality	.520	1.922
	Distance	.626	1.597
	Language	.066	15.227
	Ethnicity	.084	11.973
	Urban	.536	1.865

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.500	1.000	.00	.00	.00
	2	1.020	2.711	.00	.00	.00
	3	.809	3.046	.00	.01	.00
	4	.434	4.158	.00	.00	.00
	5	.099	8.699	.00	.02	.00
	6	.069	10.437	.01	.21	.00
	7	.036	14.418	.00	.04	.00
	8	.023	17.913	.00	.02	.00
	9	.007	31.914	.39	.01	.11
	10	.003	50.230	.60	.68	.89

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.00	.09	.00	.00	.02	.01
	3	.26	.02	.00	.00	.00	.00
	4	.09	.39	.00	.00	.01	.01
	5	.00	.01	.31	.00	.02	.03
	6	.41	.27	.01	.06	.00	.00
	7	.02	.07	.17	.19	.18	.16
	8	.03	.05	.02	.16	.31	.45
	9	.04	.00	.48	.59	.00	.00
	10	.15	.10	.01	.01	.46	.34

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.04
	6	.04
	7	.14
	8	.34
	9	.44
	10	.00

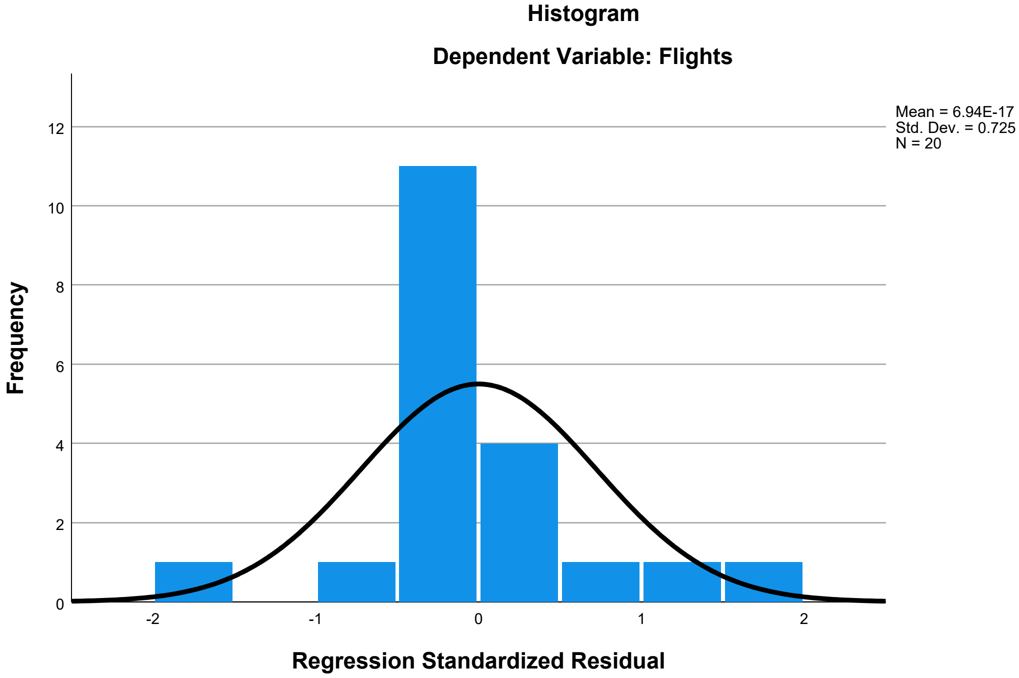
a. Dependent Variable: Flights

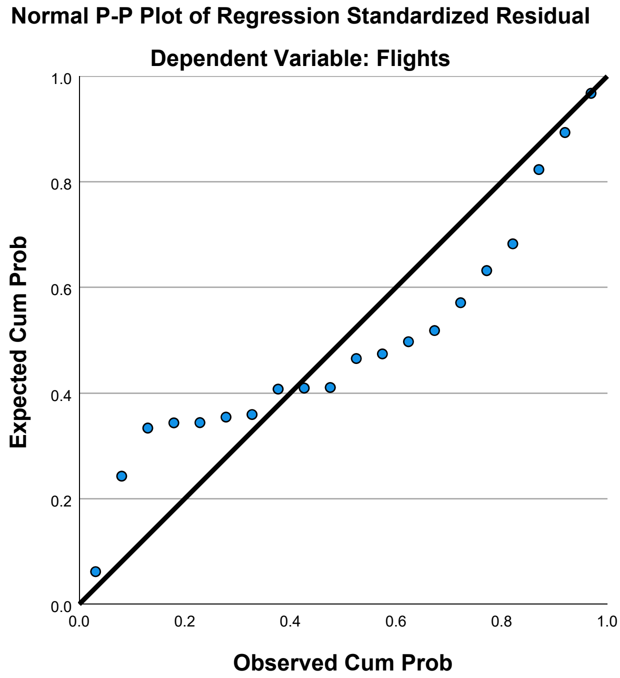
Residuals Statistics[a]

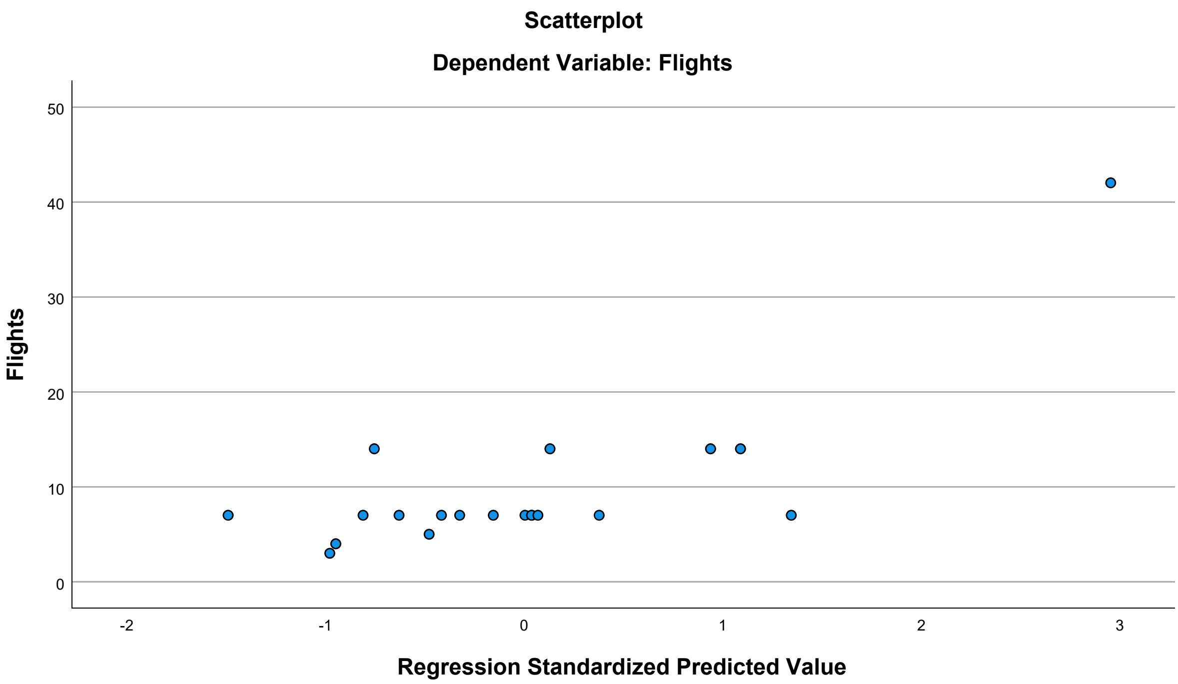
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.22	28.50	9.70	6.364	20
Residual	-11.261	13.502	.000	5.305	20
Std. Predicted Value	-1.490	2.954	.000	1.000	20
Std. Residual	-1.540	1.847	.000	.725	20

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-2
-1
0
1
2
3

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.70	8.285	20
HomeConcentration	2.91690860	1.796644158	20
Congestion	5.05	.999	20
GLHR	.35	.489	20
PartnerConcentration	1.5646598500	1.7731125392	20
Seasonality	.70651515152	.23515111437	20
Distance	3.74910	.746175	20
Ethnicity	1.05158950	.943113856	20
Urban	16.10	3.754	20

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.168	.237	.300
	HomeConcentration	.168	1.000	.827	-.580
	Congestion	.237	.827	1.000	-.361
	GLHR	.300	-.580	-.361	1.000
	PartnerConcentration	.069	-.332	-.213	-.012
	Seasonality	-.119	.450	.231	-.297
	Distance	.057	.279	.420	-.270
	Ethnicity	.478	.174	.044	.072
	Urban	.483	.084	.335	.123
Sig. (1-tailed)	Flights	.	.239	.157	.099
	HomeConcentration	.239	.	.000	.004
	Congestion	.157	.000	.	.059
	GLHR	.099	.004	.059	.
	PartnerConcentration	.387	.076	.184	.480
	Seasonality	.308	.023	.164	.102
	Distance	.405	.117	.033	.125
	Ethnicity	.017	.232	.427	.382
	Urban	.015	.362	.074	.302
N	Flights	20	20	20	20
	HomeConcentration	20	20	20	20
	Congestion	20	20	20	20
	GLHR	20	20	20	20
	PartnerConcentration	20	20	20	20
	Seasonality	20	20	20	20
	Distance	20	20	20	20
	Ethnicity	20	20	20	20
	Urban	20	20	20	20

Correlations

		PartnerConcentration	Seasonality	Distance	Ethnicity
Pearson Correlation	Flights	.069	-.119	.057	.478
	HomeConcentration	-.332	.450	.279	.174
	Congestion	-.213	.231	.420	.044
	GLHR	-.012	-.297	-.270	.072
	PartnerConcentration	1.000	-.300	.130	-.200
	Seasonality	-.300	1.000	-.210	.179
	Distance	.130	-.210	1.000	-.210
	Ethnicity	-.200	.179	-.210	1.000
	Urban	.170	-.369	.132	.155
Sig. (1-tailed)	Flights	.387	.308	.405	.017
	HomeConcentration	.076	.023	.117	.232
	Congestion	.184	.164	.033	.427
	GLHR	.480	.102	.125	.382
	PartnerConcentration	.	.100	.292	.199
	Seasonality	.100	.	.187	.225
	Distance	.292	.187	.	.187
	Ethnicity	.199	.225	.187	.
	Urban	.236	.055	.289	.257
N	Flights	20	20	20	20
	HomeConcentration	20	20	20	20
	Congestion	20	20	20	20
	GLHR	20	20	20	20
	PartnerConcentration	20	20	20	20
	Seasonality	20	20	20	20
	Distance	20	20	20	20
	Ethnicity	20	20	20	20
	Urban	20	20	20	20

Correlations

		Urban
Pearson Correlation	Flights	.483
	HomeConcentration	.084
	Congestion	.335
	GLHR	.123
	PartnerConcentration	.170
	Seasonality	-.369
	Distance	.132
	Ethnicity	.155
	Urban	1.000
Sig. (1-tailed)	Flights	.015
	HomeConcentration	.362
	Congestion	.074
	GLHR	.302
	PartnerConcentration	.236
	Seasonality	.055
	Distance	.289
	Ethnicity	.257
	Urban	.
N	Flights	20
	HomeConcentration	20
	Congestion	20
	GLHR	20
	PartnerConcentration	20
	Seasonality	20
	Distance	20
	Ethnicity	20
	Urban	20

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, Ethnicity, Distance, PartnerConcentration, GLHR, Seasonality, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.757[a]	.573	.262	7.119	.573	1.841

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	11	.172

a. Predictors: (Constant), Urban, HomeConcentration, Ethnicity, Distance, PartnerConcentration, GLHR, Seasonality, Congestic

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	746.667	8	93.333	1.841	.172[b]
	Residual	557.533	11	50.685		
	Total	1304.200	19			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, Ethnicity, Distance, PartnerConcentration, GLHR, Seasonality, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-12.970	16.999		-.763	.462
	HomeConcentration	2.716	2.338	.589	1.162	.270
	Congestion	-1.157	3.779	-.140	-.306	.765
	GLHR	9.118	4.693	.539	1.943	.078
	PartnerConcentration	1.109	1.080	.237	1.026	.327
	Seasonality	-2.337	9.563	-.066	-.244	.811
	Distance	1.051	2.760	.095	.381	.711
	Ethnicity	3.330	1.969	.379	1.691	.119
	Urban	.613	.587	.278	1.044	.319

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.151	6.615
	Congestion	.187	5.338
	GLHR	.506	1.977
	PartnerConcentration	.727	1.375
	Seasonality	.528	1.896
	Distance	.629	1.590
	Ethnicity	.774	1.292
	Urban	.548	1.823

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.018	1.000	.00	.00	.00
	2	.811	2.942	.00	.01	.00
	3	.638	3.316	.00	.00	.00
	4	.331	4.608	.00	.00	.00
	5	.092	8.727	.00	.03	.00
	6	.068	10.126	.01	.29	.00
	7	.030	15.270	.00	.01	.00
	8	.007	30.827	.57	.00	.12
	9	.005	37.213	.41	.66	.88

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.27	.04	.00	.00	.00	.00
	3	.07	.40	.00	.00	.10	.00
	4	.04	.16	.00	.00	.71	.00
	5	.00	.01	.39	.01	.00	.04
	6	.46	.37	.00	.05	.01	.03
	7	.05	.01	.05	.35	.09	.44
	8	.04	.00	.52	.59	.00	.42
	9	.06	.00	.04	.00	.08	.06

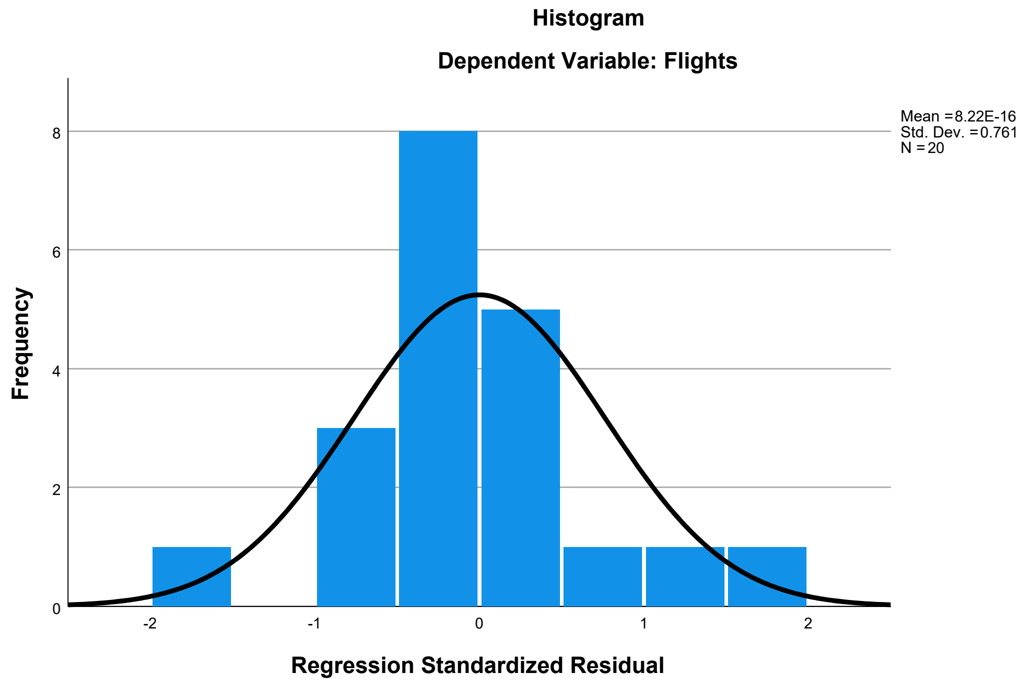
a. Dependent Variable: Flights

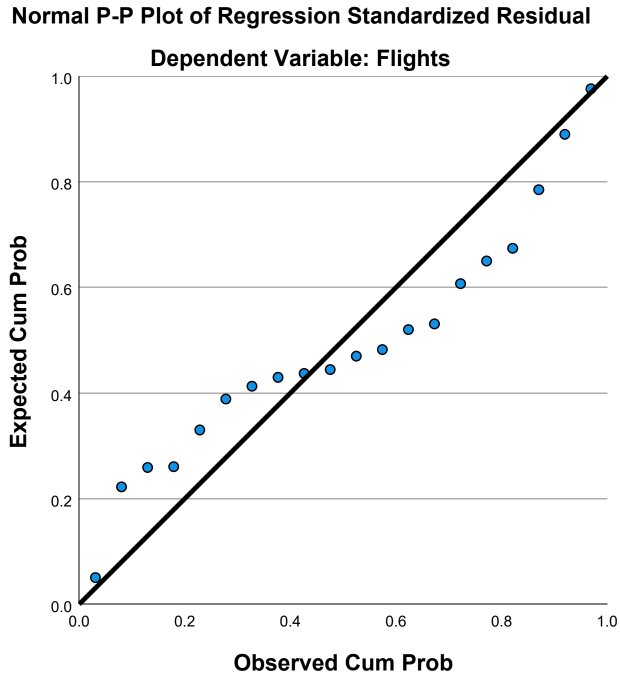
Residuals Statistics[a]

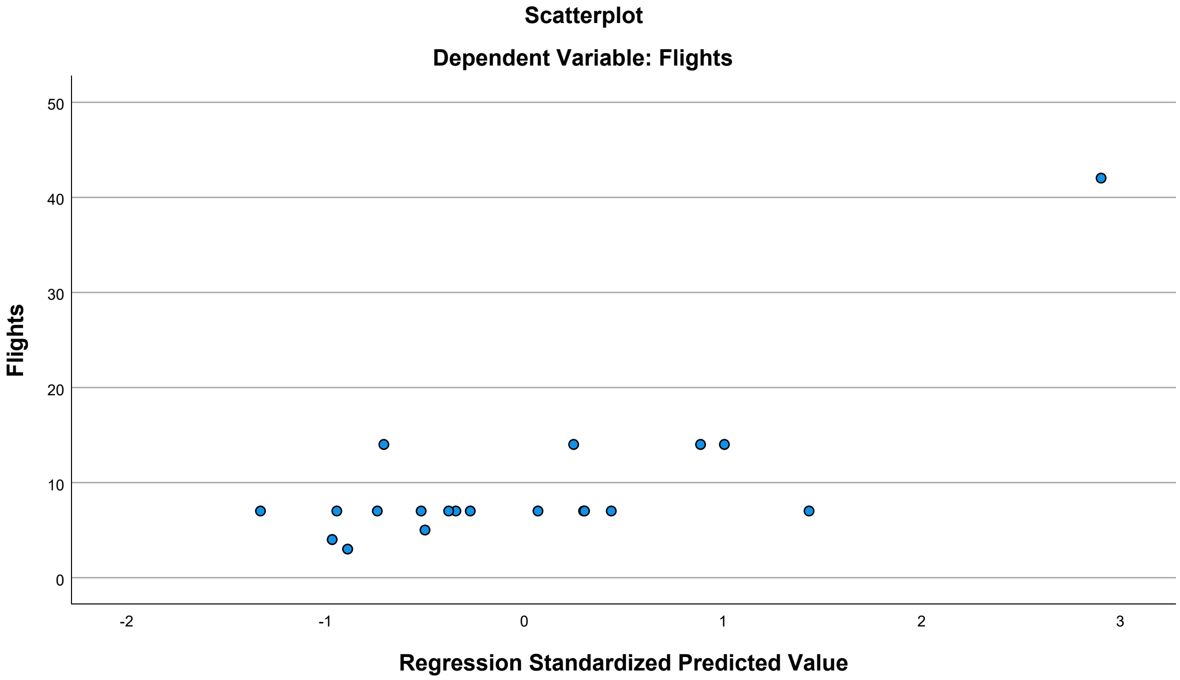
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.38	27.90	9.70	6.269	20
Residual	-11.686	14.102	.000	5.417	20
Std. Predicted Value	-1.327	2.903	.000	1.000	20
Std. Residual	-1.641	1.981	.000	.761	20

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-2
-1
0
1
2
3

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.70	8.285	20
HomeConcentration	2.91690860	1.796644158	20
GLHR	.35	.489	20
PartnerConcentration	1.5646598500	1.7731125392	20
Seasonality	.70651515152	.23515111437	20
Distance	3.74910	.746175	20
Ethnicity	1.05158950	.943113856	20
Urban	16.10	3.754	20

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.168	.300	.069
	HomeConcentration	.168	1.000	-.580	-.332
	GLHR	.300	-.580	1.000	-.012
	PartnerConcentration	.069	-.332	-.012	1.000
	Seasonality	-.119	.450	-.297	-.300
	Distance	.057	.279	-.270	.130
	Ethnicity	.478	.174	.072	-.200
	Urban	.483	.084	.123	.170
Sig. (1-tailed)	Flights	.	.239	.099	.387
	HomeConcentration	.239	.	.004	.076
	GLHR	.099	.004	.	.480
	PartnerConcentration	.387	.076	.480	.
	Seasonality	.308	.023	.102	.100
	Distance	.405	.117	.125	.292
	Ethnicity	.017	.232	.382	.199
	Urban	.015	.362	.302	.236
N	Flights	20	20	20	20
	HomeConcentration	20	20	20	20
	GLHR	20	20	20	20
	PartnerConcentration	20	20	20	20
	Seasonality	20	20	20	20
	Distance	20	20	20	20
	Ethnicity	20	20	20	20
	Urban	20	20	20	20

Correlations

		Seasonality	Distance	Ethnicity	Urban
Pearson Correlation	Flights	-.119	.057	.478	.483
	HomeConcentration	.450	.279	.174	.084
	GLHR	-.297	-.270	.072	.123
	PartnerConcentration	-.300	.130	-.200	.170
	Seasonality	1.000	-.210	.179	-.369
	Distance	-.210	1.000	-.210	.132
	Ethnicity	.179	-.210	1.000	.155
	Urban	-.369	.132	.155	1.000
Sig. (1-tailed)	Flights	.308	.405	.017	.015
	HomeConcentration	.023	.117	.232	.362
	GLHR	.102	.125	.382	.302
	PartnerConcentration	.100	.292	.199	.236
	Seasonality	.	.187	.225	.055
	Distance	.187	.	.187	.289
	Ethnicity	.225	.187	.	.257
	Urban	.055	.289	.257	.
N	Flights	20	20	20	20
	HomeConcentration	20	20	20	20
	GLHR	20	20	20	20
	PartnerConcentration	20	20	20	20
	Seasonality	20	20	20	20
	Distance	20	20	20	20
	Ethnicity	20	20	20	20
	Urban	20	20	20	20

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, Ethnicity, Distance, PartnerConcentration, GLHR, Seasonality[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.754[a]	.569	.317	6.845	.569	2.262

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	7	12	.102

a. Predictors: (Constant), Urban, HomeConcentration, Ethnicity, Distance, PartnerConcentration, GLHR, Seasonality

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	741.912	7	105.987	2.262	.102[b]
	Residual	562.288	12	46.857		
	Total	1304.200	19			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, Ethnicity, Distance, PartnerConcentration, GLHR, Seasonality

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-14.723	15.391		-.957	.358
	HomeConcentration	2.167	1.441	.470	1.504	.158
	GLHR	8.700	4.317	.514	2.015	.067
	PartnerConcentration	1.111	1.038	.238	1.070	.306
	Seasonality	-2.603	9.157	-.074	-.284	.781
	Distance	.773	2.506	.070	.308	.763
	Ethnicity	3.489	1.826	.397	1.911	.080
	Urban	.534	.507	.242	1.054	.313

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.368	2.716
	GLHR	.552	1.810
	PartnerConcentration	.727	1.375
	Seasonality	.532	1.880
	Distance	.705	1.418
	Ethnicity	.832	1.203
	Urban	.682	1.466

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	6.049	1.000	.00	.00	.00
	2	.800	2.750	.00	.03	.29
	3	.638	3.079	.00	.00	.08
	4	.318	4.362	.00	.01	.05
	5	.090	8.205	.00	.09	.00
	6	.068	9.402	.02	.72	.51
	7	.030	14.179	.00	.01	.05
	8	.007	29.411	.98	.13	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Ethnicity	Urban
1	1	.01	.00	.00	.01	.00
	2	.04	.00	.00	.00	.00
	3	.41	.00	.00	.11	.00
	4	.16	.00	.00	.77	.00
	5	.02	.38	.01	.00	.07
	6	.36	.00	.05	.01	.04
	7	.01	.05	.38	.09	.56
	8	.00	.56	.55	.00	.33

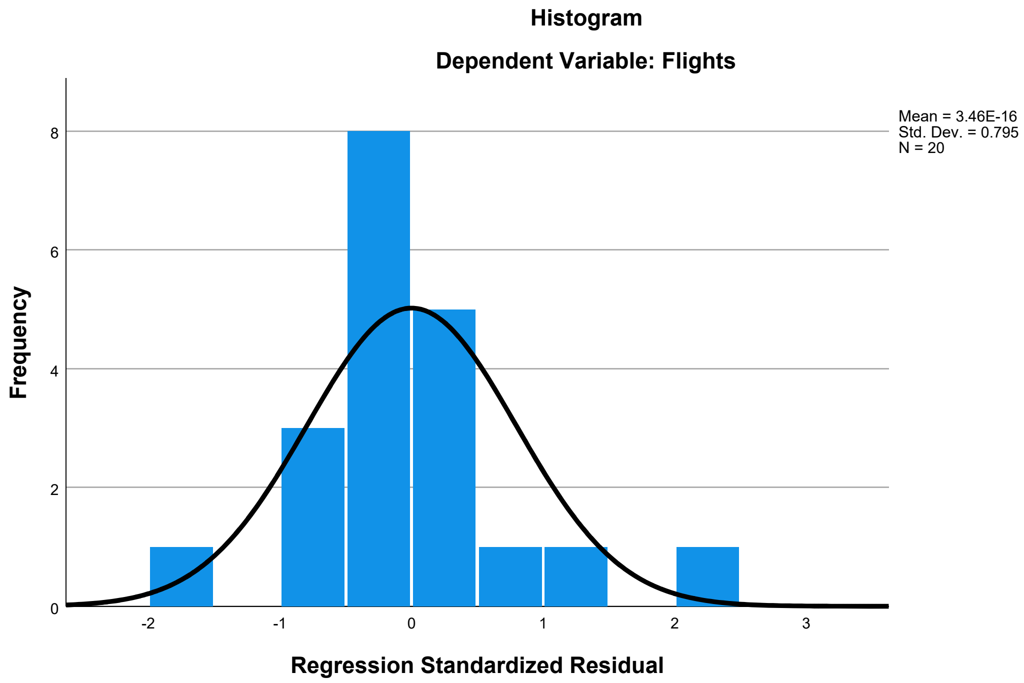
a. Dependent Variable: Flights

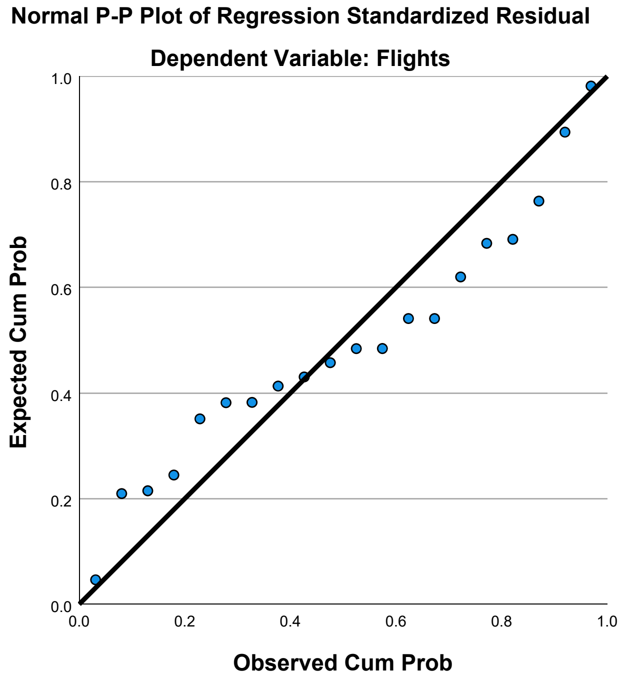
Residuals Statistics[a]

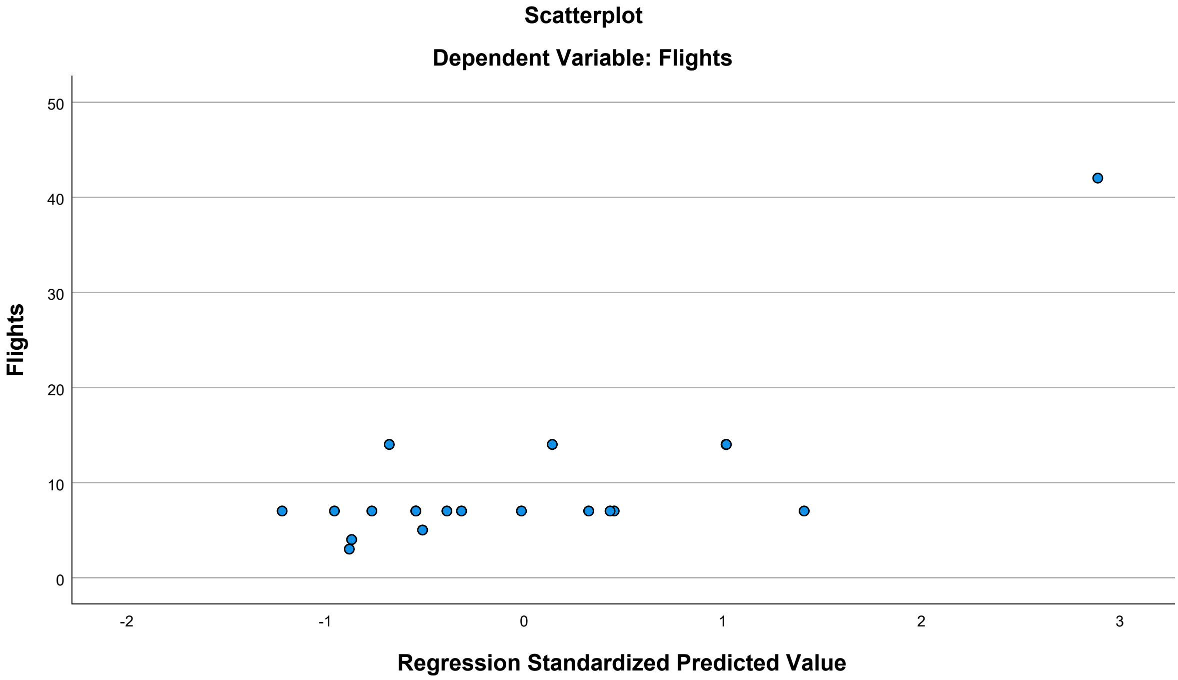
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.09	27.75	9.70	6.249	20
Residual	-11.511	14.250	.000	5.440	20
Std. Predicted Value	-1.218	2.889	.000	1.000	20
Std. Residual	-1.682	2.082	.000	.795	20

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-2
-1
0
1
2
3

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.70	8.285	20
HomeConcentration	2.91690860	1.796644158	20
GLHR	.35	.489	20
PartnerConcentration	1.5646598500	1.7731125392	20
Distance	3.74910	.746175	20
Ethnicity	1.05158950	.943113856	20
Urban	16.10	3.754	20

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.168	.300	.069
	HomeConcentration	.168	1.000	-.580	-.332
	GLHR	.300	-.580	1.000	-.012
	PartnerConcentration	.069	-.332	-.012	1.000
	Distance	.057	.279	-.270	.130
	Ethnicity	.478	.174	.072	-.200
	Urban	.483	.084	.123	.170
Sig. (1-tailed)	Flights	.	.239	.099	.387
	HomeConcentration	.239	.	.004	.076
	GLHR	.099	.004	.	.480
	PartnerConcentration	.387	.076	.480	.
	Distance	.405	.117	.125	.292
	Ethnicity	.017	.232	.382	.199
	Urban	.015	.362	.302	.236
N	Flights	20	20	20	20
	HomeConcentration	20	20	20	20
	GLHR	20	20	20	20
	PartnerConcentration	20	20	20	20
	Distance	20	20	20	20
	Ethnicity	20	20	20	20
	Urban	20	20	20	20

Correlations

		Distance	Ethnicity	Urban
Pearson Correlation	Flights	.057	.478	.483
	HomeConcentration	.279	.174	.084
	GLHR	-.270	.072	.123
	PartnerConcentration	.130	-.200	.170
	Distance	1.000	-.210	.132
	Ethnicity	-.210	1.000	.155
	Urban	.132	.155	1.000
Sig. (1-tailed)	Flights	.405	.017	.015
	HomeConcentration	.117	.232	.362
	GLHR	.125	.382	.302
	PartnerConcentration	.292	.199	.236
	Distance	.	.187	.289
	Ethnicity	.187	.	.257
	Urban	.289	.257	.
N	Flights	20	20	20
	HomeConcentration	20	20	20
	GLHR	20	20	20
	PartnerConcentration	20	20	20
	Distance	20	20	20
	Ethnicity	20	20	20
	Urban	20	20	20

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, Ethnicity, Distance, PartnerConcentration, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change
1	.752[a]	.566	.366	6.599	.566	2.825

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	13	.055

a. Predictors: (Constant), Urban, HomeConcentration, Ethnicity, Distance, PartnerConcentration, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	738.126	6	123.021	2.825	.055[b]
	Residual	566.074	13	43.544		
	Total	1304.200	19			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, Ethnicity, Distance, PartnerConcentration, GLHR

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-17.908	10.170		-1.761	.102
	HomeConcentration	1.984	1.243	.430	1.596	.134
	GLHR	8.731	4.161	.516	2.099	.056
	PartnerConcentration	1.112	1.001	.238	1.110	.287
	Distance	1.017	2.269	.092	.448	.661
	Ethnicity	3.434	1.751	.391	1.962	.072
	Urban	.596	.440	.270	1.356	.198

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.459	2.176
	GLHR	.553	1.809
	PartnerConcentration	.727	1.375
	Distance	.800	1.251
	Ethnicity	.841	1.189
	Urban	.841	1.189

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	5.165	1.000	.00	.00	.01
	2	.775	2.581	.00	.04	.31
	3	.635	2.852	.00	.00	.06
	4	.310	4.085	.00	.03	.04
	5	.068	8.685	.04	.92	.51
	6	.033	12.458	.02	.00	.04
	7	.014	19.216	.94	.00	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Distance	Ethnicity	Urban
1	1	.01	.00	.01	.00
	2	.02	.00	.01	.00
	3	.41	.00	.12	.00
	4	.18	.01	.75	.00
	5	.36	.06	.01	.04
	6	.02	.23	.05	.86
	7	.00	.71	.05	.09

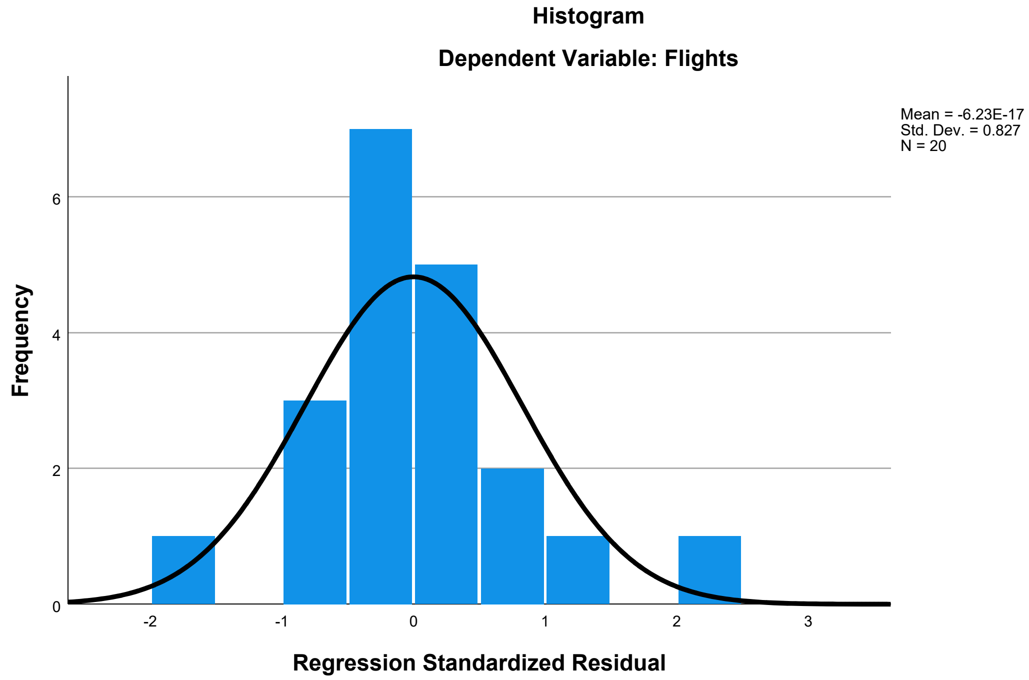
a. Dependent Variable: Flights

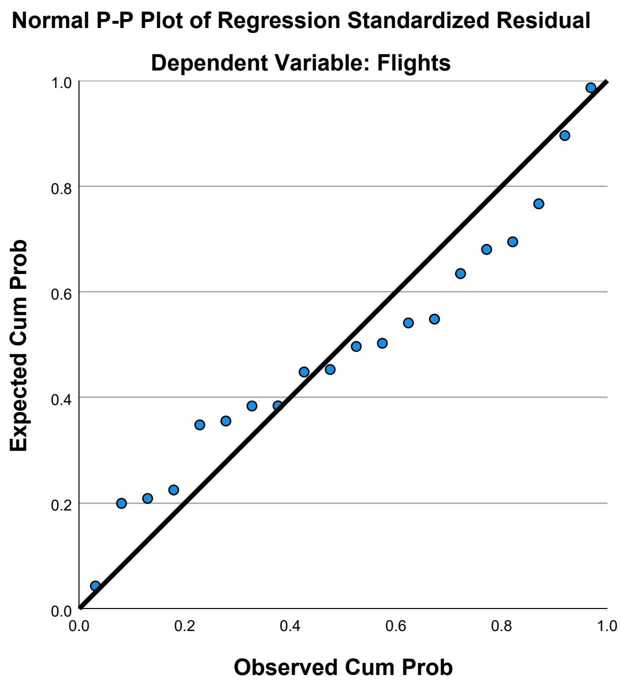
Residuals Statistics[a]

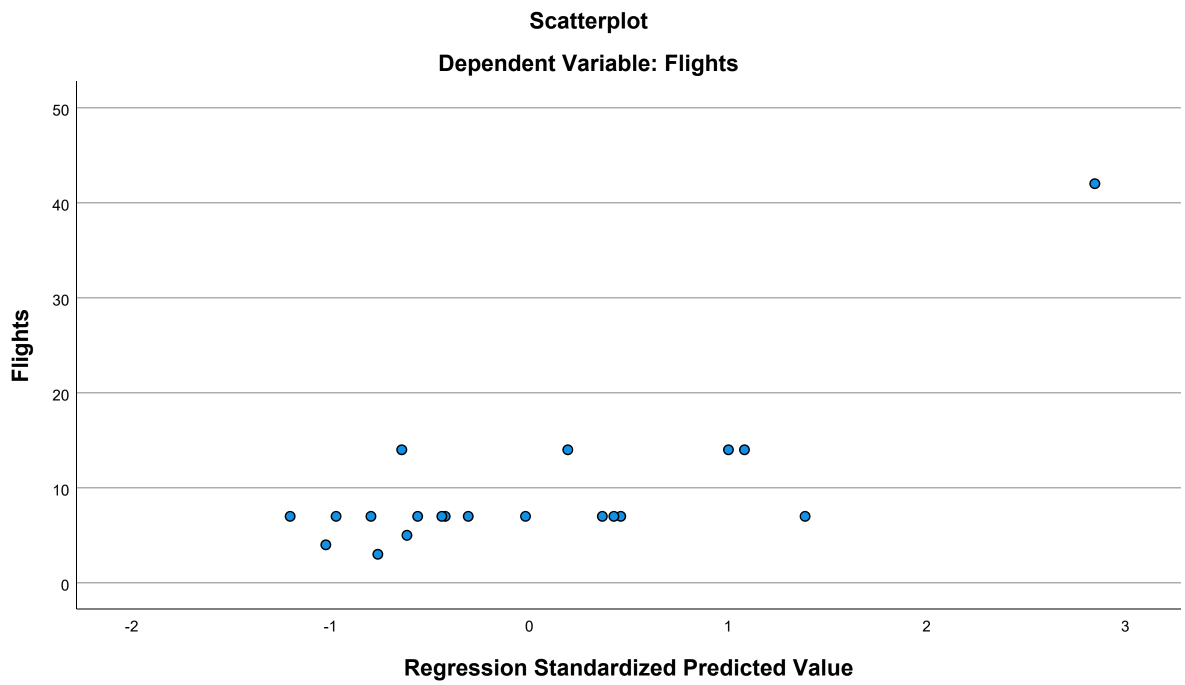
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.20	27.44	9.70	6.233	20
Residual	-11.350	14.561	.000	5.458	20
Std. Predicted Value	-1.204	2.846	.000	1.000	20
Std. Residual	-1.720	2.207	.000	.827	20

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -6.23E-17
Std. Dev. = 0.827
N = 20
Frequency
6
4
2
0
-2
-1
0
1
2
3
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.70	8.285	20
HomeConcentration	2.91690860	1.796644158	20
GLHR	.35	.489	20
PartnerConcentration	1.5646598500	1.7731125392	20
Ethnicity	1.05158950	.943113856	20
Urban	16.10	3.754	20

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.168	.300	.069
	HomeConcentration	.168	1.000	-.580	-.332
	GLHR	.300	-.580	1.000	-.012
	PartnerConcentration	.069	-.332	-.012	1.000
	Ethnicity	.478	.174	.072	-.200
	Urban	.483	.084	.123	.170
Sig. (1-tailed)	Flights	.	.239	.099	.387
	HomeConcentration	.239	.	.004	.076
	GLHR	.099	.004	.	.480
	PartnerConcentration	.387	.076	.480	.
	Ethnicity	.017	.232	.382	.199
	Urban	.015	.362	.302	.236
N	Flights	20	20	20	20
	HomeConcentration	20	20	20	20
	GLHR	20	20	20	20
	PartnerConcentration	20	20	20	20
	Ethnicity	20	20	20	20
	Urban	20	20	20	20

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.478	.483
	HomeConcentration	.174	.084
	GLHR	.072	.123
	PartnerConcentration	-.200	.170
	Ethnicity	1.000	.155
	Urban	.155	1.000
Sig. (1-tailed)	Flights	.017	.015
	HomeConcentration	.232	.362
	GLHR	.382	.302
	PartnerConcentration	.199	.236
	Ethnicity	.	.257
	Urban	.257	.
N	Flights	20	20
	HomeConcentration	20	20
	GLHR	20	20
	PartnerConcentration	20	20
	Ethnicity	20	20
	Urban	20	20

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, Ethnicity, PartnerConcentration, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.748[a]	.559	.402	6.408	.559	3.553

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	5	14	.028

a. Predictors: (Constant), Urban, HomeConcentration, Ethnicity, PartnerConcentration, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	729.372	5	145.874	3.553	.028[b]
	Residual	574.828	14	41.059		
	Total	1304.200	19			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, Ethnicity, PartnerConcentration, GLHR

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-14.754	7.132		-2.069	.058
	HomeConcentration	2.119	1.171	.459	1.809	.092
	GLHR	8.606	4.031	.508	2.135	.051
	PartnerConcentration	1.182	.960	.253	1.231	.239
	Ethnicity	3.236	1.645	.368	1.967	.069
	Urban	.622	.423	.282	1.468	.164

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.488	2.049
	GLHR	.555	1.801
	PartnerConcentration	.746	1.341
	Ethnicity	.898	1.113
	Urban	.855	1.169

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions GLHR
1	1	4.231	1.000	.00	.01	.01
	2	.768	2.347	.00	.05	.30
	3	.630	2.591	.00	.00	.07
	4	.286	3.845	.01	.06	.05
	5	.060	8.374	.13	.87	.57
	6	.024	13.155	.86	.01	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Variance Proportions Ethnicity	Variance Proportions Urban
1	1	.01	.01	.00
	2	.03	.01	.00
	3	.44	.11	.00
	4	.14	.85	.01
	5	.38	.00	.18
	6	.00	.00	.81

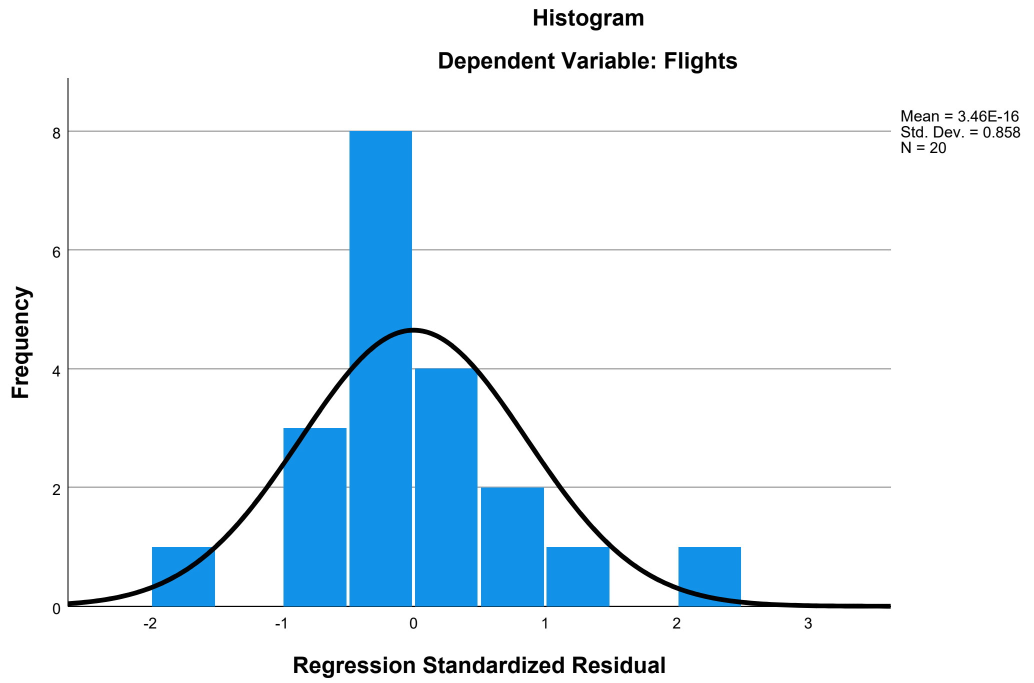
a. Dependent Variable: Flights

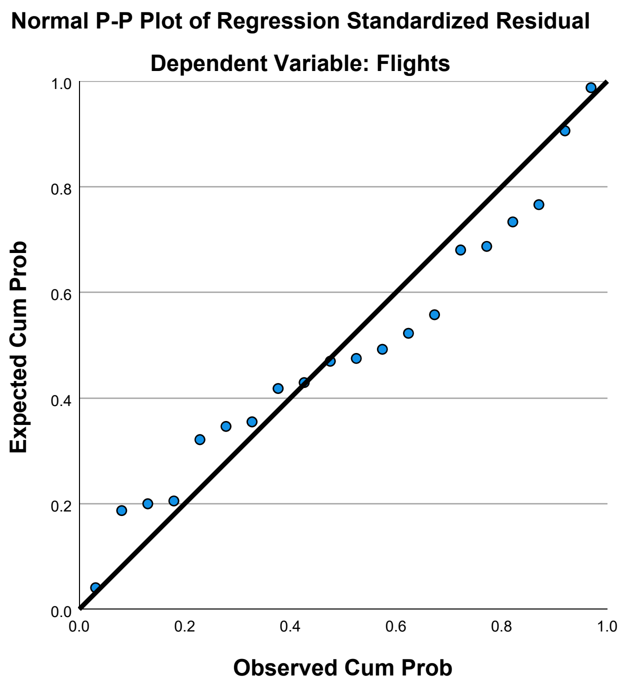
Residuals Statistics[a]

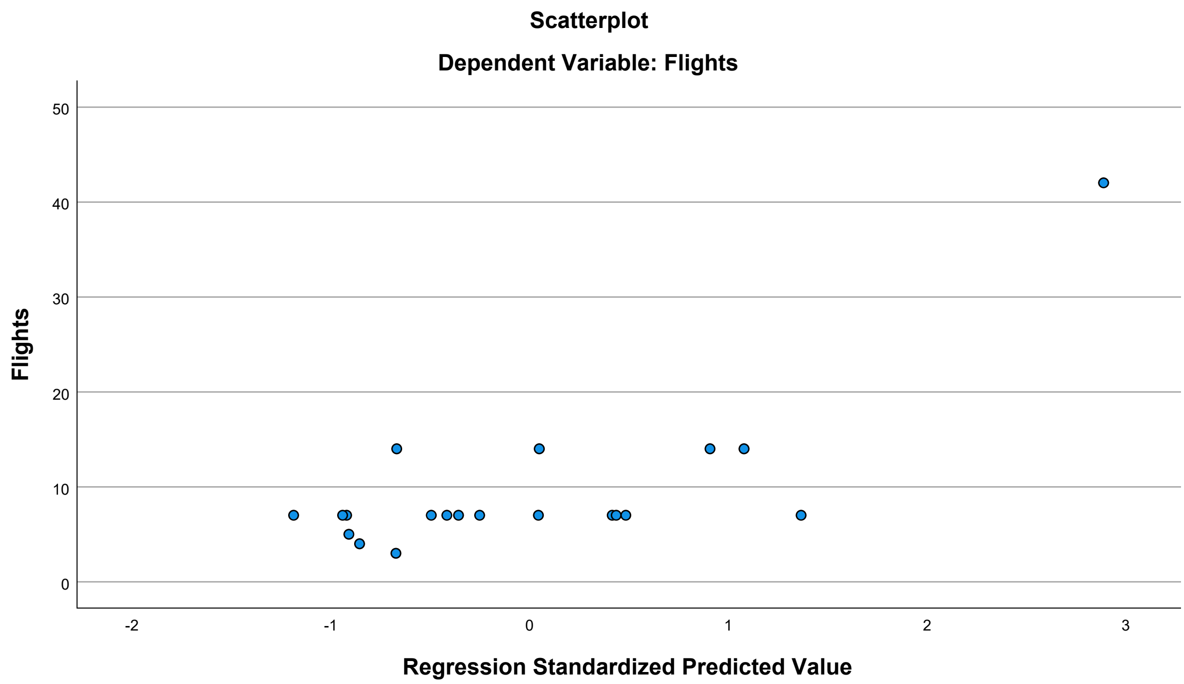
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.35	27.59	9.70	6.196	20
Residual	-11.165	14.407	.000	5.500	20
Std. Predicted Value	-1.187	2.888	.000	1.000	20
Std. Residual	-1.742	2.248	.000	.858	20

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-2
-1
0
1
2
3

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.40	6.692	20
HomeConcentration	3.0095147000	1.9014708350	20
Congestion	5.20	.834	20
GLHR	.40	.503	20
PartnerConcentration	1.7579000000	1.9822707423	20
Seasonality	.68291341509	.17518385885	20
Distance	3.84700	.758101	20
Language	2.51079850	3.266017989	20
Ethnicity	1.13194375	.985917548	20
Urban	16.20	3.397	20

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.095	.249	.341
	HomeConcentration	.095	1.000	.744	-.584
	Congestion	.249	.744	1.000	-.452
	GLHR	.341	-.584	-.452	1.000
	PartnerConcentration	.120	-.082	.077	-.134
	Seasonality	-.198	-.066	-.291	-.109
	Distance	-.112	.309	.528	-.302
	Language	.347	.089	-.189	.202
	Ethnicity	.369	.249	.065	.065
	Urban	.557	.458	.766	-.142
Sig. (1-tailed)	Flights	.	.345	.145	.071
	HomeConcentration	.345	.	.000	.003
	Congestion	.145	.000	.	.023
	GLHR	.071	.003	.023	.
	PartnerConcentration	.308	.365	.373	.286
	Seasonality	.202	.391	.107	.324
	Distance	.319	.093	.008	.098
	Language	.067	.354	.212	.197
	Ethnicity	.055	.145	.392	.392
	Urban	.005	.021	.000	.275
N	Flights	20	20	20	20
	HomeConcentration	20	20	20	20
	Congestion	20	20	20	20
	GLHR	20	20	20	20
	PartnerConcentration	20	20	20	20
	Seasonality	20	20	20	20
	Distance	20	20	20	20

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.120	-.198	-.112	.347
	HomeConcentration	-.082	-.066	.309	.089
	Congestion	.077	-.291	.528	-.189
	GLHR	-.134	-.109	-.302	.202
	PartnerConcentration	1.000	-.356	.082	-.388
	Seasonality	-.356	1.000	-.398	.214
	Distance	.082	-.398	1.000	-.323
	Language	-.388	.214	-.323	1.000
	Ethnicity	-.264	.057	-.227	.906
	Urban	.219	-.518	.208	-.194
Sig. (1-tailed)	Flights	.308	.202	.319	.067
	HomeConcentration	.365	.391	.093	.354
	Congestion	.373	.107	.008	.212
	GLHR	.286	.324	.098	.197
	PartnerConcentration	.	.062	.365	.045
	Seasonality	.062	.	.041	.182
	Distance	.365	.041	.	.082
	Language	.045	.182	.082	.
	Ethnicity	.130	.406	.168	.000
	Urban	.176	.010	.189	.206
N	Flights	20	20	20	20
	HomeConcentration	20	20	20	20
	Congestion	20	20	20	20
	GLHR	20	20	20	20
	PartnerConcentration	20	20	20	20
	Seasonality	20	20	20	20
	Distance	20	20	20	20

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.369	.557
	HomeConcentration	.249	.458
	Congestion	.065	.766
	GLHR	.065	-.142
	PartnerConcentration	-.264	.219
	Seasonality	.057	-.518
	Distance	-.227	.208
	Language	.906	-.194
	Ethnicity	1.000	.049
	Urban	.049	1.000
Sig. (1-tailed)	Flights	.055	.005
	HomeConcentration	.145	.021
	Congestion	.392	.000
	GLHR	.392	.275
	PartnerConcentration	.130	.176
	Seasonality	.406	.010
	Distance	.168	.189
	Language	.000	.206
	Ethnicity	.	.418
	Urban	.418	.
N	Flights	20	20
	HomeConcentration	20	20
	Congestion	20	20
	GLHR	20	20
	PartnerConcentration	20	20
	Seasonality	20	20
	Distance	20	20

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Language	20	20	20	20
	Ethnicity	20	20	20	20
	Urban	20	20	20	20

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	Language	20	20	20	20
	Ethnicity	20	20	20	20
	Urban	20	20	20	20

Correlations

	Ethnicity	Urban
Language	20	20
Ethnicity	20	20
Urban	20	20

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, GLHR, PartnerConcentration, Distance, Seasonality, HomeConcentration, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.877[a]	.769	.561	4.434	.769	3.696

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	10	.027

a. Predictors: (Constant), Urban, Ethnicity, GLHR, PartnerConcentration, Distance, Seasonality, HomeConcentration, Congestic
Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	654.159	9	72.684	3.696	.027[b]
	Residual	196.641	10	19.664		
	Total	850.800	19			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, GLHR, PartnerConcentration, Distance, Seasonality, HomeConcentration, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-35.314	14.802		-2.386	.038
	HomeConcentration	-.024	1.024	-.007	-.024	.982
	Congestion	-1.400	3.829	-.174	-.366	.722
	GLHR	4.960	2.945	.373	1.684	.123
	PartnerConcentration	1.066	.620	.316	1.718	.117
	Seasonality	12.503	9.300	.327	1.344	.209
	Distance	1.739	2.289	.197	.760	.465
	Language	2.019	1.055	.986	1.913	.085
	Ethnicity	-3.232	3.282	-.476	-.985	.348
	Urban	2.010	.705	1.020	2.850	.017

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.273	3.664
	Congestion	.102	9.842
	GLHR	.472	2.118
	PartnerConcentration	.684	1.462
	Seasonality	.390	2.565
	Distance	.344	2.911
	Language	.087	11.481
	Ethnicity	.099	10.116
	Urban	.180	5.546

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.572	1.000	.00	.00	.00
	2	1.083	2.644	.00	.00	.00
	3	.717	3.249	.00	.02	.00
	4	.387	4.422	.00	.01	.00
	5	.130	7.645	.00	.19	.00
	6	.055	11.781	.00	.41	.00
	7	.033	15.047	.00	.01	.00
	8	.018	20.395	.00	.06	.00
	9	.004	45.699	.94	.11	.07
	10	.002	65.709	.05	.19	.92

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.01	.10	.00	.00	.02	.01
	3	.28	.01	.00	.00	.00	.00
	4	.01	.59	.00	.00	.01	.01
	5	.24	.00	.08	.00	.01	.01
	6	.20	.17	.08	.03	.04	.10
	7	.00	.02	.07	.16	.27	.23
	8	.20	.01	.04	.07	.50	.52
	9	.05	.10	.37	.12	.06	.02
	10	.00	.00	.37	.61	.07	.09

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.01
	7	.02
	8	.16
	9	.04
	10	.76

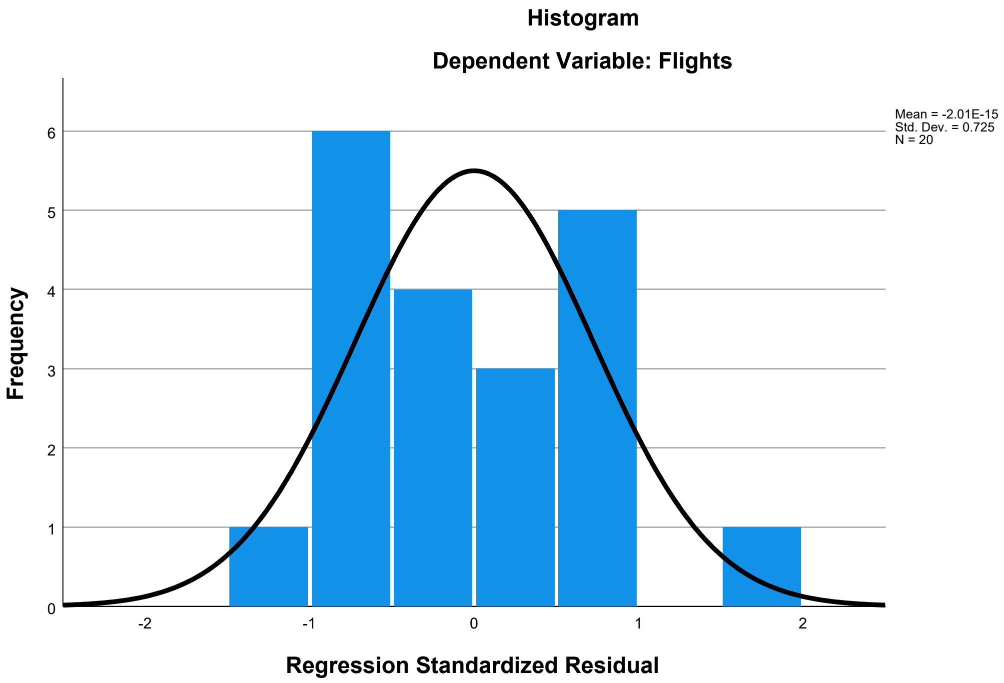
a. Dependent Variable: Flights

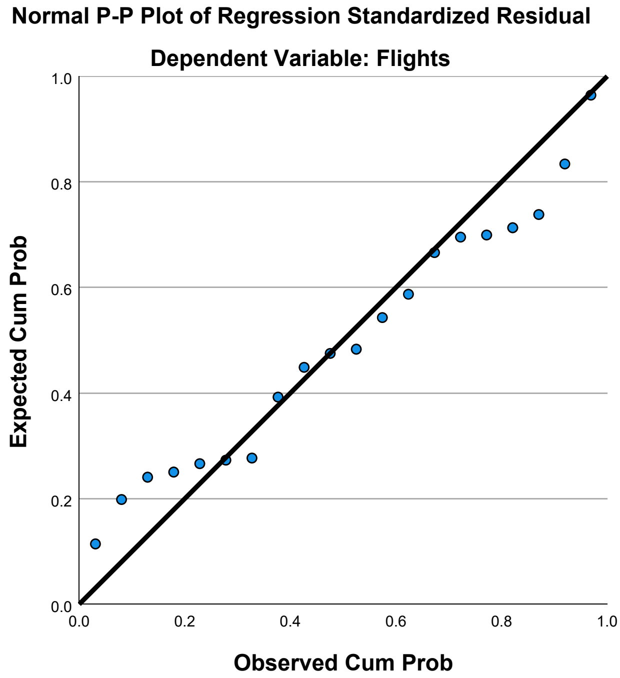
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.70	27.02	10.40	5.868	20
Residual	-5.341	7.982	.000	3.217	20
Std. Predicted Value	-1.312	2.832	.000	1.000	20
Std. Residual	-1.204	1.800	.000	.725	20

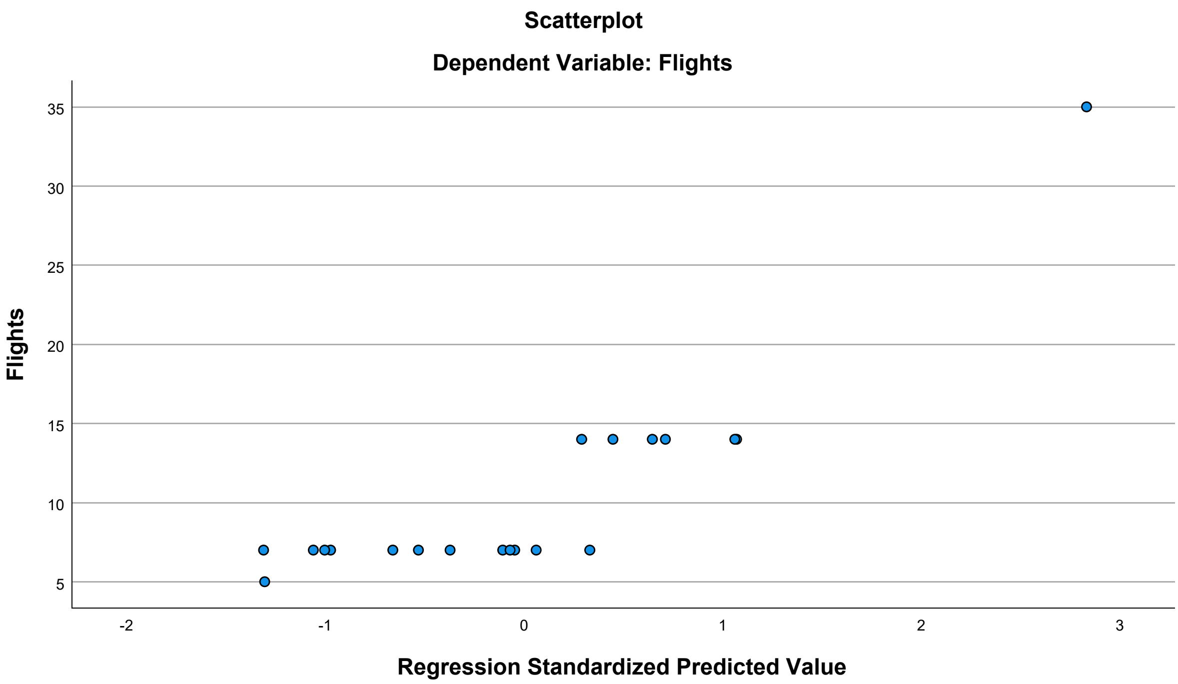
a. Dependent Variable: Flights

Charts





Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0



Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
5
10
15
20
25
30
35
-2
-1
0
1
2
3

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.40	6.692	20
HomeConcentration	3.0095147000	1.9014708350	20
Congestion	5.20	.834	20
GLHR	.40	.503	20
PartnerConcentration	1.7579000000	1.9822707423	20
Seasonality	.68291341509	.17518385885	20
Distance	3.84700	.758101	20
Ethnicity	1.13194375	.985917548	20
Urban	16.20	3.397	20

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.095	.249	.341
	HomeConcentration	.095	1.000	.744	-.584
	Congestion	.249	.744	1.000	-.452
	GLHR	.341	-.584	-.452	1.000
	PartnerConcentration	.120	-.082	.077	-.134
	Seasonality	-.198	-.066	-.291	-.109
	Distance	-.112	.309	.528	-.302
	Ethnicity	.369	.249	.065	.065
	Urban	.557	.458	.766	-.142
Sig. (1-tailed)	Flights	.	.345	.145	.071
	HomeConcentration	.345	.	.000	.003
	Congestion	.145	.000	.	.023
	GLHR	.071	.003	.023	.
	PartnerConcentration	.308	.365	.373	.286
	Seasonality	.202	.391	.107	.324
	Distance	.319	.093	.008	.098
	Ethnicity	.055	.145	.392	.392
	Urban	.005	.021	.000	.275
N	Flights	20	20	20	20
	HomeConcentration	20	20	20	20
	Congestion	20	20	20	20
	GLHR	20	20	20	20
	PartnerConcentration	20	20	20	20
	Seasonality	20	20	20	20
	Distance	20	20	20	20
	Ethnicity	20	20	20	20
	Urban	20	20	20	20

Correlations

		PartnerConcentration	Seasonality	Distance	Ethnicity
Pearson Correlation	Flights	.120	-.198	-.112	.369
	HomeConcentration	-.082	-.066	.309	.249
	Congestion	.077	-.291	.528	.065
	GLHR	-.134	-.109	-.302	.065
	PartnerConcentration	1.000	-.356	.082	-.264
	Seasonality	-.356	1.000	-.398	.057
	Distance	.082	-.398	1.000	-.227
	Ethnicity	-.264	.057	-.227	1.000
	Urban	.219	-.518	.208	.049
Sig. (1-tailed)	Flights	.308	.202	.319	.055
	HomeConcentration	.365	.391	.093	.145
	Congestion	.373	.107	.008	.392
	GLHR	.286	.324	.098	.392
	PartnerConcentration	.	.062	.365	.130
	Seasonality	.062	.	.041	.406
	Distance	.365	.041	.	.168
	Ethnicity	.130	.406	.168	.
	Urban	.176	.010	.189	.418
N	Flights	20	20	20	20
	HomeConcentration	20	20	20	20
	Congestion	20	20	20	20
	GLHR	20	20	20	20
	PartnerConcentration	20	20	20	20
	Seasonality	20	20	20	20
	Distance	20	20	20	20
	Ethnicity	20	20	20	20
	Urban	20	20	20	20

Correlations

		Urban
Pearson Correlation	Flights	.557
	HomeConcentration	.458
	Congestion	.766
	GLHR	-.142
	PartnerConcentration	.219
	Seasonality	-.518
	Distance	.208
	Ethnicity	.049
	Urban	1.000
Sig. (1-tailed)	Flights	.005
	HomeConcentration	.021
	Congestion	.000
	GLHR	.275
	PartnerConcentration	.176
	Seasonality	.010
	Distance	.189
	Ethnicity	.418
	Urban	.
N	Flights	20
	HomeConcentration	20
	Congestion	20
	GLHR	20
	PartnerConcentration	20
	Seasonality	20
	Distance	20
	Ethnicity	20
	Urban	20

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, GLHR, PartnerConcentration, Distance, Seasonality, HomeConcentration, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.827[a]	.684	.455	4.942	.684	2.980

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	11	.048

a. Predictors: (Constant), Urban, Ethnicity, GLHR, PartnerConcentration, Distance, Seasonality, HomeConcentration, Congestio

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	582.184	8	72.773	2.980	.048[b]
	Residual	268.616	11	24.420		
	Total	850.800	19			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, GLHR, PartnerConcentration, Distance, Seasonality, HomeConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-30.954	16.299		-1.899	.084
	HomeConcentration	.465	1.105	.132	.421	.682
	Congestion	-3.826	4.026	-.477	-.950	.362
	GLHR	6.424	3.170	.483	2.027	.068
	PartnerConcentration	.805	.675	.239	1.194	.258
	Seasonality	16.267	10.129	.426	1.606	.137
	Distance	2.377	2.524	.269	.942	.367
	Ethnicity	2.614	1.334	.385	1.960	.076
	Urban	2.016	.786	1.023	2.565	.026

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.291	3.435
	Congestion	.114	8.763
	GLHR	.506	1.975
	PartnerConcentration	.719	1.391
	Seasonality	.408	2.450
	Distance	.351	2.849
	Ethnicity	.743	1.345
	Urban	.180	5.545

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.110	1.000	.00	.00	.00
	2	.756	3.067	.00	.01	.00
	3	.635	3.346	.00	.01	.00
	4	.294	4.915	.00	.00	.00
	5	.121	7.652	.00	.25	.00
	6	.052	11.734	.00	.38	.00
	7	.025	16.704	.00	.09	.00
	8	.004	42.906	.88	.11	.11
	9	.002	61.661	.11	.14	.89

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.29	.05	.00	.00	.01	.00
	3	.03	.36	.00	.00	.12	.00
	4	.00	.29	.00	.00	.64	.00
	5	.27	.00	.08	.00	.05	.00
	6	.22	.15	.13	.06	.08	.01
	7	.08	.06	.00	.20	.02	.15
	8	.10	.07	.39	.10	.05	.01
	9	.00	.01	.39	.63	.03	.83

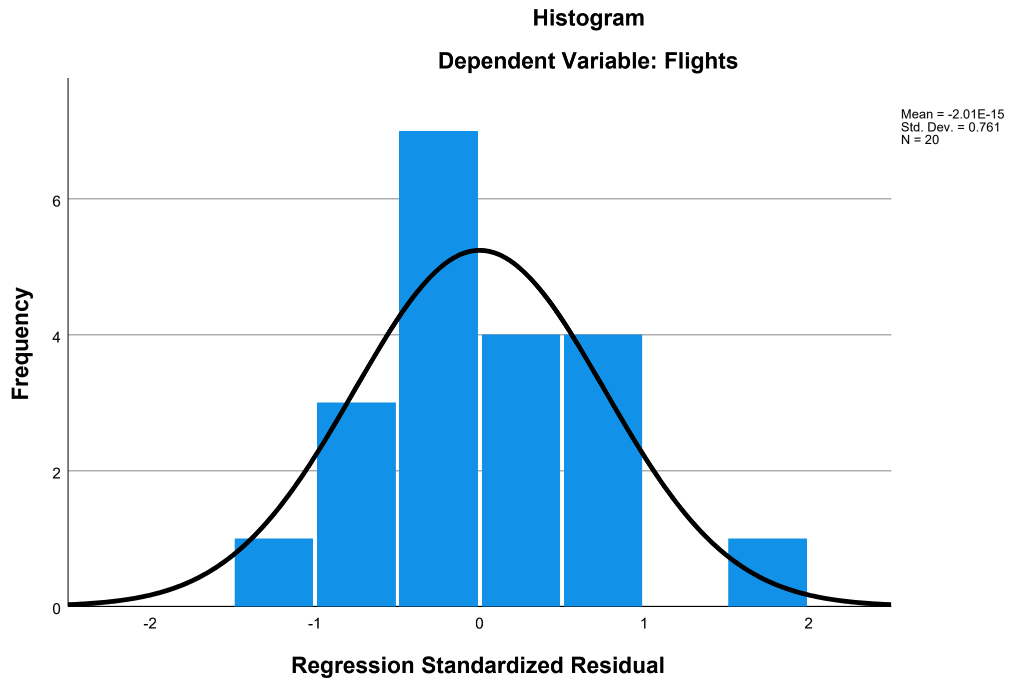
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.87	25.58	10.40	5.535	20
Residual	-5.420	9.421	.000	3.760	20
Std. Predicted Value	-1.540	2.742	.000	1.000	20
Std. Residual	-1.097	1.906	.000	.761	20

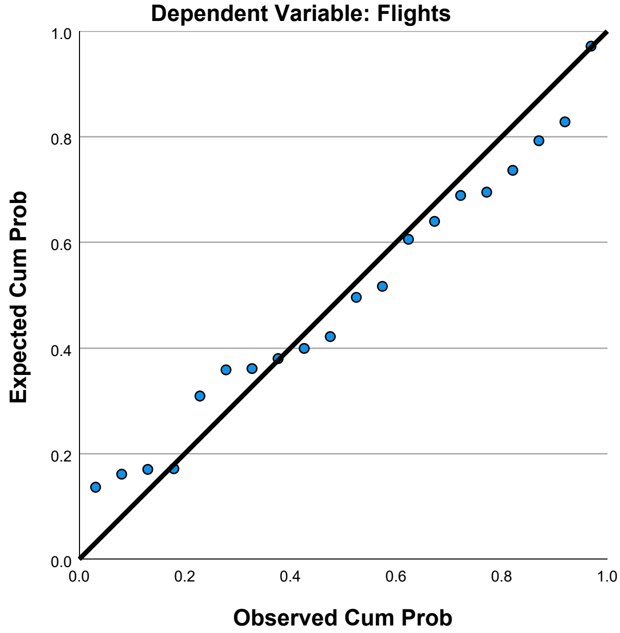
a. Dependent Variable: Flights

Charts



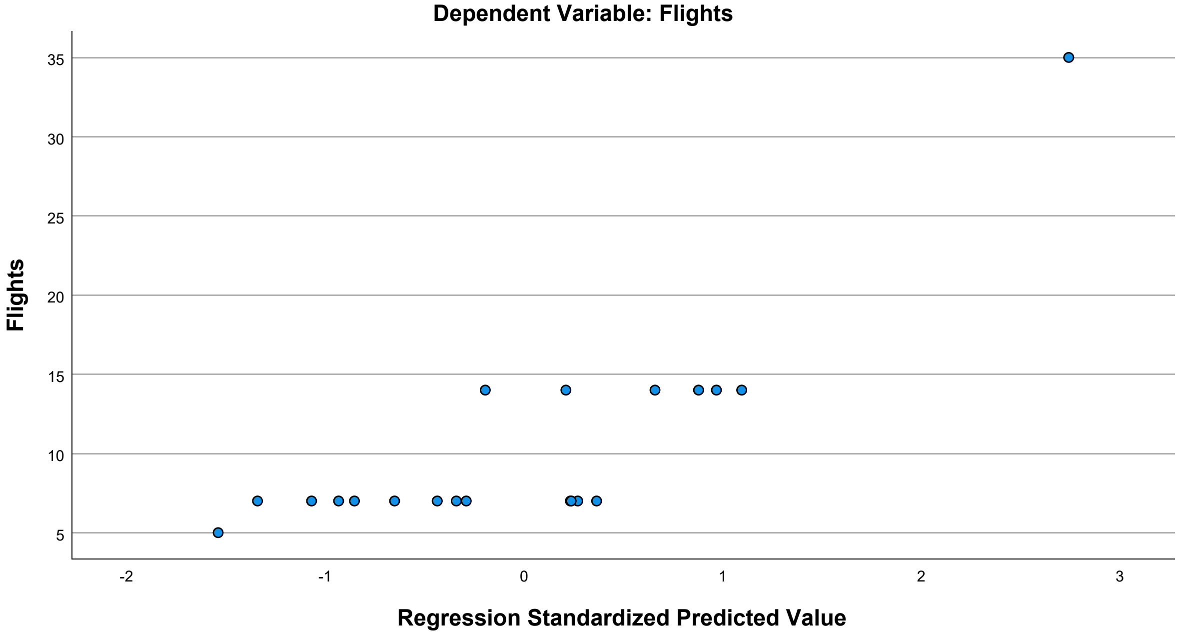
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.40	6.692	20
HomeConcentration	3.0095147000	1.9014708350	20
GLHR	.40	.503	20
PartnerConcentration	1.7579000000	1.9822707423	20
Seasonality	.68291341509	.17518385885	20
Distance	3.84700	.758101	20
Ethnicity	1.13194375	.985917548	20
Urban	16.20	3.397	20

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.095	.341	.120
	HomeConcentration	.095	1.000	-.584	-.082
	GLHR	.341	-.584	1.000	-.134
	PartnerConcentration	.120	-.082	-.134	1.000
	Seasonality	-.198	-.066	-.109	-.356
	Distance	-.112	.309	-.302	.082
	Ethnicity	.369	.249	.065	-.264
	Urban	.557	.458	-.142	.219
Sig. (1-tailed)	Flights	.	.345	.071	.308
	HomeConcentration	.345	.	.003	.365
	GLHR	.071	.003	.	.286
	PartnerConcentration	.308	.365	.286	.
	Seasonality	.202	.391	.324	.062
	Distance	.319	.093	.098	.365
	Ethnicity	.055	.145	.392	.130
	Urban	.005	.021	.275	.176
N	Flights	20	20	20	20
	HomeConcentration	20	20	20	20
	GLHR	20	20	20	20
	PartnerConcentration	20	20	20	20
	Seasonality	20	20	20	20
	Distance	20	20	20	20
	Ethnicity	20	20	20	20
	Urban	20	20	20	20

Correlations

		Seasonality	Distance	Ethnicity	Urban
Pearson Correlation	Flights	-.198	-.112	.369	.557
	HomeConcentration	-.066	.309	.249	.458
	GLHR	-.109	-.302	.065	-.142
	PartnerConcentration	-.356	.082	-.264	.219
	Seasonality	1.000	-.398	.057	-.518
	Distance	-.398	1.000	-.227	.208
	Ethnicity	.057	-.227	1.000	.049
	Urban	-.518	.208	.049	1.000
Sig. (1-tailed)	Flights	.202	.319	.055	.005
	HomeConcentration	.391	.093	.145	.021
	GLHR	.324	.098	.392	.275
	PartnerConcentration	.062	.365	.130	.176
	Seasonality	.	.041	.406	.010
	Distance	.041	.	.168	.189
	Ethnicity	.406	.168	.	.418
	Urban	.010	.189	.418	.
N	Flights	20	20	20	20
	HomeConcentration	20	20	20	20
	GLHR	20	20	20	20
	PartnerConcentration	20	20	20	20
	Seasonality	20	20	20	20
	Distance	20	20	20	20
	Ethnicity	20	20	20	20
	Urban	20	20	20	20

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, GLHR, PartnerConcentration, Distance, Seasonality, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change
1	.811[a]	.658	.459	4.922	.658	3.303

Model Summary[b]

Model	Change Statistics: df1	Change Statistics: df2	Change Statistics: Sig. F Change
1	7	12	.034

a. Predictors: (Constant), Urban, Ethnicity, GLHR, PartnerConcentration, Distance, Seasonality, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	560.130	7	80.019	3.303	.034[b]
	Residual	290.670	12	24.223		
	Total	850.800	19			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, GLHR, PartnerConcentration, Distance, Seasonality, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients: B	Unstandardized Coefficients: Std. Error	Standardized Coefficients: Beta	t	Sig.
1	(Constant)	-30.788	16.232		-1.897	.082
	HomeConcentration	-.065	.950	-.019	-.069	.946
	GLHR	6.687	3.145	.502	2.127	.055
	PartnerConcentration	.791	.672	.234	1.177	.262
	Seasonality	12.465	9.268	.326	1.345	.204
	Distance	.801	1.895	.091	.423	.680
	Ethnicity	2.506	1.324	.369	1.894	.083
	Urban	1.413	.462	.717	3.057	.010

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.391	2.559
	GLHR	.510	1.960
	PartnerConcentration	.719	1.391
	Seasonality	.484	2.068
	Distance	.617	1.620
	Ethnicity	.749	1.336
	Urban	.517	1.933

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	6.129	1.000	.00	.00	.00
	2	.751	2.857	.00	.02	.29
	3	.635	3.108	.00	.02	.03
	4	.286	4.629	.00	.00	.00
	5	.121	7.115	.00	.35	.27
	6	.049	11.141	.00	.43	.21
	7	.025	15.763	.00	.12	.11
	8	.003	42.097	1.00	.05	.08

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Ethnicity	Urban
1	1	.01	.00	.00	.01	.00
	2	.06	.00	.00	.01	.00
	3	.36	.00	.00	.12	.00
	4	.28	.01	.01	.65	.00
	5	.00	.10	.00	.05	.01
	6	.15	.16	.16	.08	.04
	7	.07	.00	.30	.02	.52
	8	.07	.74	.54	.07	.43

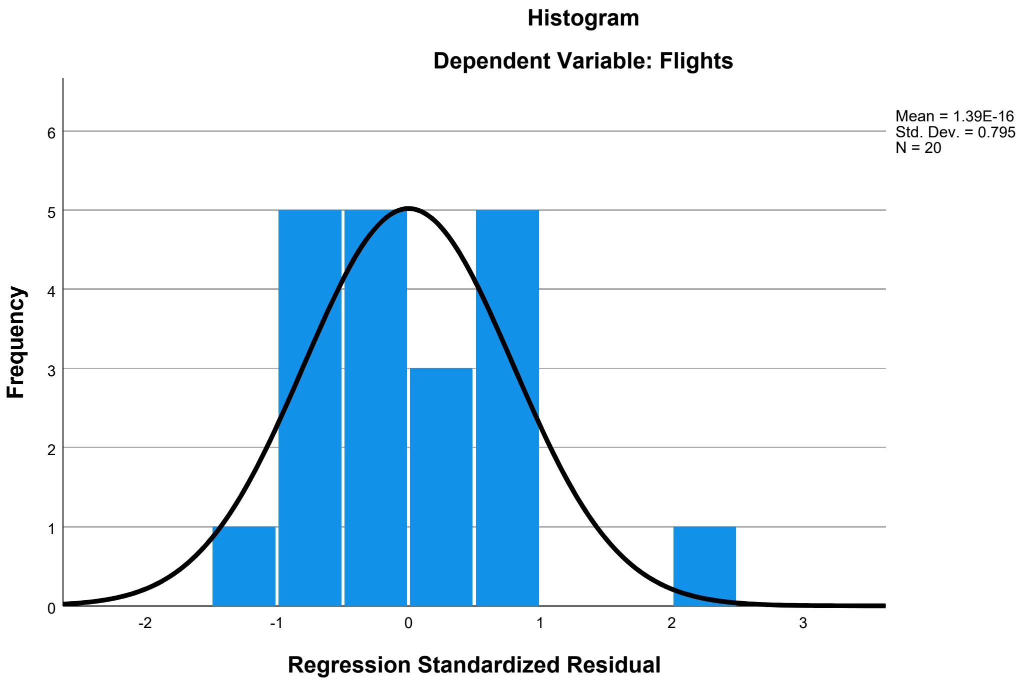
a. Dependent Variable: Flights

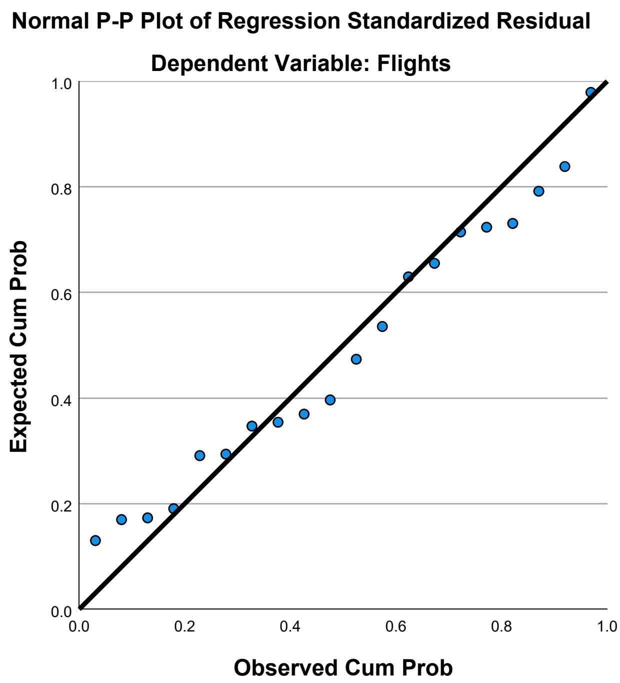
Residuals Statistics[a]

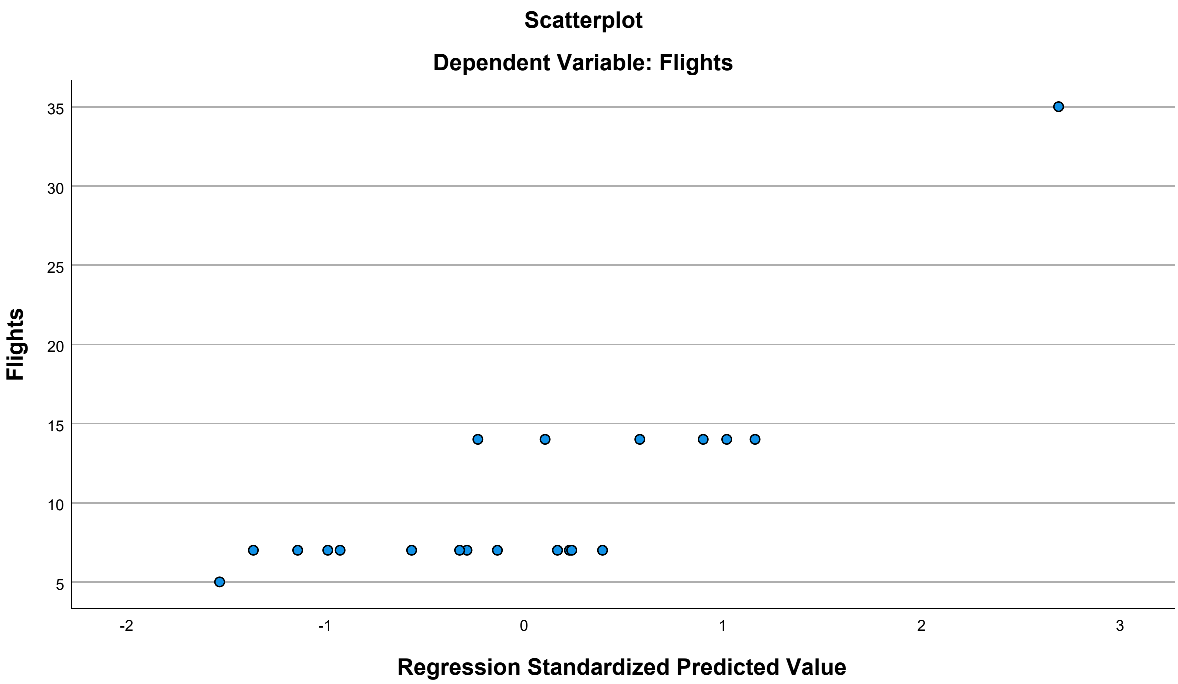
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.08	25.01	10.40	5.430	20
Residual	-5.544	9.994	.000	3.911	20
Std. Predicted Value	-1.532	2.690	.000	1.000	20
Std. Residual	-1.126	2.031	.000	.795	20

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
5
10
15
20
25
30
35
-2
-1
0
1
2
3

Regression

[DataSet15] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines\2012 - AC.sav

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.75	5.700	28
HomeConcentration	2.9561617857	1.5897028541	28
Congestion	5.21	.787	28
GLHR	.29	.460	28
PartnerConcentration	1.5566192857	1.9908433426	28
Seasonality	.72643011750	.23511349766	28
Distance	3.91929	.686133	28
Language	2.01063511	3.036228874	28
Ethnicity	.77503929	.864313243	28
Urban	17.43	2.617	28

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.261	.293	.311
	HomeConcentration	.261	1.000	.891	-.496
	Congestion	.293	.891	1.000	-.380
	GLHR	.311	-.496	-.380	1.000
	PartnerConcentration	.112	-.135	-.101	-.134
	Seasonality	-.052	.209	.028	-.329
	Distance	-.158	.389	.320	-.324
	Language	.430	-.127	-.054	.313
	Ethnicity	.543	.023	.065	.313
	Urban	.385	.777	.835	-.229
Sig. (1-tailed)	Flights	.	.090	.065	.054
	HomeConcentration	.090	.	.000	.004
	Congestion	.065	.000	.	.023
	GLHR	.054	.004	.023	.
	PartnerConcentration	.285	.247	.304	.248
	Seasonality	.396	.143	.444	.044
	Distance	.211	.020	.048	.046
	Language	.011	.260	.393	.053
	Ethnicity	.001	.454	.372	.052
	Urban	.022	.000	.000	.121
N	Flights	28	28	28	28
	HomeConcentration	28	28	28	28
	Congestion	28	28	28	28
	GLHR	28	28	28	28
	PartnerConcentration	28	28	28	28

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.112	-.052	-.158	.430
	HomeConcentration	-.135	.209	.389	-.127
	Congestion	-.101	.028	.320	-.054
	GLHR	-.134	-.329	-.324	.313
	PartnerConcentration	1.000	.108	.005	-.277
	Seasonality	.108	1.000	.172	-.308
	Distance	.005	.172	1.000	-.295
	Language	-.277	-.308	-.295	1.000
	Ethnicity	.003	-.158	-.173	.700
	Urban	-.142	-.122	.234	.072
Sig. (1-tailed)	Flights	.285	.396	.211	.011
	HomeConcentration	.247	.143	.020	.260
	Congestion	.304	.444	.048	.393
	GLHR	.248	.044	.046	.053
	PartnerConcentration	.	.291	.490	.076
	Seasonality	.291	.	.191	.055
	Distance	.490	.191	.	.064
	Language	.076	.055	.064	.
	Ethnicity	.494	.211	.190	.000
	Urban	.236	.269	.115	.358
N	Flights	28	28	28	28
	HomeConcentration	28	28	28	28
	Congestion	28	28	28	28
	GLHR	28	28	28	28
	PartnerConcentration	28	28	28	28

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.543	.385
	HomeConcentration	.023	.777
	Congestion	.065	.835
	GLHR	.313	-.229
	PartnerConcentration	.003	-.142
	Seasonality	-.158	-.122
	Distance	-.173	.234
	Language	.700	.072
	Ethnicity	1.000	.181
	Urban	.181	1.000
Sig. (1-tailed)	Flights	.001	.022
	HomeConcentration	.454	.000
	Congestion	.372	.000
	GLHR	.052	.121
	PartnerConcentration	.494	.236
	Seasonality	.211	.269
	Distance	.190	.115
	Language	.000	.358
	Ethnicity	.	.179
	Urban	.179	.
N	Flights	28	28
	HomeConcentration	28	28
	Congestion	28	28
	GLHR	28	28
	PartnerConcentration	28	28

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Seasonality	28	28	28	28
	Distance	28	28	28	28
	Language	28	28	28	28
	Ethnicity	28	28	28	28
	Urban	28	28	28	28

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	Seasonality	28	28	28	28
	Distance	28	28	28	28
	Language	28	28	28	28
	Ethnicity	28	28	28	28
	Urban	28	28	28	28

Correlations

	Ethnicity	Urban
Seasonality	28	28
Distance	28	28
Language	28	28
Ethnicity	28	28
Urban	28	28

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, PartnerConcentration, Seasonality, Distance, GLHR, Ethnicity, Congestion, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.781[a]	.610	.415	4.361	.610	3.125

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	18	.019

a. Predictors: (Constant), Urban, Language, PartnerConcentration, Seasonality, Distance, GLHR, Ethnicity, Congestion, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	534.926	9	59.436	3.125	.019[b]
	Residual	342.324	18	19.018		
	Total	877.250	27			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, PartnerConcentration, Seasonality, Distance, GLHR, Ethnicity, Congestion, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-6.601	13.410		-.492	.628
	HomeConcentration	1.889	1.459	.527	1.295	.212
	Congestion	-.456	2.770	-.063	-.165	.871
	GLHR	6.276	2.446	.507	2.566	.019
	PartnerConcentration	1.035	.494	.361	2.096	.051
	Seasonality	3.403	4.320	.140	.788	.441
	Distance	-1.065	1.387	-.128	-.768	.453
	Language	.697	.460	.371	1.516	.147
	Ethnicity	.520	1.558	.079	.333	.743
	Urban	.438	.648	.201	.676	.507

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.131	7.637
	Congestion	.148	6.742
	GLHR	.556	1.797
	PartnerConcentration	.729	1.372
	Seasonality	.683	1.465
	Distance	.778	1.285
	Language	.361	2.769
	Ethnicity	.388	2.576
	Urban	.245	4.078

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.265	1.000	.00	.00	.00
	2	1.234	2.426	.00	.00	.00
	3	.636	3.380	.00	.01	.00
	4	.525	3.719	.00	.00	.00
	5	.170	6.529	.00	.02	.00
	6	.098	8.608	.00	.07	.00
	7	.049	12.223	.01	.14	.00
	8	.017	20.907	.02	.06	.02
	9	.003	46.526	.24	.08	.15
	10	.002	59.076	.73	.61	.83

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.08	.04	.00	.00	.07	.03
	3	.21	.31	.00	.00	.03	.00
	4	.23	.27	.00	.00	.05	.08
	5	.03	.05	.00	.00	.52	.53
	6	.08	.15	.34	.00	.06	.16
	7	.28	.12	.36	.09	.18	.16
	8	.09	.04	.00	.80	.09	.01
	9	.00	.00	.15	.05	.01	.02
	10	.00	.00	.15	.05	.00	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.00
	8	.05
	9	.94
	10	.00

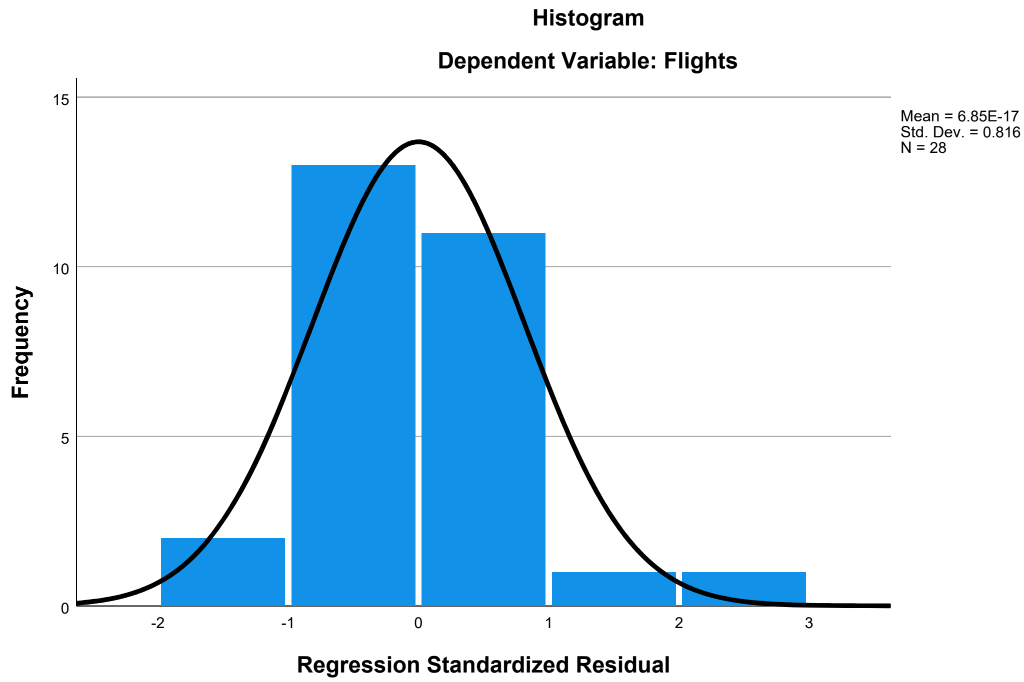
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.21	22.80	7.75	4.451	28
Residual	-7.574	12.200	.000	3.561	28
Std. Predicted Value	-1.694	3.381	.000	1.000	28
Std. Residual	-1.737	2.798	.000	.816	28

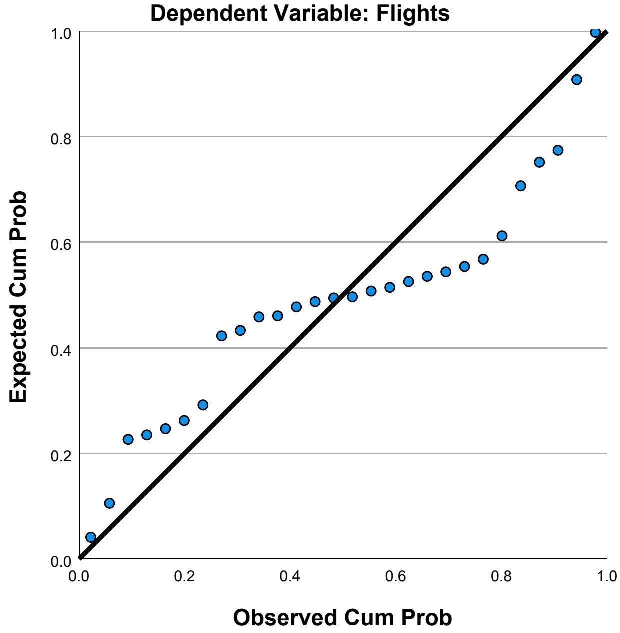
a. Dependent Variable: Flights

Charts



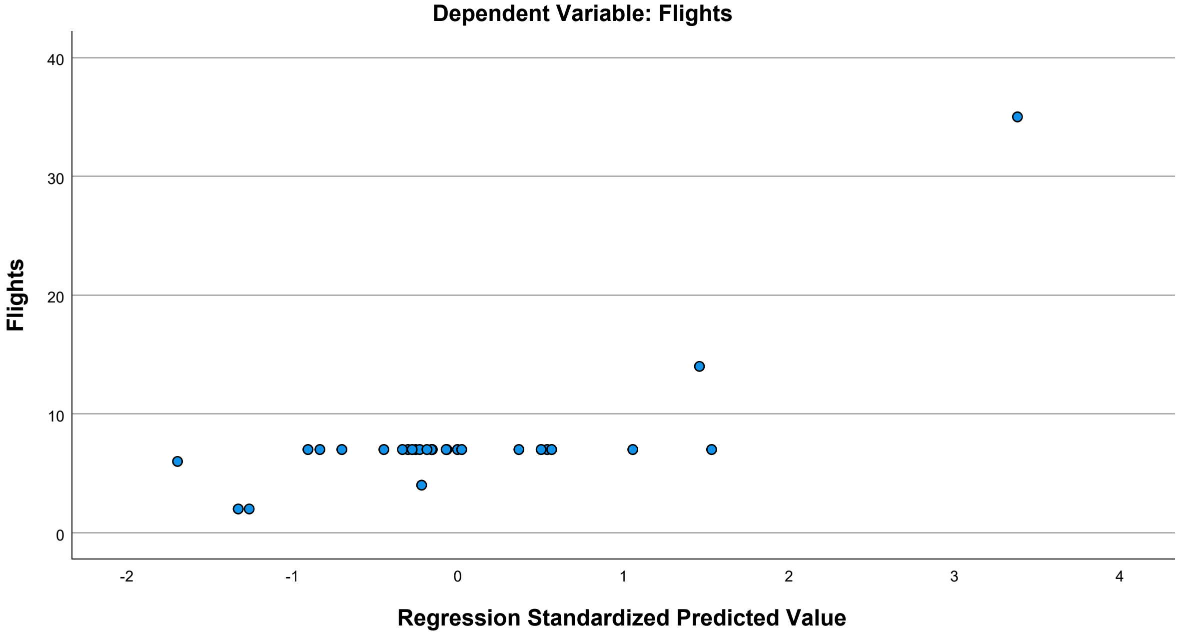
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.75	5.700	28
Congestion	5.21	.787	28
GLHR	.29	.460	28
PartnerConcentration	1.5566192857	1.9908433426	28
Seasonality	.72643011750	.23511349766	28
Distance	3.91929	.686133	28
Language	2.01063511	3.036228874	28
Ethnicity	.77503929	.864313243	28
Urban	17.43	2.617	28

Correlations

		Flights	Congestion	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.293	.311	.112
	Congestion	.293	1.000	-.380	-.101
	GLHR	.311	-.380	1.000	-.134
	PartnerConcentration	.112	-.101	-.134	1.000
	Seasonality	-.052	.028	-.329	.108
	Distance	-.158	.320	-.324	.005
	Language	.430	-.054	.313	-.277
	Ethnicity	.543	.065	.313	.003
	Urban	.385	.835	-.229	-.142
Sig. (1-tailed)	Flights	.	.065	.054	.285
	Congestion	.065	.	.023	.304
	GLHR	.054	.023	.	.248
	PartnerConcentration	.285	.304	.248	.
	Seasonality	.396	.444	.044	.291
	Distance	.211	.048	.046	.490
	Language	.011	.393	.053	.076
	Ethnicity	.001	.372	.052	.494
	Urban	.022	.000	.121	.236
N	Flights	28	28	28	28
	Congestion	28	28	28	28
	GLHR	28	28	28	28
	PartnerConcentration	28	28	28	28
	Seasonality	28	28	28	28
	Distance	28	28	28	28
	Language	28	28	28	28
	Ethnicity	28	28	28	28
	Urban	28	28	28	28

Correlations

		Seasonality	Distance	Language	Ethnicity
Pearson Correlation	Flights	-.052	-.158	.430	.543
	Congestion	.028	.320	-.054	.065
	GLHR	-.329	-.324	.313	.313
	PartnerConcentration	.108	.005	-.277	.003
	Seasonality	1.000	.172	-.308	-.158
	Distance	.172	1.000	-.295	-.173
	Language	-.308	-.295	1.000	.700
	Ethnicity	-.158	-.173	.700	1.000
	Urban	-.122	.234	.072	.181
Sig. (1-tailed)	Flights	.396	.211	.011	.001
	Congestion	.444	.048	.393	.372
	GLHR	.044	.046	.053	.052
	PartnerConcentration	.291	.490	.076	.494
	Seasonality	.	.191	.055	.211
	Distance	.191	.	.064	.190
	Language	.055	.064	.	.000
	Ethnicity	.211	.190	.000	.
	Urban	.269	.115	.358	.179
N	Flights	28	28	28	28
	Congestion	28	28	28	28
	GLHR	28	28	28	28
	PartnerConcentration	28	28	28	28
	Seasonality	28	28	28	28
	Distance	28	28	28	28
	Language	28	28	28	28
	Ethnicity	28	28	28	28
	Urban	28	28	28	28

Correlations

		Urban
Pearson Correlation	Flights	.385
	Congestion	.835
	GLHR	-.229
	PartnerConcentration	-.142
	Seasonality	-.122
	Distance	.234
	Language	.072
	Ethnicity	.181
	Urban	1.000
Sig. (1-tailed)	Flights	.022
	Congestion	.000
	GLHR	.121
	PartnerConcentration	.236
	Seasonality	.269
	Distance	.115
	Language	.358
	Ethnicity	.179
	Urban	.
N	Flights	28
	Congestion	28
	GLHR	28
	PartnerConcentration	28
	Seasonality	28
	Distance	28
	Language	28
	Ethnicity	28
	Urban	28

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, PartnerConcentration, Seasonality, Distance, GLHR, Ethnicity, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.757[a]	.573	.394	4.438	.573	3.193

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	19	.018

a. Predictors: (Constant), Urban, Language, PartnerConcentration, Seasonality, Distance, GLHR, Ethnicity, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	503.056	8	62.882	3.193	.018[b]
	Residual	374.194	19	19.694		
	Total	877.250	27			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, PartnerConcentration, Seasonality, Distance, GLHR, Ethnicity, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-19.218	9.372		-2.051	.054
	Congestion	1.859	2.153	.257	.863	.399
	GLHR	5.201	2.341	.420	2.222	.039
	PartnerConcentration	.872	.486	.305	1.795	.089
	Seasonality	5.351	4.121	.221	1.298	.210
	Distance	-.823	1.398	-.099	-.588	.563
	Language	.607	.463	.323	1.312	.205
	Ethnicity	.849	1.565	.129	.542	.594
	Urban	.682	.631	.313	1.082	.293

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.254	3.933
	GLHR	.629	1.590
	PartnerConcentration	.779	1.283
	Seasonality	.777	1.287
	Distance	.793	1.262
	Language	.370	2.706
	Ethnicity	.399	2.507
	Urban	.268	3.732

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GLHR
1	1	6.485	1.000	.00	.00	.00
	2	1.182	2.342	.00	.00	.08
	3	.556	3.415	.00	.00	.50
	4	.522	3.524	.00	.00	.10
	5	.152	6.524	.00	.00	.00
	6	.073	9.455	.00	.01	.01
	7	.020	17.862	.00	.04	.00
	8	.006	31.780	.99	.06	.29
	9	.003	45.852	.00	.89	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.07	.00	.00	.08	.03	.00
	3	.18	.00	.00	.05	.00	.00
	4	.46	.00	.00	.03	.08	.00
	5	.18	.00	.00	.66	.76	.00
	6	.00	.73	.01	.04	.00	.01
	7	.00	.04	.78	.01	.01	.04
	8	.11	.19	.20	.13	.10	.04
	9	.00	.03	.01	.00	.00	.91

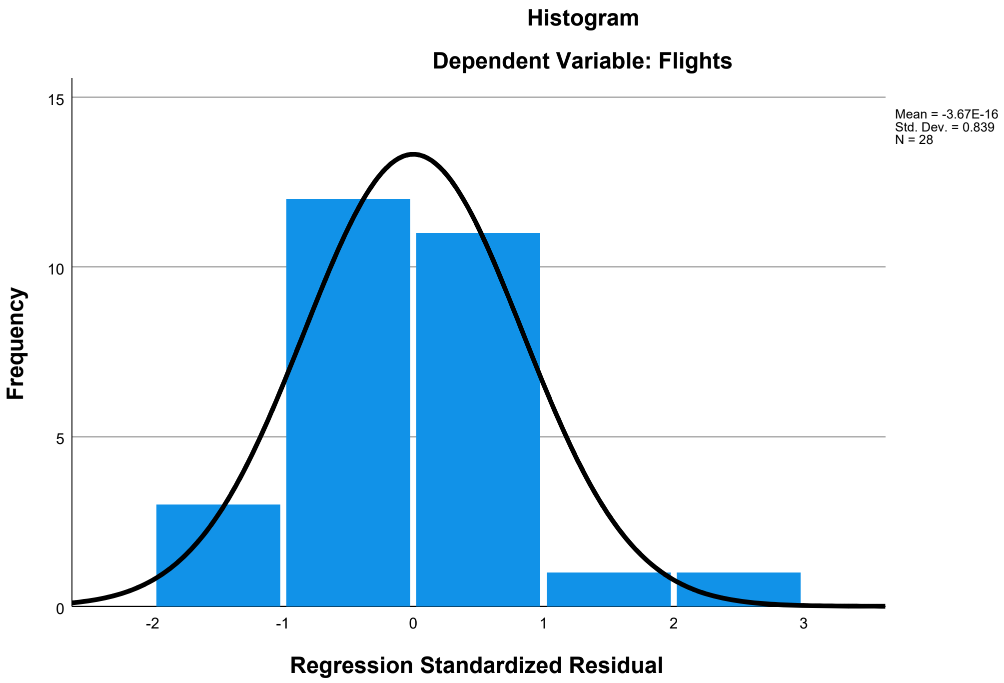
a. Dependent Variable: Flights

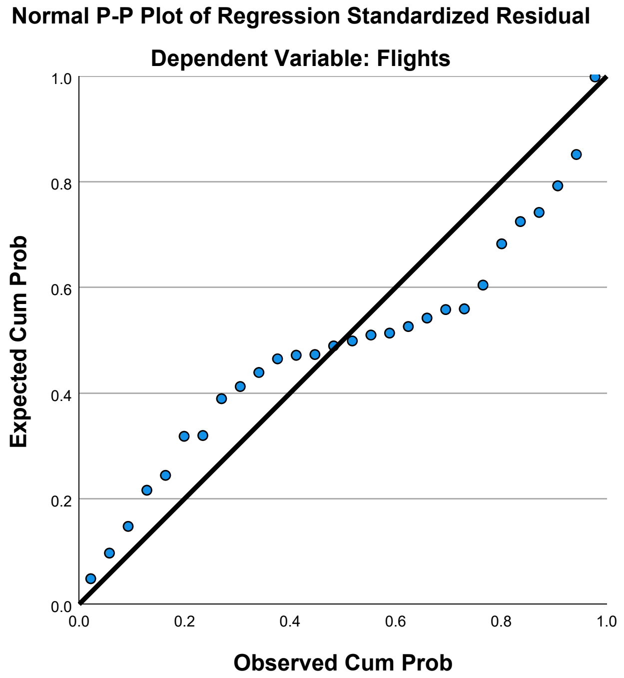
Residuals Statistics[a]

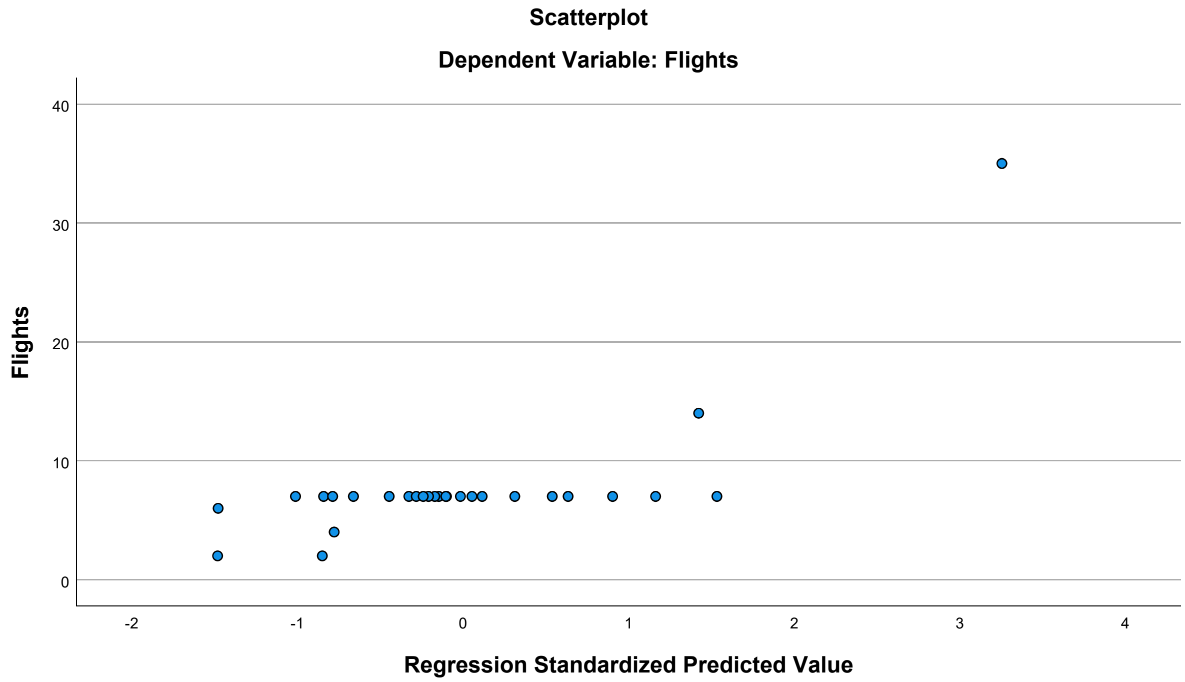
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.35	21.80	7.75	4.316	28
Residual	-7.369	13.205	.000	3.723	28
Std. Predicted Value	-1.482	3.254	.000	1.000	28
Std. Residual	-1.660	2.975	.000	.839	28

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
-2
-1
0
1
2
3
4

Regression

```
[DataSet16] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
\2017 - AC.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.51	3.826	53
HomeConcentration	2.6772708	.76671266	53
Congestion	5.30	.868	53
GLHR	.13	.342	53
PartnerConcentration	.93371520755	1.9817696317	53
Seasonality	.83538835378	.21917447513	53
Distance	4.03106	.966884	53
Language	2.09201723	3.307390496	53
Ethnicity	.84836528	.857130735	53
Urban	16.23	3.856	53

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.060	.132	.359
	HomeConcentration	.060	1.000	.634	-.531
	Congestion	.132	.634	1.000	-.202
	GLHR	.359	-.531	-.202	1.000
	PartnerConcentration	.148	-.131	.077	-.186
	Seasonality	-.334	.182	-.044	-.498
	Distance	-.091	.270	.223	-.224
	Language	.225	-.016	-.105	.155
	Ethnicity	.276	.050	.085	.162
	Urban	.382	.491	.605	.035
Sig. (1-tailed)	Flights	.	.334	.172	.004
	HomeConcentration	.334	.	.000	.000
	Congestion	.172	.000	.	.074
	GLHR	.004	.000	.074	.
	PartnerConcentration	.145	.176	.292	.092
	Seasonality	.007	.096	.377	.000
	Distance	.258	.025	.055	.054
	Language	.053	.454	.226	.135
	Ethnicity	.023	.362	.273	.124
	Urban	.002	.000	.000	.401
N	Flights	53	53	53	53
	HomeConcentration	53	53	53	53
	Congestion	53	53	53	53
	GLHR	53	53	53	53
	PartnerConcentration	53	53	53	53

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.148	-.334	-.091	.225
	HomeConcentration	-.131	.182	.270	-.016
	Congestion	.077	-.044	.223	-.105
	GLHR	-.186	-.498	-.224	.155
	PartnerConcentration	1.000	.080	.122	-.256
	Seasonality	.080	1.000	-.167	-.105
	Distance	.122	-.167	1.000	-.313
	Language	-.256	-.105	-.313	1.000
	Ethnicity	-.094	.009	-.135	.800
	Urban	.097	-.202	.335	-.022
Sig. (1-tailed)	Flights	.145	.007	.258	.053
	HomeConcentration	.176	.096	.025	.454
	Congestion	.292	.377	.055	.226
	GLHR	.092	.000	.054	.135
	PartnerConcentration	.	.285	.192	.032
	Seasonality	.285	.	.117	.228
	Distance	.192	.117	.	.011
	Language	.032	.228	.011	.
	Ethnicity	.251	.475	.167	.000
	Urban	.244	.074	.007	.437
N	Flights	53	53	53	53
	HomeConcentration	53	53	53	53
	Congestion	53	53	53	53
	GLHR	53	53	53	53
	PartnerConcentration	53	53	53	53

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.276	.382
	HomeConcentration	.050	.491
	Congestion	.085	.605
	GLHR	.162	.035
	PartnerConcentration	-.094	.097
	Seasonality	.009	-.202
	Distance	-.135	.335
	Language	.800	-.022
	Ethnicity	1.000	.106
	Urban	.106	1.000
Sig. (1-tailed)	Flights	.023	.002
	HomeConcentration	.362	.000
	Congestion	.273	.000
	GLHR	.124	.401
	PartnerConcentration	.251	.244
	Seasonality	.475	.074
	Distance	.167	.007
	Language	.000	.437
	Ethnicity	.	.225
	Urban	.225	.
N	Flights	53	53
	HomeConcentration	53	53
	Congestion	53	53
	GLHR	53	53
	PartnerConcentration	53	53

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Seasonality	53	53	53	53
	Distance	53	53	53	53
	Language	53	53	53	53
	Ethnicity	53	53	53	53
	Urban	53	53	53	53

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	Seasonality	53	53	53	53
	Distance	53	53	53	53
	Language	53	53	53	53
	Ethnicity	53	53	53	53
	Urban	53	53	53	53

Correlations

	Ethnicity	Urban
Seasonality	53	53
Distance	53	53
Language	53	53
Ethnicity	53	53
Urban	53	53

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, GLHR, PartnerConcentration, Distance, Seasonality, Congestion, HomeConcentration, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.659[a]	.435	.316	3.164	.435	3.672

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	43	.002

a. Predictors: (Constant), Urban, Language, GLHR, PartnerConcentration, Distance, Seasonality, Congestion, HomeConcentrat
Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	330.832	9	36.759	3.672	.002[b]
	Residual	430.413	43	10.010		
	Total	761.245	52			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, GLHR, PartnerConcentration, Distance, Seasonality, Congestion, HomeConcentration, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	6.649	5.219		1.274	.209
	HomeConcentration	1.972	1.049	.395	1.881	.067
	Congestion	-.933	.777	-.212	-1.200	.237
	GLHR	4.296	2.152	.384	1.996	.052
	PartnerConcentration	.621	.265	.322	2.341	.024
	Seasonality	-4.057	2.694	-.232	-1.506	.139
	Distance	-.833	.578	-.211	-1.441	.157
	Language	-.006	.278	-.005	-.022	.983
	Ethnicity	.853	1.008	.191	.846	.402
	Urban	.272	.169	.274	1.607	.115

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.298	3.358
	Congestion	.423	2.363
	GLHR	.356	2.811
	PartnerConcentration	.696	1.436
	Seasonality	.552	1.812
	Distance	.616	1.624
	Language	.228	4.390
	Ethnicity	.258	3.877
	Urban	.452	2.213

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.026	1.000	.00	.00	.00
	2	1.274	2.348	.00	.00	.00
	3	.787	2.987	.00	.00	.00
	4	.651	3.285	.00	.00	.00
	5	.106	8.149	.00	.00	.00
	6	.078	9.479	.00	.02	.00
	7	.043	12.783	.00	.09	.01
	8	.017	20.423	.01	.30	.05
	9	.013	23.584	.06	.56	.40
	10	.005	38.767	.92	.02	.53

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.06	.12	.00	.00	.04	.01
	3	.28	.01	.00	.00	.04	.01
	4	.01	.57	.00	.00	.02	.02
	5	.00	.05	.00	.00	.58	.72
	6	.01	.00	.30	.03	.00	.00
	7	.02	.01	.00	.51	.01	.00
	8	.10	.09	.09	.00	.00	.00
	9	.33	.12	.13	.10	.02	.02
	10	.19	.01	.47	.36	.30	.22

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.04
	7	.04
	8	.87
	9	.00
	10	.05

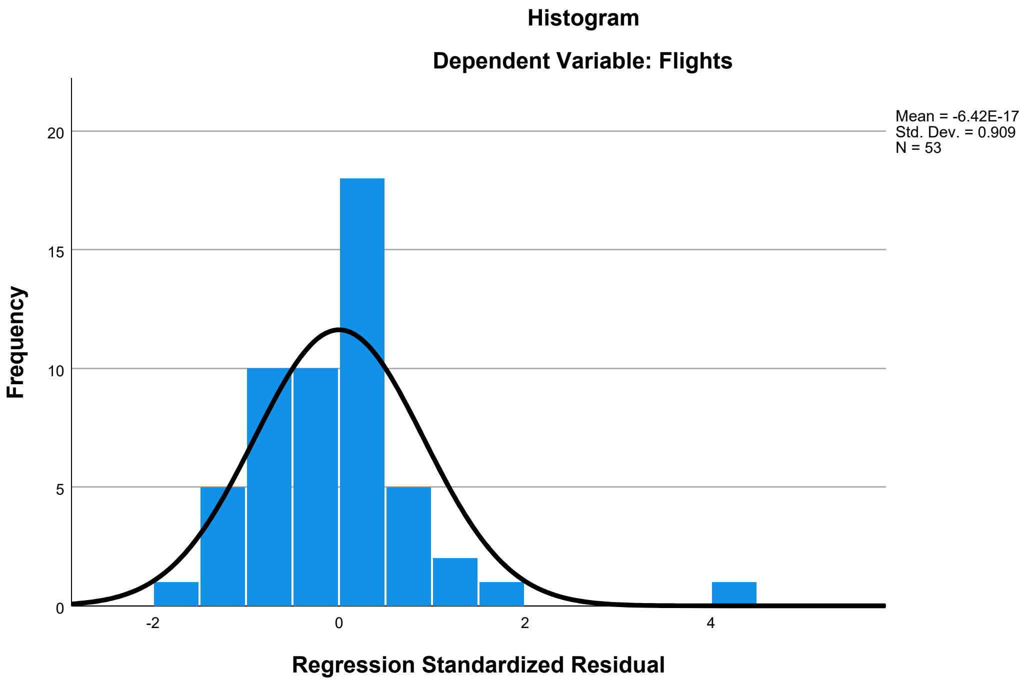
a. Dependent Variable: Flights

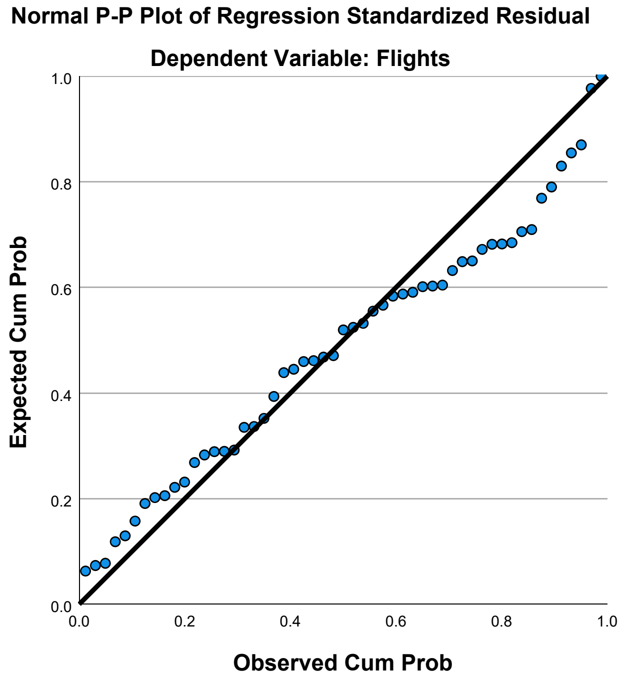
Residuals Statistics[a]

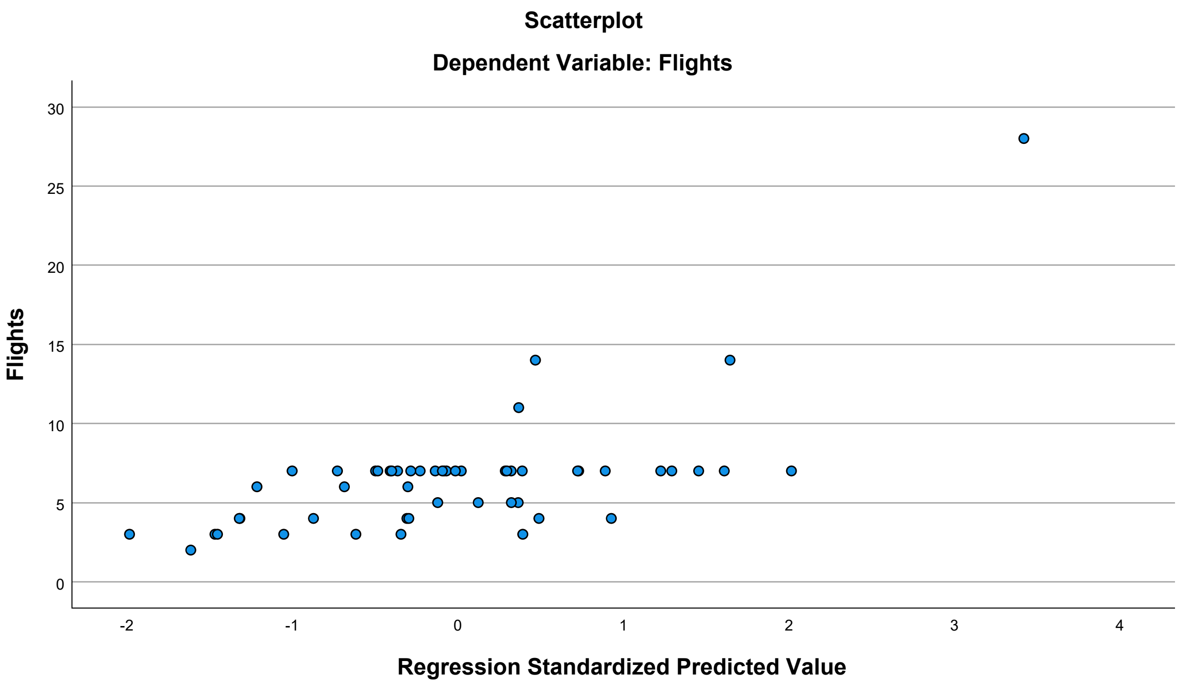
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.51	15.13	6.51	2.522	53
Residual	-4.847	12.866	.000	2.877	53
Std. Predicted Value	-1.984	3.419	.000	1.000	53
Std. Residual	-1.532	4.067	.000	.909	53

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
25
30
-2
-1
0
1
2
3
4

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.51	3.826	53
HomeConcentration	2.6772708	.76671266	53
Congestion	5.30	.868	53
GLHR	.13	.342	53
PartnerConcentration	.93371520755	1.9817696317	53
Seasonality	.83538835378	.21917447513	53
Distance	4.03106	.966884	53
Ethnicity	.84836528	.857130735	53
Urban	16.23	3.856	53

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.060	.132	.359
	HomeConcentration	.060	1.000	.634	-.531
	Congestion	.132	.634	1.000	-.202
	GLHR	.359	-.531	-.202	1.000
	PartnerConcentration	.148	-.131	.077	-.186
	Seasonality	-.334	.182	-.044	-.498
	Distance	-.091	.270	.223	-.224
	Ethnicity	.276	.050	.085	.162
	Urban	.382	.491	.605	.035
Sig. (1-tailed)	Flights	.	.334	.172	.004
	HomeConcentration	.334	.	.000	.000
	Congestion	.172	.000	.	.074
	GLHR	.004	.000	.074	.
	PartnerConcentration	.145	.176	.292	.092
	Seasonality	.007	.096	.377	.000
	Distance	.258	.025	.055	.054
	Ethnicity	.023	.362	.273	.124
	Urban	.002	.000	.000	.401
N	Flights	53	53	53	53
	HomeConcentration	53	53	53	53
	Congestion	53	53	53	53
	GLHR	53	53	53	53
	PartnerConcentration	53	53	53	53
	Seasonality	53	53	53	53
	Distance	53	53	53	53
	Ethnicity	53	53	53	53
	Urban	53	53	53	53

Correlations

		PartnerConcentration	Seasonality	Distance	Ethnicity
Pearson Correlation	Flights	.148	-.334	-.091	.276
	HomeConcentration	-.131	.182	.270	.050
	Congestion	.077	-.044	.223	.085
	GLHR	-.186	-.498	-.224	.162
	PartnerConcentration	1.000	.080	.122	-.094
	Seasonality	.080	1.000	-.167	.009
	Distance	.122	-.167	1.000	-.135
	Ethnicity	-.094	.009	-.135	1.000
	Urban	.097	-.202	.335	.106
Sig. (1-tailed)	Flights	.145	.007	.258	.023
	HomeConcentration	.176	.096	.025	.362
	Congestion	.292	.377	.055	.273
	GLHR	.092	.000	.054	.124
	PartnerConcentration	.	.285	.192	.251
	Seasonality	.285	.	.117	.475
	Distance	.192	.117	.	.167
	Ethnicity	.251	.475	.167	.
	Urban	.244	.074	.007	.225
N	Flights	53	53	53	53
	HomeConcentration	53	53	53	53
	Congestion	53	53	53	53
	GLHR	53	53	53	53
	PartnerConcentration	53	53	53	53
	Seasonality	53	53	53	53
	Distance	53	53	53	53
	Ethnicity	53	53	53	53
	Urban	53	53	53	53

Correlations

		Urban
Pearson Correlation	Flights	.382
	HomeConcentration	.491
	Congestion	.605
	GLHR	.035
	PartnerConcentration	.097
	Seasonality	-.202
	Distance	.335
	Ethnicity	.106
	Urban	1.000
Sig. (1-tailed)	Flights	.002
	HomeConcentration	.000
	Congestion	.000
	GLHR	.401
	PartnerConcentration	.244
	Seasonality	.074
	Distance	.007
	Ethnicity	.225
	Urban	.
N	Flights	53
	HomeConcentration	53
	Congestion	53
	GLHR	53
	PartnerConcentration	53
	Seasonality	53
	Distance	53
	Ethnicity	53
	Urban	53

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, GLHR, Ethnicity, PartnerConcentration, Distance, Seasonality, Congestion, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.659[a]	.435	.332	3.128	.435	4.227

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	44	<.001

a. Predictors: (Constant), Urban, GLHR, Ethnicity, PartnerConcentration, Distance, Seasonality, Congestion, HomeConcentratio

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	330.828	8	41.353	4.227	<.001[b]
	Residual	430.418	44	9.782		
	Total	761.245	52			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, GLHR, Ethnicity, PartnerConcentration, Distance, Seasonality, Congestion, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.590	4.388		1.502	.140
	HomeConcentration	1.972	1.036	.395	1.903	.064
	Congestion	-.928	.733	-.210	-1.265	.213
	GLHR	4.309	2.045	.385	2.106	.041
	PartnerConcentration	.623	.252	.322	2.468	.018
	Seasonality	-4.034	2.451	-.231	-1.646	.107
	Distance	-.828	.517	-.209	-1.602	.116
	Ethnicity	.835	.528	.187	1.581	.121
	Urban	.272	.166	.274	1.632	.110

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.298	3.355
	Congestion	.464	2.154
	GLHR	.385	2.598
	PartnerConcentration	.753	1.328
	Seasonality	.652	1.534
	Distance	.753	1.327
	Ethnicity	.919	1.088
	Urban	.457	2.190

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.671	1.000	.00	.00	.00
	2	1.048	2.523	.00	.00	.00
	3	.698	3.091	.00	.00	.00
	4	.425	3.963	.00	.00	.00
	5	.078	9.231	.00	.02	.00
	6	.044	12.378	.00	.09	.01
	7	.017	19.891	.02	.29	.05
	8	.013	22.663	.13	.55	.35
	9	.006	32.066	.84	.05	.58

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	PartnerConcentration	Seasonality	Distance	Ethnicity	Urban
1	1	.00	.00	.00	.00	.01	.00
	2	.20	.18	.00	.00	.02	.00
	3	.14	.55	.00	.00	.00	.00
	4	.03	.03	.00	.00	.92	.00
	5	.01	.00	.35	.04	.01	.04
	6	.02	.02	.00	.62	.04	.04
	7	.10	.10	.11	.00	.00	.88
	8	.40	.10	.19	.13	.00	.00
	9	.10	.01	.34	.21	.00	.04

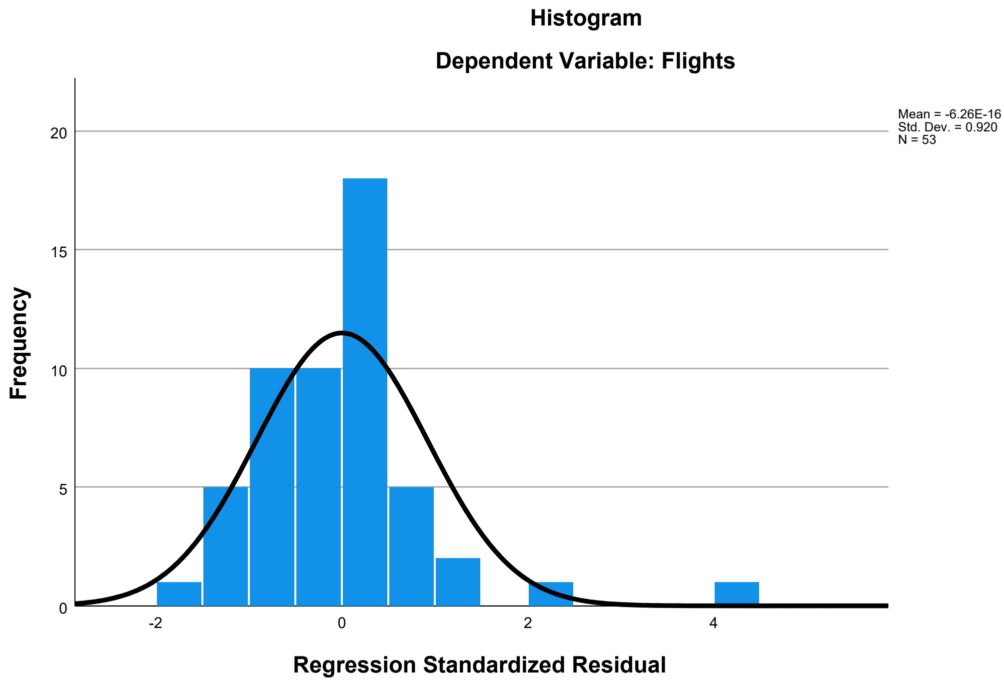
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.51	15.14	6.51	2.522	53
Residual	-4.850	12.861	.000	2.877	53
Std. Predicted Value	-1.984	3.421	.000	1.000	53
Std. Residual	-1.551	4.112	.000	.920	53

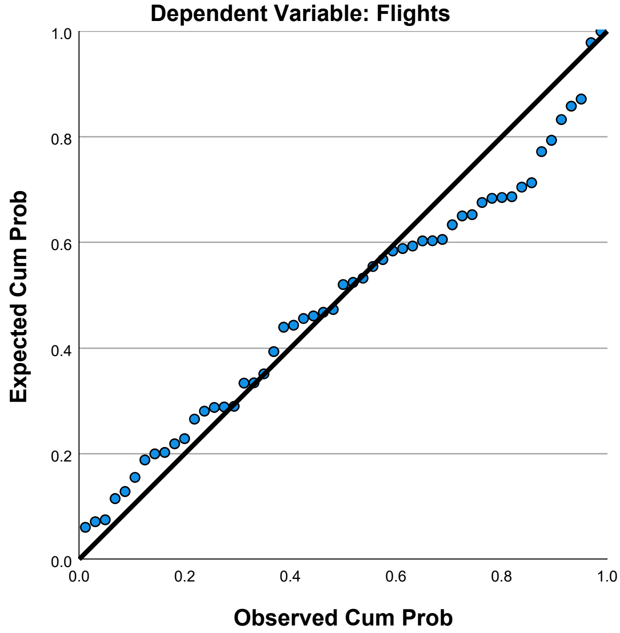
a. Dependent Variable: Flights

Charts



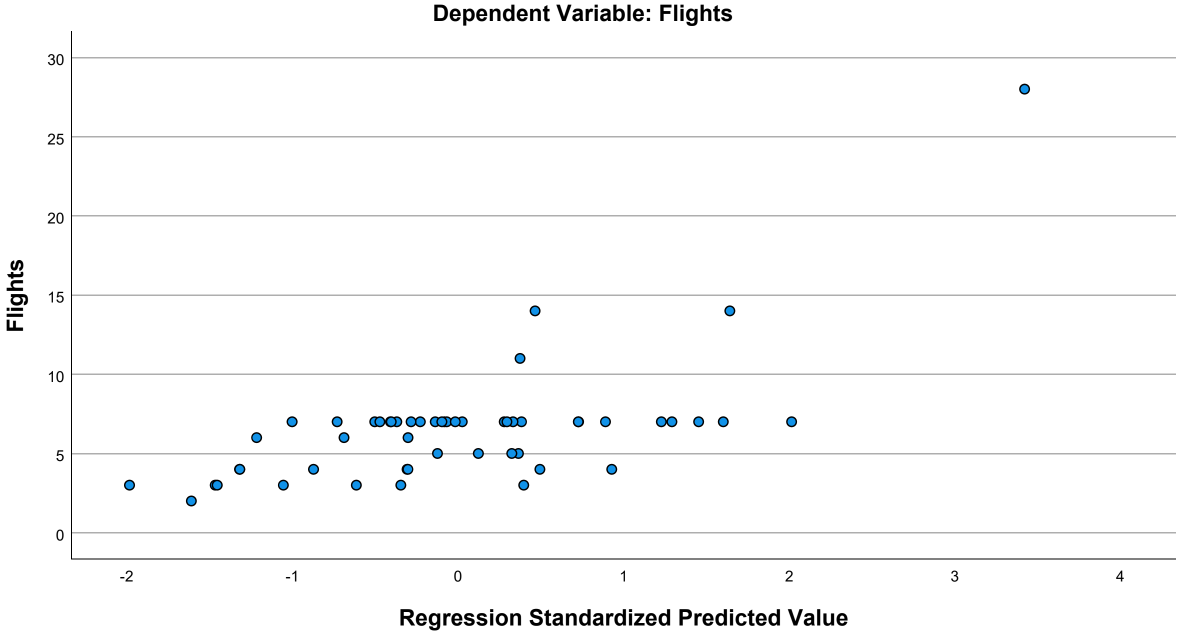
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.51	3.826	53
HomeConcentration	2.6772708	.76671266	53
GLHR	.13	.342	53
PartnerConcentration	.93371520755	1.9817696317	53
Seasonality	.83538835378	.21917447513	53
Distance	4.03106	.966884	53
Ethnicity	.84836528	.857130735	53
Urban	16.23	3.856	53

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.060	.359	.148
	HomeConcentration	.060	1.000	-.531	-.131
	GLHR	.359	-.531	1.000	-.186
	PartnerConcentration	.148	-.131	-.186	1.000
	Seasonality	-.334	.182	-.498	.080
	Distance	-.091	.270	-.224	.122
	Ethnicity	.276	.050	.162	-.094
	Urban	.382	.491	.035	.097
Sig. (1-tailed)	Flights	.	.334	.004	.145
	HomeConcentration	.334	.	.000	.176
	GLHR	.004	.000	.	.092
	PartnerConcentration	.145	.176	.092	.
	Seasonality	.007	.096	.000	.285
	Distance	.258	.025	.054	.192
	Ethnicity	.023	.362	.124	.251
	Urban	.002	.000	.401	.244
N	Flights	53	53	53	53
	HomeConcentration	53	53	53	53
	GLHR	53	53	53	53
	PartnerConcentration	53	53	53	53
	Seasonality	53	53	53	53
	Distance	53	53	53	53
	Ethnicity	53	53	53	53
	Urban	53	53	53	53

Correlations

		Seasonality	Distance	Ethnicity	Urban
Pearson Correlation	Flights	-.334	-.091	.276	.382
	HomeConcentration	.182	.270	.050	.491
	GLHR	-.498	-.224	.162	.035
	PartnerConcentration	.080	.122	-.094	.097
	Seasonality	1.000	-.167	.009	-.202
	Distance	-.167	1.000	-.135	.335
	Ethnicity	.009	-.135	1.000	.106
	Urban	-.202	.335	.106	1.000
Sig. (1-tailed)	Flights	.007	.258	.023	.002
	HomeConcentration	.096	.025	.362	.000
	GLHR	.000	.054	.124	.401
	PartnerConcentration	.285	.192	.251	.244
	Seasonality	.	.117	.475	.074
	Distance	.117	.	.167	.007
	Ethnicity	.475	.167	.	.225
	Urban	.074	.007	.225	.
N	Flights	53	53	53	53
	HomeConcentration	53	53	53	53
	GLHR	53	53	53	53
	PartnerConcentration	53	53	53	53
	Seasonality	53	53	53	53
	Distance	53	53	53	53
	Ethnicity	53	53	53	53
	Urban	53	53	53	53

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, GLHR, Ethnicity, PartnerConcentration, Distance, Seasonality, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.643[a]	.414	.323	3.148	.414	4.542

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	7	45	<.001

a. Predictors: (Constant), Urban, GLHR, Ethnicity, PartnerConcentration, Distance, Seasonality, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	315.178	7	45.025	4.542	<.001[b]
	Residual	446.067	45	9.913		
	Total	761.245	52			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, GLHR, Ethnicity, PartnerConcentration, Distance, Seasonality, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.014	3.913		1.026	.310
	HomeConcentration	1.394	.936	.279	1.489	.144
	GLHR	4.175	2.056	.373	2.030	.048
	PartnerConcentration	.565	.250	.293	2.263	.029
	Seasonality	-3.773	2.458	-.216	-1.535	.132
	Distance	-.790	.519	-.200	-1.521	.135
	Ethnicity	.814	.531	.182	1.532	.132
	Urban	.205	.159	.207	1.291	.203

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.370	2.703
	GLHR	.386	2.592
	PartnerConcentration	.779	1.284
	Seasonality	.657	1.523
	Distance	.756	1.323
	Ethnicity	.920	1.087
	Urban	.507	1.972

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	GLHR
1	1	5.695	1.000	.00	.00	.00
	2	1.048	2.332	.00	.00	.20
	3	.695	2.863	.00	.00	.15
	4	.418	3.689	.00	.00	.03
	5	.077	8.576	.01	.03	.01
	6	.042	11.691	.00	.16	.03
	7	.016	18.677	.01	.71	.22
	8	.009	24.817	.98	.10	.37

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions				
		PartnerConcentration	Seasonality	Distance	Ethnicity	Urban
1	1	.00	.00	.00	.01	.00
	2	.19	.00	.00	.02	.00
	3	.56	.00	.00	.00	.00
	4	.03	.00	.00	.91	.00
	5	.00	.35	.05	.01	.05
	6	.03	.00	.59	.04	.08
	7	.17	.05	.01	.00	.86
	8	.01	.59	.35	.00	.00

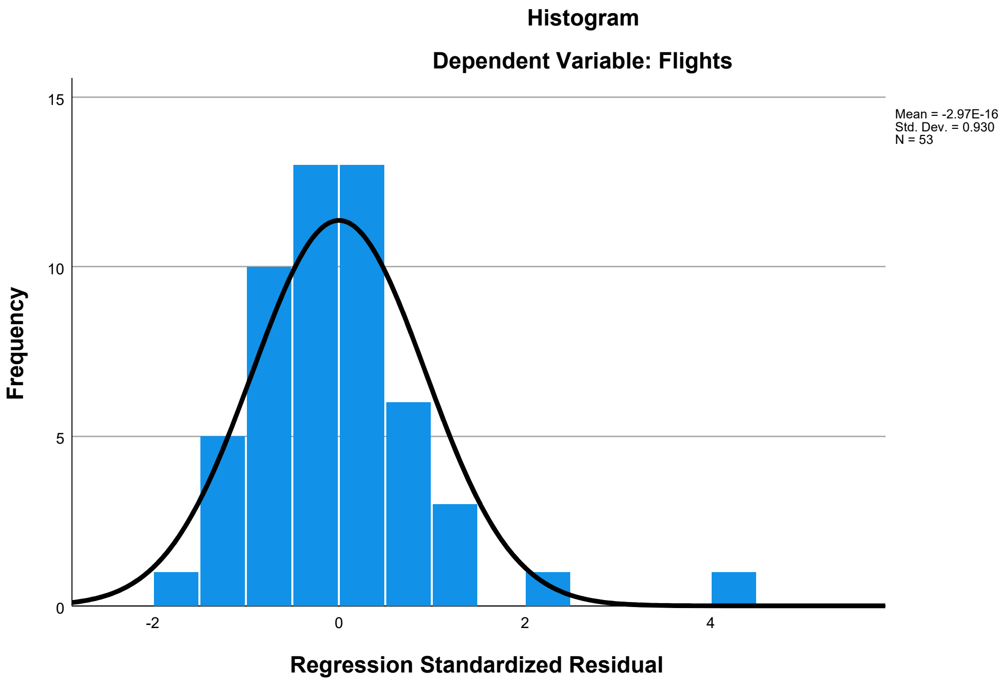
a. Dependent Variable: Flights

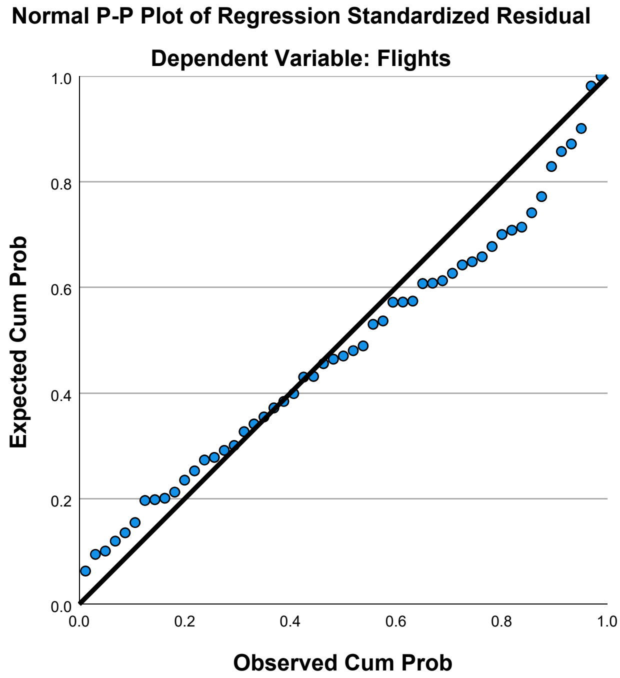
Residuals Statistics[a]

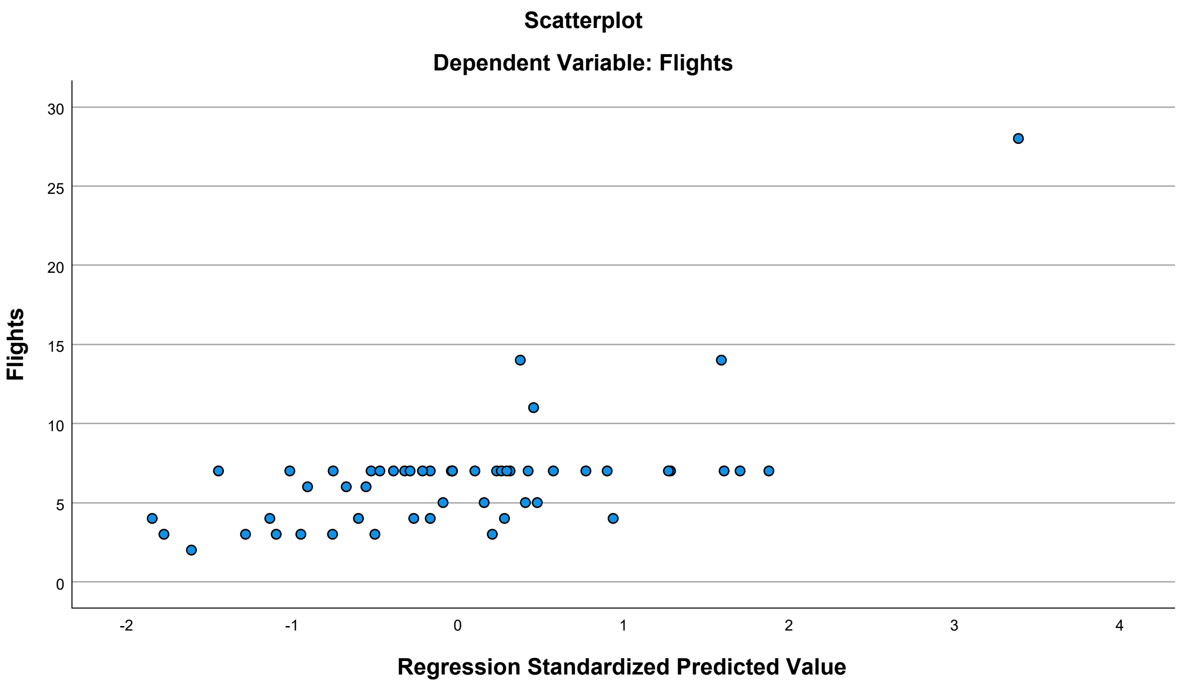
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.96	14.85	6.51	2.462	53
Residual	-4.819	13.154	.000	2.929	53
Std. Predicted Value	-1.847	3.386	.000	1.000	53
Std. Residual	-1.531	4.178	.000	.930	53

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
25
30
-2
-1
0
1
2
3
4

Regression

```
[DataSet1] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines\
2017 - ACMain.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.73	4.433	30
HomeConcentration	2.5188900	.91052294	30
Congestion	5.37	.718	30
GLHR	.23	.430	30
PartnerConcentration	1.5147602000	2.4437632651	30
Seasonality	.71918609169	.22578556970	30
Distance	4.16023	1.152118	30
Language	1.98695070	3.139184617	30
Ethnicity	.84609633	.798397791	30
Urban	17.27	2.840	30

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.144	.183	.287
	HomeConcentration	.144	1.000	.900	-.540
	Congestion	.183	.900	1.000	-.398
	GLHR	.287	-.540	-.398	1.000
	PartnerConcentration	.028	-.086	.022	-.348
	Seasonality	-.153	.028	.004	-.399
	Distance	-.225	.394	.487	-.330
	Language	.367	-.122	-.314	.251
	Ethnicity	.480	-.018	-.066	.249
	Urban	.367	.812	.863	-.137
Sig. (1-tailed)	Flights	.	.224	.166	.062
	HomeConcentration	.224	.	.000	.001
	Congestion	.166	.000	.	.015
	GLHR	.062	.001	.015	.
	PartnerConcentration	.441	.325	.454	.030
	Seasonality	.211	.442	.491	.014
	Distance	.116	.016	.003	.037
	Language	.023	.260	.045	.091
	Ethnicity	.004	.462	.365	.092
	Urban	.023	.000	.000	.235
N	Flights	30	30	30	30
	HomeConcentration	30	30	30	30
	Congestion	30	30	30	30
	GLHR	30	30	30	30
	PartnerConcentration	30	30	30	30

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.028	-.153	-.225	.367
	HomeConcentration	-.086	.028	.394	-.122
	Congestion	.022	.004	.487	-.314
	GLHR	-.348	-.399	-.330	.251
	PartnerConcentration	1.000	.401	.086	-.335
	Seasonality	.401	1.000	-.120	-.263
	Distance	.086	-.120	1.000	-.349
	Language	-.335	-.263	-.349	1.000
	Ethnicity	-.114	-.031	-.142	.666
	Urban	-.107	-.042	.353	-.191
Sig. (1-tailed)	Flights	.441	.211	.116	.023
	HomeConcentration	.325	.442	.016	.260
	Congestion	.454	.491	.003	.045
	GLHR	.030	.014	.037	.091
	PartnerConcentration	.	.014	.326	.035
	Seasonality	.014	.	.264	.080
	Distance	.326	.264	.	.029
	Language	.035	.080	.029	.
	Ethnicity	.275	.435	.227	.000
	Urban	.287	.413	.028	.156
N	Flights	30	30	30	30
	HomeConcentration	30	30	30	30
	Congestion	30	30	30	30
	GLHR	30	30	30	30
	PartnerConcentration	30	30	30	30

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.480	.367
	HomeConcentration	-.018	.812
	Congestion	-.066	.863
	GLHR	.249	-.137
	PartnerConcentration	-.114	-.107
	Seasonality	-.031	-.042
	Distance	-.142	.353
	Language	.666	-.191
	Ethnicity	1.000	.026
	Urban	.026	1.000
Sig. (1-tailed)	Flights	.004	.023
	HomeConcentration	.462	.000
	Congestion	.365	.000
	GLHR	.092	.235
	PartnerConcentration	.275	.287
	Seasonality	.435	.413
	Distance	.227	.028
	Language	.000	.156
	Ethnicity	.	.447
	Urban	.447	.
N	Flights	30	30
	HomeConcentration	30	30
	Congestion	30	30
	GLHR	30	30
	PartnerConcentration	30	30

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Seasonality	30	30	30	30
	Distance	30	30	30	30
	Language	30	30	30	30
	Ethnicity	30	30	30	30
	Urban	30	30	30	30

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	Seasonality	30	30	30	30
	Distance	30	30	30	30
	Language	30	30	30	30
	Ethnicity	30	30	30	30
	Urban	30	30	30	30

Correlations

	Ethnicity	Urban
Seasonality	30	30
Distance	30	30
Language	30	30
Ethnicity	30	30
Urban	30	30

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, Seasonality, Distance, PartnerConcentration, GLHR, Language, Congestion, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.762[a]	.581	.392	3.455	.581	3.081

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	20	.017

a. Predictors: (Constant), Urban, Ethnicity, Seasonality, Distance, PartnerConcentration, GLHR, Language, Congestion, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	331.073	9	36.786	3.081	.017[b]
	Residual	238.794	20	11.940		
	Total	569.867	29			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, Seasonality, Distance, PartnerConcentration, GLHR, Language, Congestion, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-8.008	10.696		-.749	.463
	HomeConcentration	-1.572	2.699	-.323	-.583	.567
	Congestion	1.073	2.962	.174	.362	.721
	GLHR	.870	3.218	.084	.270	.790
	PartnerConcentration	.565	.343	.311	1.645	.116
	Seasonality	-3.197	3.818	-.163	-.837	.412
	Distance	-1.177	.723	-.306	-1.628	.119
	Language	.394	.380	.279	1.036	.312
	Ethnicity	1.379	1.251	.248	1.102	.283
	Urban	1.050	.587	.673	1.787	.089

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.068	14.664
	Congestion	.091	11.000
	GLHR	.215	4.656
	PartnerConcentration	.585	1.708
	Seasonality	.554	1.805
	Distance	.593	1.685
	Language	.289	3.455
	Ethnicity	.413	2.424
	Urban	.148	6.760

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Congestion
1	1	7.189	1.000	.00	.00	.00
	2	1.344	2.312	.00	.00	.00
	3	.624	3.394	.00	.00	.00
	4	.526	3.696	.00	.00	.00
	5	.163	6.640	.00	.00	.00
	6	.089	8.981	.00	.01	.00
	7	.049	12.106	.00	.05	.00
	8	.010	26.219	.16	.10	.02
	9	.003	49.309	.07	.40	.01
	10	.001	81.210	.76	.44	.97

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions					
		GLHR	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.03	.08	.00	.00	.04	.01
	3	.13	.02	.00	.00	.10	.04
	4	.05	.48	.00	.00	.00	.02
	5	.00	.06	.00	.00	.41	.72
	6	.00	.16	.39	.06	.00	.00
	7	.03	.06	.00	.49	.00	.00
	8	.34	.06	.54	.44	.19	.15
	9	.39	.03	.01	.00	.02	.00
	10	.02	.05	.05	.01	.22	.05

Collinearity Diagnostics[a]

Model	Dimension	Variance ...
		Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.00
	8	.00
	9	.95
	10	.04

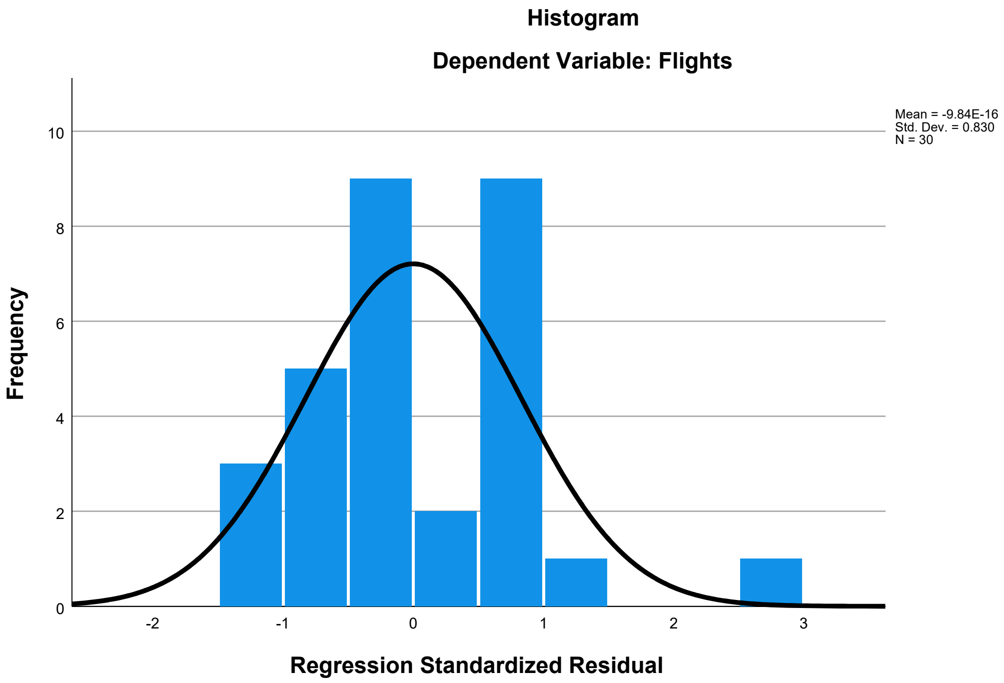
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.85	18.82	7.73	3.379	30
Residual	-4.487	9.183	.000	2.870	30
Std. Predicted Value	-2.036	3.280	.000	1.000	30
Std. Residual	-1.299	2.658	.000	.830	30

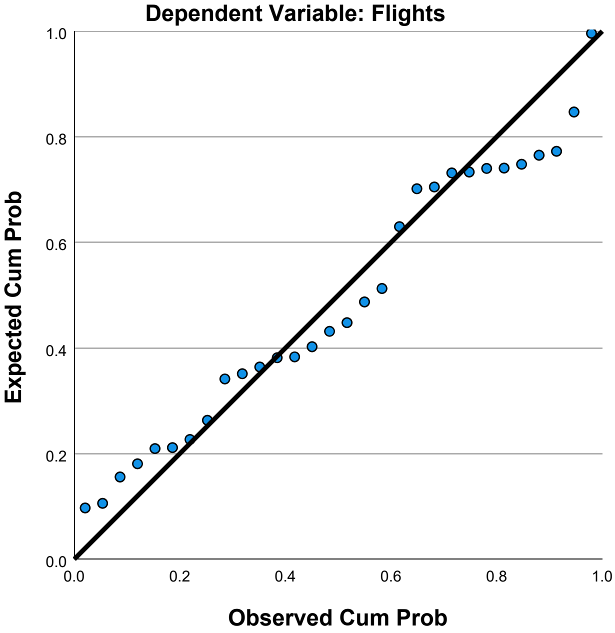
a. Dependent Variable: Flights

Charts



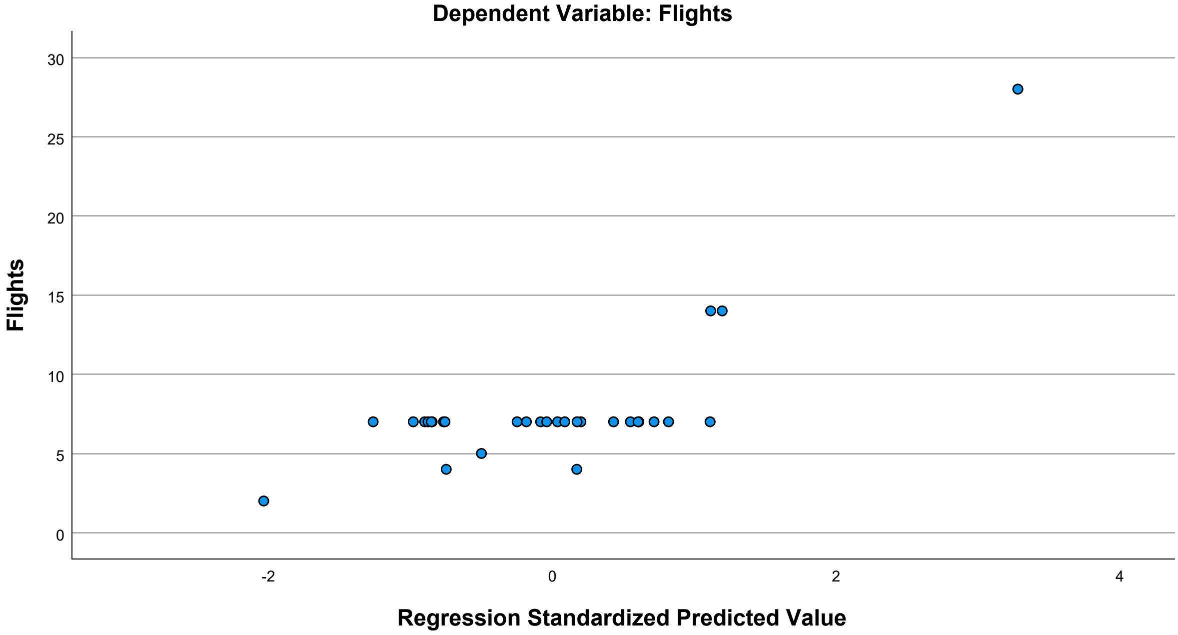
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.73	4.433	30
Congestion	5.37	.718	30
GLHR	.23	.430	30
PartnerConcentration	1.5147602000	2.4437632651	30
Seasonality	.71918609169	.22578556970	30
Distance	4.16023	1.152118	30
Language	1.98695070	3.139184617	30
Ethnicity	.84609633	.798397791	30
Urban	17.27	2.840	30

Correlations

		Flights	Congestion	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.183	.287	.028
	Congestion	.183	1.000	-.398	.022
	GLHR	.287	-.398	1.000	-.348
	PartnerConcentration	.028	.022	-.348	1.000
	Seasonality	-.153	.004	-.399	.401
	Distance	-.225	.487	-.330	.086
	Language	.367	-.314	.251	-.335
	Ethnicity	.480	-.066	.249	-.114
	Urban	.367	.863	-.137	-.107
Sig. (1-tailed)	Flights	.	.166	.062	.441
	Congestion	.166	.	.015	.454
	GLHR	.062	.015	.	.030
	PartnerConcentration	.441	.454	.030	.
	Seasonality	.211	.491	.014	.014
	Distance	.116	.003	.037	.326
	Language	.023	.045	.091	.035
	Ethnicity	.004	.365	.092	.275
	Urban	.023	.000	.235	.287
N	Flights	30	30	30	30
	Congestion	30	30	30	30
	GLHR	30	30	30	30
	PartnerConcentration	30	30	30	30
	Seasonality	30	30	30	30
	Distance	30	30	30	30
	Language	30	30	30	30
	Ethnicity	30	30	30	30
	Urban	30	30	30	30

Correlations

		Seasonality	Distance	Language	Ethnicity
Pearson Correlation	Flights	-.153	-.225	.367	.480
	Congestion	.004	.487	-.314	-.066
	GLHR	-.399	-.330	.251	.249
	PartnerConcentration	.401	.086	-.335	-.114
	Seasonality	1.000	-.120	-.263	-.031
	Distance	-.120	1.000	-.349	-.142
	Language	-.263	-.349	1.000	.666
	Ethnicity	-.031	-.142	.666	1.000
	Urban	-.042	.353	-.191	.026
Sig. (1-tailed)	Flights	.211	.116	.023	.004
	Congestion	.491	.003	.045	.365
	GLHR	.014	.037	.091	.092
	PartnerConcentration	.014	.326	.035	.275
	Seasonality	.	.264	.080	.435
	Distance	.264	.	.029	.227
	Language	.080	.029	.	.000
	Ethnicity	.435	.227	.000	.
	Urban	.413	.028	.156	.447
N	Flights	30	30	30	30
	Congestion	30	30	30	30
	GLHR	30	30	30	30
	PartnerConcentration	30	30	30	30
	Seasonality	30	30	30	30
	Distance	30	30	30	30
	Language	30	30	30	30
	Ethnicity	30	30	30	30
	Urban	30	30	30	30

Correlations

		Urban
Pearson Correlation	Flights	.367
	Congestion	.863
	GLHR	-.137
	PartnerConcentration	-.107
	Seasonality	-.042
	Distance	.353
	Language	-.191
	Ethnicity	.026
	Urban	1.000
Sig. (1-tailed)	Flights	.023
	Congestion	.000
	GLHR	.235
	PartnerConcentration	.287
	Seasonality	.413
	Distance	.028
	Language	.156
	Ethnicity	.447
	Urban	.
N	Flights	30
	Congestion	30
	GLHR	30
	PartnerConcentration	30
	Seasonality	30
	Distance	30
	Language	30
	Ethnicity	30
	Urban	30

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, Seasonality, Distance, PartnerConcentration, GLHR, Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.758[a]	.574	.412	3.401	.574	3.535

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	21	.010

a. Predictors: (Constant), Urban, Ethnicity, Seasonality, Distance, PartnerConcentration, GLHR, Language, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	327.020	8	40.877	3.535	.010[b]
	Residual	242.847	21	11.564		
	Total	569.867	29			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, Seasonality, Distance, PartnerConcentration, GLHR, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4.173	8.297		-.503	.620
	Congestion	.011	2.298	.002	.005	.996
	GLHR	2.185	2.259	.212	.967	.344
	PartnerConcentration	.644	.310	.355	2.079	.050
	Seasonality	-2.978	3.740	-.152	-.796	.435
	Distance	-1.106	.701	-.287	-1.577	.130
	Language	.330	.358	.234	.922	.367
	Ethnicity	1.398	1.231	.252	1.136	.269
	Urban	.884	.506	.566	1.748	.095

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.146	6.833
	GLHR	.422	2.368
	PartnerConcentration	.696	1.437
	Seasonality	.559	1.788
	Distance	.611	1.637
	Language	.316	3.169
	Ethnicity	.413	2.422
	Urban	.193	5.171

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GLHR
1	1	6.309	1.000	.00	.00	.00
	2	1.323	2.184	.00	.00	.06
	3	.624	3.180	.00	.00	.24
	4	.462	3.694	.00	.00	.16
	5	.163	6.228	.00	.00	.01
	6	.083	8.718	.00	.00	.00
	7	.028	15.067	.00	.01	.04
	8	.007	29.819	.52	.00	.15
	9	.002	63.647	.48	.98	.34

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.12	.00	.00	.05	.01	.00
	3	.03	.00	.00	.11	.04	.00
	4	.61	.00	.01	.00	.02	.00
	5	.08	.00	.00	.45	.72	.00
	6	.09	.39	.15	.00	.00	.00
	7	.03	.19	.67	.03	.01	.05
	8	.04	.31	.17	.25	.14	.17
	9	.00	.11	.00	.11	.05	.78

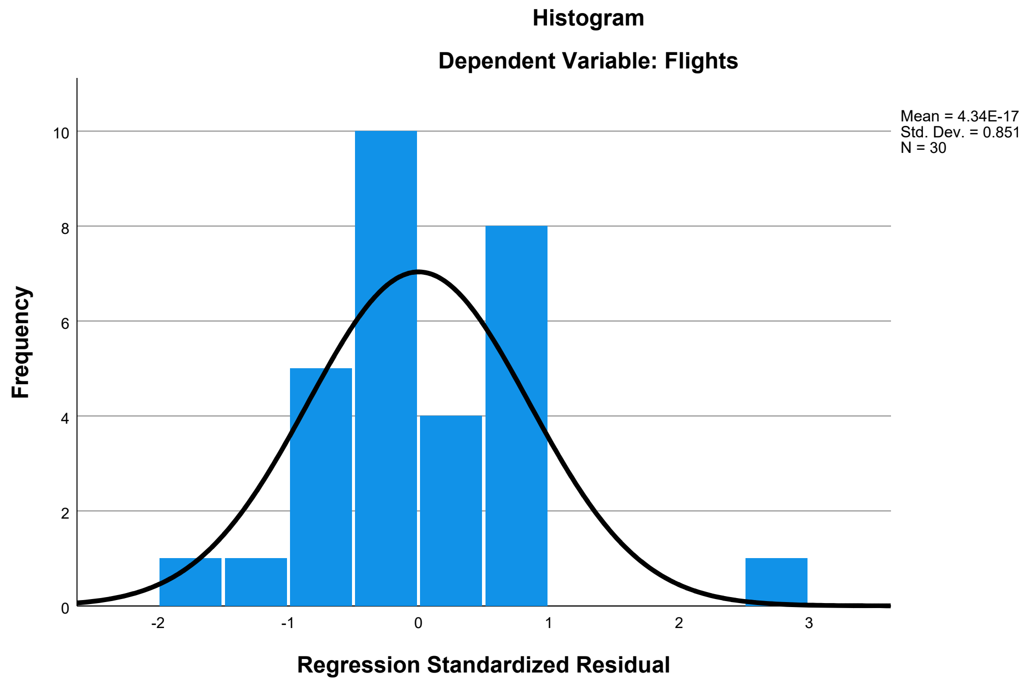
a. Dependent Variable: Flights

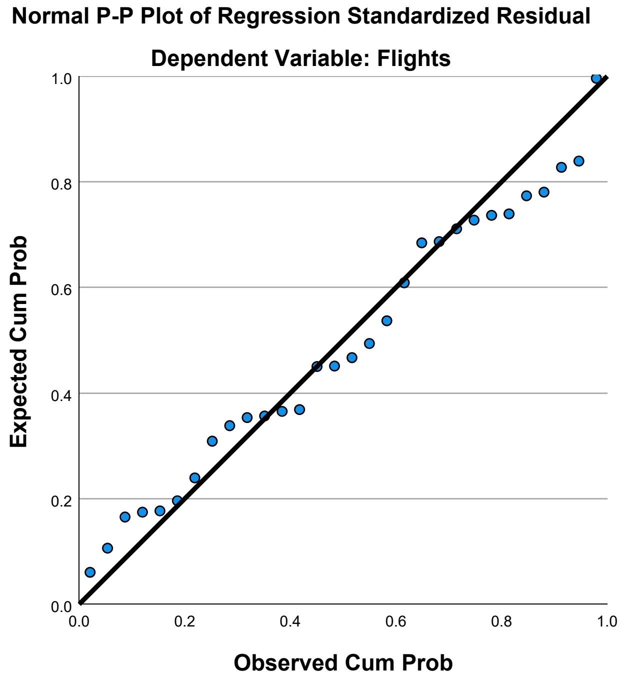
Residuals Statistics[a]

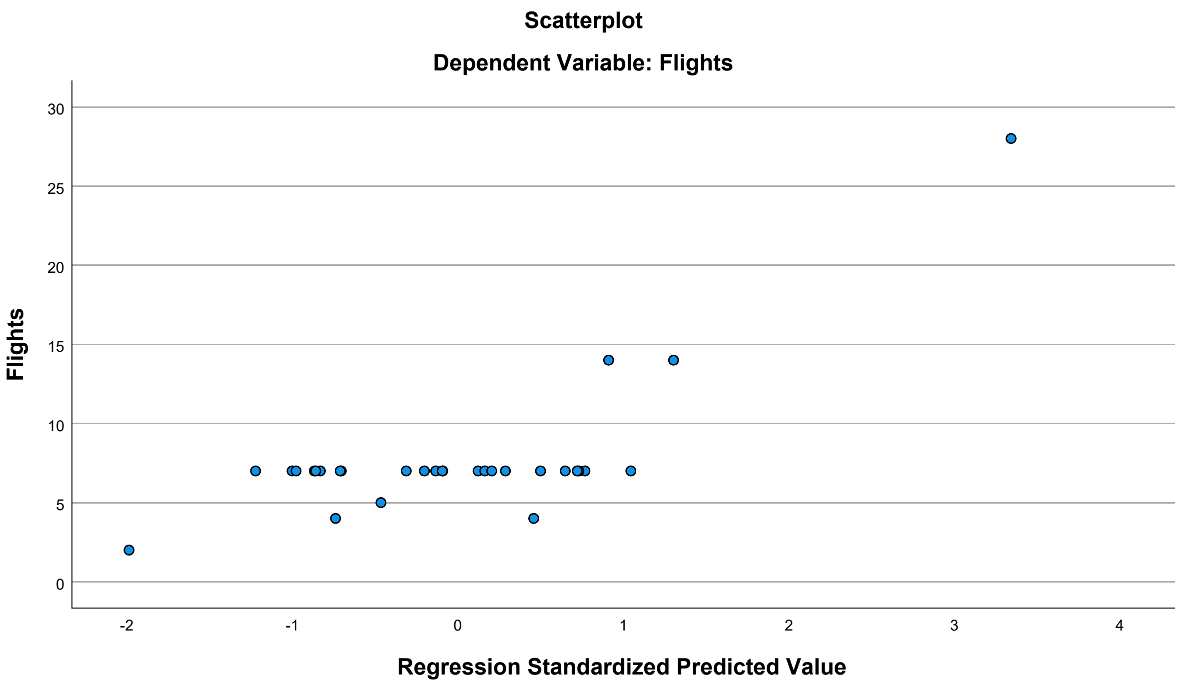
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.06	18.96	7.73	3.358	30
Residual	-5.273	9.044	.000	2.894	30
Std. Predicted Value	-1.987	3.342	.000	1.000	30
Std. Residual	-1.551	2.659	.000	.851	30

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
25
30
-2
-1
0
1
2
3
4

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.73	4.433	30
GLHR	.23	.430	30
PartnerConcentration	1.5147602000	2.4437632651	30
Seasonality	.71918609169	.22578556970	30
Distance	4.16023	1.152118	30
Language	1.98695070	3.139184617	30
Ethnicity	.84609633	.798397791	30
Urban	17.27	2.840	30

Correlations

		Flights	GLHR	PartnerConcentration	Seasonality
Pearson Correlation	Flights	1.000	.287	.028	-.153
	GLHR	.287	1.000	-.348	-.399
	PartnerConcentration	.028	-.348	1.000	.401
	Seasonality	-.153	-.399	.401	1.000
	Distance	-.225	-.330	.086	-.120
	Language	.367	.251	-.335	-.263
	Ethnicity	.480	.249	-.114	-.031
	Urban	.367	-.137	-.107	-.042
Sig. (1-tailed)	Flights	.	.062	.441	.211
	GLHR	.062	.	.030	.014
	PartnerConcentration	.441	.030	.	.014
	Seasonality	.211	.014	.014	.
	Distance	.116	.037	.326	.264
	Language	.023	.091	.035	.080
	Ethnicity	.004	.092	.275	.435
	Urban	.023	.235	.287	.413
N	Flights	30	30	30	30
	GLHR	30	30	30	30
	PartnerConcentration	30	30	30	30
	Seasonality	30	30	30	30
	Distance	30	30	30	30
	Language	30	30	30	30
	Ethnicity	30	30	30	30
	Urban	30	30	30	30

Correlations

		Distance	Language	Ethnicity	Urban
Pearson Correlation	Flights	-.225	.367	.480	.367
	GLHR	-.330	.251	.249	-.137
	PartnerConcentration	.086	-.335	-.114	-.107
	Seasonality	-.120	-.263	-.031	-.042
	Distance	1.000	-.349	-.142	.353
	Language	-.349	1.000	.666	-.191
	Ethnicity	-.142	.666	1.000	.026
	Urban	.353	-.191	.026	1.000
Sig. (1-tailed)	Flights	.116	.023	.004	.023
	GLHR	.037	.091	.092	.235
	PartnerConcentration	.326	.035	.275	.287
	Seasonality	.264	.080	.435	.413
	Distance	.	.029	.227	.028
	Language	.029	.	.000	.156
	Ethnicity	.227	.000	.	.447
	Urban	.028	.156	.447	.
N	Flights	30	30	30	30
	GLHR	30	30	30	30
	PartnerConcentration	30	30	30	30
	Seasonality	30	30	30	30
	Distance	30	30	30	30
	Language	30	30	30	30
	Ethnicity	30	30	30	30
	Urban	30	30	30	30

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, Seasonality, Distance, PartnerConcentration, GLHR, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.758[a]	.574	.438	3.322	.574	4.232

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	7	22	.004

a. Predictors: (Constant), Urban, Ethnicity, Seasonality, Distance, PartnerConcentration, GLHR, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	327.019	7	46.717	4.232	.004[b]
	Residual	242.847	22	11.039		
	Total	569.867	29			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, Seasonality, Distance, PartnerConcentration, GLHR, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-4.147	6.185		-.671	.510
	GLHR	2.179	1.870	.211	1.165	.256
	PartnerConcentration	.644	.303	.355	2.129	.045
	Seasonality	-2.983	3.543	-.152	-.842	.409
	Distance	-1.105	.681	-.287	-1.623	.119
	Language	.330	.336	.233	.981	.337
	Ethnicity	1.400	1.177	.252	1.189	.247
	Urban	.886	.245	.568	3.616	.002

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	GLHR	.588	1.699
	PartnerConcentration	.696	1.437
	Seasonality	.595	1.682
	Distance	.618	1.617
	Language	.342	2.920
	Ethnicity	.431	2.320
	Urban	.786	1.272

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	GLHR	PartnerConcentration
1	1	5.361	1.000	.00	.00	.01
	2	1.308	2.024	.00	.08	.13
	3	.619	2.944	.00	.37	.01
	4	.438	3.499	.00	.19	.62
	5	.162	5.746	.00	.01	.08
	6	.082	8.086	.00	.00	.09
	7	.023	15.421	.01	.09	.03
	8	.007	27.636	.99	.25	.04

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00
	2	.00	.00	.05	.01	.00
	3	.00	.00	.12	.04	.00
	4	.00	.01	.00	.02	.00
	5	.00	.00	.49	.76	.00
	6	.39	.18	.00	.00	.00
	7	.23	.61	.03	.01	.48
	8	.37	.20	.30	.16	.51

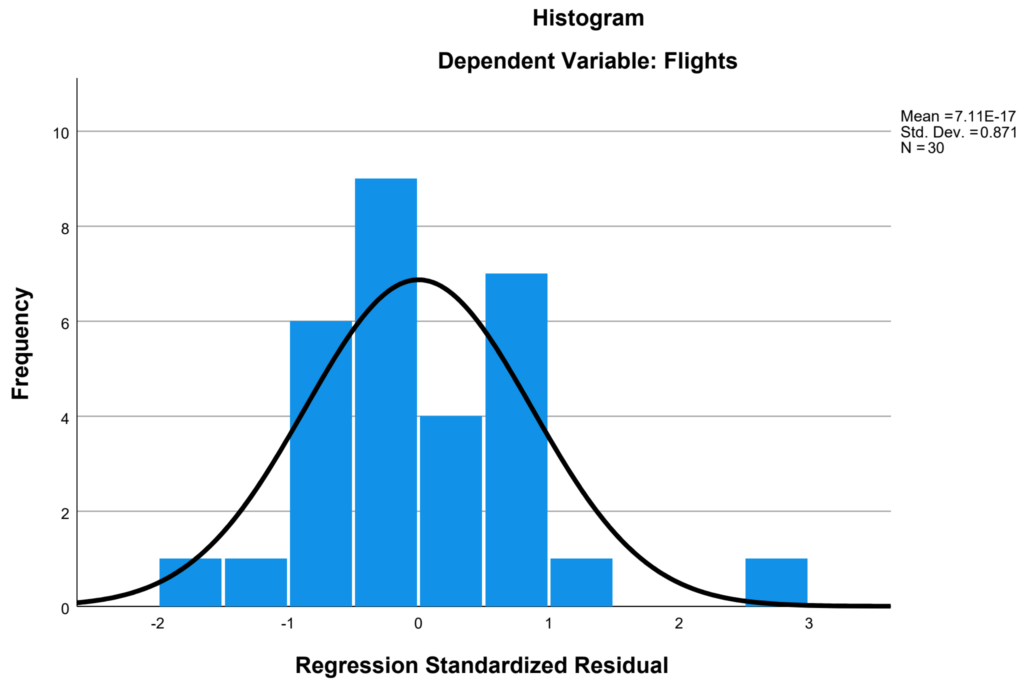
a. Dependent Variable: Flights

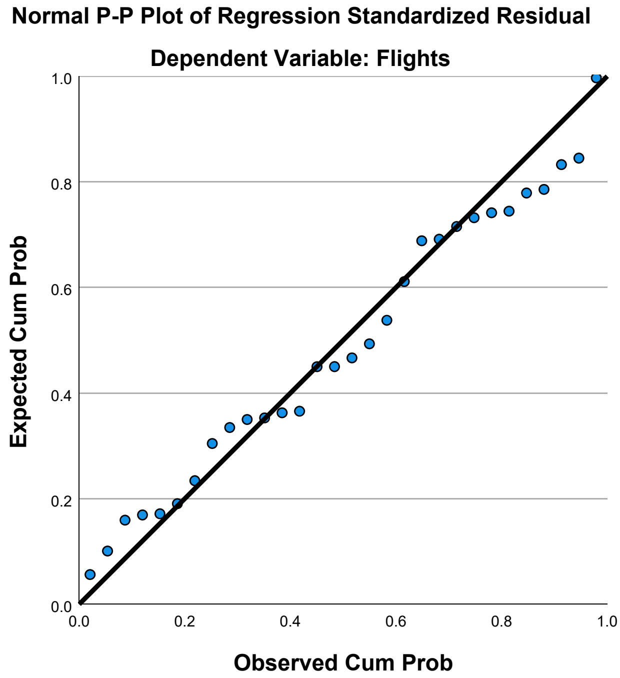
Residuals Statistics[a]

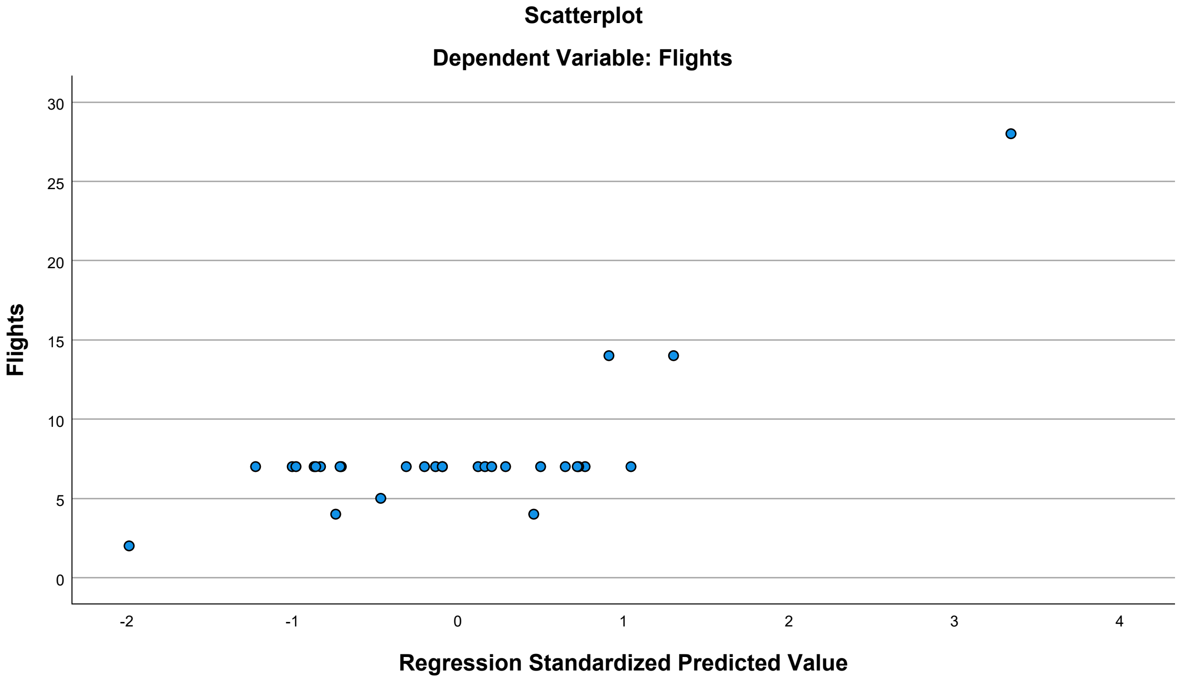
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.06	18.95	7.73	3.358	30
Residual	-5.272	9.045	.000	2.894	30
Std. Predicted Value	-1.986	3.342	.000	1.000	30
Std. Residual	-1.587	2.723	.000	.871	30

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
25
30
-2
-1
0
1
2
3
4

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.73	4.433	30
GLHR	.23	.430	30
PartnerConcentration	1.5147602000	2.4437632651	30
Seasonality	.71918609169	.22578556970	30
Distance	4.16023	1.152118	30
Ethnicity	.84609633	.798397791	30
Urban	17.27	2.840	30

Correlations

		Flights	GLHR	PartnerConcentration	Seasonality
Pearson Correlation	Flights	1.000	.287	.028	-.153
	GLHR	.287	1.000	-.348	-.399
	PartnerConcentration	.028	-.348	1.000	.401
	Seasonality	-.153	-.399	.401	1.000
	Distance	-.225	-.330	.086	-.120
	Ethnicity	.480	.249	-.114	-.031
	Urban	.367	-.137	-.107	-.042
Sig. (1-tailed)	Flights	.	.062	.441	.211
	GLHR	.062	.	.030	.014
	PartnerConcentration	.441	.030	.	.014
	Seasonality	.211	.014	.014	.
	Distance	.116	.037	.326	.264
	Ethnicity	.004	.092	.275	.435
	Urban	.023	.235	.287	.413
N	Flights	30	30	30	30
	GLHR	30	30	30	30
	PartnerConcentration	30	30	30	30
	Seasonality	30	30	30	30
	Distance	30	30	30	30
	Ethnicity	30	30	30	30
	Urban	30	30	30	30

Correlations

		Distance	Ethnicity	Urban
Pearson Correlation	Flights	-.225	.480	.367
	GLHR	-.330	.249	-.137
	PartnerConcentration	.086	-.114	-.107
	Seasonality	-.120	-.031	-.042
	Distance	1.000	-.142	.353
	Ethnicity	-.142	1.000	.026
	Urban	.353	.026	1.000
Sig. (1-tailed)	Flights	.116	.004	.023
	GLHR	.037	.092	.235
	PartnerConcentration	.326	.275	.287
	Seasonality	.264	.435	.413
	Distance	.	.227	.028
	Ethnicity	.227	.	.447
	Urban	.028	.447	.
N	Flights	30	30	30
	GLHR	30	30	30
	PartnerConcentration	30	30	30
	Seasonality	30	30	30
	Distance	30	30	30
	Ethnicity	30	30	30
	Urban	30	30	30

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, Seasonality, Distance, PartnerConcentration, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.745[a]	.555	.439	3.320	.555	4.785

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	23	.003

a. Predictors: (Constant), Urban, Ethnicity, Seasonality, Distance, PartnerConcentration, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	316.390	6	52.732	4.785	.003[b]
	Residual	253.477	23	11.021		
	Total	569.867	29			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, Seasonality, Distance, PartnerConcentration, GLHR

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.867	5.200		-.167	.869
	GLHR	1.656	1.791	.161	.925	.365
	PartnerConcentration	.552	.287	.304	1.920	.067
	Seasonality	-4.282	3.284	-.218	-1.304	.205
	Distance	-1.359	.629	-.353	-2.160	.041
	Ethnicity	2.242	.804	.404	2.788	.010
	Urban	.823	.236	.527	3.483	.002

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	GLHR	.640	1.562
	PartnerConcentration	.770	1.298
	Seasonality	.691	1.447
	Distance	.723	1.384
	Ethnicity	.922	1.085
	Urban	.844	1.185

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	GLHR	PartnerConcentration
1	1	5.006	1.000	.00	.01	.01
	2	1.067	2.166	.00	.24	.20
	3	.446	3.351	.00	.38	.64
	4	.366	3.700	.00	.09	.02
	5	.082	7.803	.00	.00	.08
	6	.024	14.536	.04	.11	.05
	7	.010	22.654	.96	.17	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Distance	Ethnicity	Urban
1	1	.00	.00	.01	.00
	2	.00	.00	.03	.00
	3	.00	.01	.00	.00
	4	.00	.01	.94	.00
	5	.45	.22	.02	.00
	6	.32	.71	.01	.42
	7	.23	.06	.00	.57

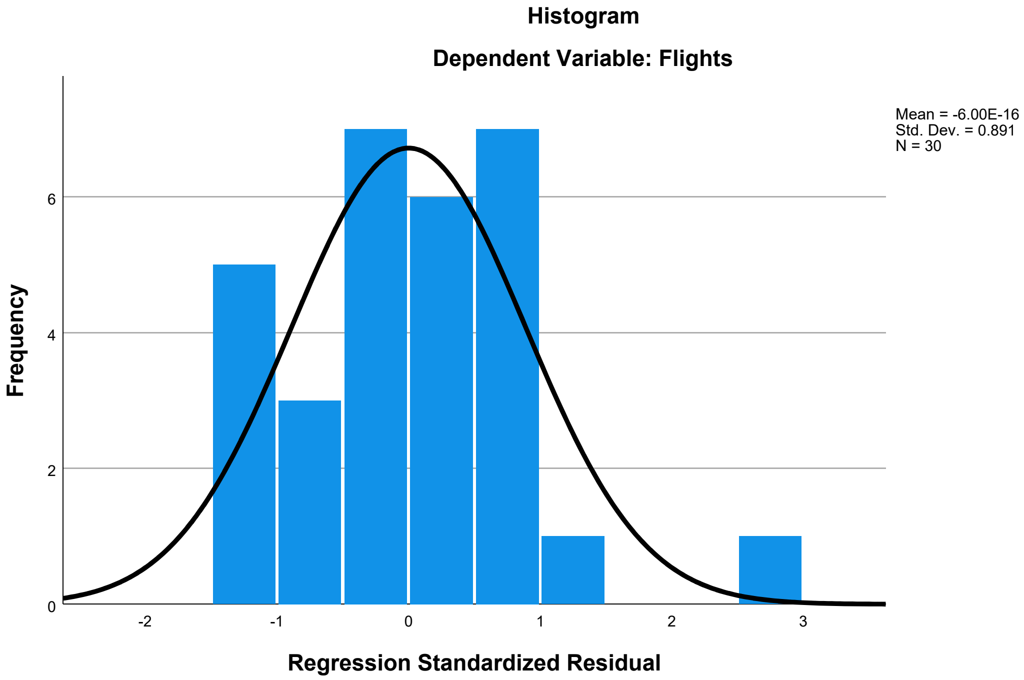
a. Dependent Variable: Flights

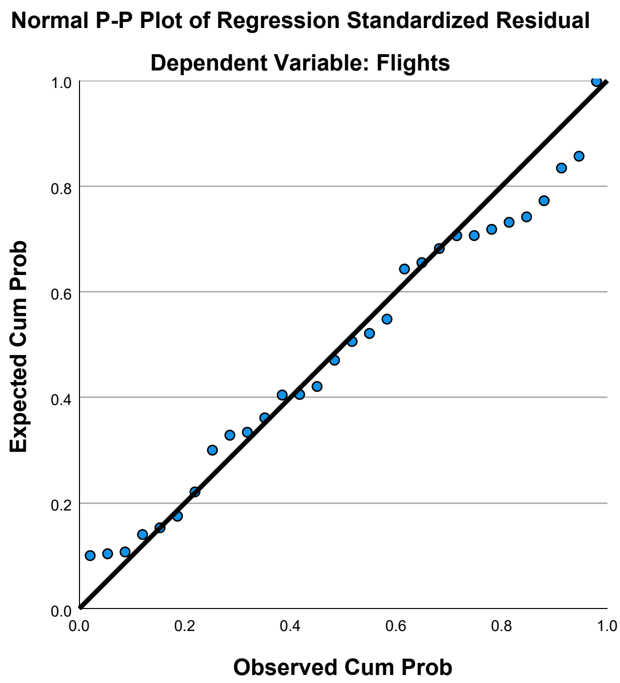
Residuals Statistics[a]

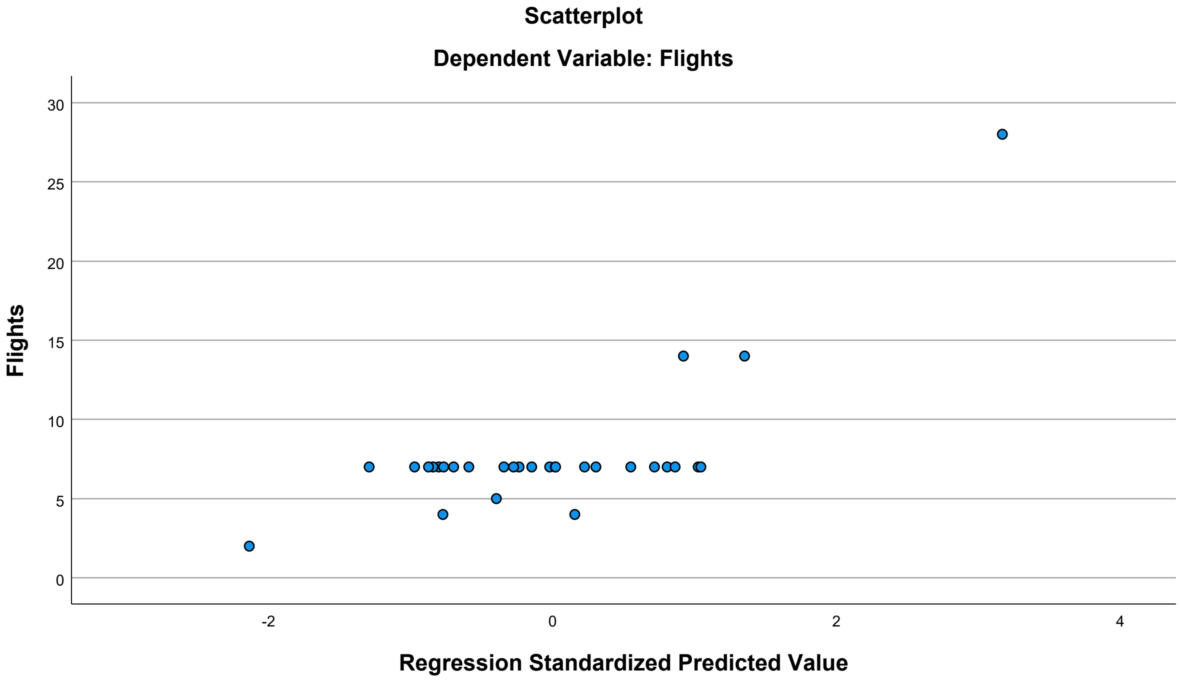
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.67	18.20	7.73	3.303	30
Residual	-4.248	9.801	.000	2.956	30
Std. Predicted Value	-2.137	3.169	.000	1.000	30
Std. Residual	-1.280	2.952	.000	.891	30

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -6.00E-16
Std. Dev. = 0.891
N = 30
Frequency
0
2
4
6
-2
-1
0
1
2
3
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
30
25
20
15
10
5
0
-2
0
2
4
Regression Standardized Predicted Value

Regression

```
[DataSet28] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
\2002 - TS.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	1.83	1.724	30
HomeConcentration	.03313	.017362	30
Congestion	4.20	1.186	30
GLHR	.00	.000	30
Seasonality	.98196969697	.05901832211	30
Distance	3.72913	.460880	30
Language	4.03116700	3.274674962	30
Ethnicity	1.22668017	.974935509	30
Urban	13.00	4.526	30

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.225	.152	.
	HomeConcentration	.225	1.000	-.182	.
	Congestion	.152	-.182	1.000	.
	GLHR	.	.	.	1.000
	Seasonality	-.497	-.125	-.390	.
	Distance	-.212	-.540	.092	.
	Language	.222	.362	-.042	.
	Ethnicity	.284	.267	.071	.
	Urban	.407	.152	.687	.
Sig. (1-tailed)	Flights	.	.115	.212	.000
	HomeConcentration	.115	.	.168	.000
	Congestion	.212	.168	.	.000
	GLHR	.000	.000	.000	.
	Seasonality	.003	.255	.017	.000
	Distance	.130	.001	.314	.000
	Language	.120	.025	.413	.000
	Ethnicity	.064	.077	.354	.000
	Urban	.013	.212	.000	.000
N	Flights	30	30	30	30
	HomeConcentration	30	30	30	30
	Congestion	30	30	30	30

Correlations

		Seasonality	Distance	Language	Ethnicity
Pearson Correlation	Flights	-.497	-.212	.222	.284
	HomeConcentration	-.125	-.540	.362	.267
	Congestion	-.390	.092	-.042	.071
	GLHR	.	.	.	.
	Seasonality	1.000	.182	-.344	-.449
	Distance	.182	1.000	-.604	-.323
	Language	-.344	-.604	1.000	.675
	Ethnicity	-.449	-.323	.675	1.000
	Urban	-.323	.078	-.267	-.140
Sig. (1-tailed)	Flights	.003	.130	.120	.064
	HomeConcentration	.255	.001	.025	.077
	Congestion	.017	.314	.413	.354
	GLHR	.000	.000	.000	.000
	Seasonality	.	.168	.031	.006
	Distance	.168	.	.000	.041
	Language	.031	.000	.	.000
	Ethnicity	.006	.041	.000	.
	Urban	.041	.342	.077	.230
N	Flights	30	30	30	30
	HomeConcentration	30	30	30	30
	Congestion	30	30	30	30

Correlations

		Urban
Pearson Correlation	Flights	.407
	HomeConcentration	.152
	Congestion	.687
	GLHR	.
	Seasonality	-.323
	Distance	.078
	Language	-.267
	Ethnicity	-.140
	Urban	1.000
Sig. (1-tailed)	Flights	.013
	HomeConcentration	.212
	Congestion	.000
	GLHR	.000
	Seasonality	.041
	Distance	.342
	Language	.077
	Ethnicity	.230
	Urban	.
N	Flights	30
	HomeConcentration	30
	Congestion	30

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	GLHR	30	30	30	30
	Seasonality	30	30	30	30
	Distance	30	30	30	30
	Language	30	30	30	30
	Ethnicity	30	30	30	30
	Urban	30	30	30	30

Correlations

		Seasonality	Distance	Language	Ethnicity
	GLHR	30	30	30	30
	Seasonality	30	30	30	30
	Distance	30	30	30	30
	Language	30	30	30	30
	Ethnicity	30	30	30	30
	Urban	30	30	30	30

Correlations

		Urban
	GLHR	30
	Seasonality	30
	Distance	30
	Language	30
	Ethnicity	30
	Urban	30

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Ethnicity, HomeConcentration, Seasonality, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.686[a]	.470	.302	1.440	.470	2.792

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	7	22	.031

a. Predictors: (Constant), Urban, Distance, Ethnicity, HomeConcentration, Seasonality, Congestion, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40.533	7	5.790	2.792	.031[b]
	Residual	45.633	22	2.074		
	Total	86.167	29			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Ethnicity, HomeConcentration, Seasonality, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.465	7.359		1.558	.133
	HomeConcentration	-21.765	22.496	-.219	-.968	.344
	Congestion	-.821	.385	-.565	-2.133	.044
	Seasonality	-9.019	5.827	-.309	-1.548	.136
	Distance	-.396	.821	-.106	-.482	.635
	Language	.103	.144	.195	.715	.482
	Ethnicity	.340	.405	.192	.840	.410
	Urban	.311	.110	.816	2.817	.010

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.469	2.133
	Congestion	.343	2.915
	Seasonality	.605	1.654
	Distance	.499	2.004
	Language	.323	3.093
	Ethnicity	.458	2.182
	Urban	.287	3.486

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Congestion
1	1	7.006	1.000	.00	.00	.00
	2	.574	3.494	.00	.00	.00
	3	.188	6.112	.00	.38	.01
	4	.122	7.588	.00	.07	.00
	5	.090	8.802	.00	.01	.05
	6	.015	21.905	.00	.31	.90
	7	.005	37.911	.02	.22	.02
	8	.001	91.455	.98	.01	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions				
		Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00
	2	.00	.00	.09	.10	.01
	3	.00	.00	.00	.16	.00
	4	.00	.00	.39	.51	.02
	5	.00	.01	.14	.08	.10
	6	.00	.01	.14	.01	.77
	7	.13	.86	.13	.09	.04
	8	.86	.11	.11	.05	.06

a. Dependent Variable: Flights

Residuals Statistics[a]

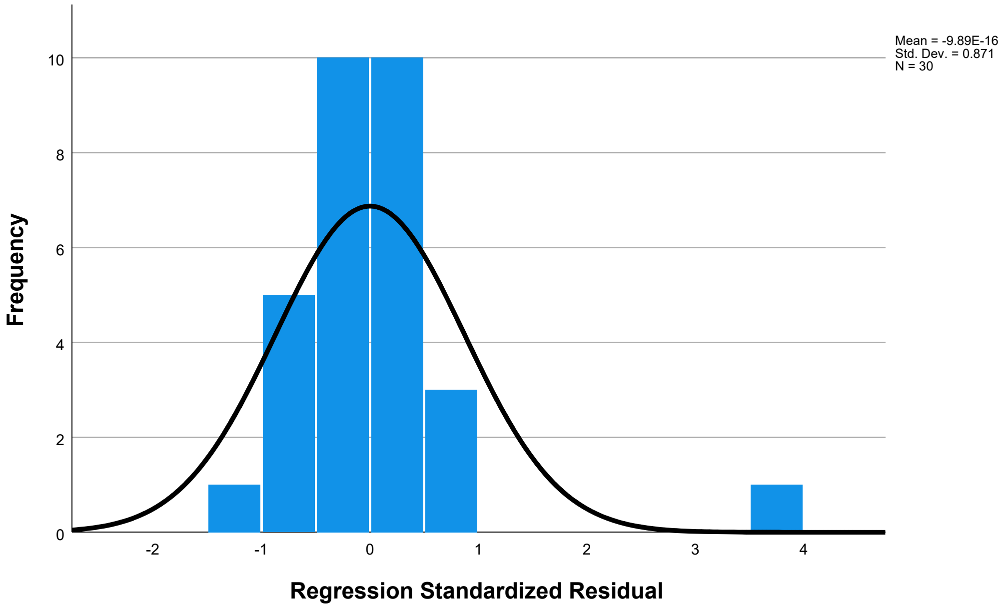
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.09	5.67	1.83	1.182	30
Residual	-1.669	5.556	.000	1.254	30
Std. Predicted Value	-1.627	3.244	.000	1.000	30
Std. Residual	-1.159	3.858	.000	.871	30

a. Dependent Variable: Flights

Charts

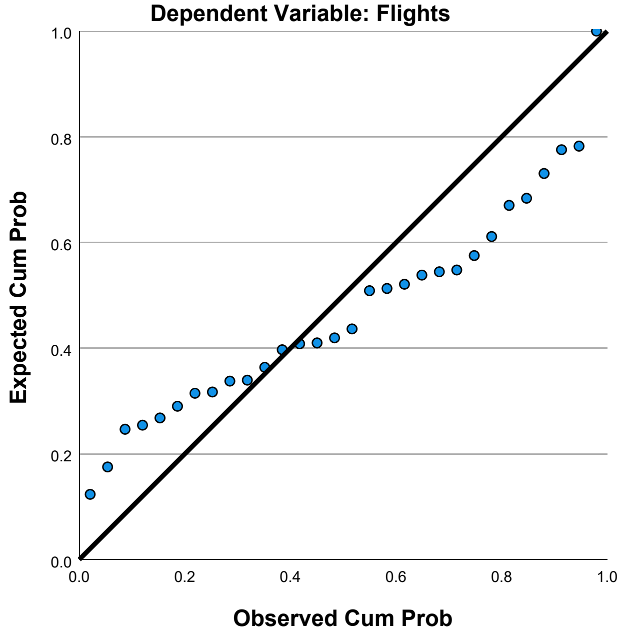
Histogram

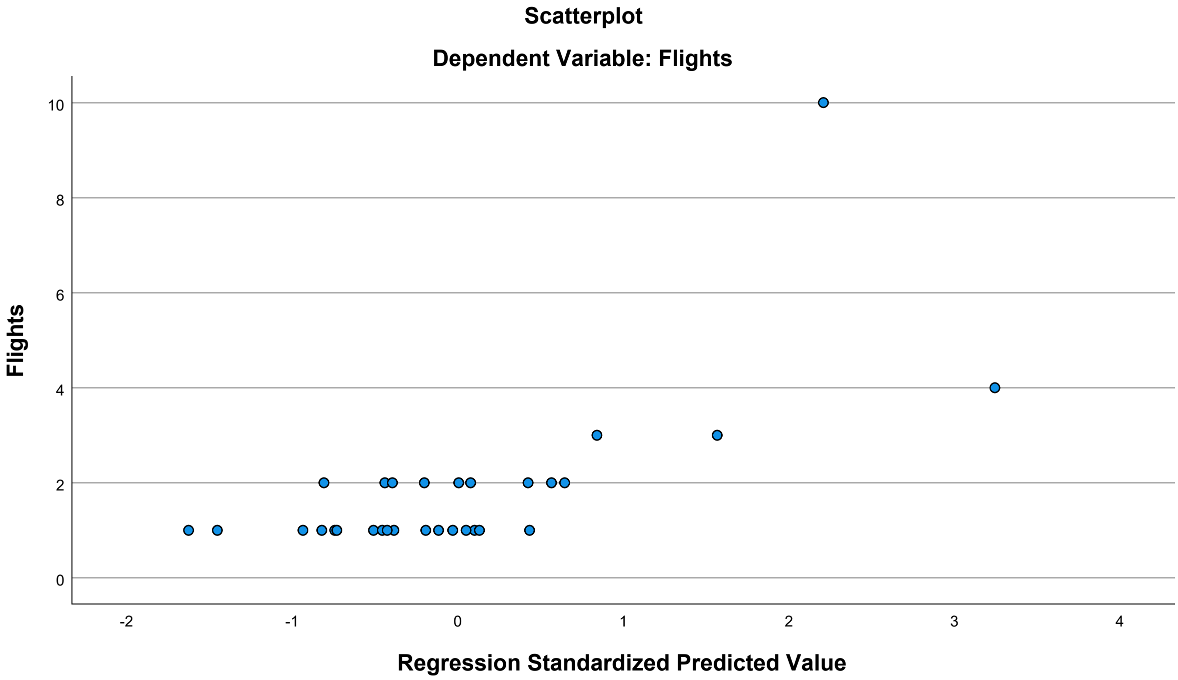
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights




Scatterplot
Dependent Variable: Flights
Flights
10
8
6
4
2
0
-2
-1
0
1
2
3
4
Regression Standardized Predicted Value

Regression

```
[DataSet29] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
\2007 - TS.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	2.20	1.948	50
HomeConcentration	.05856	.035130	50
Congestion	4.86	.904	50
GLHR	.02	.141	50
Seasonality	.97982905983	.07388338823	50
Distance	3.83766	.559780	50
Language	3.16564158	3.321648041	50
Ethnicity	1.22357770	.992277540	50
Urban	13.74	4.425	50

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.328	.213	-.015
	HomeConcentration	.328	1.000	.256	.137
	Congestion	.213	.256	1.000	.182
	GLHR	-.015	.137	.182	1.000
	Seasonality	-.611	.007	-.046	.039
	Distance	-.266	-.367	.246	-.075
	Language	.435	.300	-.154	.220
	Ethnicity	.417	.272	-.102	.254
	Urban	.262	.334	.695	.269
Sig. (1-tailed)	Flights	.	.010	.069	.459
	HomeConcentration	.010	.	.036	.171
	Congestion	.069	.036	.	.103
	GLHR	.459	.171	.103	.
	Seasonality	.000	.480	.376	.393
	Distance	.031	.004	.042	.302
	Language	.001	.017	.143	.062
	Ethnicity	.001	.028	.241	.037
	Urban	.033	.009	.000	.029
N	Flights	50	50	50	50
	HomeConcentration	50	50	50	50

Correlations

		Seasonality	Distance	Language	Ethnicity
Pearson Correlation	Flights	-.611	-.266	.435	.417
	HomeConcentration	.007	-.367	.300	.272
	Congestion	-.046	.246	-.154	-.102
	GLHR	.039	-.075	.220	.254
	Seasonality	1.000	.216	-.294	-.339
	Distance	.216	1.000	-.493	-.406
	Language	-.294	-.493	1.000	.882
	Ethnicity	-.339	-.406	.882	1.000
	Urban	-.152	.104	-.162	-.086
Sig. (1-tailed)	Flights	<.001	.031	<.001	.001
	HomeConcentration	.480	.004	.017	.028
	Congestion	.376	.042	.143	.241
	GLHR	.393	.302	.062	.037
	Seasonality	.	.066	.019	.008
	Distance	.066	.	.000	.002
	Language	.019	.000	.	.000
	Ethnicity	.008	.002	.000	.
	Urban	.145	.237	.131	.276
N	Flights	50	50	50	50
	HomeConcentration	50	50	50	50

Correlations

		Urban
Pearson Correlation	Flights	.262
	HomeConcentration	.334
	Congestion	.695
	GLHR	.269
	Seasonality	-.152
	Distance	.104
	Language	-.162
	Ethnicity	-.086
	Urban	1.000
Sig. (1-tailed)	Flights	.033
	HomeConcentration	.009
	Congestion	.000
	GLHR	.029
	Seasonality	.145
	Distance	.237
	Language	.131
	Ethnicity	.276
	Urban	.
N	Flights	50
	HomeConcentration	50

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	50	50	50	50
	GLHR	50	50	50	50
	Seasonality	50	50	50	50
	Distance	50	50	50	50
	Language	50	50	50	50
	Ethnicity	50	50	50	50
	Urban	50	50	50	50

Correlations

		Seasonality	Distance	Language	Ethnicity
	Congestion	50	50	50	50
	GLHR	50	50	50	50
	Seasonality	50	50	50	50
	Distance	50	50	50	50
	Language	50	50	50	50
	Ethnicity	50	50	50	50
	Urban	50	50	50	50

Correlations

		Urban
	Congestion	50
	GLHR	50
	Seasonality	50
	Distance	50
	Language	50
	Ethnicity	50
	Urban	50

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, Seasonality, Distance, GLHR, HomeConcentration, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.747[a]	.558	.471	1.417	.558	6.457

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	41	<.001

a. Predictors: (Constant), Urban, Ethnicity, Seasonality, Distance, GLHR, HomeConcentration, Congestion, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	103.698	8	12.962	6.457	<.001[b]
	Residual	82.302	41	2.007		
	Total	186.000	49			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, Seasonality, Distance, GLHR, HomeConcentration, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.735	3.655		3.211	.003
	HomeConcentration	10.396	7.291	.187	1.426	.161
	Congestion	.280	.326	.130	.860	.395
	GLHR	-1.955	1.600	-.142	-1.222	.229
	Seasonality	-13.114	3.174	-.497	-4.131	<.001
	Distance	.028	.462	.008	.060	.953
	Language	.205	.140	.350	1.471	.149
	Ethnicity	-.095	.447	-.048	-.213	.833
	Urban	.054	.071	.123	.757	.453

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.625	1.601
	Congestion	.473	2.115
	GLHR	.800	1.250
	Seasonality	.745	1.343
	Distance	.612	1.635
	Language	.190	5.251
	Ethnicity	.208	4.798
	Urban	.409	2.442

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Congestion
1	1	6.947	1.000	.00	.00	.00
	2	1.040	2.584	.00	.00	.00
	3	.673	3.214	.00	.00	.00
	4	.209	5.769	.00	.64	.00
	5	.061	10.639	.00	.07	.00
	6	.047	12.127	.00	.10	.01
	7	.012	23.607	.01	.00	.89
	8	.009	28.485	.03	.15	.09
	9	.002	60.904	.95	.03	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions					
		GLHR	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.58	.00	.00	.01	.00	.00
	3	.25	.00	.00	.06	.03	.00
	4	.00	.00	.00	.00	.01	.00
	5	.08	.01	.01	.13	.28	.27
	6	.01	.00	.01	.71	.63	.15
	7	.00	.02	.00	.00	.00	.49
	8	.00	.08	.97	.07	.02	.01
	9	.07	.88	.01	.02	.03	.08

a. Dependent Variable: Flights

Residuals Statistics[a]

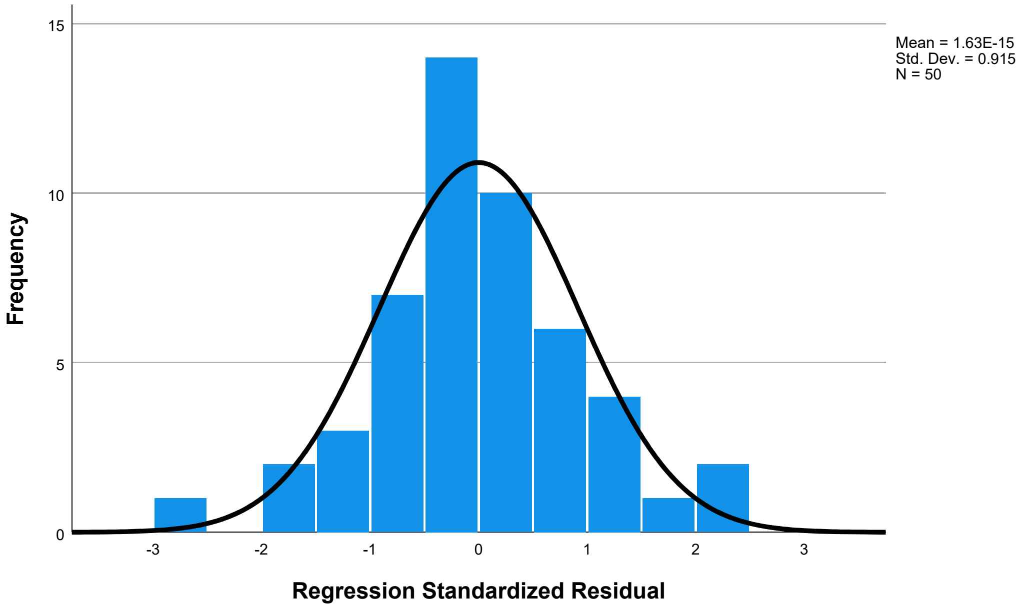
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.43	7.25	2.20	1.455	50
Residual	-3.843	3.024	.000	1.296	50
Std. Predicted Value	-1.220	3.474	.000	1.000	50
Std. Residual	-2.713	2.135	.000	.915	50

a. Dependent Variable: Flights

Charts

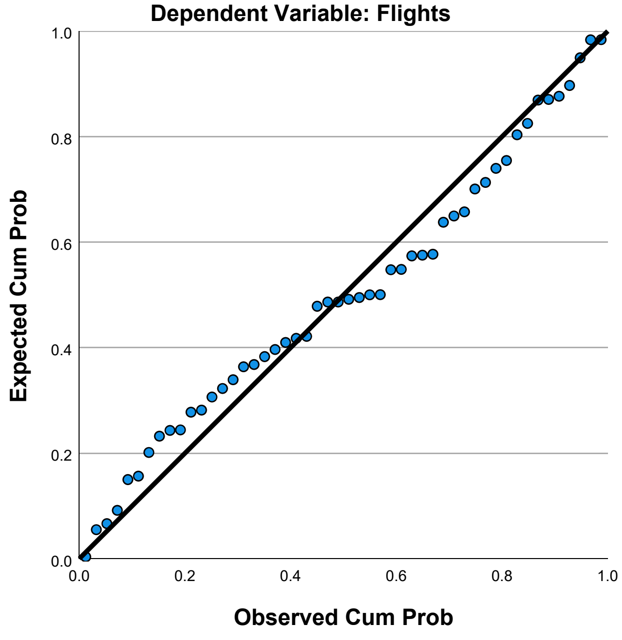
Histogram

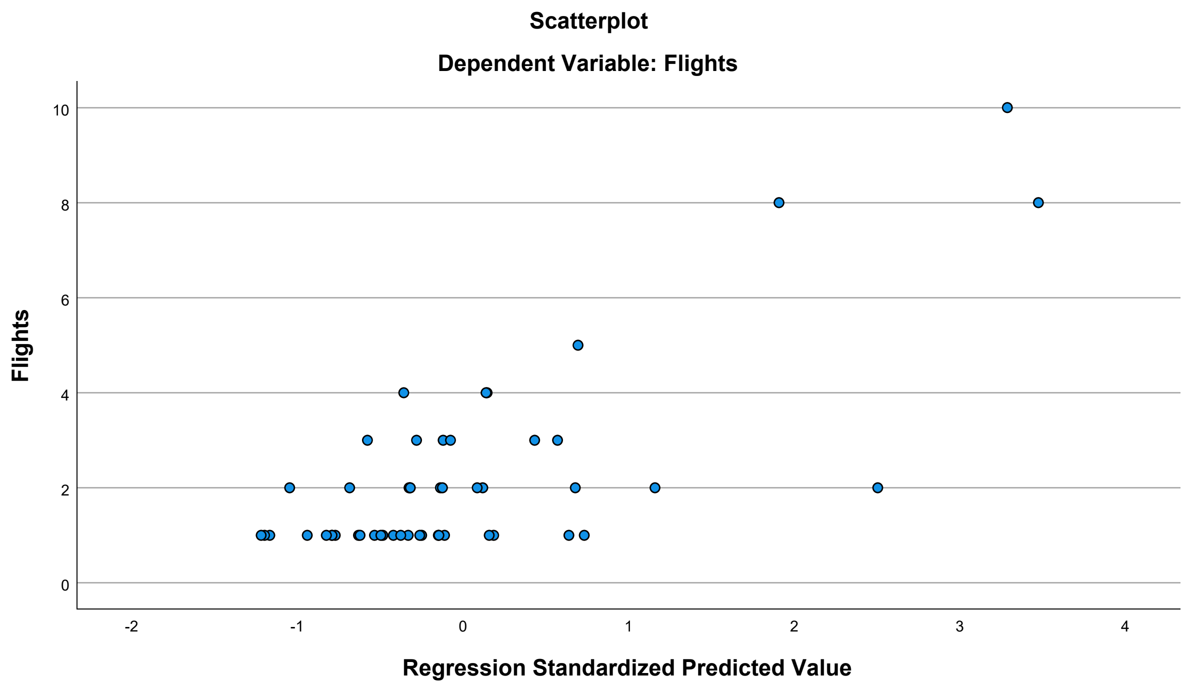
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights





Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	2.20	1.948	50
HomeConcentration	.05856	.035130	50
Congestion	4.86	.904	50
GLHR	.02	.141	50
Seasonality	.97982905983	.07388338823	50
Distance	3.83766	.559780	50
Ethnicity	1.22357770	.992277540	50
Urban	13.74	4.425	50

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.328	.213	-.015
	HomeConcentration	.328	1.000	.256	.137
	Congestion	.213	.256	1.000	.182
	GLHR	-.015	.137	.182	1.000
	Seasonality	-.611	.007	-.046	.039
	Distance	-.266	-.367	.246	-.075
	Ethnicity	.417	.272	-.102	.254
	Urban	.262	.334	.695	.269
Sig. (1-tailed)	Flights	.	.010	.069	.459
	HomeConcentration	.010	.	.036	.171
	Congestion	.069	.036	.	.103
	GLHR	.459	.171	.103	.
	Seasonality	.000	.480	.376	.393
	Distance	.031	.004	.042	.302
	Ethnicity	.001	.028	.241	.037
	Urban	.033	.009	.000	.029
N	Flights	50	50	50	50
	HomeConcentration	50	50	50	50
	Congestion	50	50	50	50
	GLHR	50	50	50	50
	Seasonality	50	50	50	50
	Distance	50	50	50	50
	Ethnicity	50	50	50	50
	Urban	50	50	50	50

Correlations

		Seasonality	Distance	Ethnicity	Urban
Pearson Correlation	Flights	-.611	-.266	.417	.262
	HomeConcentration	.007	-.367	.272	.334
	Congestion	-.046	.246	-.102	.695
	GLHR	.039	-.075	.254	.269
	Seasonality	1.000	.216	-.339	-.152
	Distance	.216	1.000	-.406	.104
	Ethnicity	-.339	-.406	1.000	-.086
	Urban	-.152	.104	-.086	1.000
Sig. (1-tailed)	Flights	<.001	.031	.001	.033
	HomeConcentration	.480	.004	.028	.009
	Congestion	.376	.042	.241	.000
	GLHR	.393	.302	.037	.029
	Seasonality	.	.066	.008	.145
	Distance	.066	.	.002	.237
	Ethnicity	.008	.002	.	.276
	Urban	.145	.237	.276	.
N	Flights	50	50	50	50
	HomeConcentration	50	50	50	50
	Congestion	50	50	50	50
	GLHR	50	50	50	50
	Seasonality	50	50	50	50
	Distance	50	50	50	50
	Ethnicity	50	50	50	50
	Urban	50	50	50	50

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, Seasonality, Distance, GLHR, HomeConcentration, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.731[a]	.534	.457	1.436	.534	6.880

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	7	42	<.001

a. Predictors: (Constant), Urban, Ethnicity, Seasonality, Distance, GLHR, HomeConcentration, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	99.352	7	14.193	6.880	<.001[b]
	Residual	86.648	42	2.063		
	Total	186.000	49			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, Seasonality, Distance, GLHR, HomeConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.650	3.651		3.465	.001
	HomeConcentration	11.774	7.330	.212	1.606	.116
	Congestion	.302	.330	.140	.916	.365
	GLHR	-1.794	1.619	-.130	-1.108	.274
	Seasonality	-13.311	3.215	-.505	-4.140	<.001
	Distance	-.137	.455	-.039	-.302	.764
	Ethnicity	.444	.260	.226	1.708	.095
	Urban	.033	.071	.075	.466	.644

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.635	1.575
	Congestion	.474	2.110
	GLHR	.803	1.245
	Seasonality	.746	1.340
	Distance	.650	1.539
	Ethnicity	.634	1.578
	Urban	.427	2.344

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Congestion
1	1	6.360	1.000	.00	.00	.00
	2	.991	2.534	.00	.00	.00
	3	.361	4.198	.00	.02	.00
	4	.206	5.554	.00	.62	.00
	5	.059	10.415	.00	.14	.01
	6	.012	22.585	.01	.00	.90
	7	.009	26.401	.03	.19	.09
	8	.002	57.829	.95	.03	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions				
		GLHR	Seasonality	Distance	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00
	2	.75	.00	.00	.01	.00
	3	.09	.00	.00	.52	.01
	4	.00	.00	.00	.11	.00
	5	.09	.01	.01	.08	.42
	6	.00	.02	.00	.00	.50
	7	.00	.07	.98	.04	.00
	8	.07	.89	.01	.25	.07

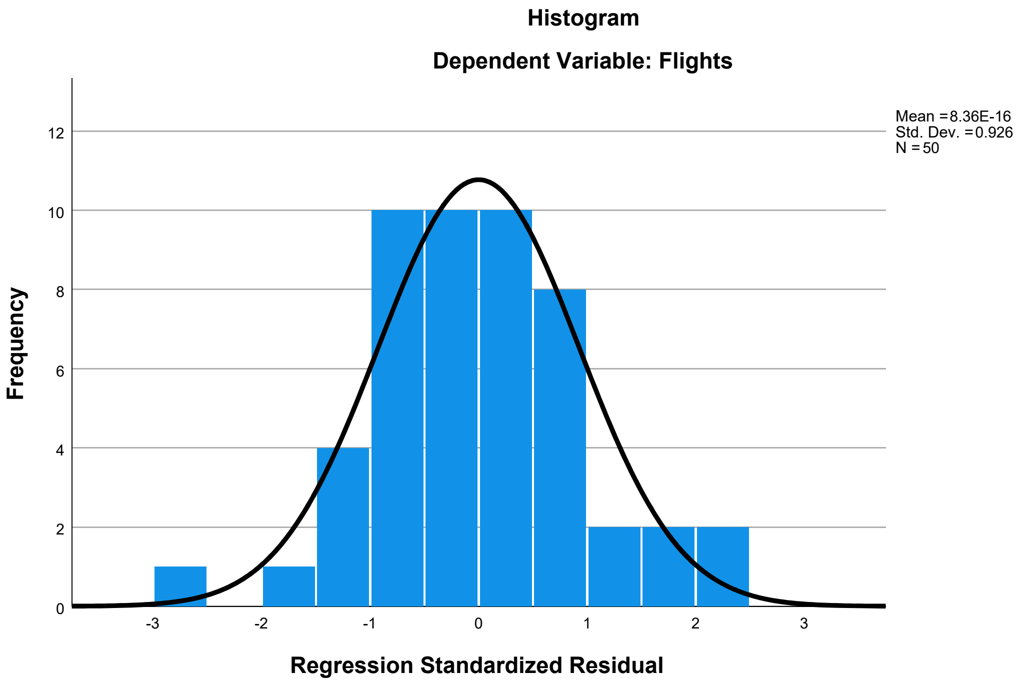
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.55	7.26	2.20	1.424	50
Residual	-3.899	3.134	.000	1.330	50
Std. Predicted Value	-1.160	3.555	.000	1.000	50
Std. Residual	-2.715	2.182	.000	.926	50

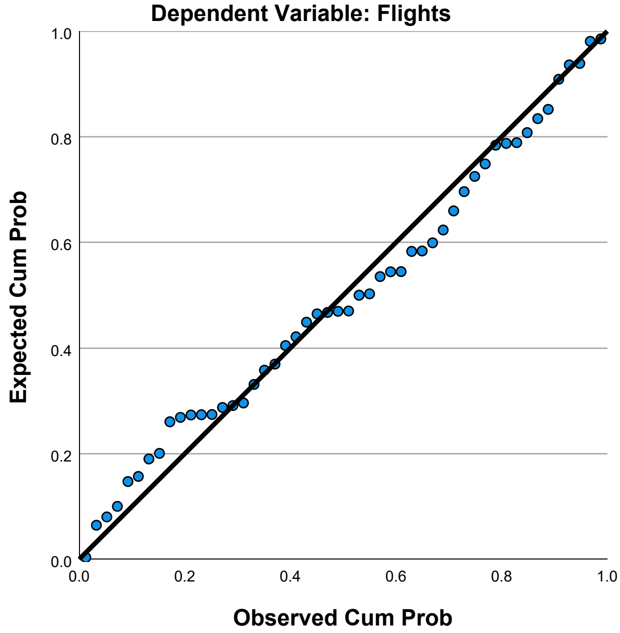
a. Dependent Variable: Flights

Charts



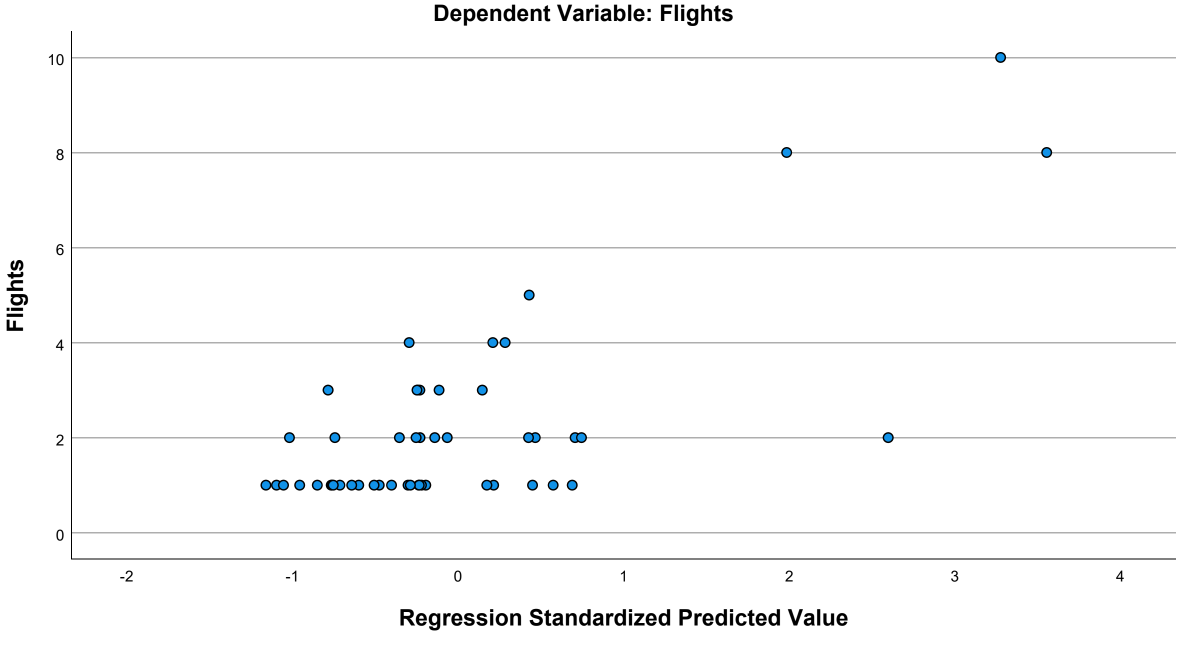
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	2.20	1.948	50
HomeConcentration	.05856	.035130	50
Congestion	4.86	.904	50
GLHR	.02	.141	50
Seasonality	.97982905983	.07388338823	50
Distance	3.83766	.559780	50
Ethnicity	1.22357770	.992277540	50

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.328	.213	-.015
	HomeConcentration	.328	1.000	.256	.137
	Congestion	.213	.256	1.000	.182
	GLHR	-.015	.137	.182	1.000
	Seasonality	-.611	.007	-.046	.039
	Distance	-.266	-.367	.246	-.075
	Ethnicity	.417	.272	-.102	.254
Sig. (1-tailed)	Flights	.	.010	.069	.459
	HomeConcentration	.010	.	.036	.171
	Congestion	.069	.036	.	.103
	GLHR	.459	.171	.103	.
	Seasonality	.000	.480	.376	.393
	Distance	.031	.004	.042	.302
	Ethnicity	.001	.028	.241	.037
N	Flights	50	50	50	50
	HomeConcentration	50	50	50	50
	Congestion	50	50	50	50
	GLHR	50	50	50	50
	Seasonality	50	50	50	50
	Distance	50	50	50	50
	Ethnicity	50	50	50	50

Correlations

		Seasonality	Distance	Ethnicity
Pearson Correlation	Flights	-.611	-.266	.417
	HomeConcentration	.007	-.367	.272
	Congestion	-.046	.246	-.102
	GLHR	.039	-.075	.254
	Seasonality	1.000	.216	-.339
	Distance	.216	1.000	-.406
	Ethnicity	-.339	-.406	1.000
Sig. (1-tailed)	Flights	<.001	.031	.001
	HomeConcentration	.480	.004	.028
	Congestion	.376	.042	.241
	GLHR	.393	.302	.037
	Seasonality	.	.066	.008
	Distance	.066	.	.002
	Ethnicity	.008	.002	.
N	Flights	50	50	50
	HomeConcentration	50	50	50
	Congestion	50	50	50
	GLHR	50	50	50
	Seasonality	50	50	50
	Distance	50	50	50
	Ethnicity	50	50	50

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Ethnicity, Congestion, GLHR, Seasonality, HomeConcentration, Distance[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.729[a]	.532	.466	1.423	.532	8.138

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	43	<.001

a. Predictors: (Constant), Ethnicity, Congestion, GLHR, Seasonality, HomeConcentration, Distance

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	98.905	6	16.484	8.138	<.001[b]
	Residual	87.095	43	2.025		
	Total	186.000	49			

a. Dependent Variable: Flights

b. Predictors: (Constant), Ethnicity, Congestion, GLHR, Seasonality, HomeConcentration, Distance

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	13.017	3.532		3.685	<.001
	HomeConcentration	12.730	6.972	.230	1.826	.075
	Congestion	.393	.263	.182	1.496	.142
	GLHR	-1.590	1.544	-.115	-1.030	.309
	Seasonality	-13.727	3.060	-.521	-4.485	<.001
	Distance	-.130	.450	-.037	-.289	.774
	Ethnicity	.414	.250	.211	1.659	.104

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.689	1.451
	Congestion	.732	1.366
	GLHR	.867	1.154
	Seasonality	.808	1.237
	Distance	.651	1.537
	Ethnicity	.674	1.483

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	5.431	1.000	.00	.01	.00
	2	.990	2.342	.00	.00	.00
	3	.341	3.990	.00	.02	.00
	4	.204	5.159	.00	.70	.00
	5	.022	15.766	.01	.05	.79
	6	.009	24.392	.04	.21	.11
	7	.002	51.818	.95	.01	.10

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	Seasonality	Distance	Ethnicity
1	1	.00	.00	.00	.01
	2	.81	.00	.00	.01
	3	.11	.00	.00	.56
	4	.00	.00	.00	.15
	5	.03	.04	.01	.02
	6	.00	.08	.98	.04
	7	.04	.88	.01	.22

a. Dependent Variable: Flights

Residuals Statistics[a]

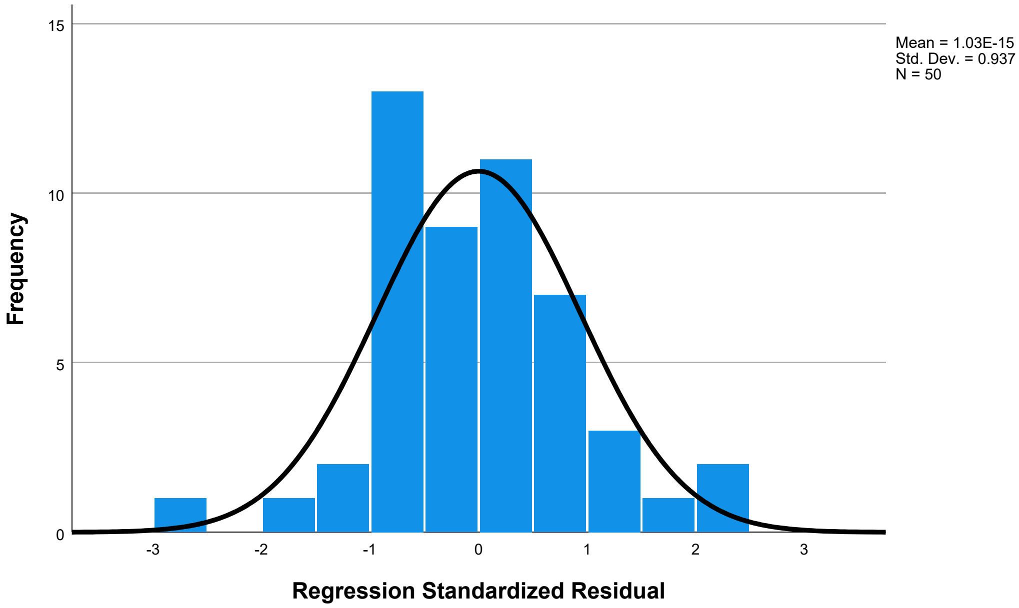
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.56	7.25	2.20	1.421	50
Residual	-3.954	3.242	.000	1.333	50
Std. Predicted Value	-1.155	3.552	.000	1.000	50
Std. Residual	-2.778	2.278	.000	.937	50

a. Dependent Variable: Flights

Charts

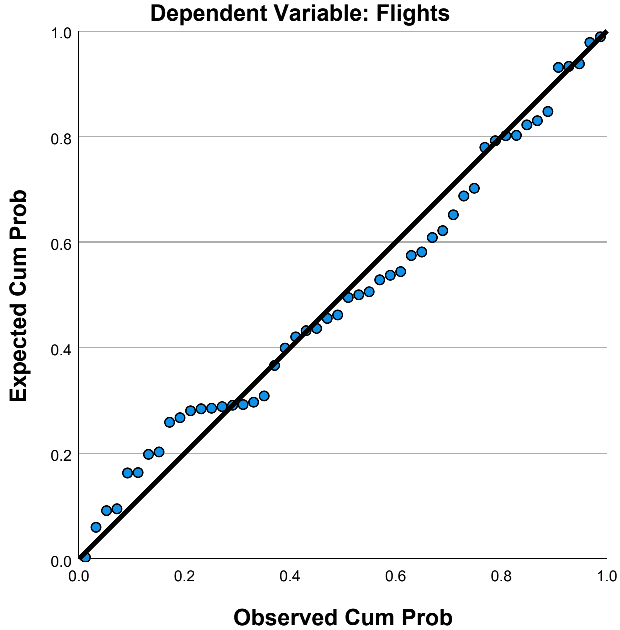
Histogram

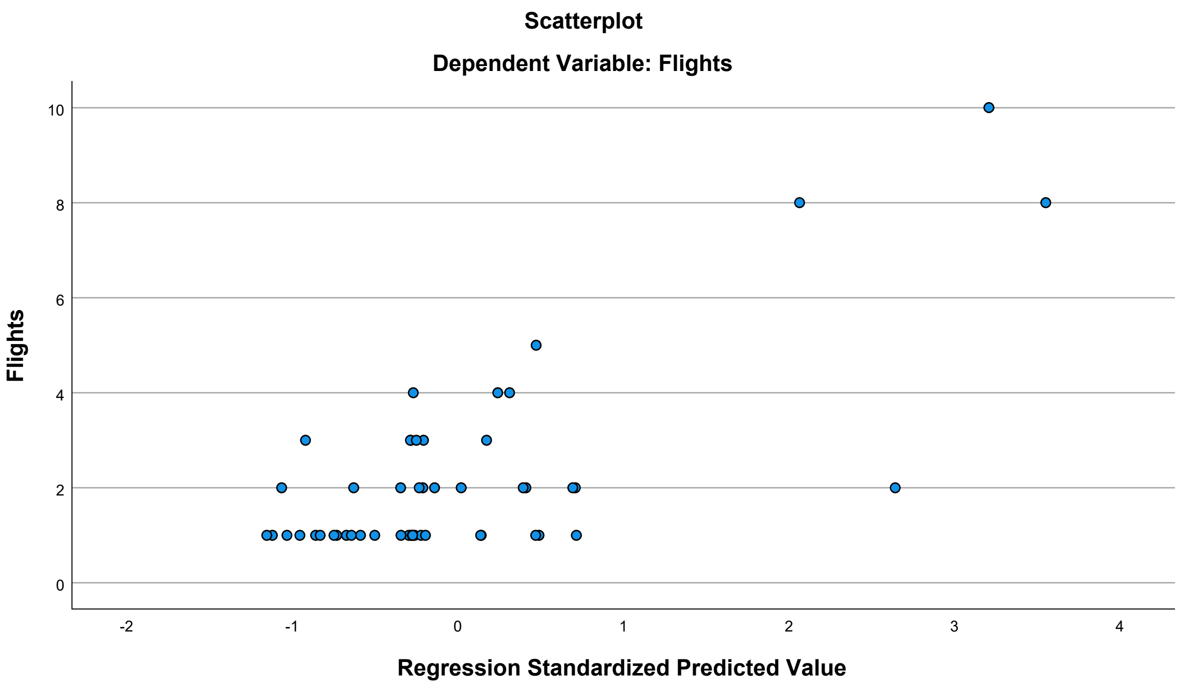
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights





Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	2.20	1.948	50
HomeConcentration	.05856	.035130	50
Congestion	4.86	.904	50
GLHR	.02	.141	50
Seasonality	.97982905983	.07388338823	50
Ethnicity	1.22357770	.992277540	50

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.328	.213	-.015
	HomeConcentration	.328	1.000	.256	.137
	Congestion	.213	.256	1.000	.182
	GLHR	-.015	.137	.182	1.000
	Seasonality	-.611	.007	-.046	.039
	Ethnicity	.417	.272	-.102	.254
Sig. (1-tailed)	Flights	.	.010	.069	.459
	HomeConcentration	.010	.	.036	.171
	Congestion	.069	.036	.	.103
	GLHR	.459	.171	.103	.
	Seasonality	.000	.480	.376	.393
	Ethnicity	.001	.028	.241	.037
N	Flights	50	50	50	50
	HomeConcentration	50	50	50	50
	Congestion	50	50	50	50
	GLHR	50	50	50	50
	Seasonality	50	50	50	50
	Ethnicity	50	50	50	50

Correlations

		Seasonality	Ethnicity
Pearson Correlation	Flights	-.611	.417
	HomeConcentration	.007	.272
	Congestion	-.046	-.102
	GLHR	.039	.254
	Seasonality	1.000	-.339
	Ethnicity	-.339	1.000
Sig. (1-tailed)	Flights	<.001	.001
	HomeConcentration	.480	.028
	Congestion	.376	.241
	GLHR	.393	.037
	Seasonality	.	.008
	Ethnicity	.008	.
N	Flights	50	50
	HomeConcentration	50	50
	Congestion	50	50
	GLHR	50	50
	Seasonality	50	50
	Ethnicity	50	50

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Ethnicity, Congestion, GLHR, Seasonality, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.729[a]	.531	.478	1.408	.531	9.957

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	5	44	<.001

a. Predictors: (Constant), Ethnicity, Congestion, GLHR, Seasonality, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	98.736	5	19.747	9.957	<.001[b]
	Residual	87.264	44	1.983		
	Total	186.000	49			

a. Dependent Variable: Flights

b. Predictors: (Constant), Ethnicity, Congestion, GLHR, Seasonality, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	12.752	3.375		3.779	<.001
	HomeConcentration	13.554	6.295	.244	2.153	.037
	Congestion	.366	.242	.170	1.509	.138
	GLHR	-1.570	1.526	-.114	-1.028	.309
	Seasonality	-13.895	2.973	-.527	-4.674	<.001
	Ethnicity	.428	.242	.218	1.769	.084

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.828	1.208
	Congestion	.844	1.184
	GLHR	.869	1.151
	Seasonality	.839	1.192
	Ethnicity	.702	1.425

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions Congestion
1	1	4.499	1.000	.00	.01	.00
	2	.977	2.146	.00	.00	.00
	3	.312	3.795	.00	.00	.01
	4	.188	4.887	.00	.92	.00
	5	.022	14.419	.01	.04	.85
	6	.002	47.040	.98	.02	.14

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	Variance Proportions Seasonality	Variance Proportions Ethnicity
1	1	.00	.00	.01
	2	.83	.00	.00
	3	.09	.00	.68
	4	.00	.00	.06
	5	.03	.05	.03
	6	.04	.95	.21

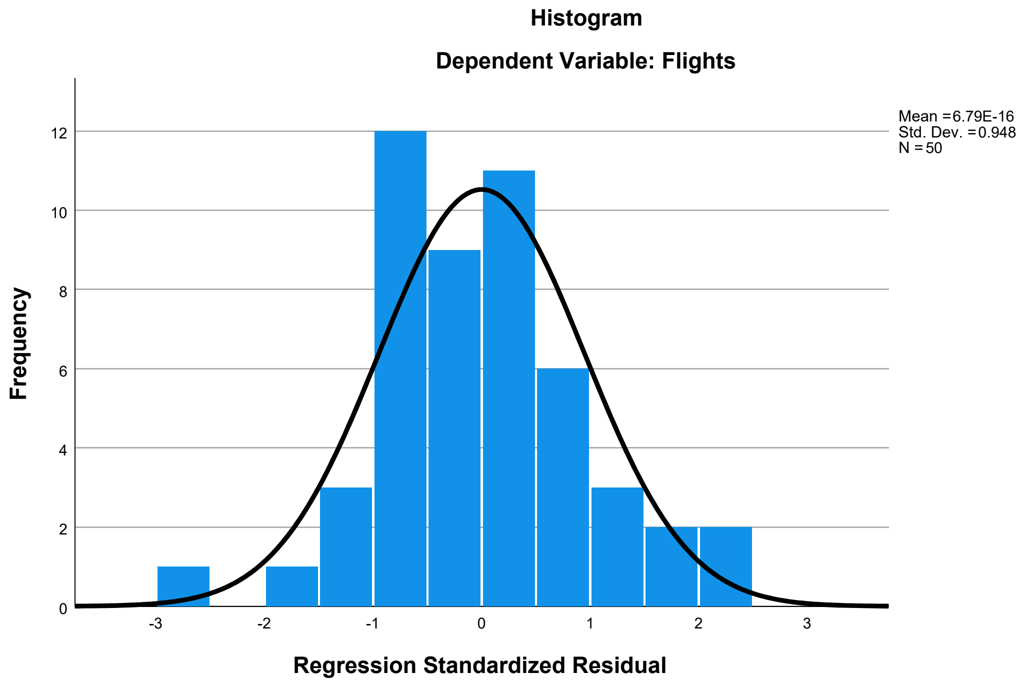
a. Dependent Variable: Flights

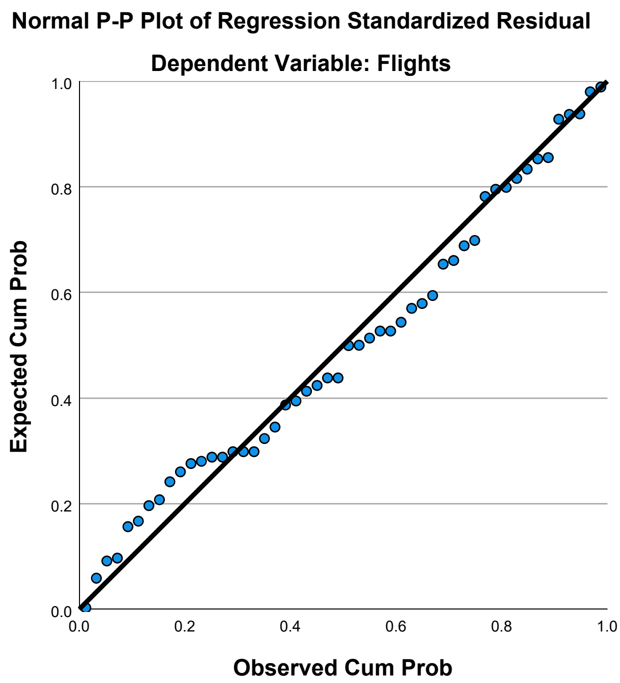
Residuals Statistics[a]

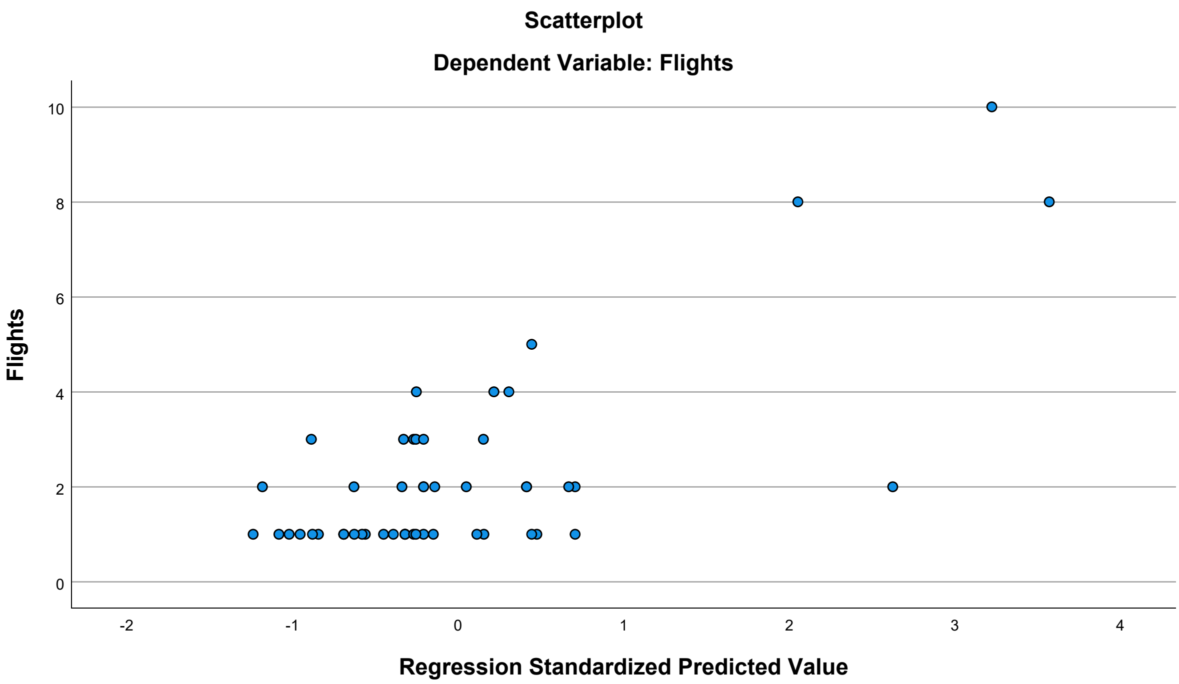
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.44	7.27	2.20	1.420	50
Residual	-3.926	3.224	.000	1.335	50
Std. Predicted Value	-1.237	3.570	.000	1.000	50
Std. Residual	-2.788	2.289	.000	.948	50

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
2
4
6
8
10
-2
-1
0
1
2
3
4

Regression

```
[DataSet30] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
\2012 - TS.sav
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Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	2.76	2.649	54
HomeConcentration	.08400	.043725	54
Congestion	4.94	1.017	54
GLHR	.00	.000	54
Seasonality	.90857772200	.19248611481	54
Distance	3.89802	.572949	54
Language	2.81525139	3.257807964	54
Ethnicity	1.05593815	.949699505	54
Urban	14.89	4.165	54

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.213	.268	.
	HomeConcentration	.213	1.000	.138	.
	Congestion	.268	.138	1.000	.
	GLHR	.	.	.	1.000
	Seasonality	-.387	.060	-.229	.
	Distance	-.105	-.326	.279	.
	Language	.267	.040	-.378	.
	Ethnicity	.346	.023	-.260	.
	Urban	.406	.130	.702	.
Sig. (1-tailed)	Flights	.	.061	.025	.000
	HomeConcentration	.061	.	.159	.000
	Congestion	.025	.159	.	.000
	GLHR	.000	.000	.000	.
	Seasonality	.002	.332	.048	.000
	Distance	.225	.008	.021	.000
	Language	.026	.388	.002	.000
	Ethnicity	.005	.435	.029	.000
	Urban	.001	.174	.000	.000
N	Flights	54	54	54	54
	HomeConcentration	54	54	54	54
	Congestion	54	54	54	54

Correlations

		Seasonality	Distance	Language	Ethnicity
Pearson Correlation	Flights	-.387	-.105	.267	.346
	HomeConcentration	.060	-.326	.040	.023
	Congestion	-.229	.279	-.378	-.260
	GLHR	.	.	.	.
	Seasonality	1.000	.060	-.076	-.163
	Distance	.060	1.000	-.481	-.376
	Language	-.076	-.481	1.000	.850
	Ethnicity	-.163	-.376	.850	1.000
	Urban	-.194	.170	-.302	-.230
Sig. (1-tailed)	Flights	.002	.225	.026	.005
	HomeConcentration	.332	.008	.388	.435
	Congestion	.048	.021	.002	.029
	GLHR	.000	.000	.000	.000
	Seasonality	.	.335	.292	.120
	Distance	.335	.	.000	.003
	Language	.292	.000	.	.000
	Ethnicity	.120	.003	.000	.
	Urban	.080	.110	.013	.047
N	Flights	54	54	54	54
	HomeConcentration	54	54	54	54
	Congestion	54	54	54	54

Correlations

		Urban
Pearson Correlation	Flights	.406
	HomeConcentration	.130
	Congestion	.702
	GLHR	.
	Seasonality	-.194
	Distance	.170
	Language	-.302
	Ethnicity	-.230
	Urban	1.000
Sig. (1-tailed)	Flights	.001
	HomeConcentration	.174
	Congestion	.000
	GLHR	.000
	Seasonality	.080
	Distance	.110
	Language	.013
	Ethnicity	.047
	Urban	.
N	Flights	54
	HomeConcentration	54
	Congestion	54

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	GLHR	54	54	54	54
	Seasonality	54	54	54	54
	Distance	54	54	54	54
	Language	54	54	54	54
	Ethnicity	54	54	54	54
	Urban	54	54	54	54

Correlations

		Seasonality	Distance	Language	Ethnicity
	GLHR	54	54	54	54
	Seasonality	54	54	54	54
	Distance	54	54	54	54
	Language	54	54	54	54
	Ethnicity	54	54	54	54
	Urban	54	54	54	54

Correlations

		Urban
	GLHR	54
	Seasonality	54
	Distance	54
	Language	54
	Ethnicity	54
	Urban	54

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, Seasonality, Ethnicity, Distance, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.673[a]	.452	.369	2.104	.452	5.426

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	7	46	<.001

a. Predictors: (Constant), Urban, HomeConcentration, Seasonality, Ethnicity, Distance, Congestion, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	168.189	7	24.027	5.426	<.001[b]
	Residual	203.681	46	4.428		
	Total	371.870	53			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, Seasonality, Ethnicity, Distance, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-1.740	3.439		-.506	.615
	HomeConcentration	11.466	7.336	.189	1.563	.125
	Congestion	-.049	.431	-.019	-.113	.911
	Seasonality	-3.599	1.615	-.261	-2.229	.031
	Distance	.411	.632	.089	.651	.518
	Language	.127	.185	.156	.685	.497
	Ethnicity	.829	.593	.297	1.399	.169
	Urban	.283	.098	.444	2.879	.006

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.812	1.231
	Congestion	.435	2.296
	Seasonality	.865	1.156
	Distance	.638	1.568
	Language	.229	4.371
	Ethnicity	.264	3.794
	Urban	.499	2.002

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.756	1.000	.00	.00	.00
	2	.868	2.790	.00	.00	.00
	3	.186	6.029	.00	.77	.00
	4	.088	8.786	.00	.00	.01
	5	.062	10.412	.00	.02	.01
	6	.023	17.304	.02	.04	.05
	7	.012	23.636	.01	.07	.88
	8	.005	36.182	.97	.09	.04

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00
	2	.00	.00	.07	.04	.00
	3	.00	.01	.00	.01	.00
	4	.13	.00	.24	.37	.06
	5	.08	.01	.54	.50	.15
	6	.52	.16	.05	.07	.41
	7	.13	.22	.00	.00	.37
	8	.14	.61	.10	.00	.00

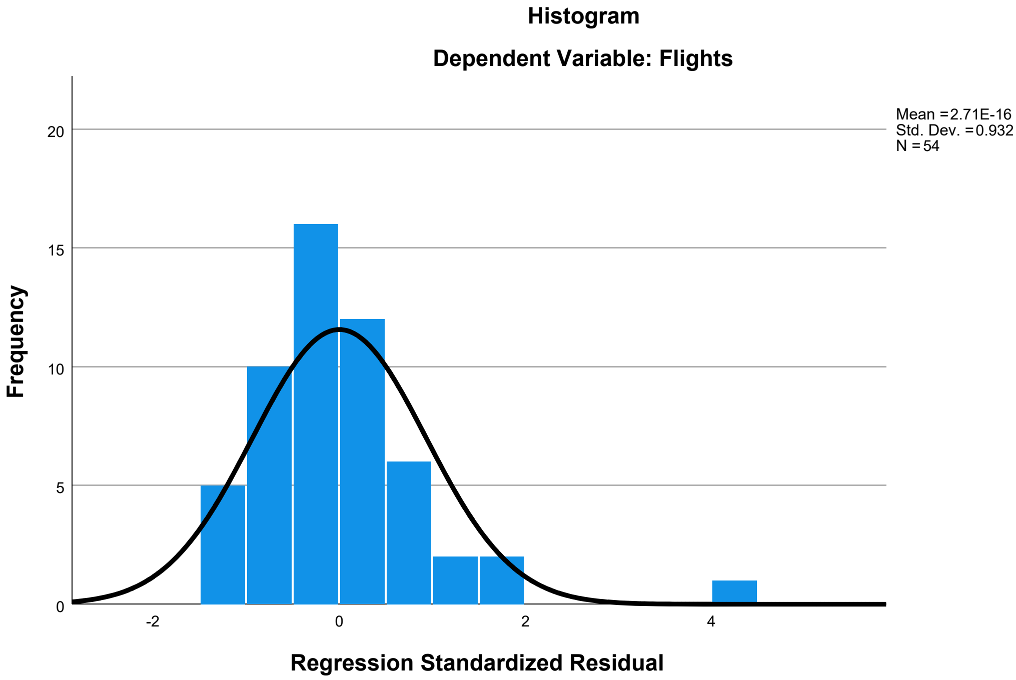
a. Dependent Variable: Flights

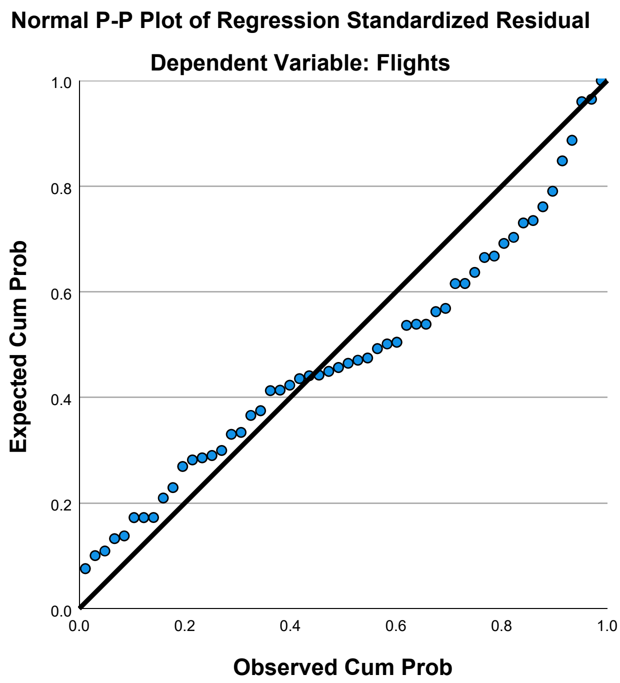
Residuals Statistics[a]

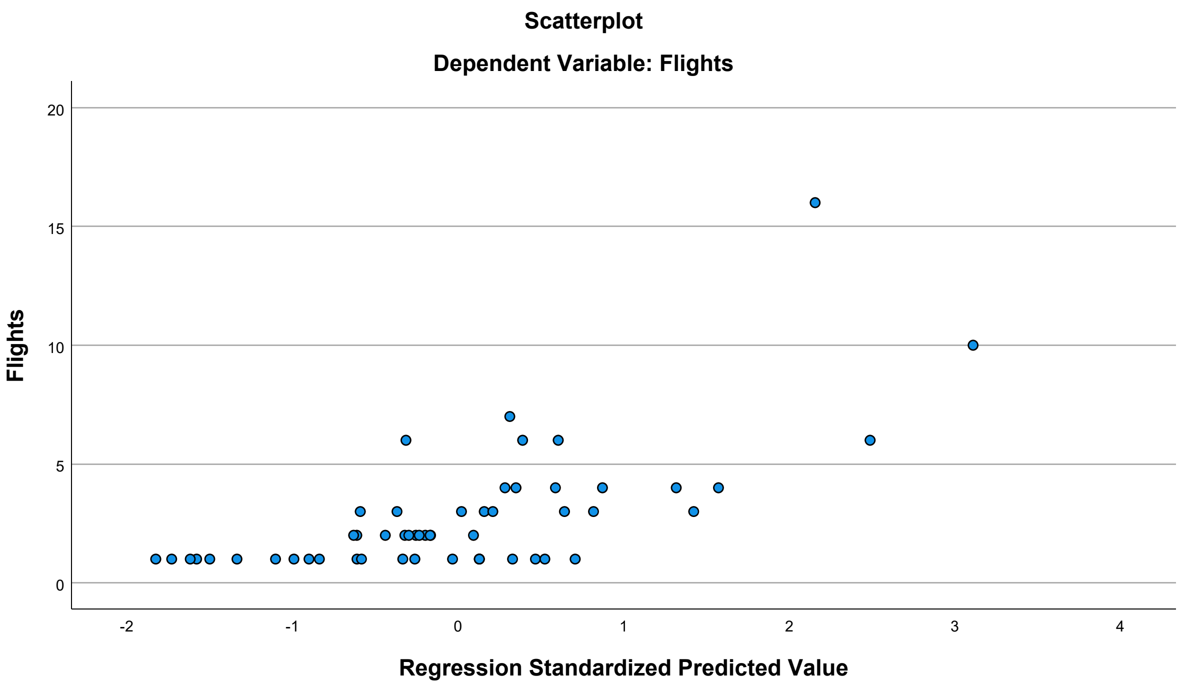
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.49	8.30	2.76	1.781	54
Residual	-3.019	9.399	.000	1.960	54
Std. Predicted Value	-1.825	3.110	.000	1.000	54
Std. Residual	-1.435	4.467	.000	.932	54

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean =2.71E-16
Std. Dev. =0.932
N =54
Frequency
20
15
10
5
0
-2
0
2
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	2.76	2.649	54
HomeConcentration	.08400	.043725	54
Congestion	4.94	1.017	54
GLHR	.00	.000	54
Seasonality	.90857772200	.19248611481	54
Distance	3.89802	.572949	54
Ethnicity	1.05593815	.949699505	54
Urban	14.89	4.165	54

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.213	.268	.
	HomeConcentration	.213	1.000	.138	.
	Congestion	.268	.138	1.000	.
	GLHR	.	.	.	1.000
	Seasonality	-.387	.060	-.229	.
	Distance	-.105	-.326	.279	.
	Ethnicity	.346	.023	-.260	.
	Urban	.406	.130	.702	.
Sig. (1-tailed)	Flights	.	.061	.025	.000
	HomeConcentration	.061	.	.159	.000
	Congestion	.025	.159	.	.000
	GLHR	.000	.000	.000	.
	Seasonality	.002	.332	.048	.000
	Distance	.225	.008	.021	.000
	Ethnicity	.005	.435	.029	.000
	Urban	.001	.174	.000	.000
N	Flights	54	54	54	54
	HomeConcentration	54	54	54	54
	Congestion	54	54	54	54
	GLHR	54	54	54	54
	Seasonality	54	54	54	54
	Distance	54	54	54	54
	Ethnicity	54	54	54	54
	Urban	54	54	54	54

Correlations

		Seasonality	Distance	Ethnicity	Urban
Pearson Correlation	Flights	-.387	-.105	.346	.406
	HomeConcentration	.060	-.326	.023	.130
	Congestion	-.229	.279	-.260	.702
	GLHR	.	.	.	.
	Seasonality	1.000	.060	-.163	-.194
	Distance	.060	1.000	-.376	.170
	Ethnicity	-.163	-.376	1.000	-.230
	Urban	-.194	.170	-.230	1.000
Sig. (1-tailed)	Flights	.002	.225	.005	.001
	HomeConcentration	.332	.008	.435	.174
	Congestion	.048	.021	.029	.000
	GLHR	.000	.000	.000	.000
	Seasonality	.	.335	.120	.080
	Distance	.335	.	.003	.110
	Ethnicity	.120	.003	.	.047
	Urban	.080	.110	.047	.
N	Flights	54	54	54	54
	HomeConcentration	54	54	54	54
	Congestion	54	54	54	54
	GLHR	54	54	54	54
	Seasonality	54	54	54	54
	Distance	54	54	54	54
	Ethnicity	54	54	54	54
	Urban	54	54	54	54

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, Seasonality, Ethnicity, Distance, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.668[a]	.447	.376	2.092	.447	6.324

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	6	47	<.001

a. Predictors: (Constant), Urban, HomeConcentration, Seasonality, Ethnicity, Distance, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	166.113	6	27.685	6.324	<.001[b]
	Residual	205.758	47	4.378		
	Total	371.870	53			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, Seasonality, Ethnicity, Distance, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.055	3.271		-.322	.749
	HomeConcentration	11.313	7.291	.187	1.552	.127
	Congestion	-.098	.422	-.038	-.233	.817
	Seasonality	-3.535	1.603	-.257	-2.206	.032
	Distance	.291	.603	.063	.482	.632
	Ethnicity	1.160	.341	.416	3.404	.001
	Urban	.282	.098	.444	2.891	.006

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.813	1.230
	Congestion	.448	2.231
	Seasonality	.868	1.152
	Distance	.691	1.447
	Ethnicity	.788	1.269
	Urban	.500	2.002

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.252	1.000	.00	.00	.00
	2	.444	3.754	.00	.00	.00
	3	.185	5.806	.00	.78	.00
	4	.078	8.972	.00	.00	.03
	5	.023	16.337	.01	.05	.05
	6	.012	22.722	.01	.07	.89
	7	.006	33.149	.97	.10	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Distance	Ethnicity	Urban
1	1	.00	.00	.01	.00
	2	.00	.00	.70	.00
	3	.00	.01	.00	.00
	4	.21	.00	.02	.17
	5	.45	.18	.01	.45
	6	.14	.23	.00	.37
	7	.18	.57	.26	.00

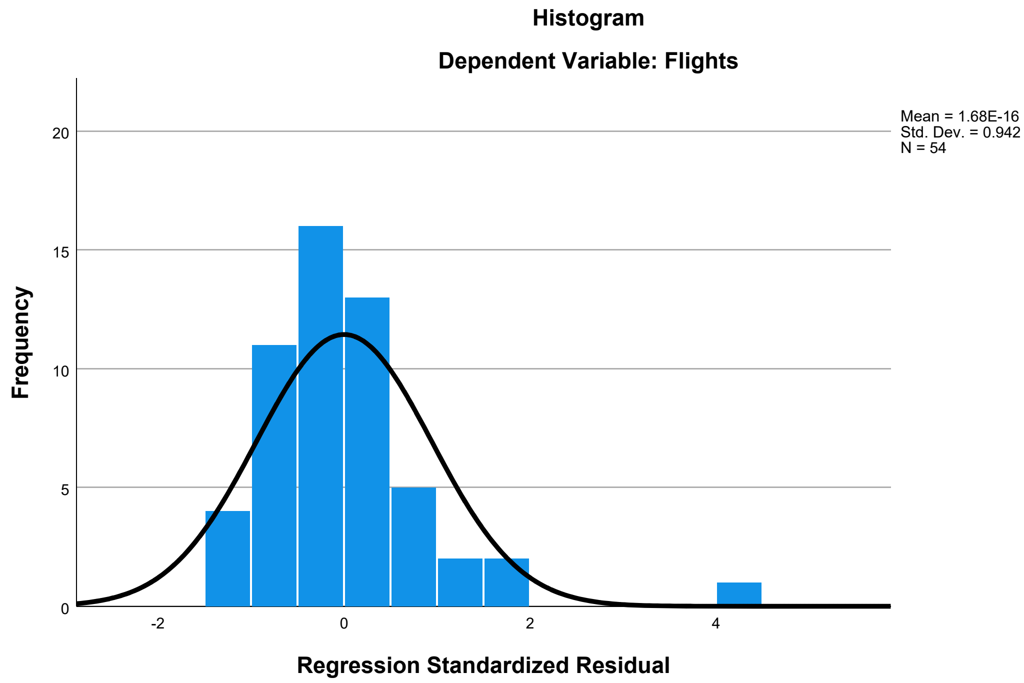
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.41	8.14	2.76	1.770	54
Residual	-2.987	9.388	.000	1.970	54
Std. Predicted Value	-1.792	3.038	.000	1.000	54
Std. Residual	-1.428	4.487	.000	.942	54

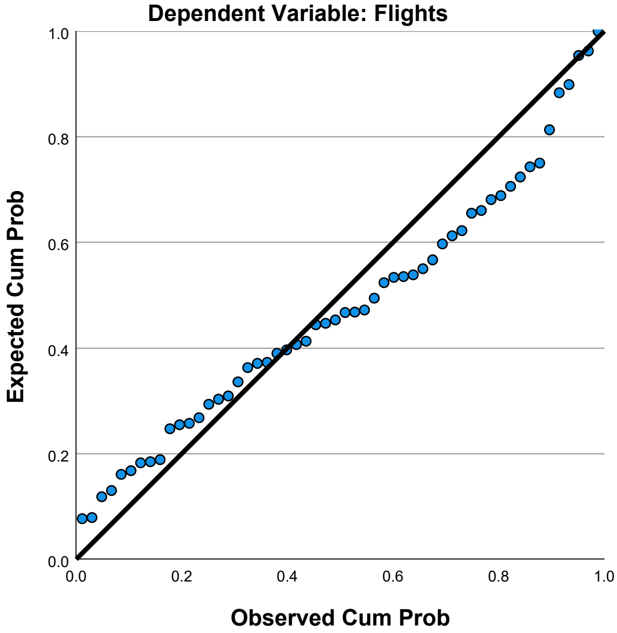
a. Dependent Variable: Flights

Charts



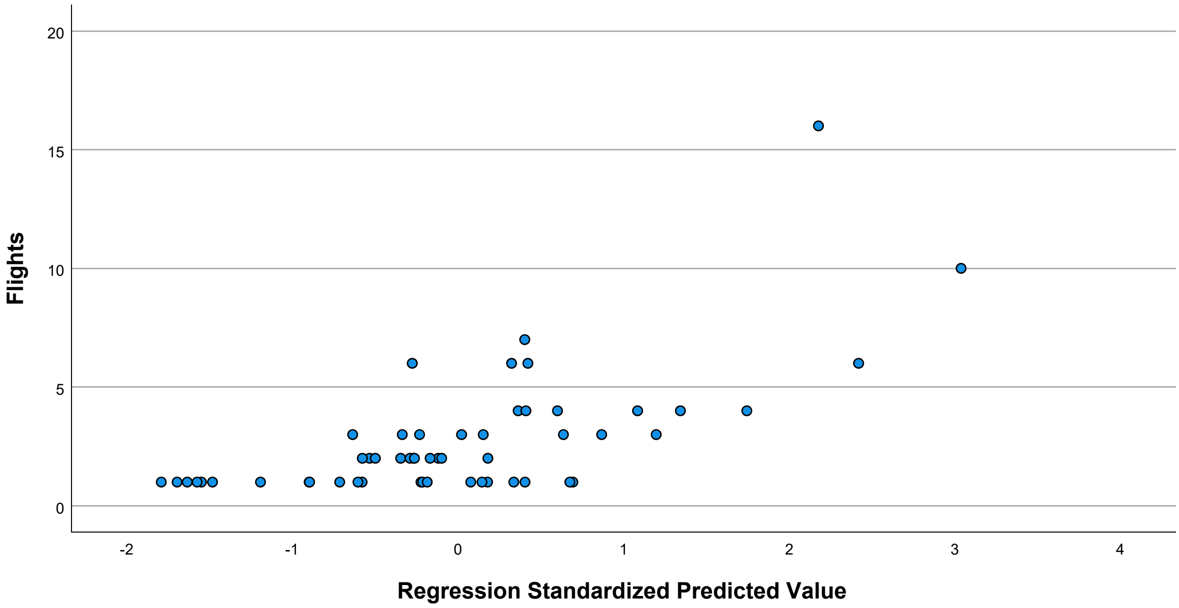
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

```
[DataSet31] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
\2017 - TS.sav
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Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	3.37	2.381	43
HomeConcentration	.19660	.064799	43
Congestion	5.05	.975	43
GLHR	.00	.000	43
Seasonality	.91005143113	.16763623905	43
Distance	3.90414	.593063	43
Language	2.55203370	3.371859183	43
Ethnicity	.89124233	.886379140	43
Urban	14.74	4.198	43

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.083	.187	.
	HomeConcentration	.083	1.000	-.353	.
	Congestion	.187	-.353	1.000	.
	GLHR	.	.	.	1.000
	Seasonality	-.391	.019	-.196	.
	Distance	-.126	-.532	.098	.
	Language	.262	.198	-.206	.
	Ethnicity	.372	.031	.028	.
	Urban	.417	-.256	.591	.
Sig. (1-tailed)	Flights	.	.298	.115	.000
	HomeConcentration	.298	.	.010	.000
	Congestion	.115	.010	.	.000
	GLHR	.000	.000	.000	.
	Seasonality	.005	.451	.104	.000
	Distance	.211	.000	.267	.000
	Language	.045	.101	.093	.000
	Ethnicity	.007	.422	.430	.000
	Urban	.003	.049	.000	.000
N	Flights	43	43	43	43
	HomeConcentration	43	43	43	43
	Congestion	43	43	43	43

Correlations

		Seasonality	Distance	Language	Ethnicity
Pearson Correlation	Flights	-.391	-.126	.262	.372
	HomeConcentration	.019	-.532	.198	.031
	Congestion	-.196	.098	-.206	.028
	GLHR	.	.	.	.
	Seasonality	1.000	.157	-.420	-.232
	Distance	.157	1.000	-.446	-.298
	Language	-.420	-.446	1.000	.832
	Ethnicity	-.232	-.298	.832	1.000
	Urban	-.336	.118	-.149	-.076
Sig. (1-tailed)	Flights	.005	.211	.045	.007
	HomeConcentration	.451	.000	.101	.422
	Congestion	.104	.267	.093	.430
	GLHR	.000	.000	.000	.000
	Seasonality	.	.157	.003	.067
	Distance	.157	.	.001	.026
	Language	.003	.001	.	.000
	Ethnicity	.067	.026	.000	.
	Urban	.014	.225	.170	.314
N	Flights	43	43	43	43
	HomeConcentration	43	43	43	43
	Congestion	43	43	43	43

Correlations

		Urban
Pearson Correlation	Flights	.417
	HomeConcentration	-.256
	Congestion	.591
	GLHR	.
	Seasonality	-.336
	Distance	.118
	Language	-.149
	Ethnicity	-.076
	Urban	1.000
Sig. (1-tailed)	Flights	.003
	HomeConcentration	.049
	Congestion	.000
	GLHR	.000
	Seasonality	.014
	Distance	.225
	Language	.170
	Ethnicity	.314
	Urban	.
N	Flights	43
	HomeConcentration	43
	Congestion	43

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	GLHR	43	43	43	43
	Seasonality	43	43	43	43
	Distance	43	43	43	43
	Language	43	43	43	43
	Ethnicity	43	43	43	43
	Urban	43	43	43	43

Correlations

		Seasonality	Distance	Language	Ethnicity
	GLHR	43	43	43	43
	Seasonality	43	43	43	43
	Distance	43	43	43	43
	Language	43	43	43	43
	Ethnicity	43	43	43	43
	Urban	43	43	43	43

Correlations

		Urban
	GLHR	43
	Seasonality	43
	Distance	43
	Language	43
	Ethnicity	43
	Urban	43

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, HomeConcentration, Seasonality, Distance, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.670[a]	.449	.339	1.936	.449	4.074

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	7	35	.002

a. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Seasonality, Distance, Congestion, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	106.871	7	15.267	4.074	.002[b]
	Residual	131.175	35	3.748		
	Total	238.047	42			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Seasonality, Distance, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.831	5.443		.704	.486
	HomeConcentration	7.980	5.901	.217	1.352	.185
	Congestion	-.506	.444	-.207	-1.139	.262
	Seasonality	-4.630	2.373	-.326	-1.951	.059
	Distance	-.010	.671	-.002	-.014	.989
	Language	-.382	.227	-.542	-1.682	.102
	Ethnicity	2.096	.728	.780	2.881	.007
	Urban	.263	.094	.465	2.802	.008

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.610	1.638
	Congestion	.476	2.100
	Seasonality	.564	1.773
	Distance	.564	1.774
	Language	.152	6.586
	Ethnicity	.215	4.661
	Urban	.573	1.745

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.755	1.000	.00	.00	.00
	2	.931	2.694	.00	.00	.00
	3	.143	6.871	.00	.21	.01
	4	.085	8.919	.00	.01	.00
	5	.052	11.439	.00	.31	.01
	6	.017	19.876	.00	.00	.64
	7	.015	21.300	.00	.15	.02
	8	.002	53.972	1.00	.31	.32

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00
	2	.00	.00	.05	.04	.00
	3	.00	.00	.06	.15	.03
	4	.04	.00	.20	.30	.17
	5	.04	.05	.23	.22	.09
	6	.05	.01	.02	.06	.63
	7	.52	.39	.10	.10	.06
	8	.35	.55	.33	.12	.02

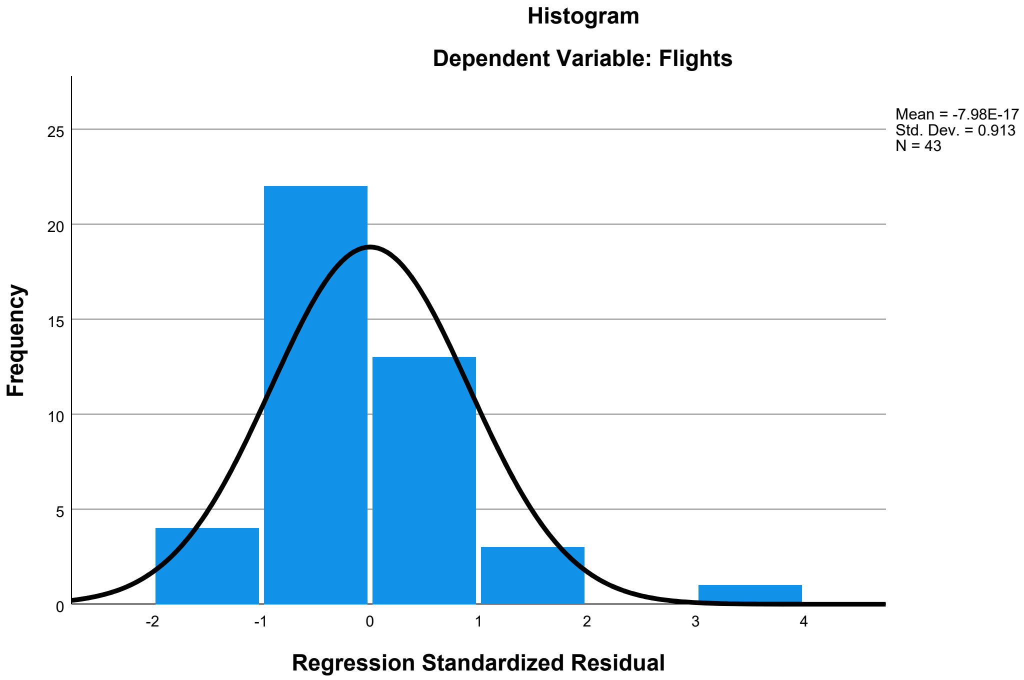
a. Dependent Variable: Flights

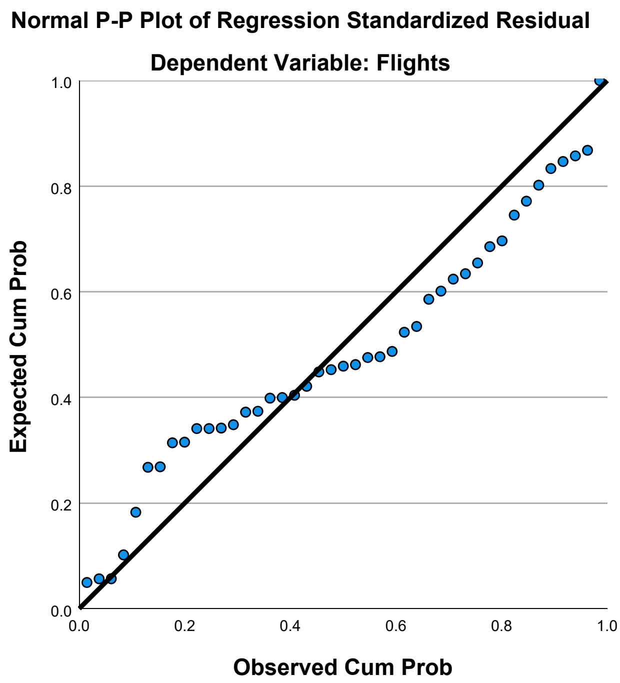
Residuals Statistics[a]

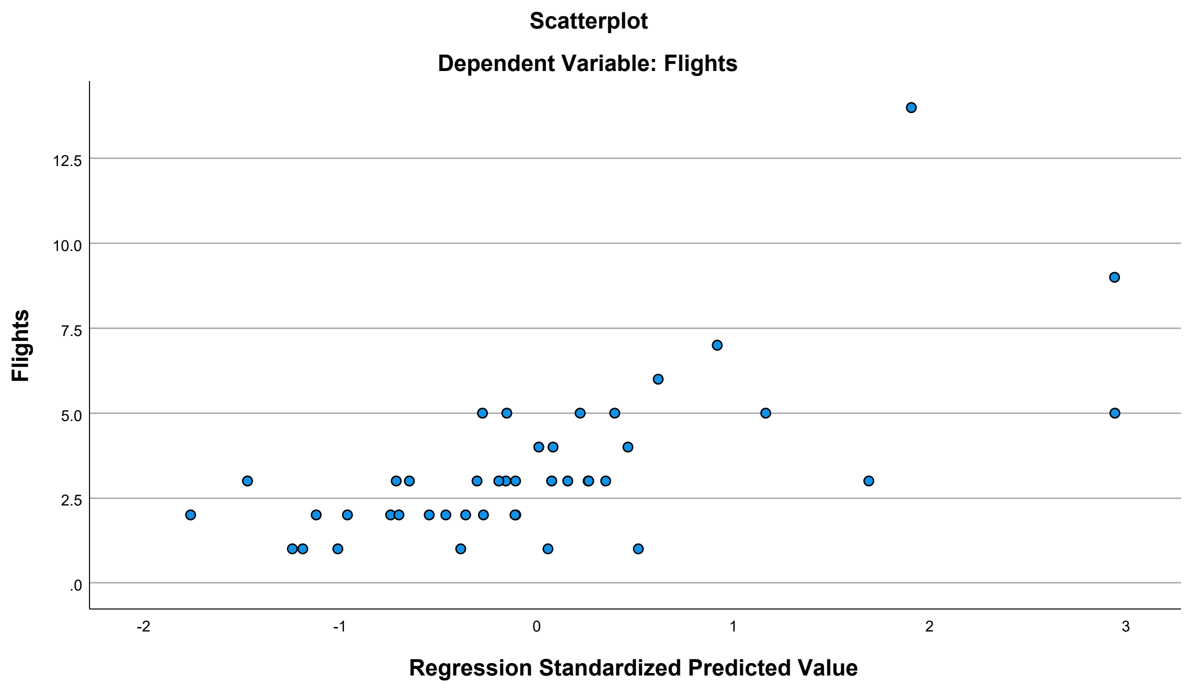
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.56	8.07	3.37	1.595	43
Residual	-3.196	7.586	.000	1.767	43
Std. Predicted Value	-1.763	2.943	.000	1.000	43
Std. Residual	-1.651	3.919	.000	.913	43

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -7.98E-17
Std. Dev. = 0.913
N = 43
Frequency
25
20
15
10
5
0
-2
-1
0
1
2
3
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	3.37	2.381	43
HomeConcentration	.19660	.064799	43
Congestion	5.05	.975	43
GLHR	.00	.000	43
Seasonality	.91005143113	.16763623905	43
Distance	3.90414	.593063	43
Ethnicity	.89124233	.886379140	43
Urban	14.74	4.198	43

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.083	.187	.
	HomeConcentration	.083	1.000	-.353	.
	Congestion	.187	-.353	1.000	.
	GLHR	.	.	.	1.000
	Seasonality	-.391	.019	-.196	.
	Distance	-.126	-.532	.098	.
	Ethnicity	.372	.031	.028	.
	Urban	.417	-.256	.591	.
Sig. (1-tailed)	Flights	.	.298	.115	.000
	HomeConcentration	.298	.	.010	.000
	Congestion	.115	.010	.	.000
	GLHR	.000	.000	.000	.
	Seasonality	.005	.451	.104	.000
	Distance	.211	.000	.267	.000
	Ethnicity	.007	.422	.430	.000
	Urban	.003	.049	.000	.000
N	Flights	43	43	43	43
	HomeConcentration	43	43	43	43
	Congestion	43	43	43	43
	GLHR	43	43	43	43
	Seasonality	43	43	43	43
	Distance	43	43	43	43
	Ethnicity	43	43	43	43
	Urban	43	43	43	43

Correlations

		Seasonality	Distance	Ethnicity	Urban
Pearson Correlation	Flights	-.391	-.126	.372	.417
	HomeConcentration	.019	-.532	.031	-.256
	Congestion	-.196	.098	.028	.591
	GLHR	.	.	.	.
	Seasonality	1.000	.157	-.232	-.336
	Distance	.157	1.000	-.298	.118
	Ethnicity	-.232	-.298	1.000	-.076
	Urban	-.336	.118	-.076	1.000
Sig. (1-tailed)	Flights	.005	.211	.007	.003
	HomeConcentration	.451	.000	.422	.049
	Congestion	.104	.267	.430	.000
	GLHR	.000	.000	.000	.000
	Seasonality	.	.157	.067	.014
	Distance	.157	.	.026	.225
	Ethnicity	.067	.026	.	.314
	Urban	.014	.225	.314	.
N	Flights	43	43	43	43
	HomeConcentration	43	43	43	43
	Congestion	43	43	43	43
	GLHR	43	43	43	43
	Seasonality	43	43	43	43
	Distance	43	43	43	43
	Ethnicity	43	43	43	43
	Urban	43	43	43	43

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, HomeConcentration, Seasonality, Distance, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.636[a]	.404	.305	1.984	.404	4.074

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	36	.003

a. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Seasonality, Distance, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	96.273	6	16.046	4.074	.003[b]
	Residual	141.773	36	3.938		
	Total	238.047	42			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, Seasonality, Distance, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-1.288	4.625		-.279	.782
	HomeConcentration	7.916	6.048	.215	1.309	.199
	Congestion	-.171	.407	-.070	-.420	.677
	Seasonality	-2.450	2.037	-.173	-1.203	.237
	Distance	.331	.656	.082	.505	.617
	Ethnicity	1.042	.378	.388	2.755	.009
	Urban	.270	.096	.476	2.801	.008

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.610	1.638
	Congestion	.596	1.678
	Seasonality	.804	1.244
	Distance	.620	1.612
	Ethnicity	.835	1.198
	Urban	.574	1.743

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.302	1.000	.00	.00	.00
	2	.469	3.666	.00	.00	.00
	3	.126	7.061	.00	.29	.02
	4	.064	9.924	.00	.17	.00
	5	.018	18.515	.00	.00	.63
	6	.016	19.646	.01	.04	.20
	7	.003	43.123	.99	.50	.15

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Distance	Ethnicity	Urban
1	1	.00	.00	.01	.00
	2	.00	.00	.79	.00
	3	.01	.00	.00	.07
	4	.12	.03	.01	.22
	5	.08	.23	.02	.18
	6	.65	.17	.03	.51
	7	.14	.57	.14	.02

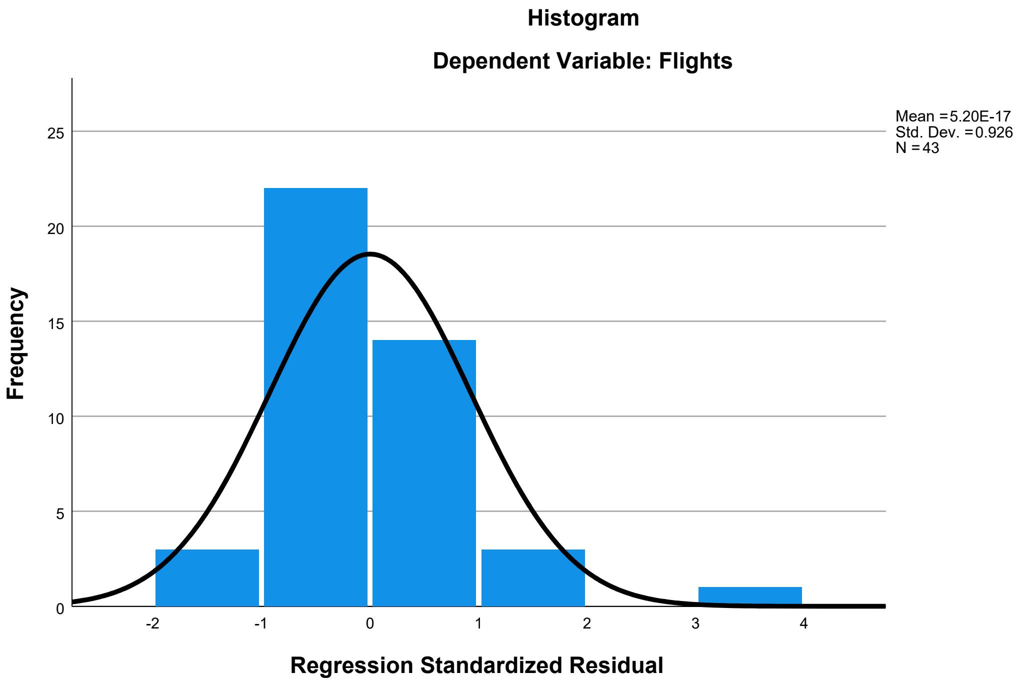
a. Dependent Variable: Flights

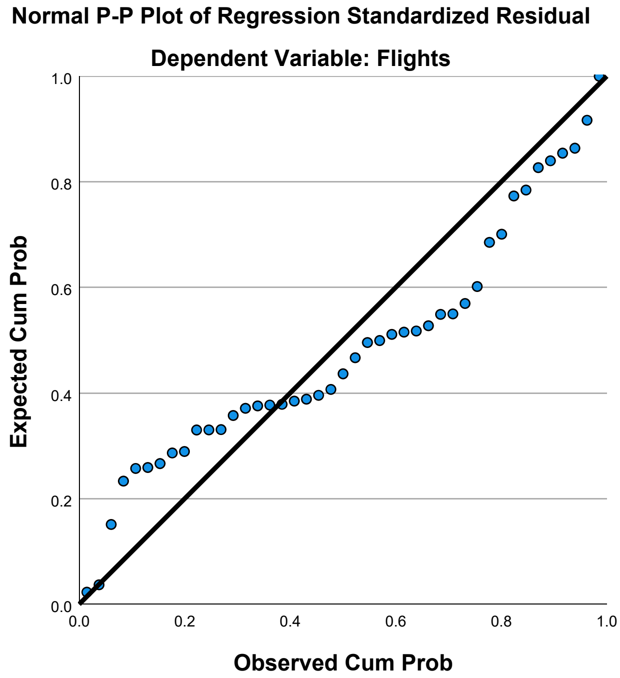
Residuals Statistics[a]

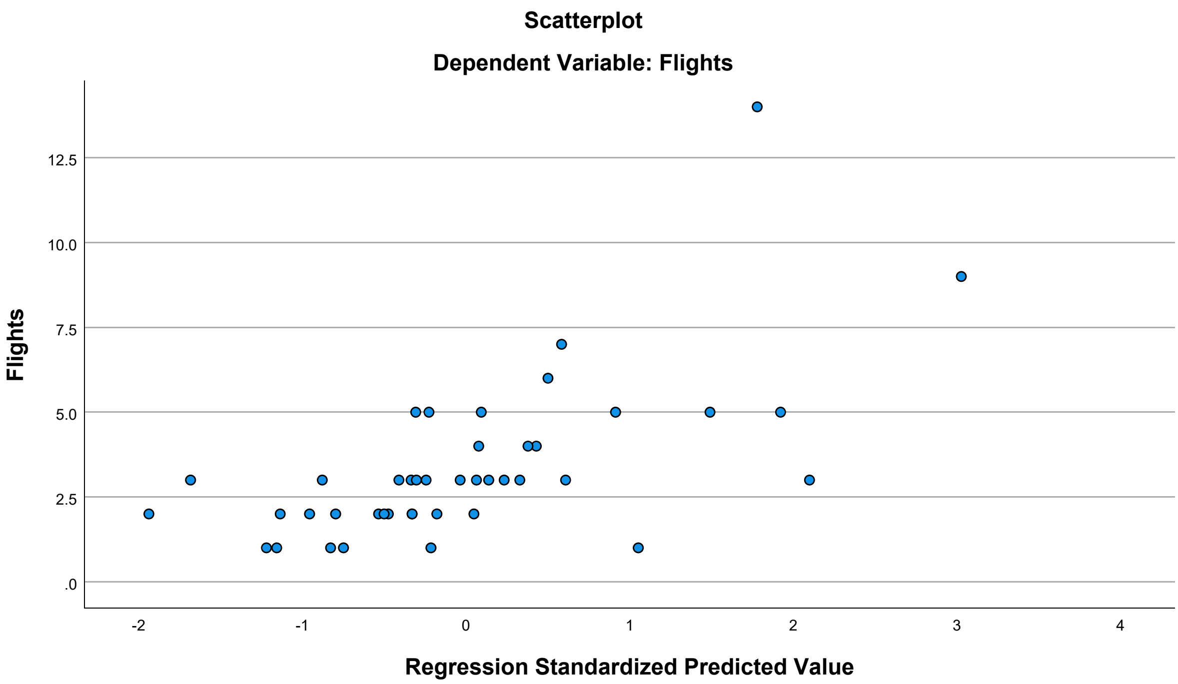
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.44	7.95	3.37	1.514	43
Residual	-3.966	7.934	.000	1.837	43
Std. Predicted Value	-1.938	3.027	.000	1.000	43
Std. Residual	-1.998	3.998	.000	.926	43

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
12.5
10.0
7.5
5.0
2.5
.0
-2
-1
0
1
2
3
4

Regression

```
[DataSet3] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines\
1997 - BA.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration, Language. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.46	9.976	28
NAFlights	.44271087275	.26259722223	28
Congestion	4.61	.832	28
GLHR	.50	.509	28
GJFK	.18	.390	28
PartnerConcentration	.000100	.0000000	28
Seasonality	.54913413834	.10983599188	28
Distance	4054.93	688.855	28
Language	1.00	.000	28
Ethnicity	686787.86	585471.212	28
Urban	18.39	3.531	28

Correlations

		Flights	NAFlights	Congestion	GLHR
Pearson Correlation	Flights	1.000	.397	.259	.412
	NAFlights	.397	1.000	.036	.970
	Congestion	.259	.036	1.000	.131
	GLHR	.412	.970	.131	1.000
	GJFK	.292	-.439	.567	-.280
	PartnerConcentration	.	.	.	.
	Seasonality	.195	.362	-.063	.377
	Distance	-.109	.083	-.279	-.019
	Language	.	.	.	.
	Ethnicity	.173	.227	.570	.281
	Urban	.445	.568	.332	.546
Sig. (1-tailed)	Flights	.	.018	.091	.015
	NAFlights	.018	.	.428	.000
	Congestion	.091	.428	.	.253
	GLHR	.015	.000	.253	.
	GJFK	.066	.010	.001	.075
	PartnerConcentration	.000	.000	.000	.000
	Seasonality	.160	.029	.375	.024
	Distance	.291	.337	.075	.462
	Language	.000	.000	.000	.000
	Ethnicity	.189	.122	.001	.074
	Urban	.009	.001	.042	.001
N	Flights	28	28	28	28
	NAFlights	28	28	28	28
	Congestion	28	28	28	28
	GLHR	28	28	28	28
	GJFK	28	28	28	28
	PartnerConcentration	28	28	28	28
	Seasonality	28	28	28	28
	Distance	28	28	28	28
	Language	28	28	28	28
	Ethnicity	28	28	28	28
	Urban	28	28	28	28

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.292	.	.195	-.109
	NAFlights	-.439	.	.362	.083
	Congestion	.567	.	-.063	-.279
	GLHR	-.280	.	.377	-.019
	GJFK	1.000	.	-.112	-.475
	PartnerConcentration	.	1.000	.	.
	Seasonality	-.112	.	1.000	.065
	Distance	-.475	.	.065	1.000
	Language	.	.	.	.
	Ethnicity	.204	.	.209	-.253
	Urban	.028	.	.049	.011
Sig. (1-tailed)	Flights	.066	.000	.160	.291
	NAFlights	.010	.000	.029	.337
	Congestion	.001	.000	.375	.075
	GLHR	.075	.000	.024	.462
	GJFK	.	.000	.285	.005
	PartnerConcentration	.000	.	.000	.000
	Seasonality	.285	.000	.	.370
	Distance	.005	.000	.370	.
	Language	.000	.000	.000	.000
	Ethnicity	.149	.000	.143	.097
	Urban	.444	.000	.402	.477
N	Flights	28	28	28	28
	NAFlights	28	28	28	28
	Congestion	28	28	28	28
	GLHR	28	28	28	28
	GJFK	28	28	28	28
	PartnerConcentration	28	28	28	28
	Seasonality	28	28	28	28
	Distance	28	28	28	28
	Language	28	28	28	28
	Ethnicity	28	28	28	28
	Urban	28	28	28	28

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.	.173	.445
	NAFlights	.	.227	.568
	Congestion	.	.570	.332
	GLHR	.	.281	.546
	GJFK	.	.204	.028
	PartnerConcentration	.	.	.
	Seasonality	.	.209	.049
	Distance	.	-.253	.011
	Language	1.000	.	.
	Ethnicity	.	1.000	.314
	Urban	.	.314	1.000
Sig. (1-tailed)	Flights	.000	.189	.009
	NAFlights	.000	.122	.001
	Congestion	.000	.001	.042
	GLHR	.000	.074	.001
	GJFK	.000	.149	.444
	PartnerConcentration	.000	.000	.000
	Seasonality	.000	.143	.402
	Distance	.000	.097	.477
	Language	.	.000	.000
	Ethnicity	.000	.	.052
	Urban	.000	.052	.
N	Flights	28	28	28
	NAFlights	28	28	28
	Congestion	28	28	28
	GLHR	28	28	28
	GJFK	28	28	28
	PartnerConcentration	28	28	28
	Seasonality	28	28	28
	Distance	28	28	28
	Language	28	28	28
	Ethnicity	28	28	28
	Urban	28	28	28

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Seasonality, Congestion, Ethnicity, GLHR, GJFK, NAFlights[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.749[a]	.561	.376	7.880	.561	3.033

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	19	.022

a. Predictors: (Constant), Urban, Distance, Seasonality, Congestion, Ethnicity, GLHR, GJFK, NAFlights

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1507.053	8	188.382	3.033	.022[b]
	Residual	1179.912	19	62.101		
	Total	2686.964	27			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Seasonality, Congestion, Ethnicity, GLHR, GJFK, NAFlights

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-17.444	18.883		-.924	.367
	NAFlights	102.705	40.220	2.704	2.554	.019
	Congestion	-2.026	2.896	-.169	-.700	.493
	GLHR	-36.234	18.074	-1.849	-2.005	.059
	GJFK	28.569	8.322	1.117	3.433	.003
	Seasonality	2.442	16.170	.027	.151	.882
	Distance	.002	.003	.111	.602	.554
	Ethnicity	-2.279E-7	.000	-.013	-.066	.948
	Urban	-.159	.653	-.056	-.243	.811

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	NAFlights	.021	48.499
	Congestion	.396	2.523
	GLHR	.027	36.824
	GJFK	.218	4.581
	Seasonality	.729	1.371
	Distance	.680	1.471
	Ethnicity	.556	1.800
	Urban	.432	2.314

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	NAFlights	Congestion	GLHR
1	1	7.186	1.000	.00	.00	.00	.00
	2	1.037	2.633	.00	.00	.00	.00
	3	.433	4.073	.00	.00	.00	.01
	4	.271	5.153	.00	.00	.00	.01
	5	.036	14.087	.00	.00	.02	.00
	6	.015	21.598	.00	.01	.11	.04
	7	.013	23.417	.03	.00	.40	.00
	8	.005	39.216	.92	.01	.46	.00
	9	.003	45.442	.05	.98	.00	.94

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	Seasonality	Distance	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00
	2	.12	.00	.00	.00	.00
	3	.04	.00	.01	.13	.00
	4	.10	.00	.00	.53	.00
	5	.01	.51	.00	.00	.09
	6	.00	.13	.29	.00	.46
	7	.20	.01	.63	.17	.03
	8	.08	.34	.06	.15	.13
	9	.45	.00	.01	.00	.29

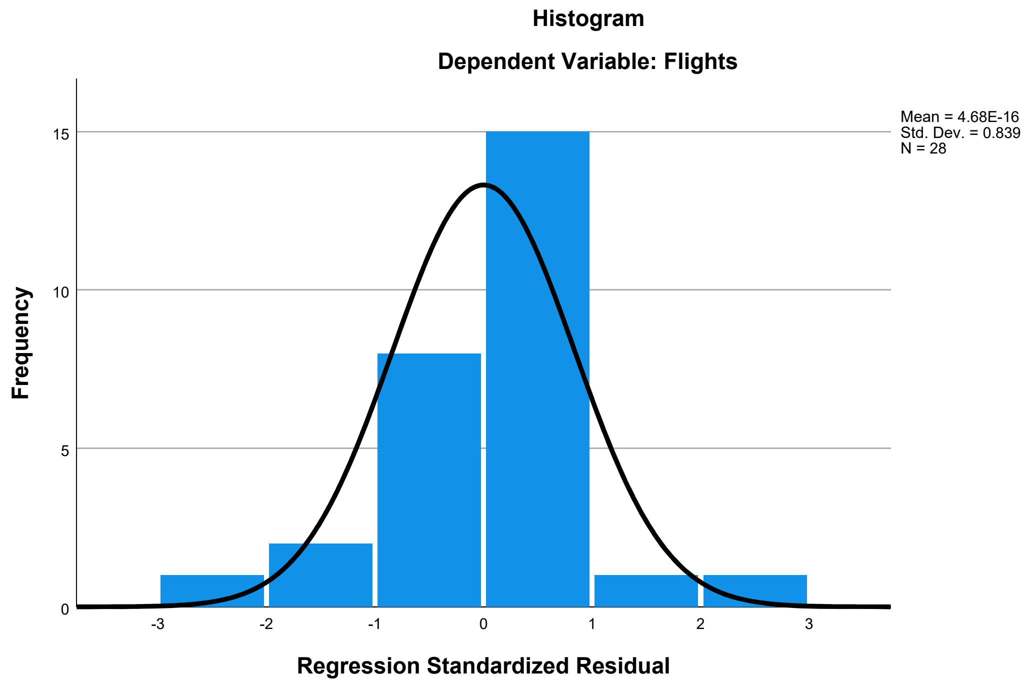
a. Dependent Variable: Flights

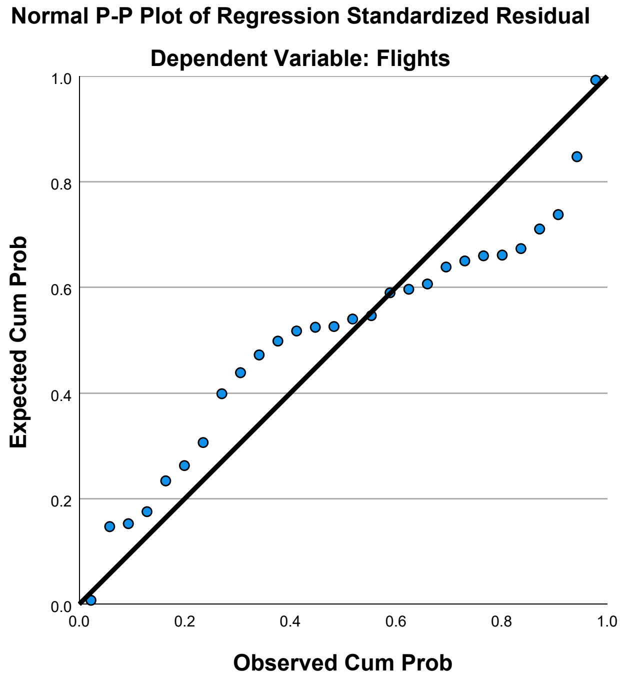
Residuals Statistics[a]

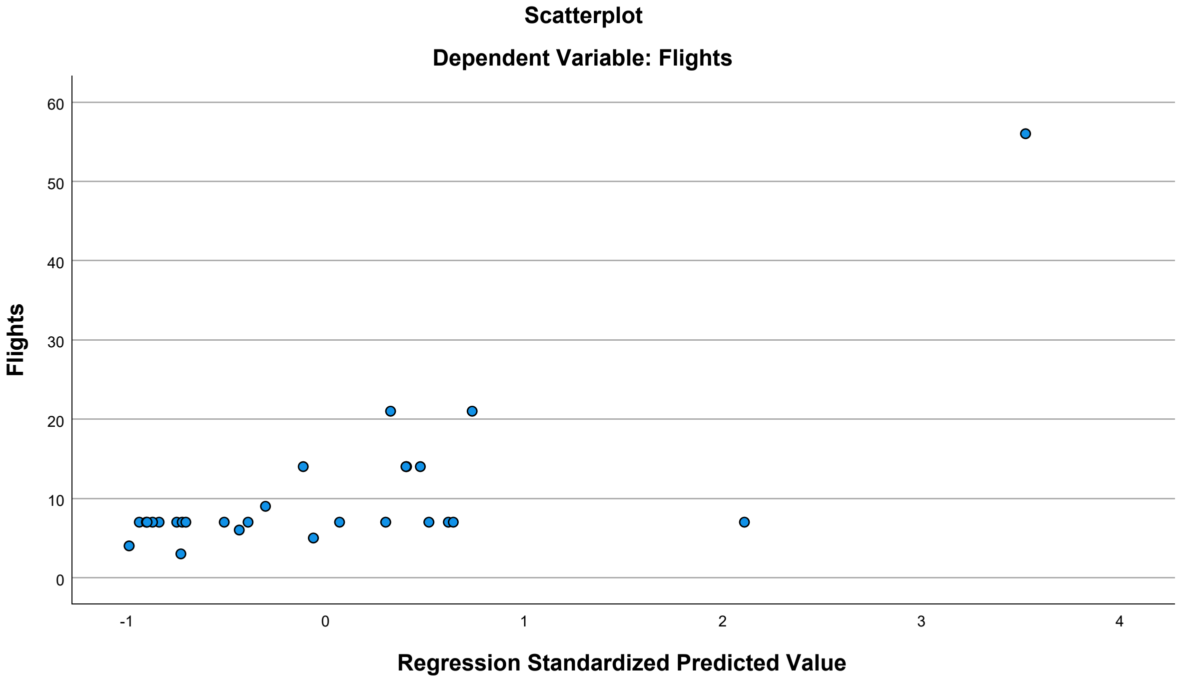
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.08	36.80	10.46	7.471	28
Residual	-19.222	19.203	.000	6.611	28
Std. Predicted Value	-.989	3.525	.000	1.000	28
Std. Residual	-2.439	2.437	.000	.839	28

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration, Language. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.46	9.976	28
NAFlights	.44271087275	.26259722223	28
Congestion	4.61	.832	28
GJFK	.18	.390	28
PartnerConcentration	.000100	.0000000	28
Seasonality	.54913413834	.10983599188	28
Distance	4054.93	688.855	28
Language	1.00	.000	28
Ethnicity	686787.86	585471.212	28
Urban	18.39	3.531	28

Correlations

		Flights	NAFlights	Congestion	GJFK
Pearson Correlation	Flights	1.000	.397	.259	.292
	NAFlights	.397	1.000	.036	-.439
	Congestion	.259	.036	1.000	.567
	GJFK	.292	-.439	.567	1.000
	PartnerConcentration	.	.	.	.
	Seasonality	.195	.362	-.063	-.112
	Distance	-.109	.083	-.279	-.475
	Language	.	.	.	.
	Ethnicity	.173	.227	.570	.204
	Urban	.445	.568	.332	.028
Sig. (1-tailed)	Flights	.	.018	.091	.066
	NAFlights	.018	.	.428	.010
	Congestion	.091	.428	.	.001
	GJFK	.066	.010	.001	.
	PartnerConcentration	.000	.000	.000	.000
	Seasonality	.160	.029	.375	.285
	Distance	.291	.337	.075	.005
	Language	.000	.000	.000	.000
	Ethnicity	.189	.122	.001	.149
	Urban	.009	.001	.042	.444
N	Flights	28	28	28	28
	NAFlights	28	28	28	28

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.	.195	-.109	.
	NAFlights	.	.362	.083	.
	Congestion	.	-.063	-.279	.
	GJFK	.	-.112	-.475	.
	PartnerConcentration	1.000	.	.	.
	Seasonality	.	1.000	.065	.
	Distance	.	.065	1.000	.
	Language	.	.	.	1.000
	Ethnicity	.	.209	-.253	.
	Urban	.	.049	.011	.
Sig. (1-tailed)	Flights	.000	.160	.291	.000
	NAFlights	.000	.029	.337	.000
	Congestion	.000	.375	.075	.000
	GJFK	.000	.285	.005	.000
	PartnerConcentration	.	.000	.000	.000
	Seasonality	.000	.	.370	.000
	Distance	.000	.370	.	.000
	Language	.000	.000	.000	.
	Ethnicity	.000	.143	.097	.000
	Urban	.000	.402	.477	.000
N	Flights	28	28	28	28
	NAFlights	28	28	28	28

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.173	.445
	NAFlights	.227	.568
	Congestion	.570	.332
	GJFK	.204	.028
	PartnerConcentration	.	.
	Seasonality	.209	.049
	Distance	-.253	.011
	Language	.	.
	Ethnicity	1.000	.314
	Urban	.314	1.000
Sig. (1-tailed)	Flights	.189	.009
	NAFlights	.122	.001
	Congestion	.001	.042
	GJFK	.149	.444
	PartnerConcentration	.000	.000
	Seasonality	.143	.402
	Distance	.097	.477
	Language	.000	.000
	Ethnicity	.	.052
	Urban	.052	.
N	Flights	28	28
	NAFlights	28	28

Correlations

		Flights	NAFlights	Congestion	GJFK
	Congestion	28	28	28	28
	GJFK	28	28	28	28
	PartnerConcentration	28	28	28	28
	Seasonality	28	28	28	28
	Distance	28	28	28	28
	Language	28	28	28	28
	Ethnicity	28	28	28	28
	Urban	28	28	28	28

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	Congestion	28	28	28	28
	GJFK	28	28	28	28
	PartnerConcentration	28	28	28	28
	Seasonality	28	28	28	28
	Distance	28	28	28	28
	Language	28	28	28	28
	Ethnicity	28	28	28	28
	Urban	28	28	28	28

Correlations

		Ethnicity	Urban
	Congestion	28	28
	GJFK	28	28
	PartnerConcentration	28	28
	Seasonality	28	28
	Distance	28	28
	Language	28	28
	Ethnicity	28	28
	Urban	28	28

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Seasonality, Congestion, Ethnicity, NAFlights, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.684[a]	.468	.282	8.454	.468	2.513

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	7	20	.050

a. Predictors: (Constant), Urban, Distance, Seasonality, Congestion, Ethnicity, NAFlights, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1257.481	7	179.640	2.513	.050[b]
	Residual	1429.483	20	71.474		
	Total	2686.964	27			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Seasonality, Congestion, Ethnicity, NAFlights, GJFK

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-9.845	19.846		-.496	.625
	NAFlights	24.530	10.563	.646	2.322	.031
	Congestion	-1.865	3.106	-.156	-.601	.555
	GJFK	18.765	7.224	.734	2.598	.017
	Seasonality	2.714	17.347	.030	.156	.877
	Distance	.002	.003	.128	.645	.526
	Ethnicity	-7.946E-7	.000	-.047	-.214	.833
	Urban	.340	.648	.120	.525	.605

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	NAFlights	.344	2.907
	Congestion	.397	2.521
	GJFK	.333	2.999
	Seasonality	.729	1.371
	Distance	.681	1.468
	Ethnicity	.559	1.788
	Urban	.505	1.979

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	NAFlights	Congestion	GJFK
1	1	6.558	1.000	.00	.00	.00	.00
	2	.907	2.689	.00	.01	.00	.26
	3	.337	4.410	.00	.01	.00	.01
	4	.131	7.072	.00	.45	.00	.16
	5	.036	13.576	.00	.00	.03	.02
	6	.014	21.894	.00	.18	.36	.01
	7	.013	22.645	.03	.20	.14	.43
	8	.005	37.463	.97	.15	.46	.11

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions			
		Seasonality	Distance	Ethnicity	Urban
1	1	.00	.00	.00	.00
	2	.00	.00	.00	.00
	3	.00	.00	.54	.00
	4	.00	.01	.12	.00
	5	.53	.01	.00	.10
	6	.05	.00	.04	.66
	7	.07	.91	.13	.10
	8	.34	.06	.15	.15

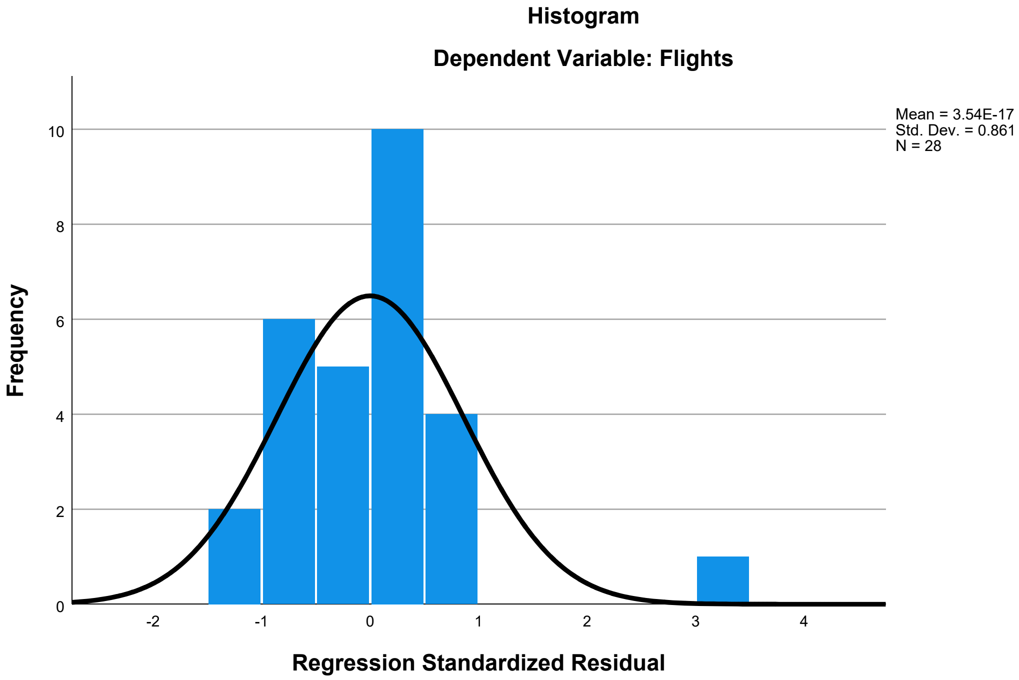
a. Dependent Variable: Flights

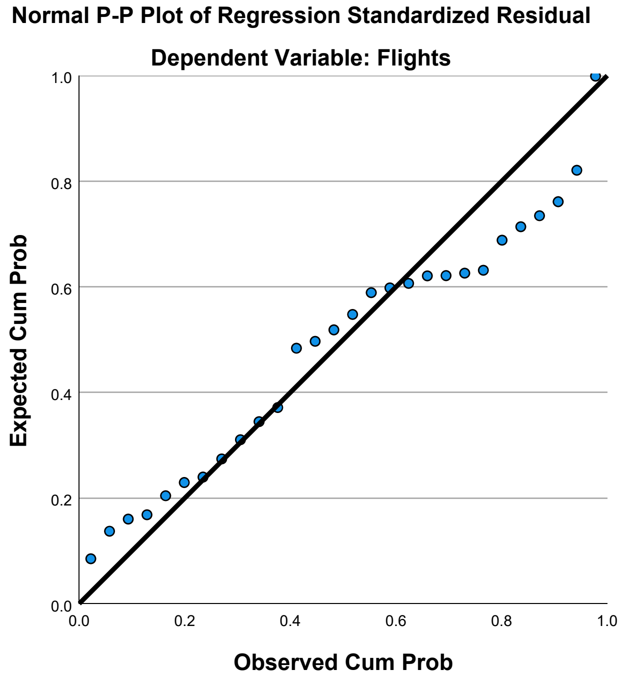
Residuals Statistics[a]

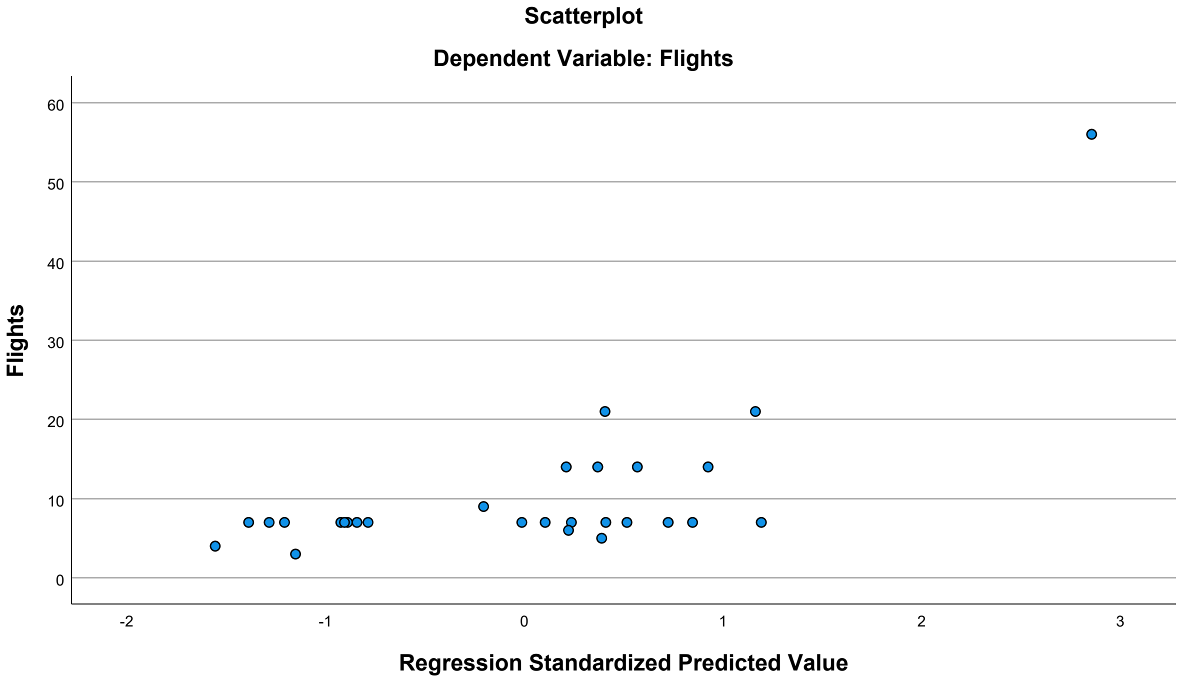
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.15	29.95	10.46	6.824	28
Residual	-11.605	26.051	.000	7.276	28
Std. Predicted Value	-1.555	2.855	.000	1.000	28
Std. Residual	-1.373	3.081	.000	.861	28

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 3.54E-17
Std. Dev. = 0.861
N = 28
Frequency
10
8
6
4
2
0
-2
-1
0
1
2
3
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

```
[DataSet4] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines\
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	11.58	9.065	24
HomeConcentration	2.9444628333	.82335785042	24
Congestion	4.54	.779	24
GLHR	.63	.495	24
GJFK	.08	.282	24
PartnerConcentration	1.3175846667	2.2730213938	24
Seasonality	.50764790765	.03682891320	24
Distance	4.22971	.742455	24
Language	5.09410767	3.269255181	24
Ethnicity	.68999854	.527983271	24
Urban	18.50	3.310	24

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.427	.421	.439
	HomeConcentration	.427	1.000	.108	.978
	Congestion	.421	.108	1.000	.212
	GLHR	.439	.978	.212	1.000
	GJFK	.558	-.222	.577	-.078
	PartnerConcentration	.107	-.037	.015	-.034
	Seasonality	.321	.148	.035	.151
	Distance	-.340	-.294	-.177	-.381
	Language	.527	.051	.524	.175
	Ethnicity	.238	.198	.584	.256
	Urban	.607	.536	.363	.544
Sig. (1-tailed)	Flights	.	.019	.020	.016
	HomeConcentration	.019	.	.308	.000
	Congestion	.020	.308	.	.160
	GLHR	.016	.000	.160	.
	GJFK	.002	.148	.002	.359
	PartnerConcentration	.309	.431	.472	.437
	Seasonality	.063	.245	.436	.241
	Distance	.052	.081	.204	.033
	Language	.004	.406	.004	.207
	Ethnicity	.131	.177	.001	.114
	Urban	.001	.004	.041	.003
N	Flights	24	24	24	24
	HomeConcentration	24	24	24	24

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.558	.107	.321	-.340
	HomeConcentration	-.222	-.037	.148	-.294
	Congestion	.577	.015	.035	-.177
	GLHR	-.078	-.034	.151	-.381
	GJFK	1.000	.040	.122	-.347
	PartnerConcentration	.040	1.000	.010	.064
	Seasonality	.122	.010	1.000	-.247
	Distance	-.347	.064	-.247	1.000
	Language	.725	.215	.052	-.485
	Ethnicity	.250	-.046	.011	-.341
	Urban	.140	.242	.035	-.159
Sig. (1-tailed)	Flights	.002	.309	.063	.052
	HomeConcentration	.148	.431	.245	.081
	Congestion	.002	.472	.436	.204
	GLHR	.359	.437	.241	.033
	GJFK	.	.426	.285	.048
	PartnerConcentration	.426	.	.481	.383
	Seasonality	.285	.481	.	.122
	Distance	.048	.383	.122	.
	Language	.000	.157	.405	.008
	Ethnicity	.119	.416	.480	.052
	Urban	.258	.127	.435	.230
N	Flights	24	24	24	24
	HomeConcentration	24	24	24	24

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.527	.238	.607
	HomeConcentration	.051	.198	.536
	Congestion	.524	.584	.363
	GLHR	.175	.256	.544
	GJFK	.725	.250	.140
	PartnerConcentration	.215	-.046	.242
	Seasonality	.052	.011	.035
	Distance	-.485	-.341	-.159
	Language	1.000	.593	.377
	Ethnicity	.593	1.000	.310
	Urban	.377	.310	1.000
Sig. (1-tailed)	Flights	.004	.131	<.001
	HomeConcentration	.406	.177	.004
	Congestion	.004	.001	.041
	GLHR	.207	.114	.003
	GJFK	.000	.119	.258
	PartnerConcentration	.157	.416	.127
	Seasonality	.405	.480	.435
	Distance	.008	.052	.230
	Language	.	.001	.035
	Ethnicity	.001	.	.070
	Urban	.035	.070	.
N	Flights	24	24	24
	HomeConcentration	24	24	24

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	24	24	24	24
	GLHR	24	24	24	24
	GJFK	24	24	24	24
	PartnerConcentration	24	24	24	24
	Seasonality	24	24	24	24
	Distance	24	24	24	24
	Language	24	24	24	24
	Ethnicity	24	24	24	24
	Urban	24	24	24	24

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	24	24	24	24
	GLHR	24	24	24	24
	GJFK	24	24	24	24
	PartnerConcentration	24	24	24	24
	Seasonality	24	24	24	24
	Distance	24	24	24	24
	Language	24	24	24	24
	Ethnicity	24	24	24	24
	Urban	24	24	24	24

Correlations

		Language	Ethnicity	Urban
	Congestion	24	24	24
	GLHR	24	24	24
	GJFK	24	24	24
	PartnerConcentration	24	24	24
	Seasonality	24	24	24
	Distance	24	24	24
	Language	24	24	24
	Ethnicity	24	24	24
	Urban	24	24	24

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, GJFK, PartnerConcentration, Ethnicity, Distance, GLHR, Congestion, Language, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.959[a]	.919	.857	3.433	.919	14.731

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	13	<.001

a. Predictors: (Constant), Urban, Seasonality, GJFK, PartnerConcentration, Ethnicity, Distance, GLHR, Congestion, Language, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1736.584	10	173.658	14.731	<.001[b]
	Residual	153.249	13	11.788		
	Total	1889.833	23			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, GJFK, PartnerConcentration, Ethnicity, Distance, GLHR, Congestion, Language, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-93.884	17.269		-5.437	<.001
	HomeConcentration	37.508	6.347	3.407	5.910	<.001
	Congestion	.424	1.577	.036	.269	.792
	GLHR	-54.877	10.334	-2.994	-5.310	<.001
	GJFK	30.599	5.716	.953	5.353	<.001
	PartnerConcentration	.074	.362	.019	.204	.842
	Seasonality	30.364	20.842	.123	1.457	.169
	Distance	-.740	1.314	-.061	-.563	.583
	Language	.206	.502	.074	.410	.688
	Ethnicity	-1.173	2.335	-.068	-.502	.624
	Urban	.661	.310	.241	2.131	.053

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.019	53.283
	Congestion	.339	2.946
	GLHR	.020	50.957
	GJFK	.197	5.081
	PartnerConcentration	.756	1.322
	Seasonality	.870	1.150
	Distance	.539	1.856
	Language	.190	5.261
	Ethnicity	.337	2.966
	Urban	.486	2.057

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	8.483	1.000	.00	.00	.00
	2	1.064	2.824	.00	.00	.00
	3	.736	3.394	.00	.00	.00
	4	.358	4.866	.00	.00	.00
	5	.265	5.657	.00	.00	.00
	6	.055	12.433	.00	.00	.01
	7	.015	24.144	.01	.00	.00
	8	.013	25.383	.00	.00	.00
	9	.008	31.779	.00	.00	.86
	10	.002	65.970	.30	.14	.02
	11	.001	101.223	.69	.85	.11

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.00	.13	.00	.00	.00	.01
	3	.00	.00	.70	.00	.00	.00
	4	.01	.00	.05	.00	.01	.00
	5	.01	.07	.00	.00	.00	.00
	6	.00	.27	.16	.00	.00	.69
	7	.00	.00	.05	.10	.17	.00
	8	.02	.00	.00	.02	.53	.09
	9	.00	.37	.01	.03	.12	.09
	10	.12	.13	.03	.83	.17	.04
	11	.84	.02	.00	.03	.00	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.00	.00
	3	.01	.00
	4	.05	.00
	5	.27	.00
	6	.26	.00
	7	.00	.39
	8	.00	.49
	9	.38	.02
	10	.01	.04
	11	.03	.05

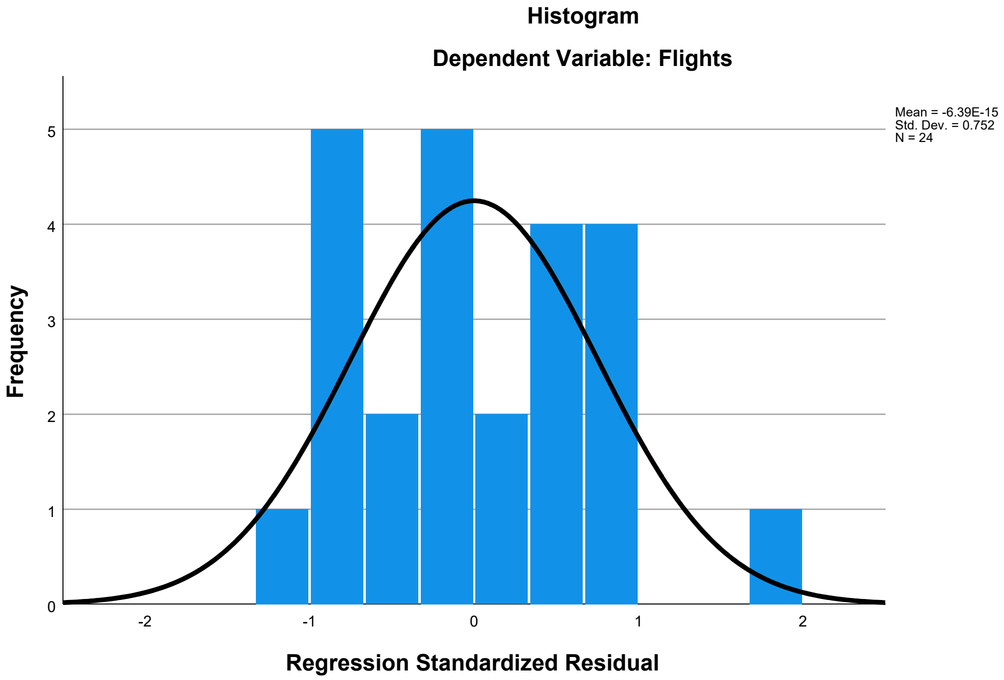
a. Dependent Variable: Flights

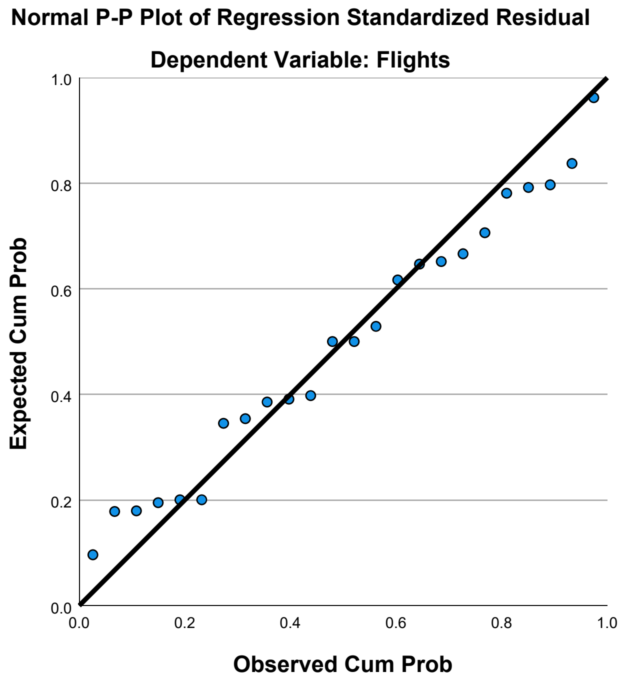
Residuals Statistics[a]

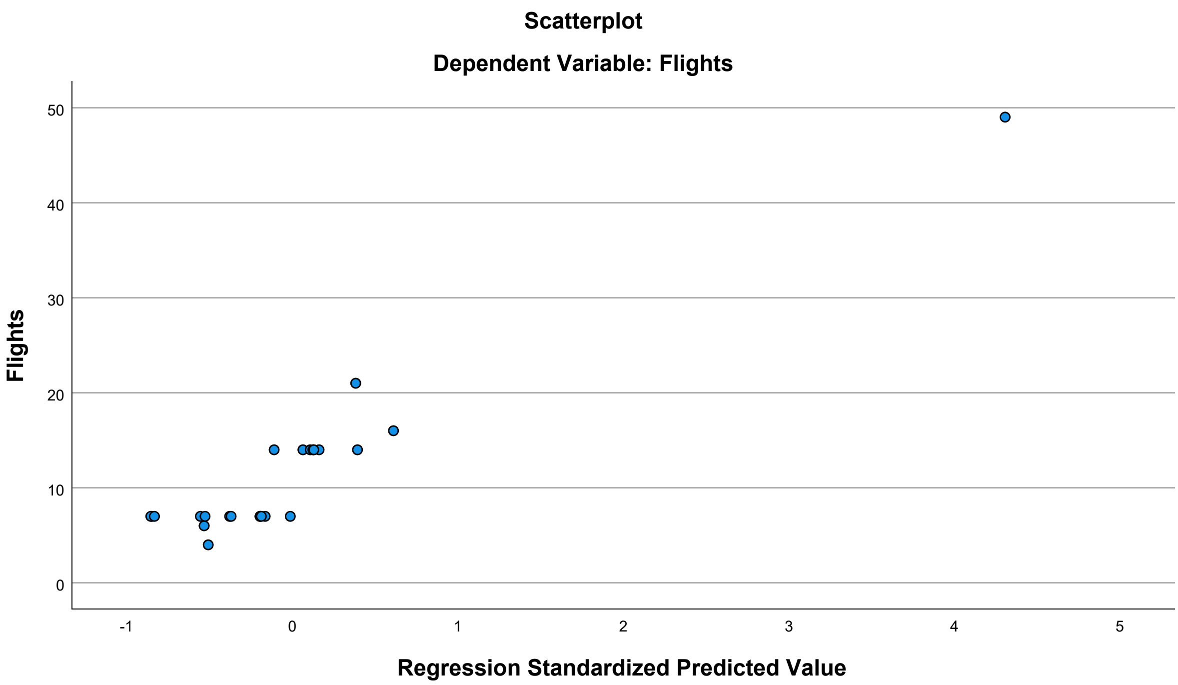
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.15	49.00	11.58	8.689	24
Residual	-4.474	6.091	.000	2.581	24
Std. Predicted Value	-.856	4.306	.000	1.000	24
Std. Residual	-1.303	1.774	.000	.752	24

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -6.39E-15
Std. Dev. = 0.752
N = 24
Frequency
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	11.58	9.065	24
HomeConcentration	2.9444628333	.82335785042	24
Congestion	4.54	.779	24
GJFK	.08	.282	24
PartnerConcentration	1.3175846667	2.2730213938	24
Seasonality	.50764790765	.03682891320	24
Distance	4.22971	.742455	24
Language	5.09410767	3.269255181	24
Ethnicity	.68999854	.527983271	24
Urban	18.50	3.310	24

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.427	.421	.558
	HomeConcentration	.427	1.000	.108	-.222
	Congestion	.421	.108	1.000	.577
	GJFK	.558	-.222	.577	1.000
	PartnerConcentration	.107	-.037	.015	.040
	Seasonality	.321	.148	.035	.122
	Distance	-.340	-.294	-.177	-.347
	Language	.527	.051	.524	.725
	Ethnicity	.238	.198	.584	.250
	Urban	.607	.536	.363	.140
Sig. (1-tailed)	Flights	.	.019	.020	.002
	HomeConcentration	.019	.	.308	.148
	Congestion	.020	.308	.	.002
	GJFK	.002	.148	.002	.
	PartnerConcentration	.309	.431	.472	.426
	Seasonality	.063	.245	.436	.285
	Distance	.052	.081	.204	.048
	Language	.004	.406	.004	.000
	Ethnicity	.131	.177	.001	.119
	Urban	.001	.004	.041	.258
N	Flights	24	24	24	24
	HomeConcentration	24	24	24	24
	Congestion	24	24	24	24
	GJFK	24	24	24	24
	PartnerConcentration	24	24	24	24
	Seasonality	24	24	24	24
	Distance	24	24	24	24
	Language	24	24	24	24
	Ethnicity	24	24	24	24
	Urban	24	24	24	24

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.107	.321	-.340	.527
	HomeConcentration	-.037	.148	-.294	.051
	Congestion	.015	.035	-.177	.524
	GJFK	.040	.122	-.347	.725
	PartnerConcentration	1.000	.010	.064	.215
	Seasonality	.010	1.000	-.247	.052
	Distance	.064	-.247	1.000	-.485
	Language	.215	.052	-.485	1.000
	Ethnicity	-.046	.011	-.341	.593
	Urban	.242	.035	-.159	.377
Sig. (1-tailed)	Flights	.309	.063	.052	.004
	HomeConcentration	.431	.245	.081	.406
	Congestion	.472	.436	.204	.004
	GJFK	.426	.285	.048	.000
	PartnerConcentration	.	.481	.383	.157
	Seasonality	.481	.	.122	.405
	Distance	.383	.122	.	.008
	Language	.157	.405	.008	.
	Ethnicity	.416	.480	.052	.001
	Urban	.127	.435	.230	.035
N	Flights	24	24	24	24
	HomeConcentration	24	24	24	24
	Congestion	24	24	24	24
	GJFK	24	24	24	24
	PartnerConcentration	24	24	24	24
	Seasonality	24	24	24	24
	Distance	24	24	24	24
	Language	24	24	24	24
	Ethnicity	24	24	24	24
	Urban	24	24	24	24

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.238	.607
	HomeConcentration	.198	.536
	Congestion	.584	.363
	GJFK	.250	.140
	PartnerConcentration	-.046	.242
	Seasonality	.011	.035
	Distance	-.341	-.159
	Language	.593	.377
	Ethnicity	1.000	.310
	Urban	.310	1.000
Sig. (1-tailed)	Flights	.131	<.001
	HomeConcentration	.177	.004
	Congestion	.001	.041
	GJFK	.119	.258
	PartnerConcentration	.416	.127
	Seasonality	.480	.435
	Distance	.052	.230
	Language	.001	.035
	Ethnicity	.	.070
	Urban	.070	.
N	Flights	24	24
	HomeConcentration	24	24
	Congestion	24	24
	GJFK	24	24
	PartnerConcentration	24	24
	Seasonality	24	24
	Distance	24	24
	Language	24	24
	Ethnicity	24	24
	Urban	24	24

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, GJFK, PartnerConcentration, Ethnicity, Distance, HomeConcentration, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.862[a]	.743	.578	5.890	.743	4.497	9	14	.006

a. Predictors: (Constant), Urban, Seasonality, GJFK, PartnerConcentration, Ethnicity, Distance, HomeConcentration, Congestio
Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1404.158	9	156.018	4.497	.006[b]
	Residual	485.675	14	34.691		
	Total	1889.833	23			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, GJFK, PartnerConcentration, Ethnicity, Distance, HomeConcentration, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-41.893	24.403		-1.717	.108
	HomeConcentration	4.486	2.179	.407	2.058	.059
	Congestion	-1.553	2.629	-.133	-.591	.564
	GJFK	23.137	9.505	.721	2.434	.029
	PartnerConcentration	.053	.621	.013	.085	.933
	Seasonality	46.355	35.378	.188	1.310	.211
	Distance	1.015	2.181	.083	.465	.649
	Language	-.159	.854	-.057	-.186	.855
	Ethnicity	.082	3.985	.005	.021	.984
	Urban	.987	.522	.360	1.891	.079

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.469	2.134
	Congestion	.360	2.782
	GJFK	.209	4.774
	PartnerConcentration	.756	1.322
	Seasonality	.888	1.126
	Distance	.575	1.739
	Language	.194	5.162
	Ethnicity	.341	2.935
	Urban	.506	1.977

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Congestion
1	1	7.790	1.000	.00	.00	.00
	2	1.039	2.738	.00	.00	.00
	3	.719	3.292	.00	.00	.00
	4	.300	5.098	.00	.00	.00
	5	.072	10.384	.00	.15	.01
	6	.046	13.077	.00	.21	.00
	7	.015	23.149	.02	.03	.00
	8	.011	27.126	.01	.58	.00
	9	.008	30.519	.00	.02	.92
	10	.002	68.611	.97	.00	.07

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions					
		GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.14	.00	.00	.00	.01	.00
	3	.00	.73	.00	.00	.00	.01
	4	.06	.02	.00	.00	.01	.28
	5	.04	.04	.00	.04	.19	.20
	6	.27	.12	.00	.03	.56	.10
	7	.00	.05	.10	.12	.00	.00
	8	.04	.01	.05	.53	.05	.00
	9	.36	.00	.04	.09	.10	.38
	10	.07	.03	.81	.18	.09	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance ...
		Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.01
	6	.00
	7	.49
	8	.45
	9	.05
	10	.01

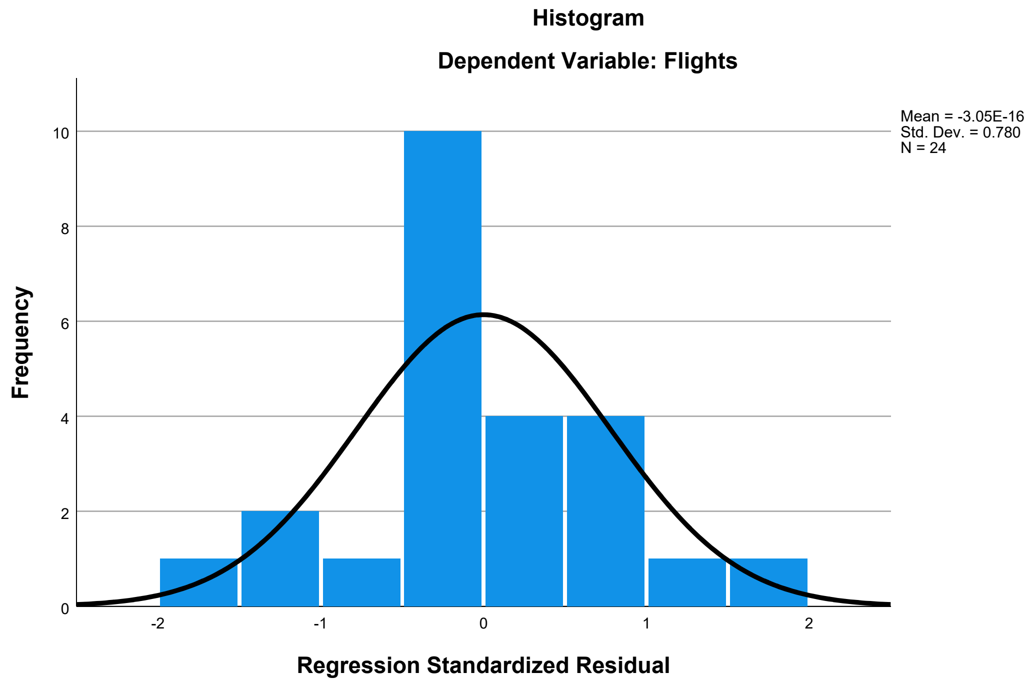
a. Dependent Variable: Flights

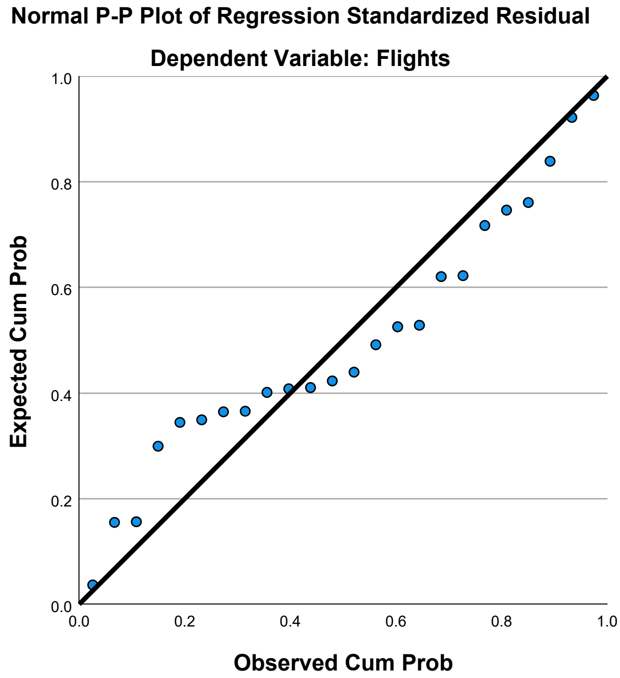
Residuals Statistics[a]

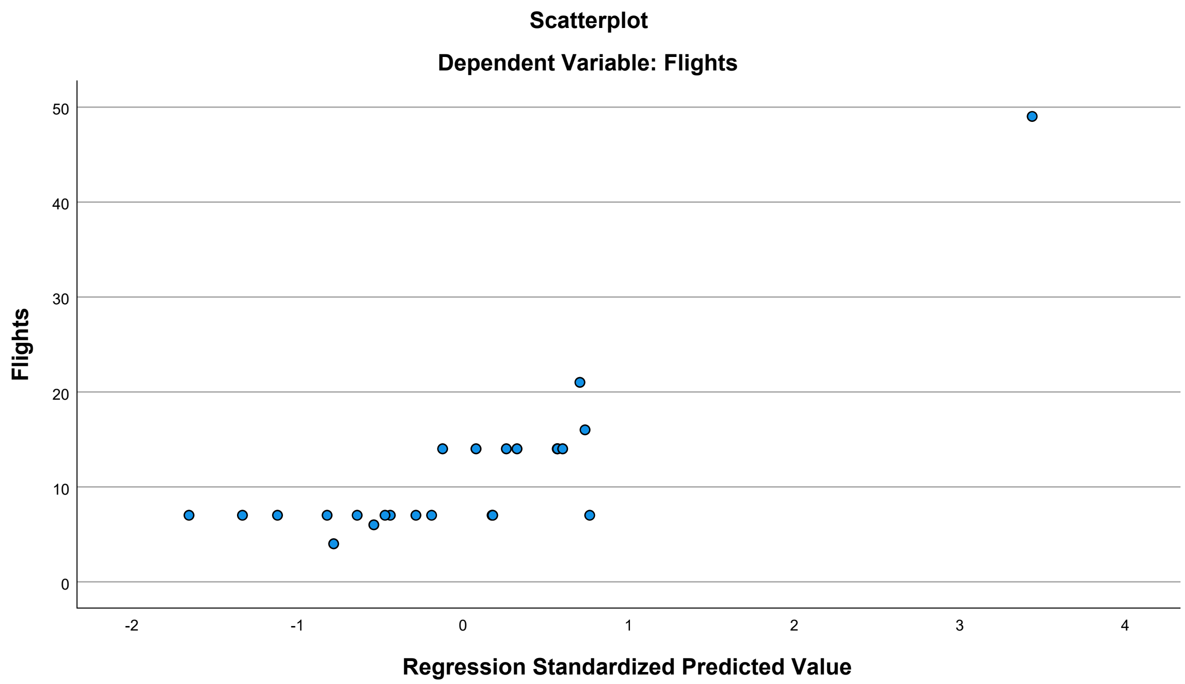
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-1.35	38.44	11.58	7.813	24
Residual	-10.560	10.560	.000	4.595	24
Std. Predicted Value	-1.655	3.437	.000	1.000	24
Std. Residual	-1.793	1.793	.000	.780	24

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-2
-1
0
1
2
3
4

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	11.58	9.065	24
HomeConcentration	2.9444628333	.82335785042	24
Congestion	4.54	.779	24
GJFK	.08	.282	24
PartnerConcentration	1.3175846667	2.2730213938	24
Seasonality	.50764790765	.03682891320	24
Distance	4.22971	.742455	24
Ethnicity	.68999854	.527983271	24
Urban	18.50	3.310	24

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.427	.421	.558
	HomeConcentration	.427	1.000	.108	-.222
	Congestion	.421	.108	1.000	.577
	GJFK	.558	-.222	.577	1.000
	PartnerConcentration	.107	-.037	.015	.040
	Seasonality	.321	.148	.035	.122
	Distance	-.340	-.294	-.177	-.347
	Ethnicity	.238	.198	.584	.250
	Urban	.607	.536	.363	.140
Sig. (1-tailed)	Flights	.	.019	.020	.002
	HomeConcentration	.019	.	.308	.148
	Congestion	.020	.308	.	.002
	GJFK	.002	.148	.002	.
	PartnerConcentration	.309	.431	.472	.426
	Seasonality	.063	.245	.436	.285
	Distance	.052	.081	.204	.048
	Ethnicity	.131	.177	.001	.119
	Urban	.001	.004	.041	.258
N	Flights	24	24	24	24
	HomeConcentration	24	24	24	24
	Congestion	24	24	24	24
	GJFK	24	24	24	24
	PartnerConcentration	24	24	24	24
	Seasonality	24	24	24	24
	Distance	24	24	24	24
	Ethnicity	24	24	24	24
	Urban	24	24	24	24

Correlations

		PartnerConcentration	Seasonality	Distance	Ethnicity
Pearson Correlation	Flights	.107	.321	-.340	.238
	HomeConcentration	-.037	.148	-.294	.198
	Congestion	.015	.035	-.177	.584
	GJFK	.040	.122	-.347	.250
	PartnerConcentration	1.000	.010	.064	-.046
	Seasonality	.010	1.000	-.247	.011
	Distance	.064	-.247	1.000	-.341
	Ethnicity	-.046	.011	-.341	1.000
	Urban	.242	.035	-.159	.310
Sig. (1-tailed)	Flights	.309	.063	.052	.131
	HomeConcentration	.431	.245	.081	.177
	Congestion	.472	.436	.204	.001
	GJFK	.426	.285	.048	.119
	PartnerConcentration	.	.481	.383	.416
	Seasonality	.481	.	.122	.480
	Distance	.383	.122	.	.052
	Ethnicity	.416	.480	.052	.
	Urban	.127	.435	.230	.070
N	Flights	24	24	24	24
	HomeConcentration	24	24	24	24
	Congestion	24	24	24	24
	GJFK	24	24	24	24
	PartnerConcentration	24	24	24	24
	Seasonality	24	24	24	24
	Distance	24	24	24	24
	Ethnicity	24	24	24	24
	Urban	24	24	24	24

Correlations

		Urban
Pearson Correlation	Flights	.607
	HomeConcentration	.536
	Congestion	.363
	GJFK	.140
	PartnerConcentration	.242
	Seasonality	.035
	Distance	-.159
	Ethnicity	.310
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.004
	Congestion	.041
	GJFK	.258
	PartnerConcentration	.127
	Seasonality	.435
	Distance	.230
	Ethnicity	.070
	Urban	.
N	Flights	24
	HomeConcentration	24
	Congestion	24
	GJFK	24
	PartnerConcentration	24
	Seasonality	24
	Distance	24
	Ethnicity	24
	Urban	24

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, GJFK, PartnerConcentration, Ethnicity, Distance, HomeConcentration, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.862[a]	.742	.605	5.697	.742	5.403

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	15	.003

a. Predictors: (Constant), Urban, Seasonality, GJFK, PartnerConcentration, Ethnicity, Distance, HomeConcentration, Congestio

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1402.956	8	175.369	5.403	.003[b]
	Residual	486.877	15	32.458		
	Total	1889.833	23			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, GJFK, PartnerConcentration, Ethnicity, Distance, HomeConcentration, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-43.311	22.426		-1.931	.073
	HomeConcentration	4.455	2.102	.405	2.120	.051
	Congestion	-1.409	2.430	-.121	-.580	.571
	GJFK	21.877	6.458	.681	3.388	.004
	PartnerConcentration	.009	.556	.002	.016	.987
	Seasonality	47.385	33.800	.193	1.402	.181
	Distance	1.101	2.062	.090	.534	.601
	Ethnicity	-.377	3.027	-.022	-.125	.902
	Urban	.967	.494	.353	1.957	.069

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.471	2.122
	Congestion	.394	2.540
	GJFK	.425	2.355
	PartnerConcentration	.884	1.132
	Seasonality	.911	1.098
	Distance	.602	1.661
	Ethnicity	.553	1.810
	Urban	.527	1.896

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.968	1.000	.00	.00	.00
	2	.932	2.734	.00	.00	.00
	3	.718	3.116	.00	.00	.00
	4	.282	4.967	.00	.00	.00
	5	.063	10.518	.00	.32	.00
	6	.015	21.892	.02	.03	.00
	7	.011	24.831	.01	.53	.07
	8	.009	27.708	.00	.12	.90
	9	.002	62.186	.97	.00	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.39	.00	.00	.00	.00	.00
	3	.00	.85	.00	.00	.01	.00
	4	.06	.04	.00	.00	.57	.00
	5	.02	.00	.00	.07	.06	.01
	6	.00	.06	.10	.13	.00	.50
	7	.07	.04	.06	.33	.00	.46
	8	.46	.00	.01	.31	.35	.00
	9	.01	.00	.83	.15	.00	.02

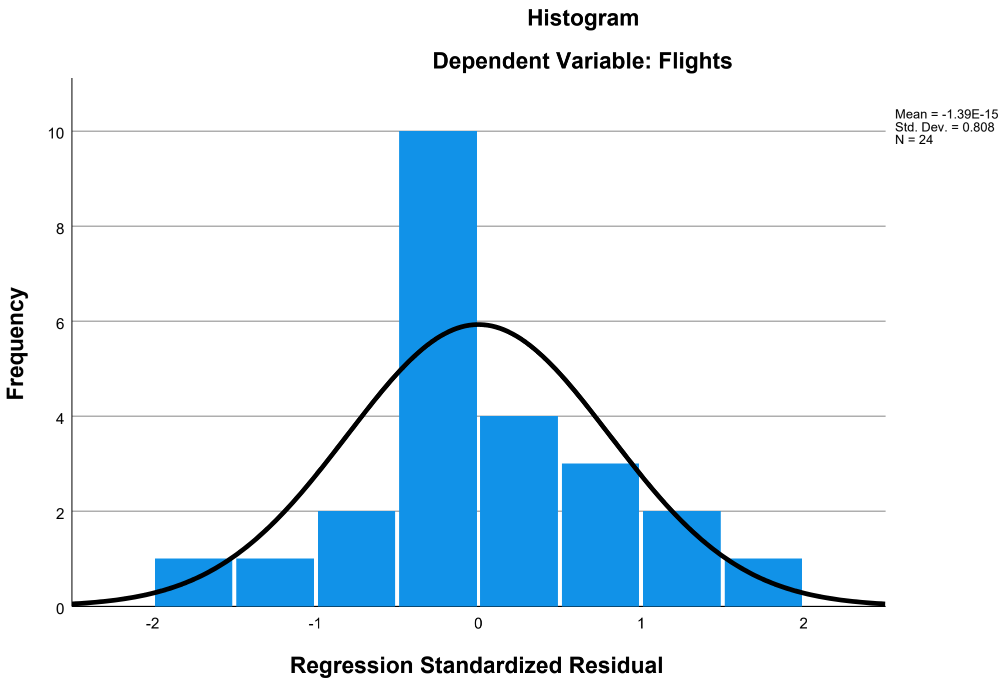
a. Dependent Variable: Flights

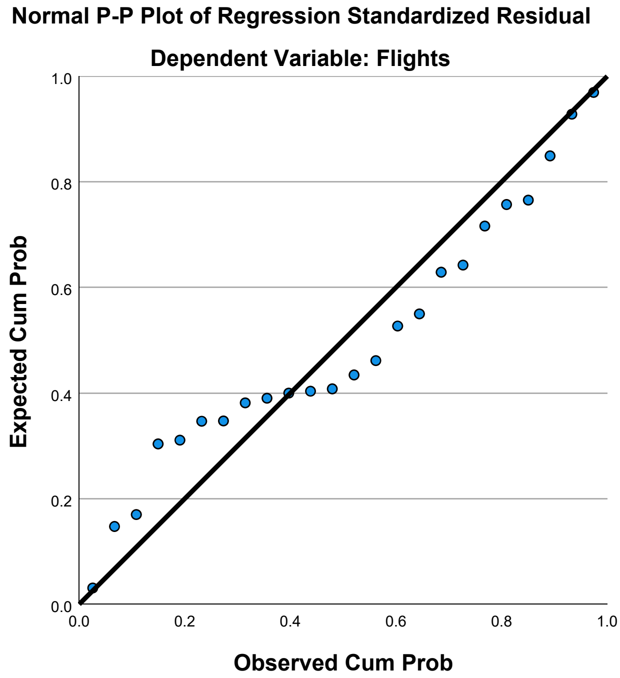
Residuals Statistics[a]

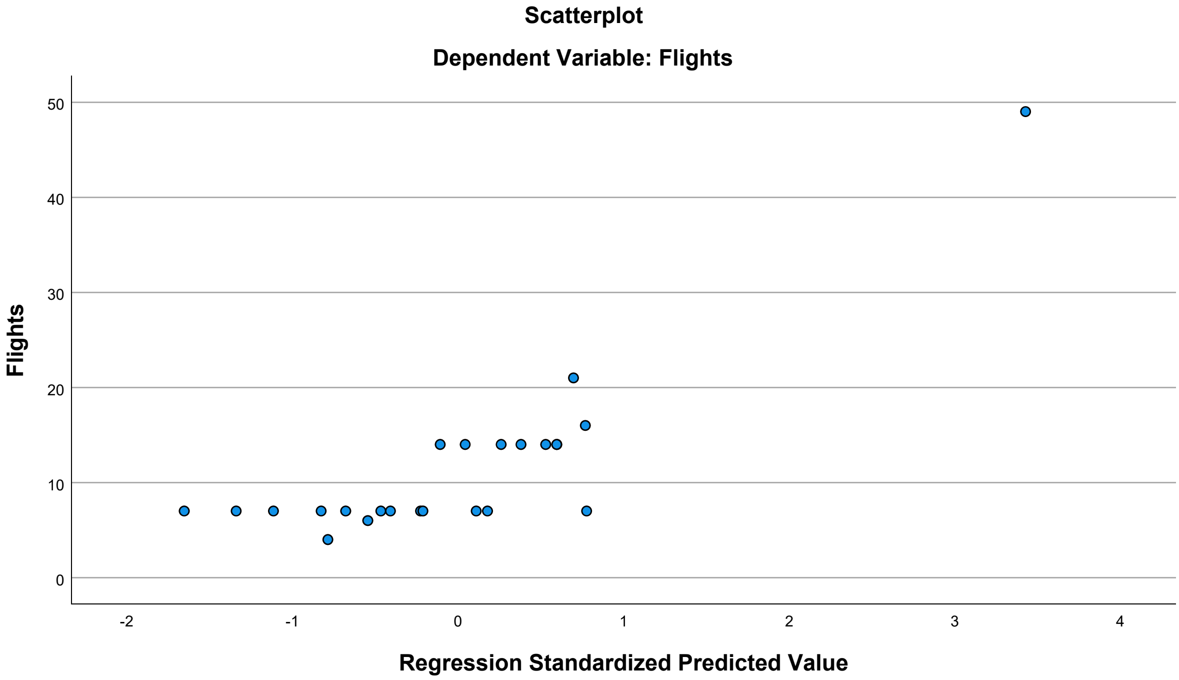
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-1.33	38.35	11.58	7.810	24
Residual	-10.648	10.648	.000	4.601	24
Std. Predicted Value	-1.653	3.427	.000	1.000	24
Std. Residual	-1.869	1.869	.000	.808	24

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-2
-1
0
1
2
3
4

Regression

```
[DataSet5] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines\
2007 - BA.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	13.50	9.829	24
HomeConcentration	3.4591277500	1.3044017041	24
Congestion	4.67	.816	24
GLHR	.75	.442	24
GJFK	.08	.282	24
PartnerConcentration	1.1261094167	2.6879682897	24
Seasonality	.52088562733	.04342109632	24
Distance	4.18346	.694566	24
Language	5.13872737	3.248589995	24
Ethnicity	.75201446	.566974369	24
Urban	18.17	3.279	24

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.338	.417	.340
	HomeConcentration	.338	1.000	.043	.984
	Congestion	.417	.043	1.000	.120
	GLHR	.340	.984	.120	1.000
	GJFK	.486	-.292	.503	-.174
	PartnerConcentration	.038	-.190	.014	-.211
	Seasonality	.071	.199	.302	.197
	Distance	-.257	-.051	-.211	-.110
	Language	.532	-.089	.456	.007
	Ethnicity	.237	.175	.473	.220
	Urban	.712	.356	.444	.360
Sig. (1-tailed)	Flights	.	.053	.021	.052
	HomeConcentration	.053	.	.420	.000
	Congestion	.021	.420	.	.288
	GLHR	.052	.000	.288	.
	GJFK	.008	.083	.006	.208
	PartnerConcentration	.429	.187	.474	.161
	Seasonality	.371	.175	.076	.179
	Distance	.113	.407	.161	.304
	Language	.004	.339	.013	.486
	Ethnicity	.133	.206	.010	.150
	Urban	.000	.044	.015	.042
N	Flights	24	24	24	24
	HomeConcentration	24	24	24	24

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.486	.038	.071	-.257
	HomeConcentration	-.292	-.190	.199	-.051
	Congestion	.503	.014	.302	-.211
	GLHR	-.174	-.211	.197	-.110
	GJFK	1.000	-.025	-.215	-.350
	PartnerConcentration	-.025	1.000	-.166	.131
	Seasonality	-.215	-.166	1.000	.211
	Distance	-.350	.131	.211	1.000
	Language	.725	.093	-.093	-.453
	Ethnicity	.199	-.131	.427	-.329
	Urban	.172	.223	.170	-.144
Sig. (1-tailed)	Flights	.008	.429	.371	.113
	HomeConcentration	.083	.187	.175	.407
	Congestion	.006	.474	.076	.161
	GLHR	.208	.161	.179	.304
	GJFK	.	.454	.156	.047
	PartnerConcentration	.454	.	.219	.270
	Seasonality	.156	.219	.	.161
	Distance	.047	.270	.161	.
	Language	.000	.333	.333	.013
	Ethnicity	.175	.271	.019	.058
	Urban	.211	.147	.213	.251
N	Flights	24	24	24	24
	HomeConcentration	24	24	24	24

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.532	.237	.712
	HomeConcentration	-.089	.175	.356
	Congestion	.456	.473	.444
	GLHR	.007	.220	.360
	GJFK	.725	.199	.172
	PartnerConcentration	.093	-.131	.223
	Seasonality	-.093	.427	.170
	Distance	-.453	-.329	-.144
	Language	1.000	.538	.390
	Ethnicity	.538	1.000	.270
	Urban	.390	.270	1.000
Sig. (1-tailed)	Flights	.004	.133	<.001
	HomeConcentration	.339	.206	.044
	Congestion	.013	.010	.015
	GLHR	.486	.150	.042
	GJFK	.000	.175	.211
	PartnerConcentration	.333	.271	.147
	Seasonality	.333	.019	.213
	Distance	.013	.058	.251
	Language	.	.003	.030
	Ethnicity	.003	.	.101
	Urban	.030	.101	.
N	Flights	24	24	24
	HomeConcentration	24	24	24

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	24	24	24	24
	GLHR	24	24	24	24
	GJFK	24	24	24	24
	PartnerConcentration	24	24	24	24
	Seasonality	24	24	24	24
	Distance	24	24	24	24
	Language	24	24	24	24
	Ethnicity	24	24	24	24
	Urban	24	24	24	24

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	24	24	24	24
	GLHR	24	24	24	24
	GJFK	24	24	24	24
	PartnerConcentration	24	24	24	24
	Seasonality	24	24	24	24
	Distance	24	24	24	24
	Language	24	24	24	24
	Ethnicity	24	24	24	24
	Urban	24	24	24	24

Correlations

		Language	Ethnicity	Urban
	Congestion	24	24	24
	GLHR	24	24	24
	GJFK	24	24	24
	PartnerConcentration	24	24	24
	Seasonality	24	24	24
	Distance	24	24	24
	Language	24	24	24
	Ethnicity	24	24	24
	Urban	24	24	24

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, GJFK, Seasonality, GLHR, Ethnicity, Congestion, Language, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.949[a]	.901	.825	4.107	.901	11.873

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	10	13	<.001

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, GJFK, Seasonality, GLHR, Ethnicity, Congestion, Language, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2002.726	10	200.273	11.873	<.001[b]
	Residual	219.274	13	16.867		
	Total	2222.000	23			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, GJFK, Seasonality, GLHR, Ethnicity, Congestion, Language, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-72.241	15.514		-4.656	<.001
	HomeConcentration	28.597	5.544	3.795	5.158	<.001
	Congestion	-.251	1.598	-.021	-.157	.878
	GLHR	-75.394	15.703	-3.393	-4.801	<.001
	GJFK	28.386	6.252	.815	4.540	<.001
	PartnerConcentration	-.053	.372	-.015	-.144	.888
	Seasonality	53.116	27.698	.235	1.918	.077
	Distance	-1.436	1.516	-.101	-.947	.361
	Language	.803	.562	.265	1.428	.177
	Ethnicity	-3.577	2.518	-.206	-1.420	.179
	Urban	1.053	.380	.351	2.771	.016

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.014	71.323
	Congestion	.431	2.323
	GLHR	.015	65.782
	GJFK	.235	4.249
	PartnerConcentration	.732	1.365
	Seasonality	.507	1.972
	Distance	.662	1.511
	Language	.220	4.551
	Ethnicity	.360	2.780
	Urban	.472	2.119

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	8.406	1.000	.00	.00	.00
	2	1.095	2.771	.00	.00	.00
	3	.887	3.078	.00	.00	.00
	4	.290	5.385	.00	.00	.00
	5	.217	6.230	.00	.00	.00
	6	.063	11.532	.00	.00	.01
	7	.020	20.407	.00	.00	.11
	8	.011	27.643	.01	.00	.41
	9	.008	33.299	.12	.01	.39
	10	.003	57.985	.28	.09	.05
	11	.001	93.539	.59	.90	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.00	.15	.00	.00	.00	.01
	3	.00	.00	.64	.00	.00	.00
	4	.00	.05	.04	.00	.00	.01
	5	.01	.03	.08	.00	.01	.00
	6	.00	.34	.11	.00	.00	.67
	7	.00	.03	.03	.00	.32	.04
	8	.00	.14	.03	.01	.15	.09
	9	.01	.13	.06	.07	.50	.08
	10	.09	.00	.01	.73	.01	.03
	11	.89	.12	.00	.18	.01	.08

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.00	.00
	3	.00	.00
	4	.30	.00
	5	.02	.00
	6	.25	.00
	7	.03	.28
	8	.15	.57
	9	.01	.00
	10	.15	.01
	11	.07	.13

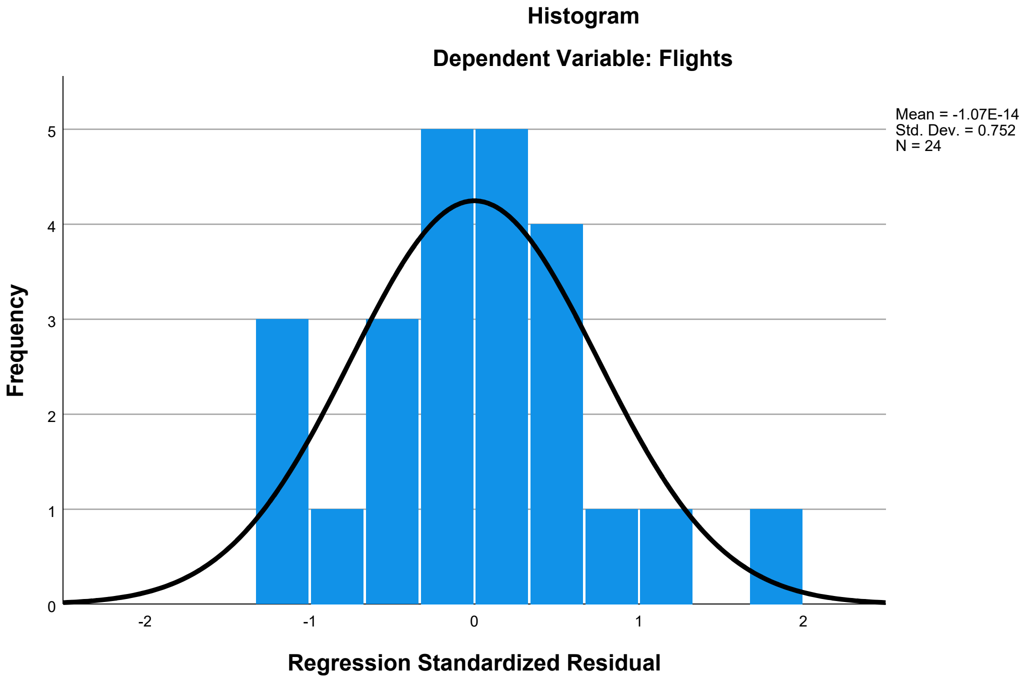
a. Dependent Variable: Flights

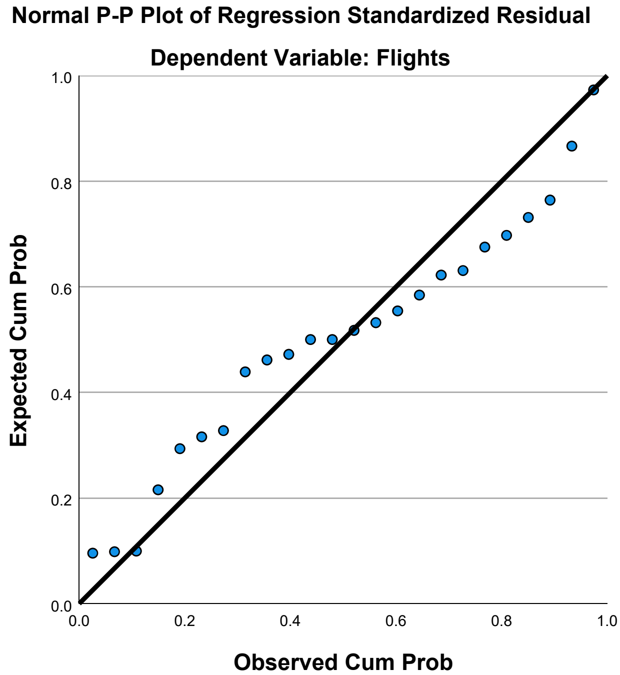
Residuals Statistics[a]

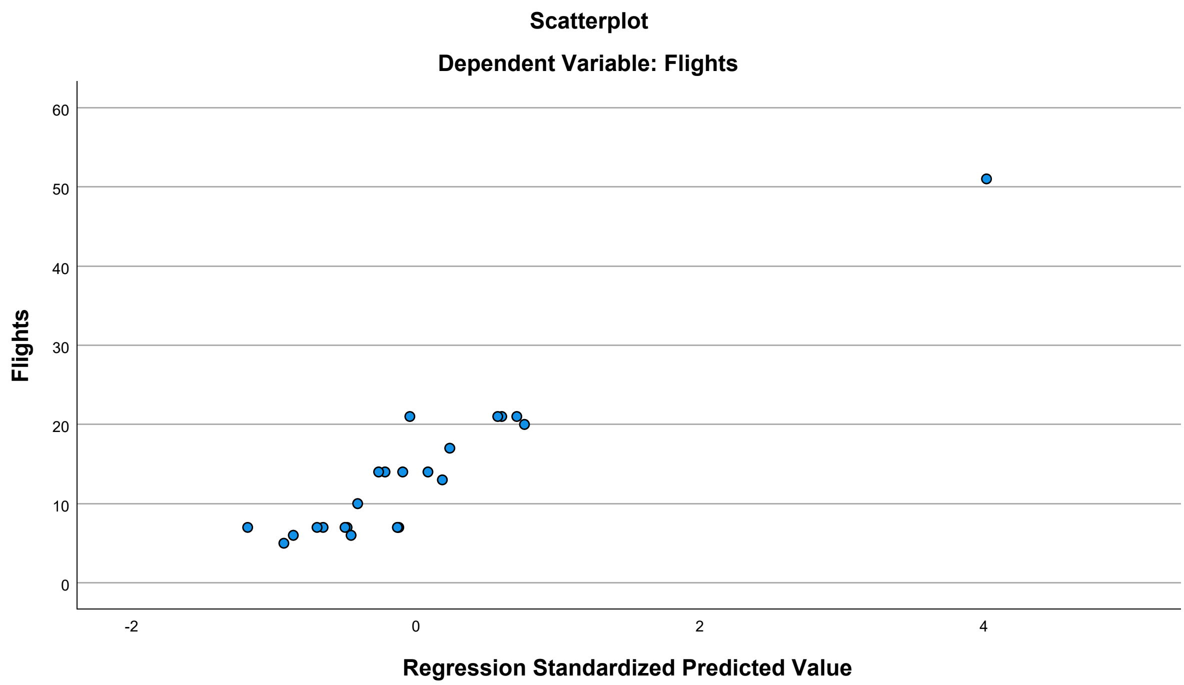
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.44	51.00	13.50	9.331	24
Residual	-5.370	7.905	.000	3.088	24
Std. Predicted Value	-1.185	4.019	.000	1.000	24
Std. Residual	-1.308	1.925	.000	.752	24

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -1.07E-14
Std. Dev. = 0.752
N = 24
Frequency
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	13.50	9.829	24
HomeConcentration	3.4591277500	1.3044017041	24
Congestion	4.67	.816	24
GJFK	.08	.282	24
PartnerConcentration	1.1261094167	2.6879682897	24
Seasonality	.52088562733	.04342109632	24
Distance	4.18346	.694566	24
Language	5.13872737	3.248589995	24
Ethnicity	.75201446	.566974369	24
Urban	18.17	3.279	24

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.338	.417	.486
	HomeConcentration	.338	1.000	.043	-.292
	Congestion	.417	.043	1.000	.503
	GJFK	.486	-.292	.503	1.000
	PartnerConcentration	.038	-.190	.014	-.025
	Seasonality	.071	.199	.302	-.215
	Distance	-.257	-.051	-.211	-.350
	Language	.532	-.089	.456	.725
	Ethnicity	.237	.175	.473	.199
	Urban	.712	.356	.444	.172
Sig. (1-tailed)	Flights	.	.053	.021	.008
	HomeConcentration	.053	.	.420	.083
	Congestion	.021	.420	.	.006
	GJFK	.008	.083	.006	.
	PartnerConcentration	.429	.187	.474	.454
	Seasonality	.371	.175	.076	.156
	Distance	.113	.407	.161	.047
	Language	.004	.339	.013	.000
	Ethnicity	.133	.206	.010	.175
	Urban	.000	.044	.015	.211
N	Flights	24	24	24	24
	HomeConcentration	24	24	24	24
	Congestion	24	24	24	24
	GJFK	24	24	24	24
	PartnerConcentration	24	24	24	24
	Seasonality	24	24	24	24
	Distance	24	24	24	24
	Language	24	24	24	24
	Ethnicity	24	24	24	24
	Urban	24	24	24	24

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.038	.071	-.257	.532
	HomeConcentration	-.190	.199	-.051	-.089
	Congestion	.014	.302	-.211	.456
	GJFK	-.025	-.215	-.350	.725
	PartnerConcentration	1.000	-.166	.131	.093
	Seasonality	-.166	1.000	.211	-.093
	Distance	.131	.211	1.000	-.453
	Language	.093	-.093	-.453	1.000
	Ethnicity	-.131	.427	-.329	.538
	Urban	.223	.170	-.144	.390
Sig. (1-tailed)	Flights	.429	.371	.113	.004
	HomeConcentration	.187	.175	.407	.339
	Congestion	.474	.076	.161	.013
	GJFK	.454	.156	.047	.000
	PartnerConcentration	.	.219	.270	.333
	Seasonality	.219	.	.161	.333
	Distance	.270	.161	.	.013
	Language	.333	.333	.013	.
	Ethnicity	.271	.019	.058	.003
	Urban	.147	.213	.251	.030
N	Flights	24	24	24	24
	HomeConcentration	24	24	24	24
	Congestion	24	24	24	24
	GJFK	24	24	24	24
	PartnerConcentration	24	24	24	24
	Seasonality	24	24	24	24
	Distance	24	24	24	24
	Language	24	24	24	24
	Ethnicity	24	24	24	24
	Urban	24	24	24	24

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.237	.712
	HomeConcentration	.175	.356
	Congestion	.473	.444
	GJFK	.199	.172
	PartnerConcentration	-.131	.223
	Seasonality	.427	.170
	Distance	-.329	-.144
	Language	.538	.390
	Ethnicity	1.000	.270
	Urban	.270	1.000
Sig. (1-tailed)	Flights	.133	<.001
	HomeConcentration	.206	.044
	Congestion	.010	.015
	GJFK	.175	.211
	PartnerConcentration	.271	.147
	Seasonality	.019	.213
	Distance	.058	.251
	Language	.003	.030
	Ethnicity	.	.101
	Urban	.101	.
N	Flights	24	24
	HomeConcentration	24	24
	Congestion	24	24
	GJFK	24	24
	PartnerConcentration	24	24
	Seasonality	24	24
	Distance	24	24
	Language	24	24
	Ethnicity	24	24
	Urban	24	24

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, GJFK, Seasonality, HomeConcentration, Ethnicity, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.852[a]	.726	.550	6.591	.726	4.128

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	14	.009

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, GJFK, Seasonality, HomeConcentration, Ethnicity, Congestio Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1613.883	9	179.320	4.128	.009[b]
	Residual	608.117	14	43.437		
	Total	2222.000	23			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, GJFK, Seasonality, HomeConcentration, Ethnicity, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-32.289	21.013		-1.537	.147
	HomeConcentration	2.269	1.317	.301	1.724	.107
	Congestion	-1.567	2.527	-.130	-.620	.545
	GJFK	17.981	9.411	.517	1.911	.077
	PartnerConcentration	-.034	.597	-.009	-.058	.955
	Seasonality	31.698	43.869	.140	.723	.482
	Distance	-.514	2.413	-.036	-.213	.834
	Language	.301	.887	.100	.340	.739
	Ethnicity	-2.268	4.017	-.131	-.565	.581
	Urban	1.629	.579	.543	2.814	.014

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.640	1.562
	Congestion	.444	2.254
	GJFK	.267	3.739
	PartnerConcentration	.733	1.365
	Seasonality	.521	1.921
	Distance	.672	1.487
	Language	.228	4.393
	Ethnicity	.364	2.747
	Urban	.524	1.908

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Congestion
1	1	7.614	1.000	.00	.00	.00
	2	1.062	2.678	.00	.00	.00
	3	.848	2.996	.00	.00	.00
	4	.290	5.125	.00	.00	.00
	5	.085	9.450	.00	.58	.00
	6	.061	11.204	.00	.15	.00
	7	.020	19.719	.00	.20	.14
	8	.011	26.536	.02	.06	.37
	9	.007	32.232	.18	.00	.47
	10	.002	59.359	.81	.01	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions					
		GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.18	.03	.00	.00	.01	.00
	3	.01	.65	.00	.00	.00	.00
	4	.06	.03	.00	.00	.01	.31
	5	.00	.01	.00	.02	.05	.07
	6	.43	.13	.00	.00	.66	.20
	7	.07	.04	.00	.31	.03	.04
	8	.12	.04	.01	.17	.09	.14
	9	.13	.05	.09	.48	.09	.02
	10	.01	.02	.90	.01	.07	.22

Collinearity Diagnostics[a]

Model	Dimension	Variance ...
		Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.30
	8	.69
	9	.00
	10	.01

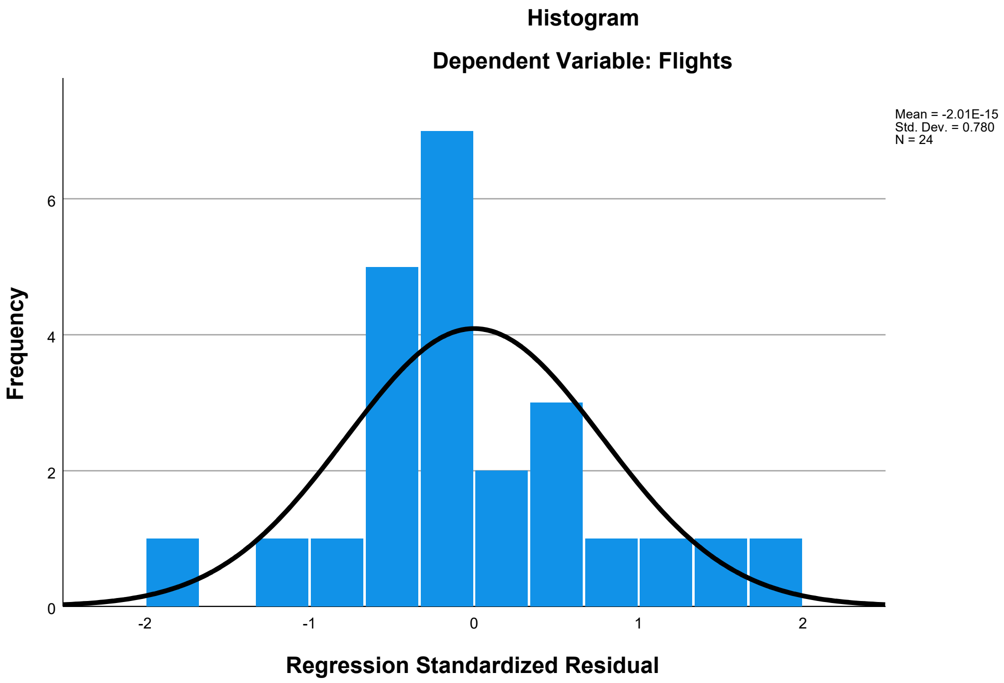
a. Dependent Variable: Flights

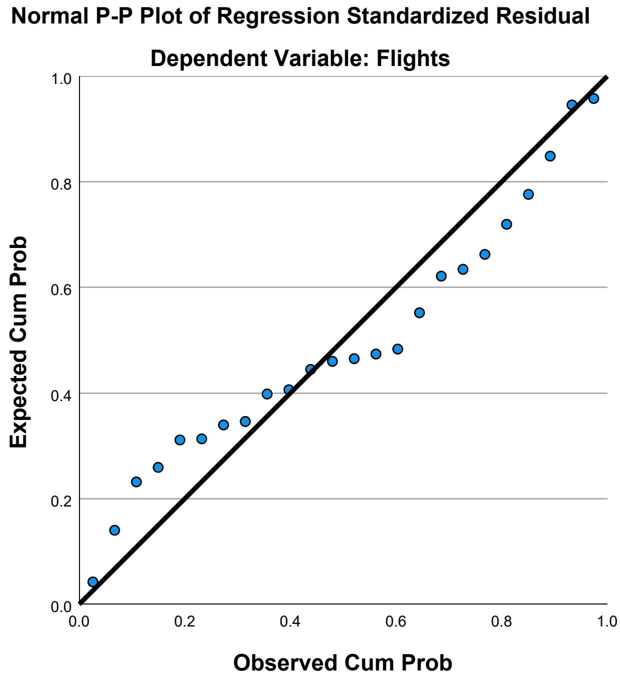
Residuals Statistics[a]

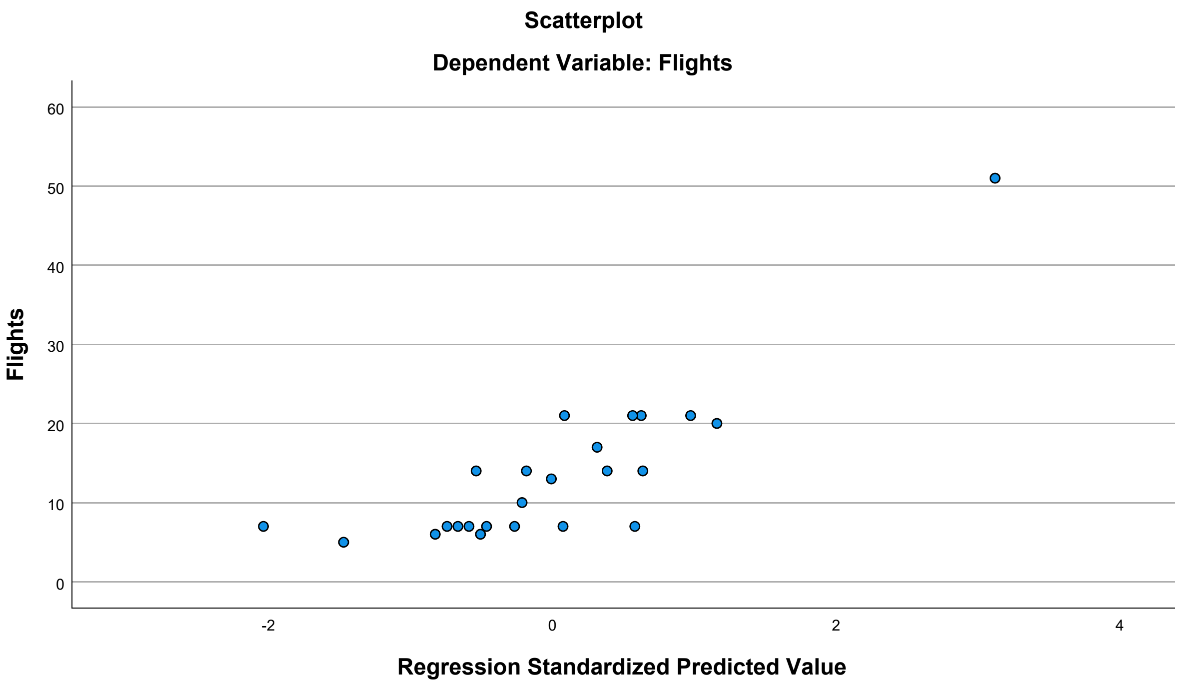
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-3.57	39.63	13.50	8.377	24
Residual	-11.366	11.366	.000	5.142	24
Std. Predicted Value	-2.038	3.120	.000	1.000	24
Std. Residual	-1.725	1.725	.000	.780	24

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
60
-2
0
2
4

Regression

```
[DataSet6] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines\
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	13.72	10.196	25
HomeConcentration	3.84219168	1.234328627	25
Congestion	4.56	.768	25
GLHR	.88	.332	25
GJFK	.08	.277	25
PartnerConcentration	.93061920000	2.3594779969	25
Seasonality	.55804190710	.17300829705	25
Distance	4.28388	.761312	25
Language	4.94935088	3.242966377	25
Ethnicity	.73575800	.666788287	25
Urban	19.24	3.004	25

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.156	.462	.162
	HomeConcentration	.156	1.000	.123	.993
	Congestion	.462	.123	1.000	.111
	GLHR	.162	.993	.111	1.000
	GJFK	.584	-.412	.172	-.345
	PartnerConcentration	.004	.090	-.120	.098
	Seasonality	.332	-.207	.047	-.237
	Distance	-.285	.202	-.210	.170
	Language	.527	-.126	.228	-.062
	Ethnicity	.134	-.208	.334	-.142
	Urban	.568	.595	.481	.574
Sig. (1-tailed)	Flights	.	.228	.010	.219
	HomeConcentration	.228	.	.279	.000
	Congestion	.010	.279	.	.298
	GLHR	.219	.000	.298	.
	GJFK	.001	.020	.205	.046
	PartnerConcentration	.492	.335	.284	.321
	Seasonality	.053	.160	.411	.127
	Distance	.083	.167	.156	.208
	Language	.003	.274	.136	.385
	Ethnicity	.261	.160	.052	.249
	Urban	.002	.001	.007	.001
N	Flights	25	25	25	25
	HomeConcentration	25	25	25	25

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.584	.004	.332	-.285
	HomeConcentration	-.412	.090	-.207	.202
	Congestion	.172	-.120	.047	-.210
	GLHR	-.345	.098	-.237	.170
	GJFK	1.000	.003	.097	-.403
	PartnerConcentration	.003	1.000	.004	.099
	Seasonality	.097	.004	1.000	.016
	Distance	-.403	.099	.016	1.000
	Language	.732	.088	-.016	-.499
	Ethnicity	.491	-.071	.024	-.436
	Urban	-.124	.178	.164	-.187
Sig. (1-tailed)	Flights	.001	.492	.053	.083
	HomeConcentration	.020	.335	.160	.167
	Congestion	.205	.284	.411	.156
	GLHR	.046	.321	.127	.208
	GJFK	.	.495	.323	.023
	PartnerConcentration	.495	.	.493	.319
	Seasonality	.323	.493	.	.469
	Distance	.023	.319	.469	.
	Language	.000	.338	.469	.006
	Ethnicity	.006	.369	.454	.015
	Urban	.277	.197	.217	.186
N	Flights	25	25	25	25
	HomeConcentration	25	25	25	25

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.527	.134	.568
	HomeConcentration	-.126	-.208	.595
	Congestion	.228	.334	.481
	GLHR	-.062	-.142	.574
	GJFK	.732	.491	-.124
	PartnerConcentration	.088	-.071	.178
	Seasonality	-.016	.024	.164
	Distance	-.499	-.436	-.187
	Language	1.000	.706	.229
	Ethnicity	.706	1.000	-.020
	Urban	.229	-.020	1.000
Sig. (1-tailed)	Flights	.003	.261	.002
	HomeConcentration	.274	.160	.001
	Congestion	.136	.052	.007
	GLHR	.385	.249	.001
	GJFK	.000	.006	.277
	PartnerConcentration	.338	.369	.197
	Seasonality	.469	.454	.217
	Distance	.006	.015	.186
	Language	.	.000	.135
	Ethnicity	.000	.	.463
	Urban	.135	.463	.
N	Flights	25	25	25
	HomeConcentration	25	25	25

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	25	25	25	25
	GLHR	25	25	25	25
	GJFK	25	25	25	25
	PartnerConcentration	25	25	25	25
	Seasonality	25	25	25	25
	Distance	25	25	25	25
	Language	25	25	25	25
	Ethnicity	25	25	25	25
	Urban	25	25	25	25

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	25	25	25	25
GLHR	25	25	25	25
GJFK	25	25	25	25
PartnerConcentration	25	25	25	25
Seasonality	25	25	25	25
Distance	25	25	25	25
Language	25	25	25	25
Ethnicity	25	25	25	25
Urban	25	25	25	25

Correlations

	Language	Ethnicity	Urban
Congestion	25	25	25
GLHR	25	25	25
GJFK	25	25	25
PartnerConcentration	25	25	25
Seasonality	25	25	25
Distance	25	25	25
Language	25	25	25
Ethnicity	25	25	25
Urban	25	25	25

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, Seasonality, PartnerConcentration, Distance, GJFK, Congestion, GLHR, Language, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change
1	.946[a]	.895	.819	4.335	.895	11.877

Model Summary[b]

Model	Change Statistics: df1	df2	Sig. F Change
1	10	14	<.001

a. Predictors: (Constant), Urban, Ethnicity, Seasonality, PartnerConcentration, Distance, GJFK, Congestion, GLHR, Language, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2231.950	10	223.195	11.877	<.001[b]
	Residual	263.090	14	18.792		
	Total	2495.040	24			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, Seasonality, PartnerConcentration, Distance, GJFK, Congestion, GLHR, Language, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-43.638	11.042		-3.952	.001
	HomeConcentration	21.689	11.764	2.626	1.844	.087
	Congestion	1.298	1.931	.098	.672	.512
	GLHR	-71.469	42.062	-2.325	-1.699	.111
	GJFK	32.666	7.439	.887	4.391	<.001
	PartnerConcentration	-.358	.407	-.083	-.880	.394
	Seasonality	10.905	6.851	.185	1.592	.134
	Distance	-.012	1.516	-.001	-.008	.994
	Language	.374	.728	.119	.514	.615
	Ethnicity	-3.172	2.898	-.207	-1.094	.292
	Urban	1.204	.693	.355	1.737	.104

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.004	269.289
	Congestion	.356	2.810
	GLHR	.004	248.553
	GJFK	.185	5.419
	PartnerConcentration	.848	1.180
	Seasonality	.557	1.794
	Distance	.588	1.702
	Language	.141	7.109
	Ethnicity	.210	4.770
	Urban	.180	5.540

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	8.330	1.000	.00	.00	.00
	2	1.250	2.582	.00	.00	.00
	3	.841	3.147	.00	.00	.00
	4	.278	5.472	.00	.00	.00
	5	.158	7.262	.00	.00	.00
	6	.060	11.832	.00	.00	.00
	7	.047	13.343	.01	.00	.02
	8	.028	17.366	.00	.00	.15
	9	.006	35.832	.56	.00	.30
	10	.003	54.869	.32	.00	.37
	11	.000	205.878	.11	1.00	.17

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.00	.09	.01	.00	.00	.00
	3	.00	.00	.82	.00	.00	.00
	4	.00	.15	.02	.01	.00	.00
	5	.00	.01	.01	.10	.00	.02
	6	.00	.21	.03	.05	.02	.39
	7	.00	.03	.00	.40	.07	.05
	8	.00	.00	.02	.02	.22	.05
	9	.00	.03	.00	.06	.33	.13
	10	.00	.19	.07	.25	.35	.33
	11	1.00	.29	.01	.11	.00	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.01	.00
	3	.00	.00
	4	.21	.00
	5	.02	.00
	6	.17	.00
	7	.03	.00
	8	.00	.02
	9	.03	.03
	10	.27	.94
	11	.26	.00

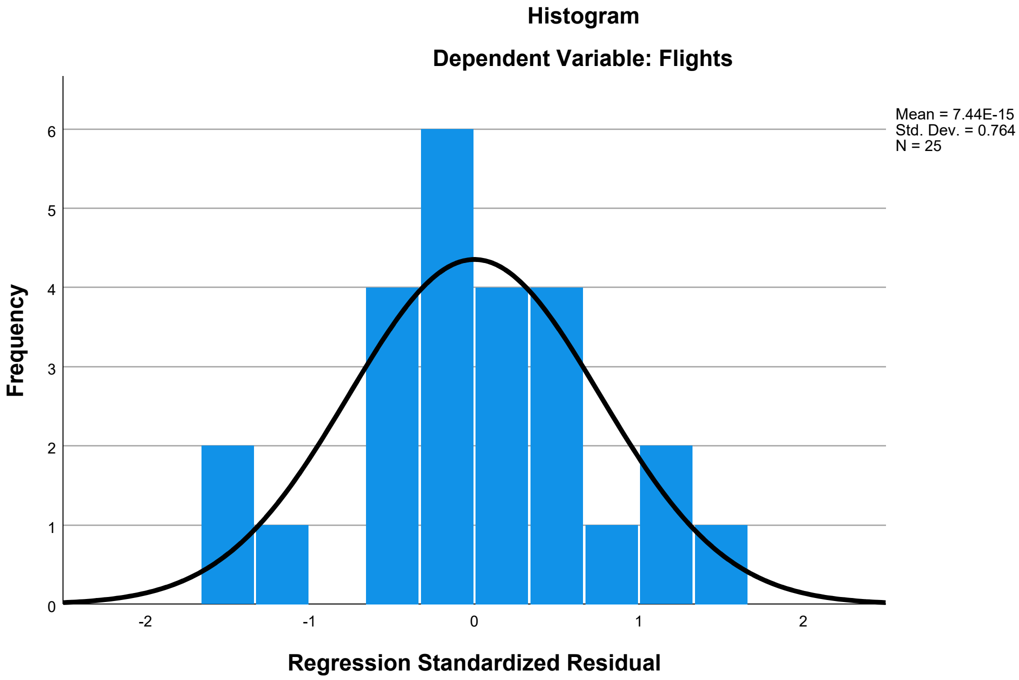
a. Dependent Variable: Flights

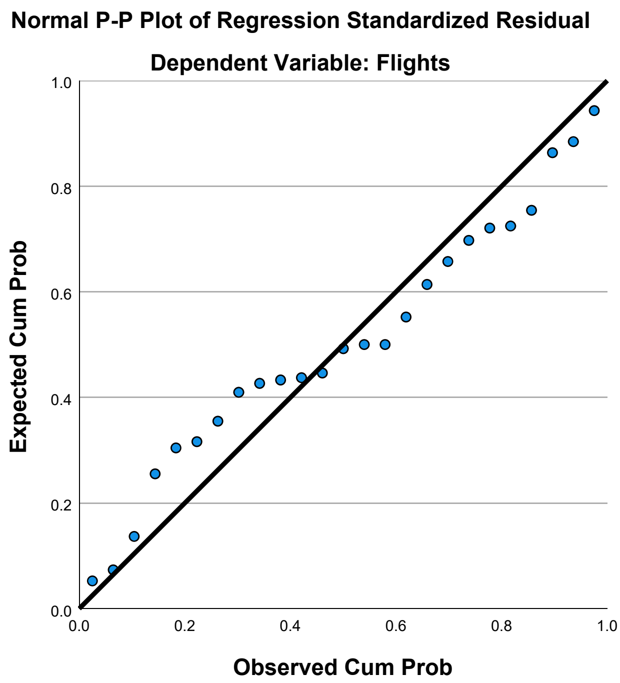
Residuals Statistics[a]

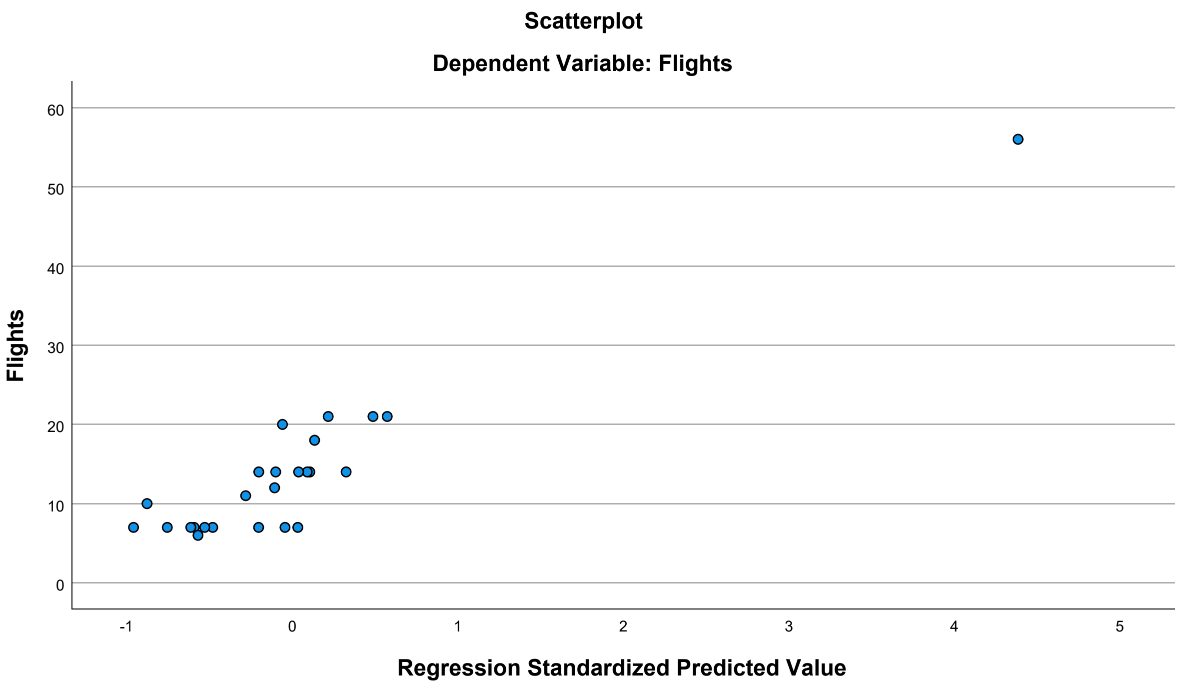
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.47	56.00	13.72	9.644	25
Residual	-7.033	6.856	.000	3.311	25
Std. Predicted Value	-.960	4.384	.000	1.000	25
Std. Residual	-1.622	1.582	.000	.764	25

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 7.44E-15
Std. Dev. = 0.764
N = 25
Frequency
0
1
2
3
4
5
6
-2
-1
0
1
2
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	13.72	10.196	25
HomeConcentration	3.84219168	1.234328627	25
Congestion	4.56	.768	25
GJFK	.08	.277	25
PartnerConcentration	.93061920000	2.3594779969	25
Seasonality	.55804190710	.17300829705	25
Distance	4.28388	.761312	25
Language	4.94935088	3.242966377	25
Ethnicity	.73575800	.666788287	25
Urban	19.24	3.004	25

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.156	.462	.584
	HomeConcentration	.156	1.000	.123	-.412
	Congestion	.462	.123	1.000	.172
	GJFK	.584	-.412	.172	1.000
	PartnerConcentration	.004	.090	-.120	.003
	Seasonality	.332	-.207	.047	.097
	Distance	-.285	.202	-.210	-.403
	Language	.527	-.126	.228	.732
	Ethnicity	.134	-.208	.334	.491
	Urban	.568	.595	.481	-.124
Sig. (1-tailed)	Flights	.	.228	.010	.001
	HomeConcentration	.228	.	.279	.020
	Congestion	.010	.279	.	.205
	GJFK	.001	.020	.205	.
	PartnerConcentration	.492	.335	.284	.495
	Seasonality	.053	.160	.411	.323
	Distance	.083	.167	.156	.023
	Language	.003	.274	.136	.000
	Ethnicity	.261	.160	.052	.006
	Urban	.002	.001	.007	.277
N	Flights	25	25	25	25
	HomeConcentration	25	25	25	25
	Congestion	25	25	25	25
	GJFK	25	25	25	25
	PartnerConcentration	25	25	25	25
	Seasonality	25	25	25	25
	Distance	25	25	25	25
	Language	25	25	25	25
	Ethnicity	25	25	25	25
	Urban	25	25	25	25

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.004	.332	-.285	.527
	HomeConcentration	.090	-.207	.202	-.126
	Congestion	-.120	.047	-.210	.228
	GJFK	.003	.097	-.403	.732
	PartnerConcentration	1.000	.004	.099	.088
	Seasonality	.004	1.000	.016	-.016
	Distance	.099	.016	1.000	-.499
	Language	.088	-.016	-.499	1.000
	Ethnicity	-.071	.024	-.436	.706
	Urban	.178	.164	-.187	.229
Sig. (1-tailed)	Flights	.492	.053	.083	.003
	HomeConcentration	.335	.160	.167	.274
	Congestion	.284	.411	.156	.136
	GJFK	.495	.323	.023	.000
	PartnerConcentration	.	.493	.319	.338
	Seasonality	.493	.	.469	.469
	Distance	.319	.469	.	.006
	Language	.338	.469	.006	.
	Ethnicity	.369	.454	.015	.000
	Urban	.197	.217	.186	.135
N	Flights	25	25	25	25
	HomeConcentration	25	25	25	25
	Congestion	25	25	25	25
	GJFK	25	25	25	25
	PartnerConcentration	25	25	25	25
	Seasonality	25	25	25	25
	Distance	25	25	25	25
	Language	25	25	25	25
	Ethnicity	25	25	25	25
	Urban	25	25	25	25

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.134	.568
	HomeConcentration	-.208	.595
	Congestion	.334	.481
	GJFK	.491	-.124
	PartnerConcentration	-.071	.178
	Seasonality	.024	.164
	Distance	-.436	-.187
	Language	.706	.229
	Ethnicity	1.000	-.020
	Urban	-.020	1.000
Sig. (1-tailed)	Flights	.261	.002
	HomeConcentration	.160	.001
	Congestion	.052	.007
	GJFK	.006	.277
	PartnerConcentration	.369	.197
	Seasonality	.454	.217
	Distance	.015	.186
	Language	.000	.135
	Ethnicity	.	.463
	Urban	.463	.
N	Flights	25	25
	HomeConcentration	25	25
	Congestion	25	25
	GJFK	25	25
	PartnerConcentration	25	25
	Seasonality	25	25
	Distance	25	25
	Language	25	25
	Ethnicity	25	25
	Urban	25	25

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, Seasonality, PartnerConcentration, Distance, GJFK, Congestion, HomeConcentration, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.934[a]	.873	.796	4.600	.873	11.437	9	15	<.001

a. Predictors: (Constant), Urban, Ethnicity, Seasonality, PartnerConcentration, Distance, GJFK, Congestion, HomeConcentratio Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2177.698	9	241.966	11.437	<.001[b]
	Residual	317.342	15	21.156		
	Total	2495.040	24			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, Seasonality, PartnerConcentration, Distance, GJFK, Congestion, HomeConcentration, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-37.317	11.032		-3.383	.004
	HomeConcentration	1.801	1.255	.218	1.435	.172
	Congestion	2.664	1.863	.201	1.430	.173
	GJFK	25.936	6.681	.704	3.882	.001
	PartnerConcentration	-.433	.430	-.100	-1.009	.329
	Seasonality	14.949	6.816	.254	2.193	.044
	Distance	.004	1.609	.000	.002	.998
	Language	.591	.760	.188	.778	.449
	Ethnicity	-5.694	2.641	-.372	-2.156	.048
	Urban	1.206	.736	.355	1.639	.122

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.367	2.723
	Congestion	.430	2.324
	GJFK	.258	3.883
	PartnerConcentration	.858	1.166
	Seasonality	.634	1.577
	Distance	.588	1.702
	Language	.145	6.890
	Ethnicity	.284	3.519
	Urban	.180	5.540

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	7.450	1.000	.00	.00	.00
	2	1.196	2.496	.00	.00	.00
	3	.838	2.982	.00	.00	.00
	4	.278	5.175	.00	.00	.00
	5	.110	8.211	.00	.08	.00
	6	.057	11.416	.00	.02	.01
	7	.035	14.547	.02	.35	.00
	8	.026	16.813	.00	.14	.22
	9	.006	33.924	.64	.01	.34
	10	.003	52.108	.34	.40	.43

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.13	.02	.00	.00	.00	.01
	3	.01	.82	.00	.00	.00	.00
	4	.21	.02	.01	.00	.00	.28
	5	.00	.02	.20	.00	.08	.08
	6	.22	.02	.25	.04	.27	.14
	7	.16	.01	.14	.12	.17	.07
	8	.01	.02	.06	.15	.01	.03
	9	.03	.00	.07	.33	.13	.04
	10	.24	.07	.27	.35	.33	.35

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.00
	8	.02
	9	.03
	10	.95

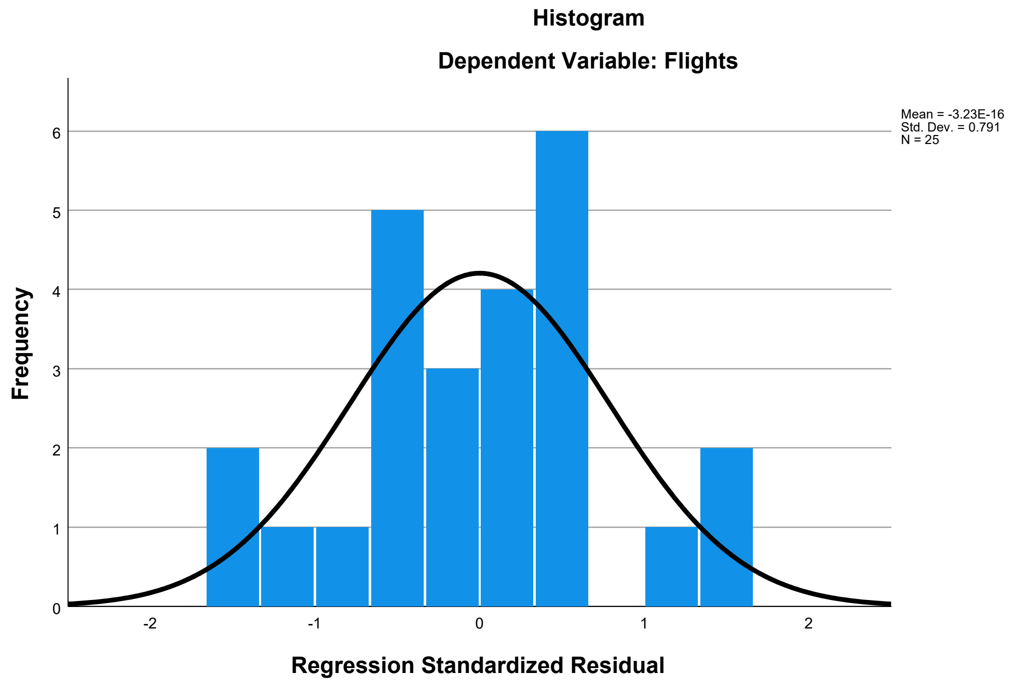
a. Dependent Variable: Flights

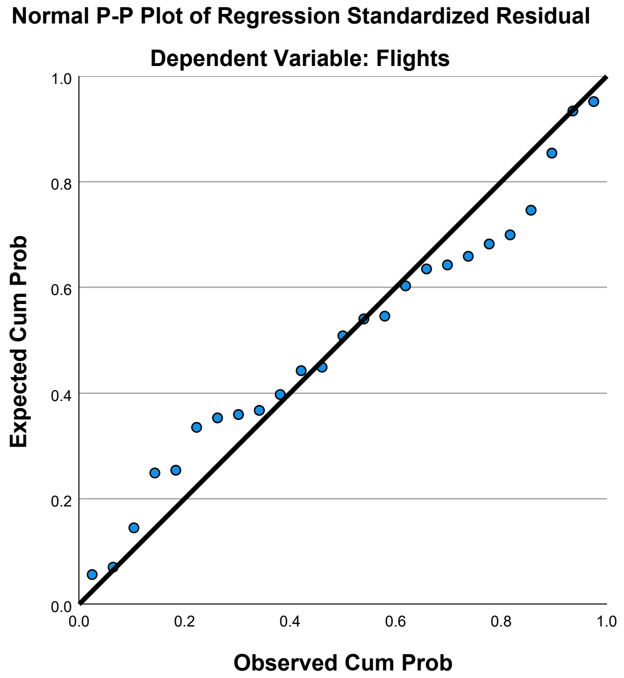
Residuals Statistics[a]

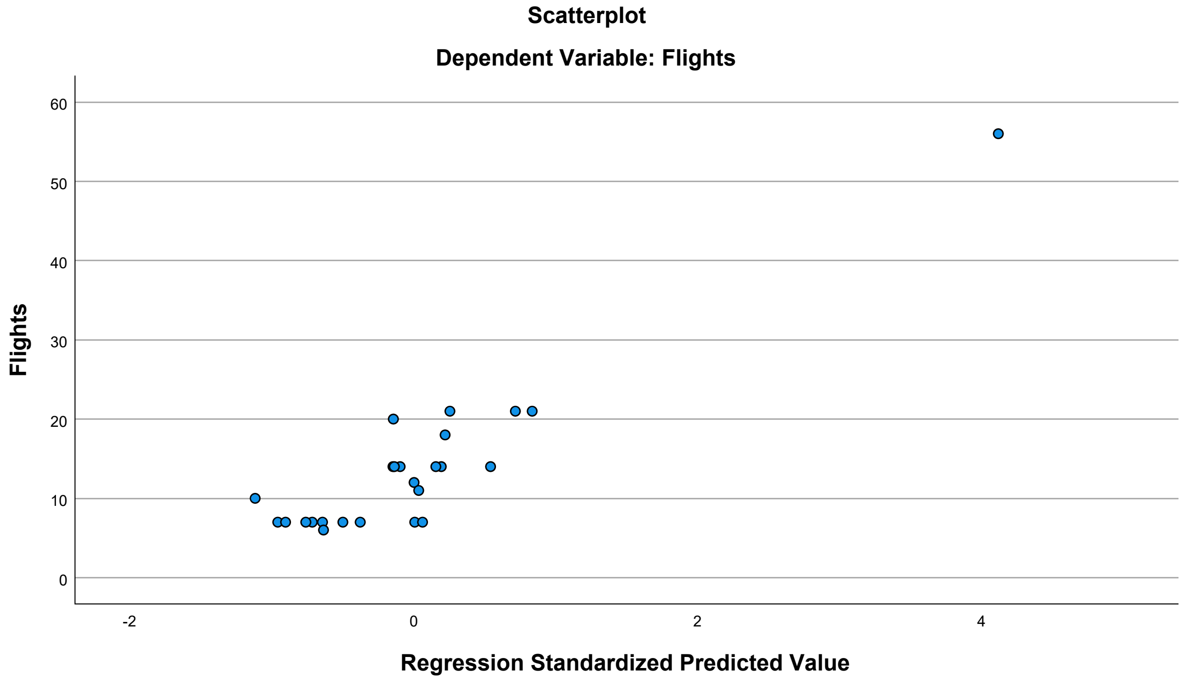
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.07	52.95	13.72	9.526	25
Residual	-7.306	7.652	.000	3.636	25
Std. Predicted Value	-1.118	4.119	.000	1.000	25
Std. Residual	-1.588	1.664	.000	.791	25

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
60
-2
0
2
4

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	13.72	10.196	25
HomeConcentration	3.84219168	1.234328627	25
Congestion	4.56	.768	25
GJFK	.08	.277	25
PartnerConcentration	.93061920000	2.3594779969	25
Seasonality	.55804190710	.17300829705	25
Distance	4.28388	.761312	25
Ethnicity	.73575800	.666788287	25
Urban	19.24	3.004	25

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.156	.462	.584
	HomeConcentration	.156	1.000	.123	-.412
	Congestion	.462	.123	1.000	.172
	GJFK	.584	-.412	.172	1.000
	PartnerConcentration	.004	.090	-.120	.003
	Seasonality	.332	-.207	.047	.097
	Distance	-.285	.202	-.210	-.403
	Ethnicity	.134	-.208	.334	.491
	Urban	.568	.595	.481	-.124
Sig. (1-tailed)	Flights	.	.228	.010	.001
	HomeConcentration	.228	.	.279	.020
	Congestion	.010	.279	.	.205
	GJFK	.001	.020	.205	.
	PartnerConcentration	.492	.335	.284	.495
	Seasonality	.053	.160	.411	.323
	Distance	.083	.167	.156	.023
	Ethnicity	.261	.160	.052	.006
	Urban	.002	.001	.007	.277
N	Flights	25	25	25	25
	HomeConcentration	25	25	25	25
	Congestion	25	25	25	25
	GJFK	25	25	25	25
	PartnerConcentration	25	25	25	25
	Seasonality	25	25	25	25
	Distance	25	25	25	25
	Ethnicity	25	25	25	25
	Urban	25	25	25	25

Correlations

		PartnerConcentration	Seasonality	Distance	Ethnicity
Pearson Correlation	Flights	.004	.332	-.285	.134
	HomeConcentration	.090	-.207	.202	-.208
	Congestion	-.120	.047	-.210	.334
	GJFK	.003	.097	-.403	.491
	PartnerConcentration	1.000	.004	.099	-.071
	Seasonality	.004	1.000	.016	.024
	Distance	.099	.016	1.000	-.436
	Ethnicity	-.071	.024	-.436	1.000
	Urban	.178	.164	-.187	-.020
Sig. (1-tailed)	Flights	.492	.053	.083	.261
	HomeConcentration	.335	.160	.167	.160
	Congestion	.284	.411	.156	.052
	GJFK	.495	.323	.023	.006
	PartnerConcentration	.	.493	.319	.369
	Seasonality	.493	.	.469	.454
	Distance	.319	.469	.	.015
	Ethnicity	.369	.454	.015	.
	Urban	.197	.217	.186	.463
N	Flights	25	25	25	25
	HomeConcentration	25	25	25	25
	Congestion	25	25	25	25
	GJFK	25	25	25	25
	PartnerConcentration	25	25	25	25
	Seasonality	25	25	25	25
	Distance	25	25	25	25
	Ethnicity	25	25	25	25
	Urban	25	25	25	25

Correlations

		Urban
Pearson Correlation	Flights	.568
	HomeConcentration	.595
	Congestion	.481
	GJFK	-.124
	PartnerConcentration	.178
	Seasonality	.164
	Distance	-.187
	Ethnicity	-.020
	Urban	1.000
Sig. (1-tailed)	Flights	.002
	HomeConcentration	.001
	Congestion	.007
	GJFK	.277
	PartnerConcentration	.197
	Seasonality	.217
	Distance	.186
	Ethnicity	.463
	Urban	.
N	Flights	25
	HomeConcentration	25
	Congestion	25
	GJFK	25
	PartnerConcentration	25
	Seasonality	25
	Distance	25
	Ethnicity	25
	Urban	25

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, Seasonality, PartnerConcentration, Distance, GJFK, Congestion, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.931[a]	.868	.802	4.542	.868	13.115

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	8	16	<.001

a. Predictors: (Constant), Urban, Ethnicity, Seasonality, PartnerConcentration, Distance, GJFK, Congestion, HomeConcentratio

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2164.906	8	270.613	13.115	<.001[b]
	Residual	330.134	16	20.633		
	Total	2495.040	24			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, Seasonality, PartnerConcentration, Distance, GJFK, Congestion, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-37.904	10.869		-3.487	.003
	HomeConcentration	1.606	1.214	.194	1.322	.205
	Congestion	1.957	1.606	.147	1.218	.241
	GJFK	29.904	4.260	.812	7.019	<.001
	PartnerConcentration	-.435	.424	-.101	-1.025	.321
	Seasonality	12.851	6.182	.218	2.079	.054
	Distance	.089	1.585	.007	.056	.956
	Ethnicity	-4.190	1.776	-.274	-2.359	.031
	Urban	1.563	.568	.460	2.753	.014

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.383	2.613
	Congestion	.565	1.771
	GJFK	.618	1.619
	PartnerConcentration	.858	1.166
	Seasonality	.752	1.330
	Distance	.590	1.694
	Ethnicity	.613	1.631
	Urban	.296	3.383

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.646	1.000	.00	.00	.00
	2	1.076	2.486	.00	.00	.00
	3	.835	2.821	.00	.00	.00
	4	.270	4.963	.00	.00	.00
	5	.094	8.390	.00	.14	.00
	6	.041	12.711	.02	.17	.01
	7	.027	15.810	.00	.22	.26
	8	.008	28.539	.33	.13	.60
	9	.004	42.039	.65	.34	.13

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.39	.03	.00	.00	.04	.00
	3	.03	.81	.00	.00	.00	.00
	4	.37	.02	.01	.00	.74	.00
	5	.10	.00	.39	.00	.01	.00
	6	.00	.00	.29	.19	.00	.01
	7	.07	.01	.09	.12	.11	.03
	8	.01	.03	.12	.09	.00	.16
	9	.02	.09	.11	.59	.09	.79

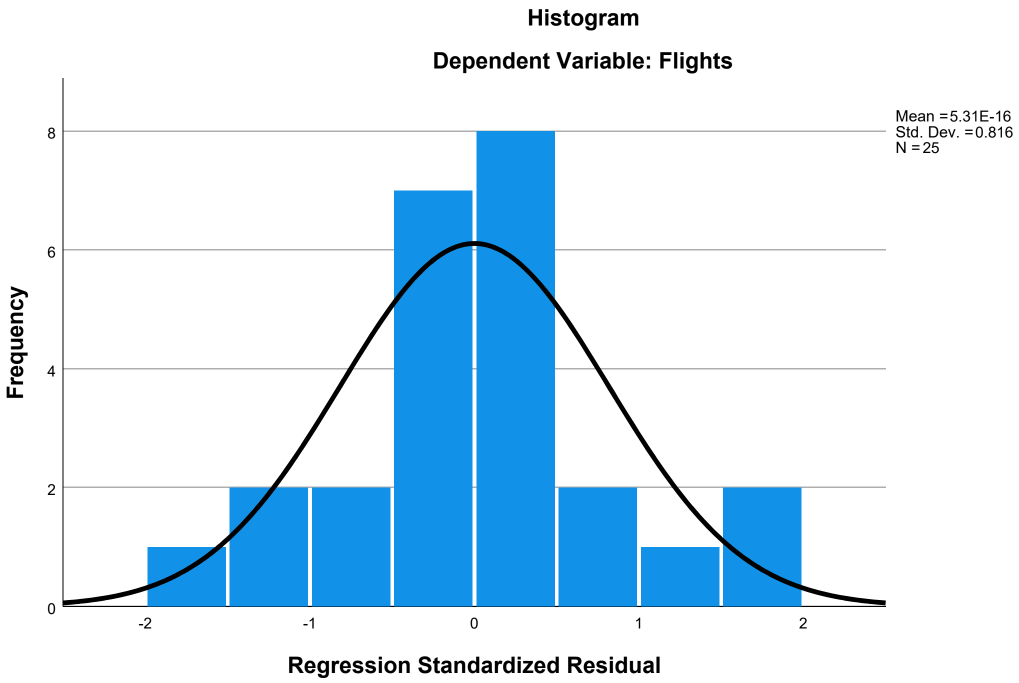
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.85	52.69	13.72	9.498	25
Residual	-8.728	7.573	.000	3.709	25
Std. Predicted Value	-1.145	4.103	.000	1.000	25
Std. Residual	-1.921	1.667	.000	.816	25

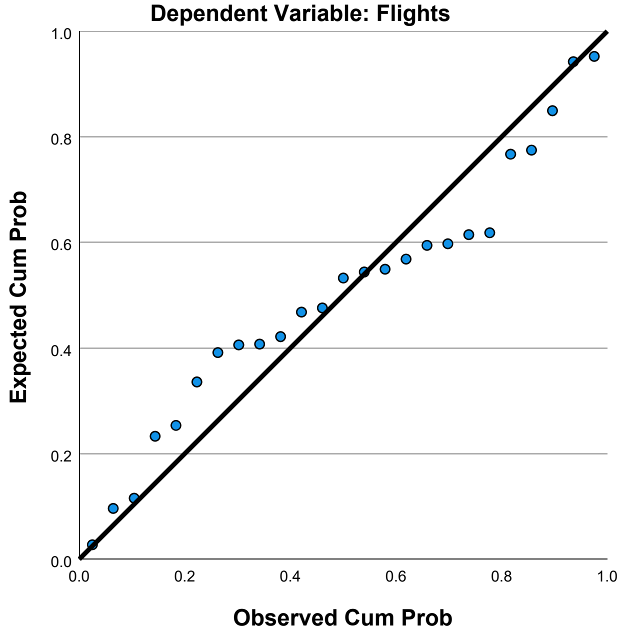
a. Dependent Variable: Flights

Charts



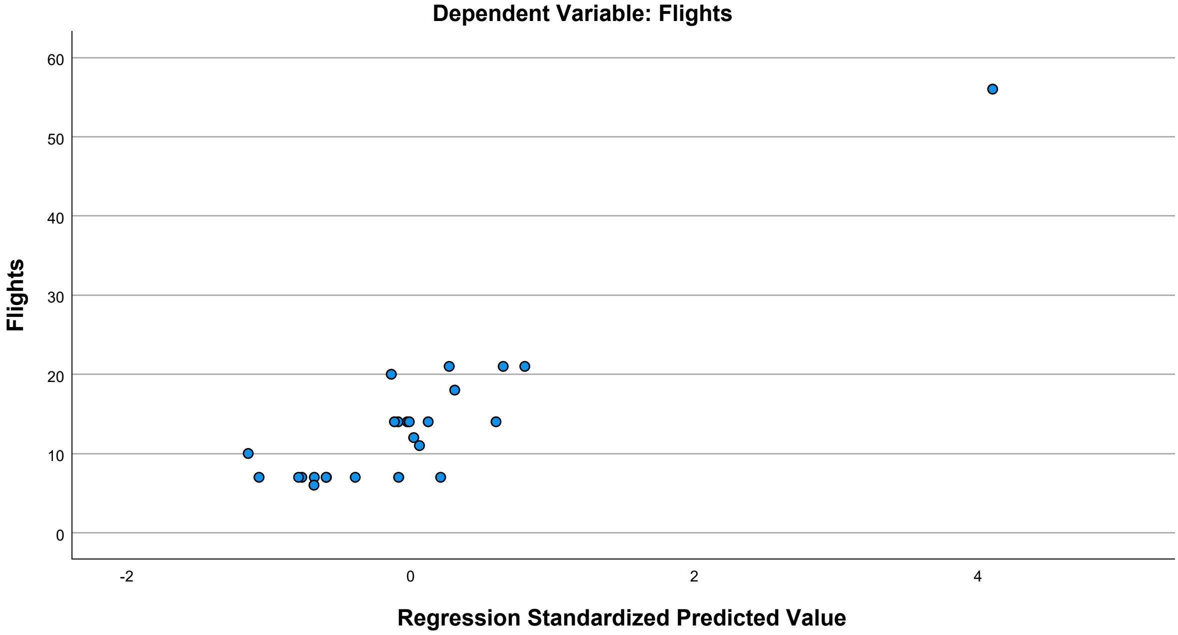
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

[DataSet7] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines\2017 - BA.sav

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.88	9.253	33
HomeConcentration	3.9664196970	1.9369733777	33
Congestion	4.58	.751	33
GLHR	.76	.435	33
GJFK	.12	.331	33
PartnerConcentration	.91276533333	2.0299478243	33
Seasonality	.55486902067	.14971259388	33
Distance	4.31648	.755297	33
Language	4.42906548	3.576602978	33
Ethnicity	.58082530	.587880891	33
Urban	18.58	3.666	33

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.250	.343	.249
	HomeConcentration	.250	1.000	-.145	.994
	Congestion	.343	-.145	1.000	-.133
	GLHR	.249	.994	-.133	1.000
	GJFK	.321	-.476	.464	-.440
	PartnerConcentration	.033	.130	-.120	.138
	Seasonality	-.174	-.367	-.171	-.408
	Distance	-.252	.248	-.324	.215
	Language	.440	.015	.241	.018
	Ethnicity	.164	-.024	.408	.005
	Urban	.433	.202	.602	.227
Sig. (1-tailed)	Flights	.	.081	.025	.082
	HomeConcentration	.081	.	.210	.000
	Congestion	.025	.210	.	.230
	GLHR	.082	.000	.230	.
	GJFK	.034	.003	.003	.005
	PartnerConcentration	.429	.235	.252	.222
	Seasonality	.166	.018	.171	.009
	Distance	.079	.082	.033	.115
	Language	.005	.467	.089	.460
	Ethnicity	.181	.447	.009	.490
	Urban	.006	.130	.000	.102
N	Flights	33	33	33	33
	HomeConcentration	33	33	33	33

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.321	.033	-.174	-.252
	HomeConcentration	-.476	.130	-.367	.248
	Congestion	.464	-.120	-.171	-.324
	GLHR	-.440	.138	-.408	.215
	GJFK	1.000	.041	-.089	-.457
	PartnerConcentration	.041	1.000	-.249	-.063
	Seasonality	-.089	-.249	1.000	.218
	Distance	-.457	-.063	.218	1.000
	Language	.552	.136	-.168	-.465
	Ethnicity	.372	-.012	-.214	-.439
	Urban	.224	.206	-.542	-.345
Sig. (1-tailed)	Flights	.034	.429	.166	.079
	HomeConcentration	.003	.235	.018	.082
	Congestion	.003	.252	.171	.033
	GLHR	.005	.222	.009	.115
	GJFK	.	.411	.312	.004
	PartnerConcentration	.411	.	.081	.364
	Seasonality	.312	.081	.	.112
	Distance	.004	.364	.112	.
	Language	.000	.225	.175	.003
	Ethnicity	.016	.474	.115	.005
	Urban	.105	.126	.001	.025
N	Flights	33	33	33	33
	HomeConcentration	33	33	33	33

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.440	.164	.433
	HomeConcentration	.015	-.024	.202
	Congestion	.241	.408	.602
	GLHR	.018	.005	.227
	GJFK	.552	.372	.224
	PartnerConcentration	.136	-.012	.206
	Seasonality	-.168	-.214	-.542
	Distance	-.465	-.439	-.345
	Language	1.000	.657	.268
	Ethnicity	.657	1.000	.154
	Urban	.268	.154	1.000
Sig. (1-tailed)	Flights	.005	.181	.006
	HomeConcentration	.467	.447	.130
	Congestion	.089	.009	.000
	GLHR	.460	.490	.102
	GJFK	.000	.016	.105
	PartnerConcentration	.225	.474	.126
	Seasonality	.175	.115	.001
	Distance	.003	.005	.025
	Language	.	.000	.066
	Ethnicity	.000	.	.197
	Urban	.066	.197	.
N	Flights	33	33	33
	HomeConcentration	33	33	33

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	33	33	33	33
	GLHR	33	33	33	33
	GJFK	33	33	33	33
	PartnerConcentration	33	33	33	33
	Seasonality	33	33	33	33
	Distance	33	33	33	33
	Language	33	33	33	33
	Ethnicity	33	33	33	33
	Urban	33	33	33	33

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	33	33	33	33
GLHR	33	33	33	33
GJFK	33	33	33	33
PartnerConcentration	33	33	33	33
Seasonality	33	33	33	33
Distance	33	33	33	33
Language	33	33	33	33
Ethnicity	33	33	33	33
Urban	33	33	33	33

Correlations

	Language	Ethnicity	Urban
Congestion	33	33	33
GLHR	33	33	33
GJFK	33	33	33
PartnerConcentration	33	33	33
Seasonality	33	33	33
Distance	33	33	33
Language	33	33	33
Ethnicity	33	33	33
Urban	33	33	33

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, HomeConcentration, PartnerConcentration, Distance, Seasonality, GJFK, Congestion, Language, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.677[a]	.458	.212	8.213	.458	1.861

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	10	22	.108

a. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, PartnerConcentration, Distance, Seasonality, GJFK, Congestio
Language, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1255.392	10	125.539	1.861	.108[b]
	Residual	1484.124	22	67.460		
	Total	2739.515	32			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, PartnerConcentration, Distance, Seasonality, GJFK, Congestion, Language, GLHR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-17.604	19.303		-.912	.372
	HomeConcentration	6.230	9.516	1.304	.655	.519
	Congestion	1.559	3.792	.127	.411	.685
	GLHR	-17.580	41.358	-.827	-.425	.675
	GJFK	10.202	8.756	.365	1.165	.256
	PartnerConcentration	-.356	.784	-.078	-.454	.654
	Seasonality	8.633	13.714	.140	.629	.536
	Distance	-1.539	2.530	-.126	-.608	.549
	Language	.697	.870	.269	.801	.432
	Ethnicity	-3.528	4.627	-.224	-.763	.454
	Urban	.531	.762	.210	.696	.494

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.006	161.149
	Congestion	.260	3.849
	GLHR	.007	153.669
	GJFK	.250	3.995
	PartnerConcentration	.831	1.203
	Seasonality	.500	1.999
	Distance	.577	1.733
	Language	.218	4.594
	Ethnicity	.285	3.510
	Urban	.270	3.705

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions Congestion
1	1	8.077	1.000	.00	.00	.00
	2	1.238	2.554	.00	.00	.00
	3	.816	3.146	.00	.00	.00
	4	.442	4.276	.00	.00	.00
	5	.222	6.032	.00	.00	.00
	6	.122	8.131	.00	.00	.00
	7	.052	12.450	.00	.00	.01
	8	.020	19.920	.00	.00	.01
	9	.006	37.716	.21	.00	.67
	10	.004	44.618	.79	.00	.09
	11	.001	111.323	.00	.99	.21

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GLHR	GJFK	PartnerConcentration	Seasonality	Distance	Language
1	1	.00	.00	.00	.00	.00	.00
	2	.00	.11	.00	.00	.00	.01
	3	.00	.00	.79	.00	.00	.00
	4	.00	.06	.00	.01	.00	.02
	5	.00	.16	.07	.02	.00	.01
	6	.00	.10	.01	.02	.00	.44
	7	.00	.17	.03	.16	.01	.04
	8	.00	.00	.01	.42	.52	.03
	9	.00	.06	.07	.02	.04	.10
	10	.00	.02	.00	.35	.40	.01
	11	.99	.31	.01	.00	.03	.34

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.00	.00
	2	.01	.00
	3	.00	.00
	4	.13	.00
	5	.13	.00
	6	.18	.00
	7	.05	.08
	8	.00	.01
	9	.12	.27
	10	.12	.52
	11	.25	.11

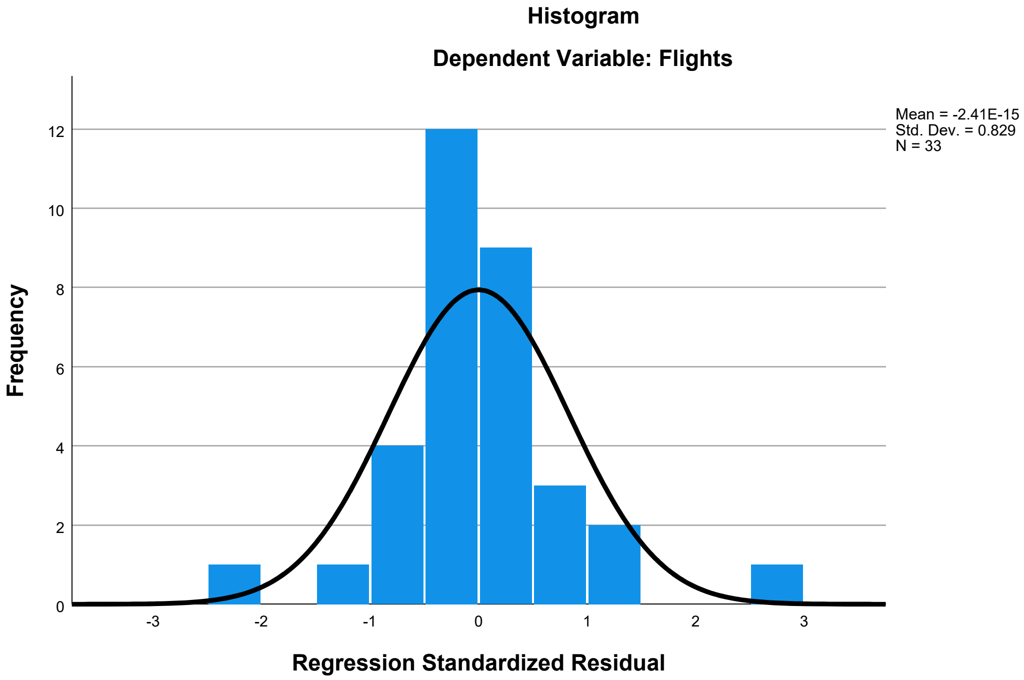
a. Dependent Variable: Flights

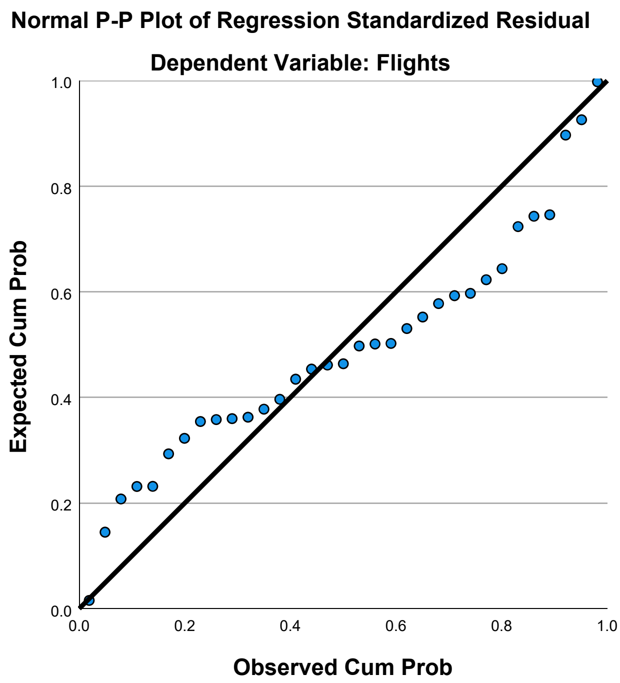
Residuals Statistics[a]

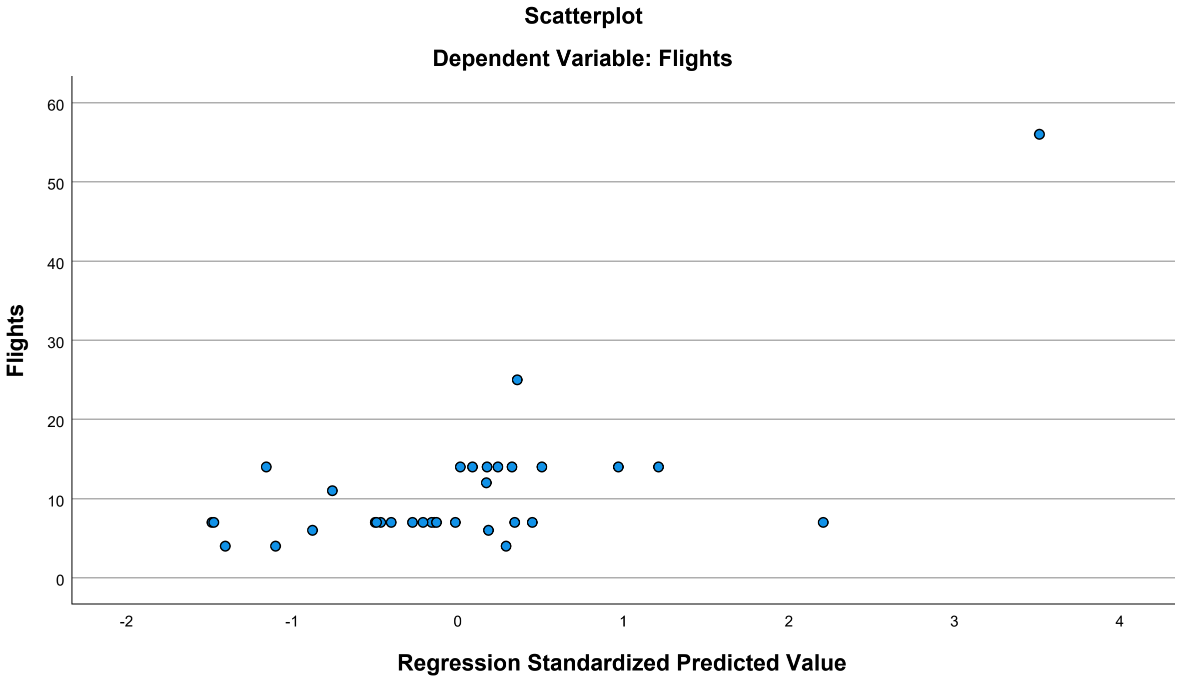
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.57	32.89	10.88	6.263	33
Residual	-17.703	23.114	.000	6.810	33
Std. Predicted Value	-1.486	3.514	.000	1.000	33
Std. Residual	-2.155	2.814	.000	.829	33

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -2.41E-15
Std. Dev. = 0.829
N = 33
Frequency
12
10
8
6
4
2
0
-3
-2
-1
0
1
2
3
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.88	9.253	33
HomeConcentration	3.9664196970	1.9369733777	33
Congestion	4.58	.751	33
GJFK	.12	.331	33
PartnerConcentration	.91276533333	2.0299478243	33
Seasonality	.55486902067	.14971259388	33
Distance	4.31648	.755297	33
Language	4.42906548	3.576602978	33
Ethnicity	.58082530	.587880891	33
Urban	18.58	3.666	33

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.250	.343	.321
	HomeConcentration	.250	1.000	-.145	-.476
	Congestion	.343	-.145	1.000	.464
	GJFK	.321	-.476	.464	1.000
	PartnerConcentration	.033	.130	-.120	.041
	Seasonality	-.174	-.367	-.171	-.089
	Distance	-.252	.248	-.324	-.457
	Language	.440	.015	.241	.552
	Ethnicity	.164	-.024	.408	.372
	Urban	.433	.202	.602	.224
Sig. (1-tailed)	Flights	.	.081	.025	.034
	HomeConcentration	.081	.	.210	.003
	Congestion	.025	.210	.	.003
	GJFK	.034	.003	.003	.
	PartnerConcentration	.429	.235	.252	.411
	Seasonality	.166	.018	.171	.312
	Distance	.079	.082	.033	.004
	Language	.005	.467	.089	.000
	Ethnicity	.181	.447	.009	.016
	Urban	.006	.130	.000	.105
N	Flights	33	33	33	33
	HomeConcentration	33	33	33	33
	Congestion	33	33	33	33
	GJFK	33	33	33	33
	PartnerConcentration	33	33	33	33
	Seasonality	33	33	33	33
	Distance	33	33	33	33
	Language	33	33	33	33
	Ethnicity	33	33	33	33
	Urban	33	33	33	33

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.033	-.174	-.252	.440
	HomeConcentration	.130	-.367	.248	.015
	Congestion	-.120	-.171	-.324	.241
	GJFK	.041	-.089	-.457	.552
	PartnerConcentration	1.000	-.249	-.063	.136
	Seasonality	-.249	1.000	.218	-.168
	Distance	-.063	.218	1.000	-.465
	Language	.136	-.168	-.465	1.000
	Ethnicity	-.012	-.214	-.439	.657
	Urban	.206	-.542	-.345	.268
Sig. (1-tailed)	Flights	.429	.166	.079	.005
	HomeConcentration	.235	.018	.082	.467
	Congestion	.252	.171	.033	.089
	GJFK	.411	.312	.004	.000
	PartnerConcentration	.	.081	.364	.225
	Seasonality	.081	.	.112	.175
	Distance	.364	.112	.	.003
	Language	.225	.175	.003	.
	Ethnicity	.474	.115	.005	.000
	Urban	.126	.001	.025	.066
N	Flights	33	33	33	33
	HomeConcentration	33	33	33	33
	Congestion	33	33	33	33
	GJFK	33	33	33	33
	PartnerConcentration	33	33	33	33
	Seasonality	33	33	33	33
	Distance	33	33	33	33
	Language	33	33	33	33
	Ethnicity	33	33	33	33
	Urban	33	33	33	33

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.164	.433
	HomeConcentration	-.024	.202
	Congestion	.408	.602
	GJFK	.372	.224
	PartnerConcentration	-.012	.206
	Seasonality	-.214	-.542
	Distance	-.439	-.345
	Language	.657	.268
	Ethnicity	1.000	.154
	Urban	.154	1.000
Sig. (1-tailed)	Flights	.181	.006
	HomeConcentration	.447	.130
	Congestion	.009	.000
	GJFK	.016	.105
	PartnerConcentration	.474	.126
	Seasonality	.115	.001
	Distance	.005	.025
	Language	.000	.066
	Ethnicity	.	.197
	Urban	.197	.
N	Flights	33	33
	HomeConcentration	33	33
	Congestion	33	33
	GJFK	33	33
	PartnerConcentration	33	33
	Seasonality	33	33
	Distance	33	33
	Language	33	33
	Ethnicity	33	33
	Urban	33	33

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, HomeConcentration, PartnerConcentration, Distance, Seasonality, GJFK, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.674[a]	.454	.240	8.066	.454	2.123

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	23	.070

a. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, PartnerConcentration, Distance, Seasonality, GJFK, Congestio
Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1243.203	9	138.134	2.123	.070[b]
	Residual	1496.312	23	65.057		
	Total	2739.515	32			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, PartnerConcentration, Distance, Seasonality, GJFK, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-17.430	18.952		-.920	.367
	HomeConcentration	2.212	1.071	.463	2.066	.050
	Congestion	2.219	3.397	.180	.653	.520
	GJFK	8.307	7.402	.298	1.122	.273
	PartnerConcentration	-.336	.769	-.074	-.437	.666
	Seasonality	9.274	13.385	.150	.693	.495
	Distance	-1.379	2.457	-.113	-.561	.580
	Language	.898	.718	.347	1.250	.224
	Ethnicity	-4.438	4.028	-.282	-1.102	.282
	Urban	.436	.716	.173	.609	.549

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.473	2.115
	Congestion	.312	3.204
	GJFK	.338	2.960
	PartnerConcentration	.834	1.199
	Seasonality	.506	1.975
	Distance	.590	1.694
	Language	.308	3.244
	Ethnicity	.362	2.759
	Urban	.295	3.386

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Congestion
1	1	7.293	1.000	.00	.00	.00
	2	1.134	2.536	.00	.01	.00
	3	.816	2.989	.00	.00	.00
	4	.416	4.188	.00	.01	.00
	5	.154	6.891	.00	.19	.00
	6	.111	8.115	.00	.15	.00
	7	.047	12.494	.00	.39	.02
	8	.020	19.256	.01	.26	.01
	9	.006	36.177	.23	.00	.83
	10	.004	42.516	.76	.00	.13

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions					
		GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.16	.00	.00	.00	.01	.02
	3	.00	.80	.00	.00	.00	.00
	4	.17	.00	.00	.00	.03	.21
	5	.02	.09	.02	.00	.21	.29
	6	.17	.00	.08	.00	.39	.08
	7	.32	.01	.09	.02	.08	.06
	8	.01	.01	.42	.53	.07	.00
	9	.11	.08	.02	.05	.17	.16
	10	.05	.00	.37	.39	.03	.18

Collinearity Diagnostics[a]

Model	Dimension	Variance ...
		Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.09
	8	.01
	9	.28
	10	.61

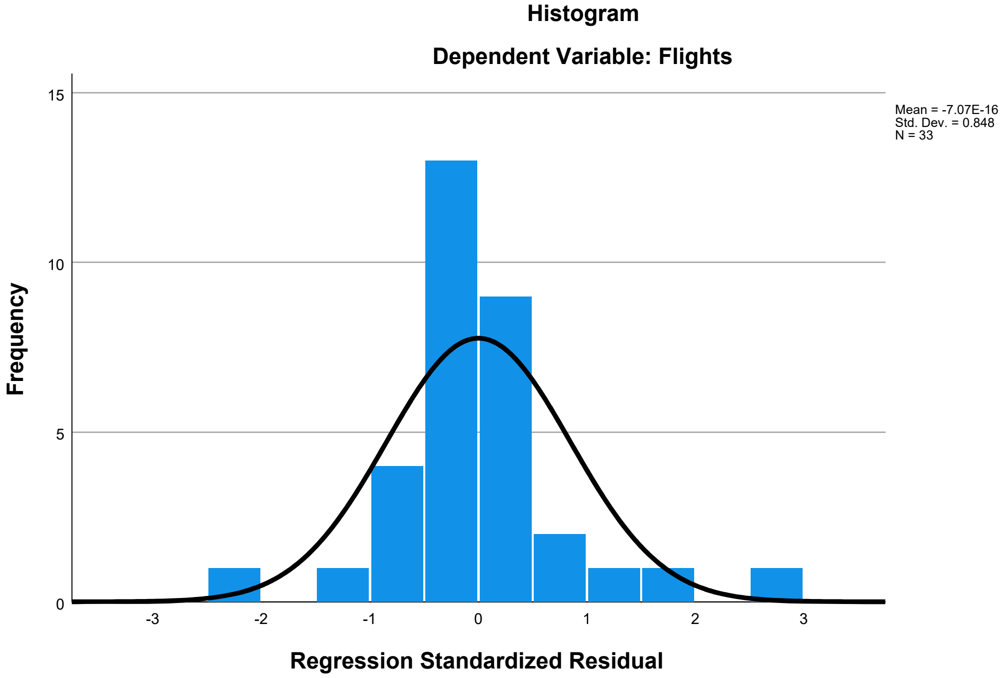
a. Dependent Variable: Flights

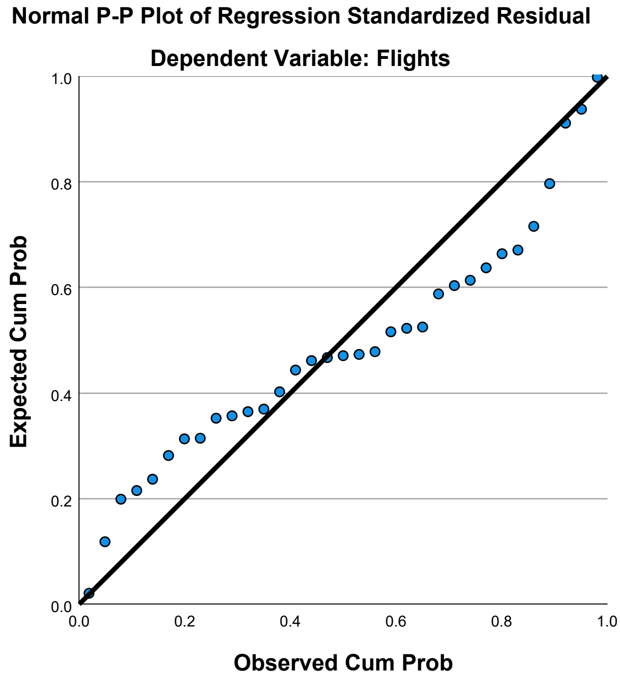
Residuals Statistics[a]

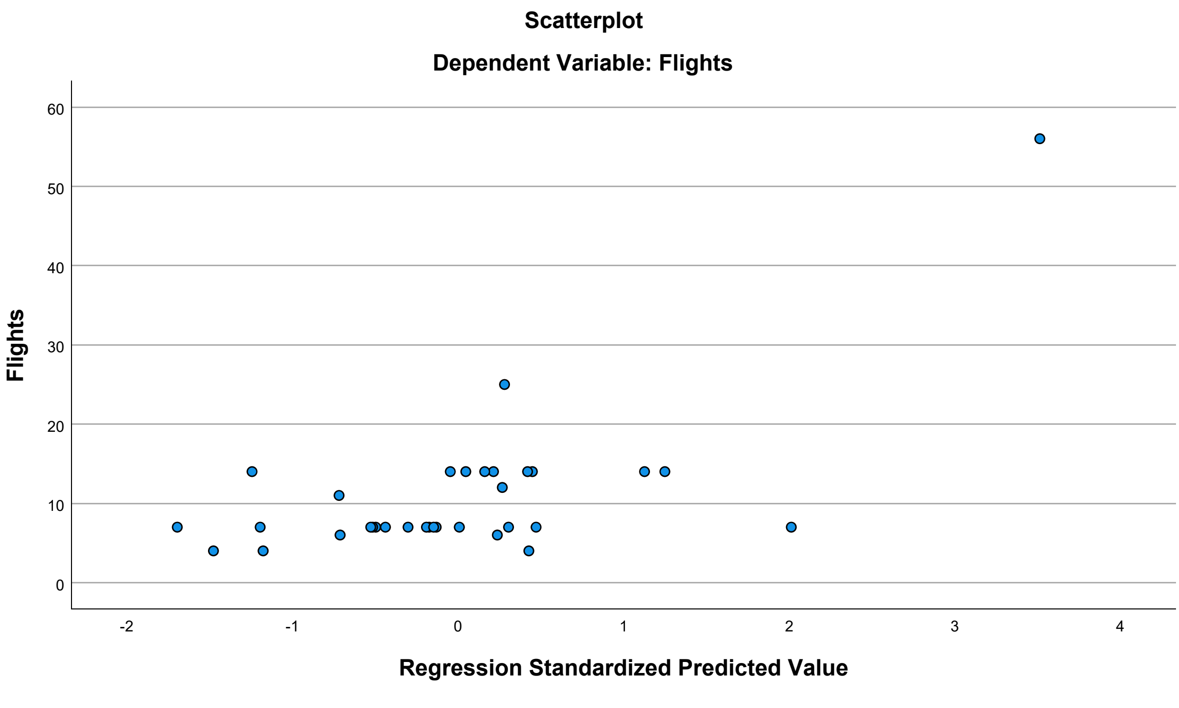
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.31	32.78	10.88	6.233	33
Residual	-16.423	23.222	.000	6.838	33
Std. Predicted Value	-1.695	3.513	.000	1.000	33
Std. Residual	-2.036	2.879	.000	.848	33

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
60
-2
-1
0
1
2
3
4

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.88	9.253	33
HomeConcentration	3.9664196970	1.9369733777	33
Congestion	4.58	.751	33
GJFK	.12	.331	33
PartnerConcentration	.91276533333	2.0299478243	33
Seasonality	.55486902067	.14971259388	33
Distance	4.31648	.755297	33
Ethnicity	.58082530	.587880891	33
Urban	18.58	3.666	33

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.250	.343	.321
	HomeConcentration	.250	1.000	-.145	-.476
	Congestion	.343	-.145	1.000	.464
	GJFK	.321	-.476	.464	1.000
	PartnerConcentration	.033	.130	-.120	.041
	Seasonality	-.174	-.367	-.171	-.089
	Distance	-.252	.248	-.324	-.457
	Ethnicity	.164	-.024	.408	.372
	Urban	.433	.202	.602	.224
Sig. (1-tailed)	Flights	.	.081	.025	.034
	HomeConcentration	.081	.	.210	.003
	Congestion	.025	.210	.	.003
	GJFK	.034	.003	.003	.
	PartnerConcentration	.429	.235	.252	.411
	Seasonality	.166	.018	.171	.312
	Distance	.079	.082	.033	.004
	Ethnicity	.181	.447	.009	.016
	Urban	.006	.130	.000	.105
N	Flights	33	33	33	33
	HomeConcentration	33	33	33	33
	Congestion	33	33	33	33
	GJFK	33	33	33	33
	PartnerConcentration	33	33	33	33
	Seasonality	33	33	33	33
	Distance	33	33	33	33
	Ethnicity	33	33	33	33
	Urban	33	33	33	33

Correlations

		PartnerConcentration	Seasonality	Distance	Ethnicity
Pearson Correlation	Flights	.033	-.174	-.252	.164
	HomeConcentration	.130	-.367	.248	-.024
	Congestion	-.120	-.171	-.324	.408
	GJFK	.041	-.089	-.457	.372
	PartnerConcentration	1.000	-.249	-.063	-.012
	Seasonality	-.249	1.000	.218	-.214
	Distance	-.063	.218	1.000	-.439
	Ethnicity	-.012	-.214	-.439	1.000
	Urban	.206	-.542	-.345	.154
Sig. (1-tailed)	Flights	.429	.166	.079	.181
	HomeConcentration	.235	.018	.082	.447
	Congestion	.252	.171	.033	.009
	GJFK	.411	.312	.004	.016
	PartnerConcentration	.	.081	.364	.474
	Seasonality	.081	.	.112	.115
	Distance	.364	.112	.	.005
	Ethnicity	.474	.115	.005	.
	Urban	.126	.001	.025	.197
N	Flights	33	33	33	33
	HomeConcentration	33	33	33	33
	Congestion	33	33	33	33
	GJFK	33	33	33	33
	PartnerConcentration	33	33	33	33
	Seasonality	33	33	33	33
	Distance	33	33	33	33
	Ethnicity	33	33	33	33
	Urban	33	33	33	33

Correlations

		Urban
Pearson Correlation	Flights	.433
	HomeConcentration	.202
	Congestion	.602
	GJFK	.224
	PartnerConcentration	.206
	Seasonality	-.542
	Distance	-.345
	Ethnicity	.154
	Urban	1.000
Sig. (1-tailed)	Flights	.006
	HomeConcentration	.130
	Congestion	.000
	GJFK	.105
	PartnerConcentration	.126
	Seasonality	.001
	Distance	.025
	Ethnicity	.197
	Urban	.
N	Flights	33
	HomeConcentration	33
	Congestion	33
	GJFK	33
	PartnerConcentration	33
	Seasonality	33
	Distance	33
	Ethnicity	33
	Urban	33

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, HomeConcentration, PartnerConcentration, Distance, Seasonality, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.646[a]	.417	.222	8.160	.417	2.143

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	24	.071

a. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, PartnerConcentration, Distance, Seasonality, GJFK, Congestio

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1141.513	8	142.689	2.143	.071[b]
	Residual	1598.002	24	66.583		
	Total	2739.515	32			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, PartnerConcentration, Distance, Seasonality, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-16.775	19.166		-.875	.390
	HomeConcentration	2.673	1.017	.560	2.628	.015
	Congestion	.487	3.138	.040	.155	.878
	GJFK	13.728	6.069	.492	2.262	.033
	PartnerConcentration	-.302	.777	-.066	-.389	.701
	Seasonality	14.602	12.837	.236	1.138	.267
	Distance	-1.755	2.467	-.143	-.711	.484
	Ethnicity	-1.255	3.158	-.080	-.397	.695
	Urban	.734	.683	.291	1.076	.293

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.536	1.865
	Congestion	.374	2.672
	GJFK	.514	1.944
	PartnerConcentration	.835	1.197
	Seasonality	.563	1.775
	Distance	.599	1.669
	Ethnicity	.604	1.657
	Urban	.332	3.009

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.568	1.000	.00	.00	.00
	2	1.022	2.535	.00	.01	.00
	3	.815	2.838	.00	.00	.00
	4	.376	4.180	.00	.01	.00
	5	.135	6.963	.00	.41	.00
	6	.051	11.393	.00	.36	.03
	7	.021	17.591	.00	.16	.00
	8	.007	31.302	.11	.06	.92
	9	.004	39.943	.88	.00	.05

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.34	.00	.00	.00	.03	.00
	3	.00	.80	.00	.00	.00	.00
	4	.15	.00	.01	.00	.59	.00
	5	.19	.07	.08	.00	.09	.00
	6	.28	.01	.15	.01	.01	.09
	7	.01	.00	.43	.53	.04	.03
	8	.02	.11	.01	.00	.08	.37
	9	.02	.00	.33	.46	.15	.50

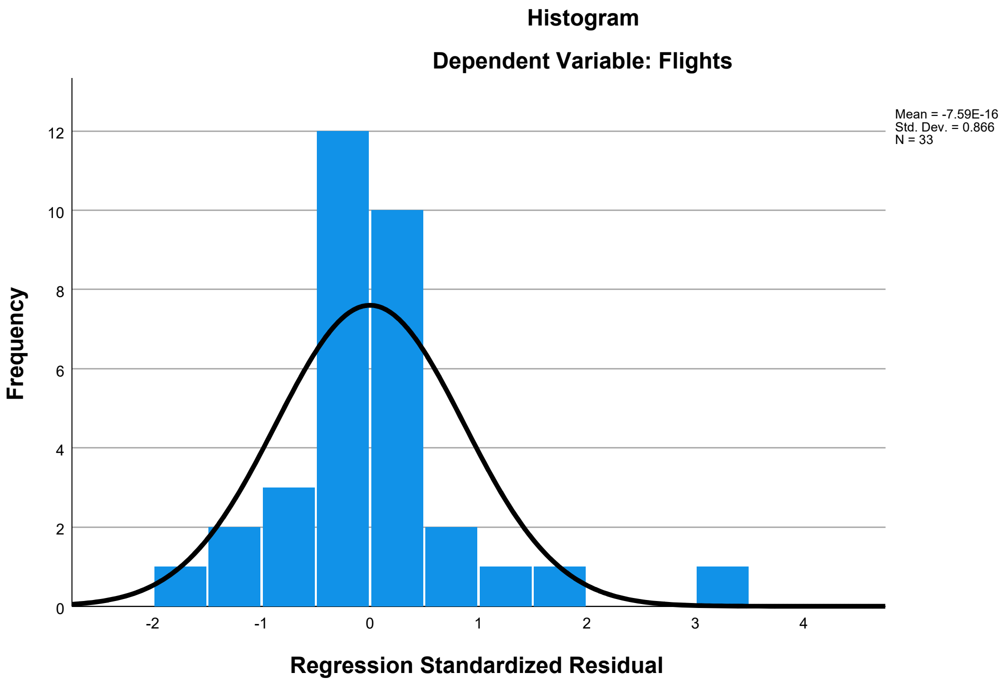
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.72	31.12	10.88	5.973	33
Residual	-12.703	24.881	.000	7.067	33
Std. Predicted Value	-1.942	3.389	.000	1.000	33
Std. Residual	-1.557	3.049	.000	.866	33

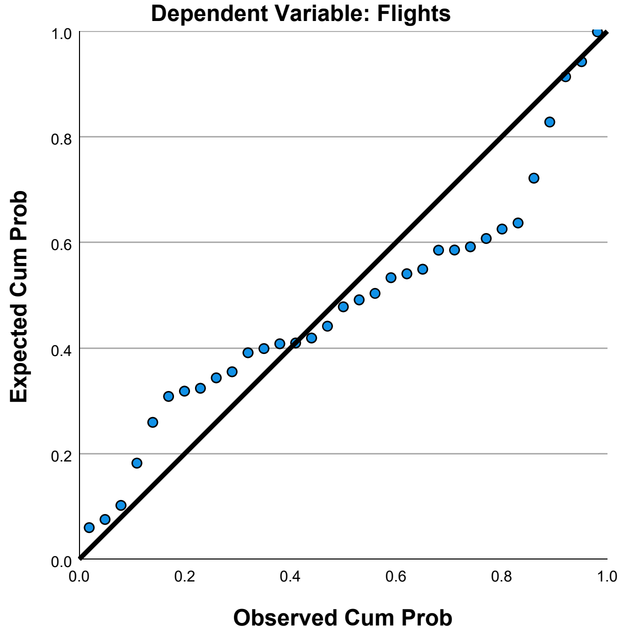
a. Dependent Variable: Flights

Charts



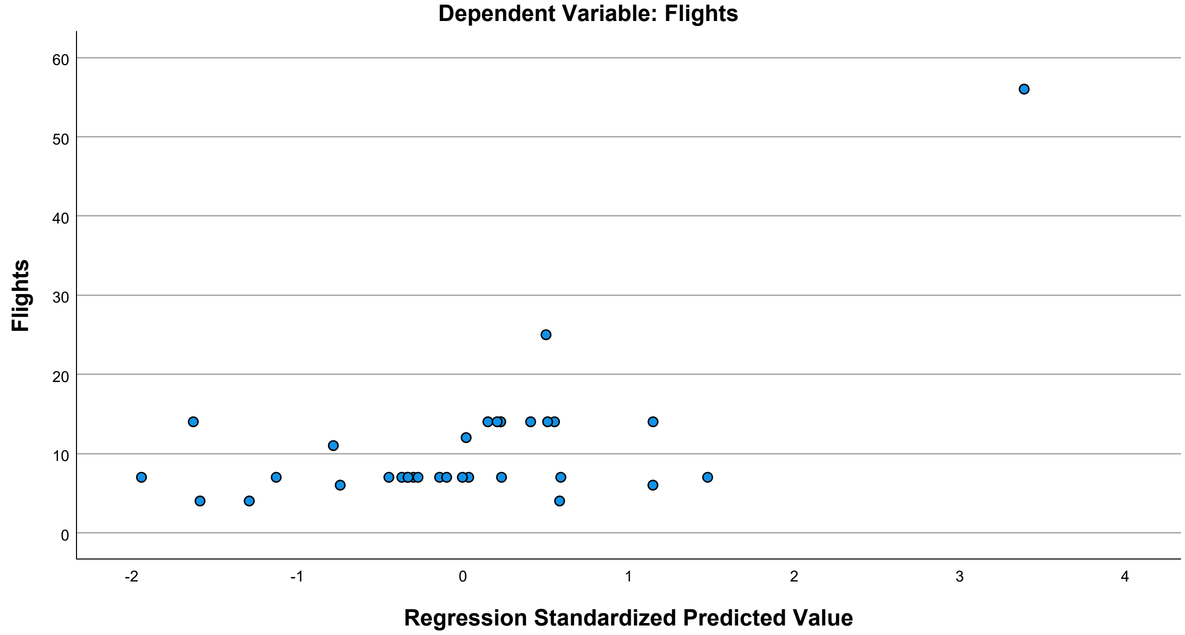
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.88	9.253	33
HomeConcentration	3.9664196970	1.9369733777	33
GJFK	.12	.331	33
PartnerConcentration	.91276533333	2.0299478243	33
Seasonality	.55486902067	.14971259388	33
Distance	4.31648	.755297	33
Ethnicity	.58082530	.587880891	33
Urban	18.58	3.666	33

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.250	.321	.033
	HomeConcentration	.250	1.000	-.476	.130
	GJFK	.321	-.476	1.000	.041
	PartnerConcentration	.033	.130	.041	1.000
	Seasonality	-.174	-.367	-.089	-.249
	Distance	-.252	.248	-.457	-.063
	Ethnicity	.164	-.024	.372	-.012
	Urban	.433	.202	.224	.206
Sig. (1-tailed)	Flights	.	.081	.034	.429
	HomeConcentration	.081	.	.003	.235
	GJFK	.034	.003	.	.411
	PartnerConcentration	.429	.235	.411	.
	Seasonality	.166	.018	.312	.081
	Distance	.079	.082	.004	.364
	Ethnicity	.181	.447	.016	.474
	Urban	.006	.130	.105	.126
N	Flights	33	33	33	33
	HomeConcentration	33	33	33	33
	GJFK	33	33	33	33
	PartnerConcentration	33	33	33	33
	Seasonality	33	33	33	33
	Distance	33	33	33	33
	Ethnicity	33	33	33	33
	Urban	33	33	33	33

Correlations

		Seasonality	Distance	Ethnicity	Urban
Pearson Correlation	Flights	-.174	-.252	.164	.433
	HomeConcentration	-.367	.248	-.024	.202
	GJFK	-.089	-.457	.372	.224
	PartnerConcentration	-.249	-.063	-.012	.206
	Seasonality	1.000	.218	-.214	-.542
	Distance	.218	1.000	-.439	-.345
	Ethnicity	-.214	-.439	1.000	.154
	Urban	-.542	-.345	.154	1.000
Sig. (1-tailed)	Flights	.166	.079	.181	.006
	HomeConcentration	.018	.082	.447	.130
	GJFK	.312	.004	.016	.105
	PartnerConcentration	.081	.364	.474	.126
	Seasonality	.	.112	.115	.001
	Distance	.112	.	.005	.025
	Ethnicity	.115	.005	.	.197
	Urban	.001	.025	.197	.
N	Flights	33	33	33	33
	HomeConcentration	33	33	33	33
	GJFK	33	33	33	33
	PartnerConcentration	33	33	33	33
	Seasonality	33	33	33	33
	Distance	33	33	33	33
	Ethnicity	33	33	33	33
	Urban	33	33	33	33

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, HomeConcentration, PartnerConcentration, Distance, Seasonality, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change
1	.645[a]	.416	.253	7.999	.416	2.545

Model Summary[b]

Model	Change Statistics: df1	df2	Sig. F Change
1	7	25	.040

a. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, PartnerConcentration, Distance, Seasonality, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1139.909	7	162.844	2.545	.040[b]
	Residual	1599.606	25	63.984		
	Total	2739.515	32			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, HomeConcentration, PartnerConcentration, Distance, Seasonality, GJFK

Coefficients[a]

Model		Unstandardized Coefficients: B	Unstandardized Coefficients: Std. Error	Standardized Coefficients: Beta	t	Sig.
1	(Constant)	-16.417	18.651		-.880	.387
	HomeConcentration	2.650	.986	.555	2.687	.013
	GJFK	13.968	5.753	.500	2.428	.023
	PartnerConcentration	-.339	.726	-.074	-.467	.644
	Seasonality	15.036	12.282	.243	1.224	.232
	Distance	-1.689	2.382	-.138	-.709	.485
	Ethnicity	-1.062	2.846	-.067	-.373	.712
	Urban	.806	.494	.319	1.631	.116

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.548	1.825
	GJFK	.550	1.818
	PartnerConcentration	.921	1.086
	Seasonality	.591	1.691
	Distance	.618	1.619
	Ethnicity	.714	1.400
	Urban	.609	1.641

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	5.595	1.000	.00	.00	.00
	2	1.022	2.340	.00	.01	.36
	3	.807	2.632	.00	.00	.00
	4	.373	3.873	.00	.01	.17
	5	.135	6.428	.00	.41	.20
	6	.042	11.518	.00	.45	.25
	7	.021	16.317	.00	.12	.01
	8	.004	36.524	.99	.00	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Ethnicity	Urban
1	1	.01	.00	.00	.01	.00
	2	.00	.00	.00	.04	.00
	3	.89	.00	.00	.01	.00
	4	.00	.01	.00	.68	.00
	5	.08	.09	.00	.11	.00
	6	.02	.16	.00	.00	.31
	7	.00	.44	.54	.04	.10
	8	.00	.31	.45	.11	.59

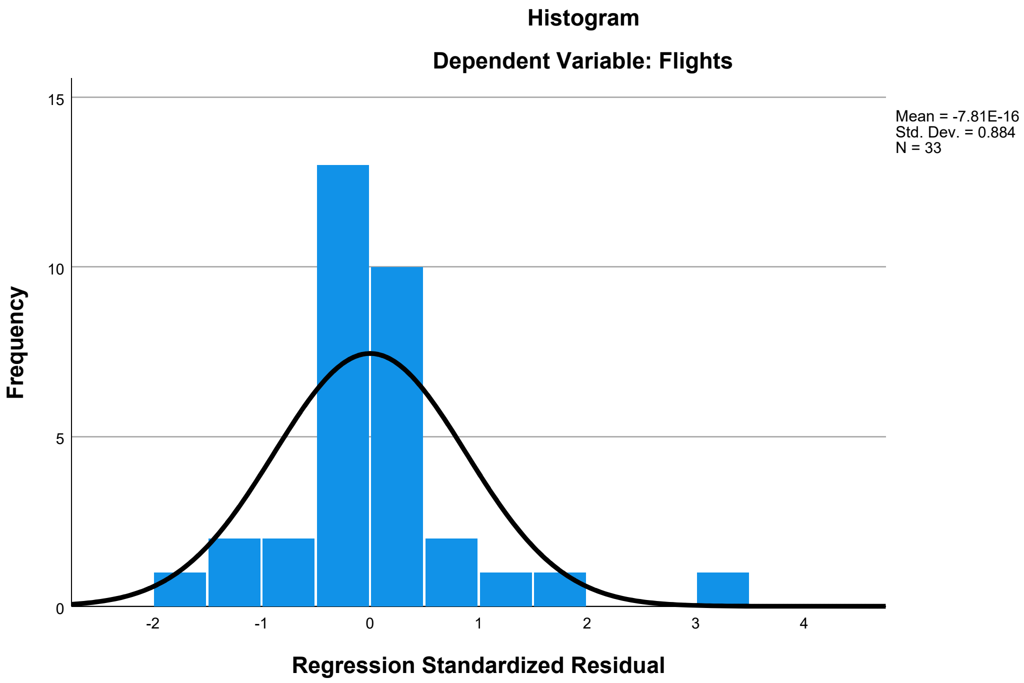
a. Dependent Variable: Flights

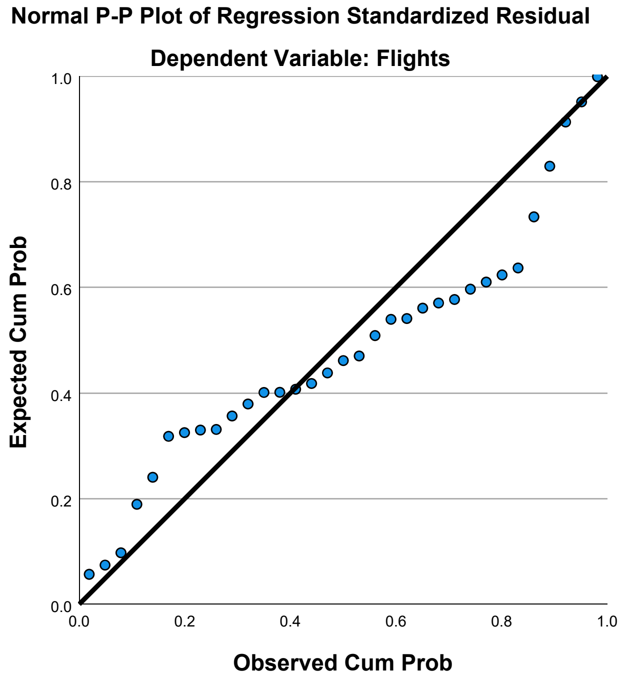
Residuals Statistics[a]

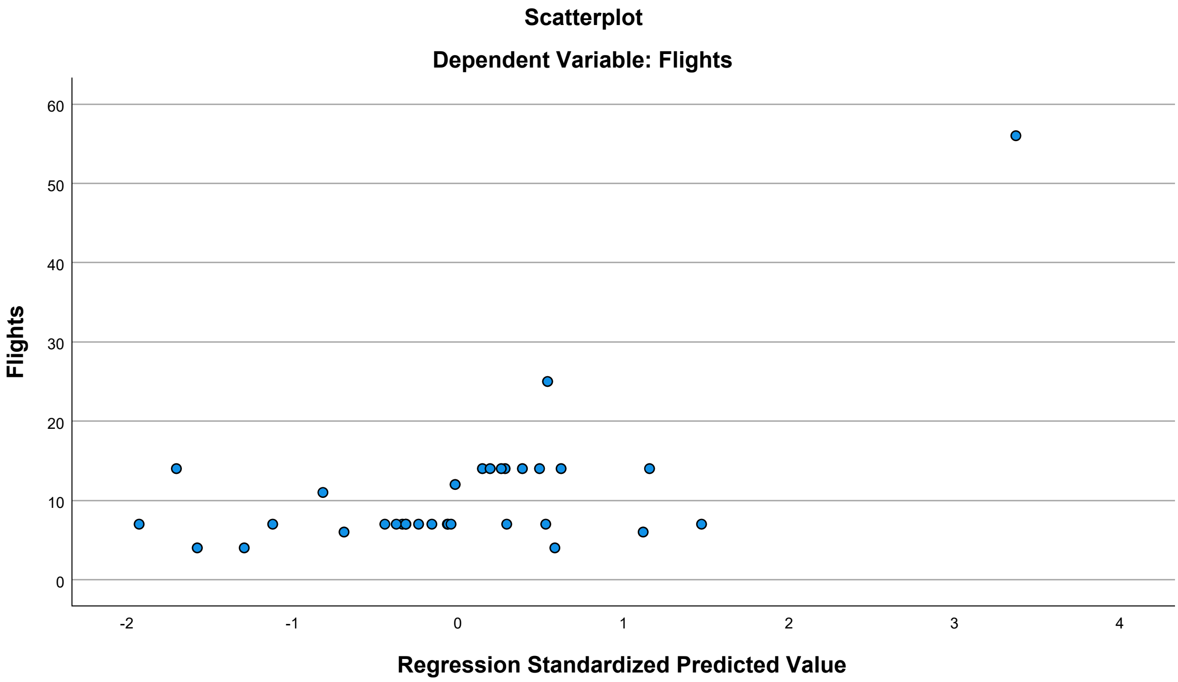
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.62	31.00	10.88	5.968	33
Residual	-12.665	24.999	.000	7.070	33
Std. Predicted Value	-1.926	3.371	.000	1.000	33
Std. Residual	-1.583	3.125	.000	.884	33

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
60
-2
-1
0
1
2
3
4

Regression

```
[DataSet17] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
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Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: NAFlights, GLHR, PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.90	5.820	10
NAFlights	1.00000	.000000	10
Congestion	4.80	.919	10
GLHR	.00	.000	10
GJFK	.10	.316	10
PartnerConcentration	.000100	.0000000	10
Seasonality	.53804528805	.05471413233	10
Distance	4315.50	837.536	10
Language	676691.10	1770232.073	10
Ethnicity	569051.60	892624.293	10
Urban	20.40	1.955	10

Correlations

		Flights	NAFlights	Congestion	GLHR
Pearson Correlation	Flights	1.000	.	.266	.
	NAFlights	.	1.000	.	.
	Congestion	.266	.	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.912	.	.459	.
	PartnerConcentration	.	.	.	.
	Seasonality	.484	.	-.003	.
	Distance	-.306	.	-.344	.
	Language	.257	.	-.267	.
	Ethnicity	.277	.	-.030	.
	Urban	.316	.	.668	.
Sig. (1-tailed)	Flights	.	.000	.229	.000
	NAFlights	.000	.	.000	.000
	Congestion	.229	.000	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.000	.000	.091	.000
	PartnerConcentration	.000	.000	.000	.000
	Seasonality	.078	.000	.497	.000
	Distance	.195	.000	.165	.000
	Language	.236	.000	.228	.000
	Ethnicity	.219	.000	.468	.000
	Urban	.187	.000	.017	.000
N	Flights	10	10	10	10
	NAFlights	10	10	10	10
	Congestion	10	10	10	10
	GLHR	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Seasonality	10	10	10	10
	Distance	10	10	10	10
	Language	10	10	10	10
	Ethnicity	10	10	10	10
	Urban	10	10	10	10

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.912	.	.484	-.306
	NAFlights	.	.	.	.
	Congestion	.459	.	-.003	-.344
	GLHR	.	.	.	.
	GJFK	1.000	.	.194	-.291
	PartnerConcentration	.	1.000	.	.
	Seasonality	.194	.	1.000	-.454
	Distance	-.291	.	-.454	1.000
	Language	-.098	.	.858	-.402
	Ethnicity	-.036	.	.945	-.508
	Urban	.467	.	-.300	-.149
Sig. (1-tailed)	Flights	<.001	.000	.078	.195
	NAFlights	.000	.000	.000	.000
	Congestion	.091	.000	.497	.165
	GLHR	.000	.000	.000	.000
	GJFK	.	.000	.296	.207
	PartnerConcentration	.000	.	.000	.000
	Seasonality	.296	.000	.	.094
	Distance	.207	.000	.094	.
	Language	.393	.000	.001	.125
	Ethnicity	.461	.000	.000	.067
	Urban	.087	.000	.200	.341
N	Flights	10	10	10	10
	NAFlights	10	10	10	10
	Congestion	10	10	10	10
	GLHR	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Seasonality	10	10	10	10
	Distance	10	10	10	10
	Language	10	10	10	10
	Ethnicity	10	10	10	10
	Urban	10	10	10	10

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.257	.277	.316
	NAFlights	.	.	.
	Congestion	-.267	-.030	.668
	GLHR	.	.	.
	GJFK	-.098	-.036	.467
	PartnerConcentration	.	.	.
	Seasonality	.858	.945	-.300
	Distance	-.402	-.508	-.149
	Language	1.000	.934	-.414
	Ethnicity	.934	1.000	-.316
	Urban	-.414	-.316	1.000
Sig. (1-tailed)	Flights	.236	.219	.187
	NAFlights	.000	.000	.000
	Congestion	.228	.468	.017
	GLHR	.000	.000	.000
	GJFK	.393	.461	.087
	PartnerConcentration	.000	.000	.000
	Seasonality	.001	.000	.200
	Distance	.125	.067	.341
	Language	.	.000	.117
	Ethnicity	.000	.	.187
	Urban	.117	.187	.
N	Flights	10	10	10
	NAFlights	10	10	10
	Congestion	10	10	10
	GLHR	10	10	10
	GJFK	10	10	10
	PartnerConcentration	10	10	10
	Seasonality	10	10	10
	Distance	10	10	10
	Language	10	10	10
	Ethnicity	10	10	10
	Urban	10	10	10

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, GJFK, Language, Congestion, Seasonality, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.991[a]	.982	.917	1.673	.982	15.282

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	7	2	.063

a. Predictors: (Constant), Urban, Distance, GJFK, Language, Congestion, Seasonality, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	299.304	7	42.758	15.282	.063[b]
	Residual	5.596	2	2.798		
	Total	304.900	9			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, GJFK, Language, Congestion, Seasonality, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-8.765	41.111		-.213	.851
	Congestion	-1.013	1.260	-.160	-.804	.506
	GJFK	17.537	4.748	.953	3.694	.066
	Seasonality	12.644	72.731	.119	.174	.878
	Distance	.001	.001	.135	.905	.461
	Language	9.091E-7	.000	.277	.588	.616
	Ethnicity	3.704E-7	.000	.057	.056	.960
	Urban	.495	.483	.166	1.025	.413

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.232	4.309
	GJFK	.138	7.251
	Seasonality	.020	50.939
	Distance	.414	2.418
	Language	.042	24.080
	Ethnicity	.009	110.763
	Urban	.348	2.870

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GJFK	Seasonality
1	1	5.633	1.000	.00	.00	.00	.00
	2	1.425	1.988	.00	.00	.01	.00
	3	.850	2.574	.00	.00	.13	.00
	4	.064	9.362	.00	.02	.02	.00
	5	.018	17.790	.00	.06	.03	.00
	6	.006	29.755	.00	.45	.00	.01
	7	.003	47.269	.01	.29	.00	.01
	8	8.552E-5	256.653	.99	.18	.81	.98

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00
	2	.00	.01	.00	.00
	3	.00	.00	.00	.00
	4	.04	.17	.03	.00
	5	.32	.23	.06	.02
	6	.36	.15	.01	.01
	7	.06	.06	.05	.73
	8	.23	.38	.85	.24

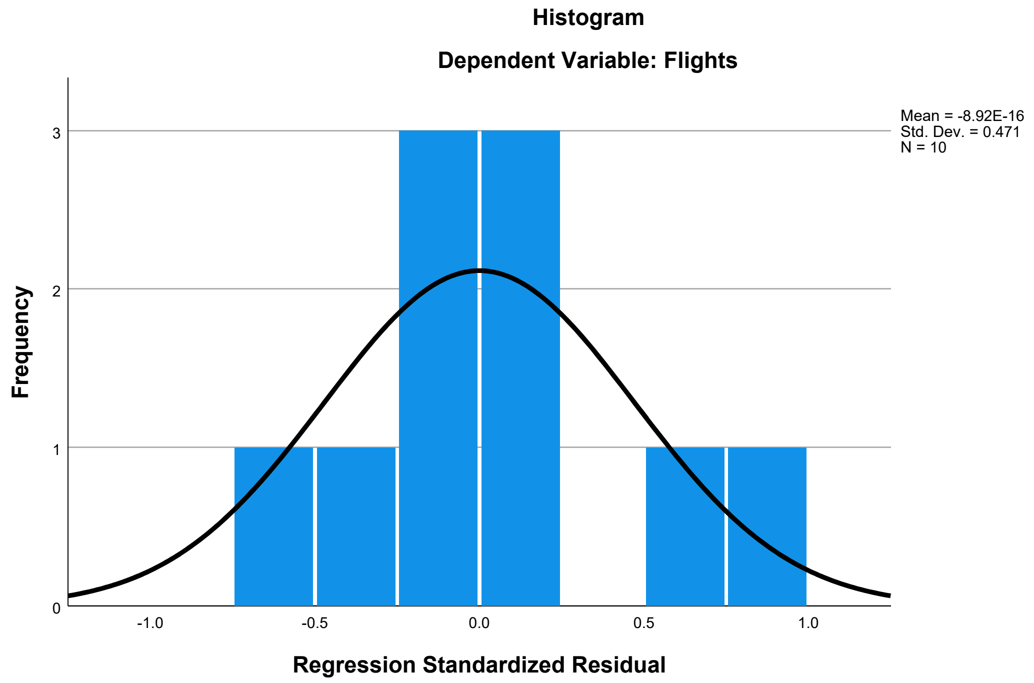
a. Dependent Variable: Flights

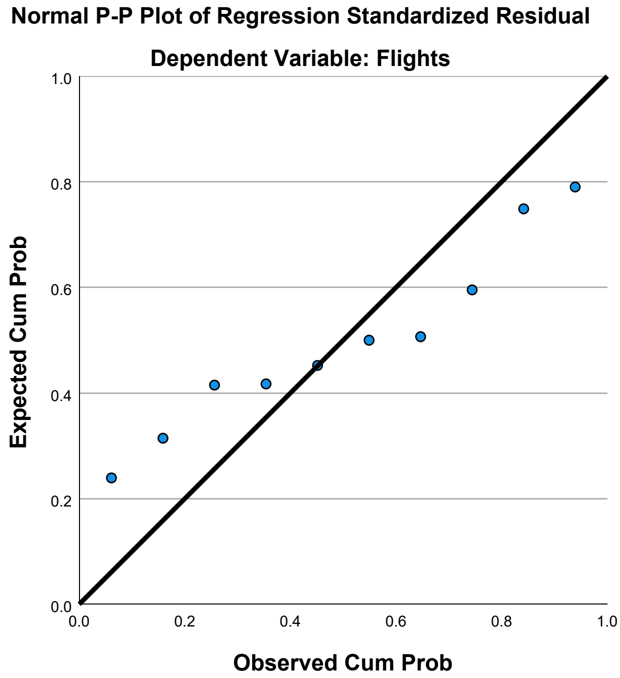
Residuals Statistics[a]

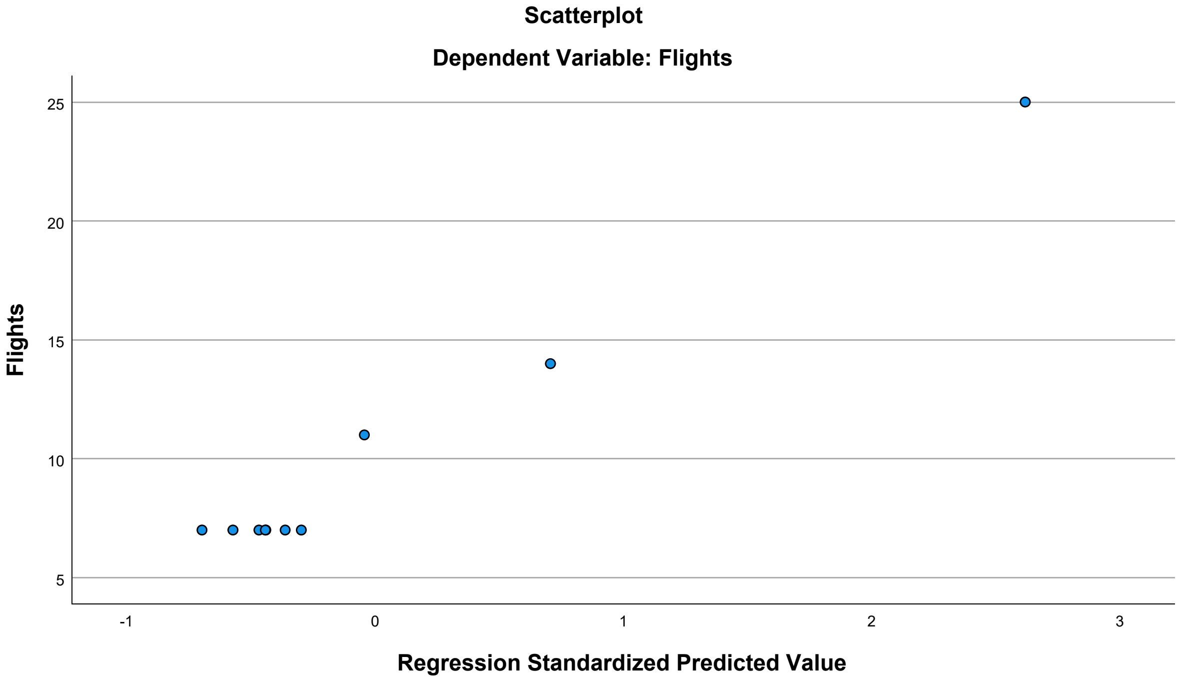
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.88	25.00	9.90	5.767	10
Residual	-1.186	1.350	.000	.789	10
Std. Predicted Value	-.697	2.618	.000	1.000	10
Std. Residual	-.709	.807	.000	.471	10

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: NAFlights, GLHR, PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.90	5.820	10
NAFlights	1.00000	.000000	10
Congestion	4.80	.919	10
GLHR	.00	.000	10
GJFK	.10	.316	10
PartnerConcentration	.000100	.0000000	10
Seasonality	.53804528805	.05471413233	10
Distance	4315.50	837.536	10
Language	676691.10	1770232.073	10
Urban	20.40	1.955	10

Correlations

		Flights	NAFlights	Congestion	GLHR
Pearson Correlation	Flights	1.000	.	.266	.
	NAFlights	.	1.000	.	.
	Congestion	.266	.	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.912	.	.459	.
	PartnerConcentration	.	.	.	.
	Seasonality	.484	.	-.003	.
	Distance	-.306	.	-.344	.
	Language	.257	.	-.267	.
	Urban	.316	.	.668	.
Sig. (1-tailed)	Flights	.	.000	.229	.000
	NAFlights	.000	.	.000	.000
	Congestion	.229	.000	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.000	.000	.091	.000
	PartnerConcentration	.000	.000	.000	.000
	Seasonality	.078	.000	.497	.000
	Distance	.195	.000	.165	.000
	Language	.236	.000	.228	.000
	Urban	.187	.000	.017	.000
N	Flights	10	10	10	10
	NAFlights	10	10	10	10

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.912	.	.484	-.306
	NAFlights	.	.	.	.
	Congestion	.459	.	-.003	-.344
	GLHR	.	.	.	.
	GJFK	1.000	.	.194	-.291
	PartnerConcentration	.	1.000	.	.
	Seasonality	.194	.	1.000	-.454
	Distance	-.291	.	-.454	1.000
	Language	-.098	.	.858	-.402
	Urban	.467	.	-.300	-.149
Sig. (1-tailed)	Flights	<.001	.000	.078	.195
	NAFlights	.000	.000	.000	.000
	Congestion	.091	.000	.497	.165
	GLHR	.000	.000	.000	.000
	GJFK	.	.000	.296	.207
	PartnerConcentration	.000	.	.000	.000
	Seasonality	.296	.000	.	.094
	Distance	.207	.000	.094	.
	Language	.393	.000	.001	.125
	Urban	.087	.000	.200	.341
N	Flights	10	10	10	10
	NAFlights	10	10	10	10

Correlations

		Language	Urban
Pearson Correlation	Flights	.257	.316
	NAFlights	.	.
	Congestion	-.267	.668
	GLHR	.	.
	GJFK	-.098	.467
	PartnerConcentration	.	.
	Seasonality	.858	-.300
	Distance	-.402	-.149
	Language	1.000	-.414
	Urban	-.414	1.000
Sig. (1-tailed)	Flights	.236	.187
	NAFlights	.000	.000
	Congestion	.228	.017
	GLHR	.000	.000
	GJFK	.393	.087
	PartnerConcentration	.000	.000
	Seasonality	.001	.200
	Distance	.125	.341
	Language	.	.117
	Urban	.117	.
N	Flights	10	10
	NAFlights	10	10

Correlations

		Flights	NAFlights	Congestion	GLHR
	Congestion	10	10	10	10
	GLHR	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Seasonality	10	10	10	10
	Distance	10	10	10	10
	Language	10	10	10	10
	Urban	10	10	10	10

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	10	10	10	10
GLHR	10	10	10	10
GJFK	10	10	10	10
PartnerConcentration	10	10	10	10
Seasonality	10	10	10	10
Distance	10	10	10	10
Language	10	10	10	10
Urban	10	10	10	10

Correlations

	Language	Urban
Congestion	10	10
GLHR	10	10
GJFK	10	10
PartnerConcentration	10	10
Seasonality	10	10
Distance	10	10
Language	10	10
Urban	10	10

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, GJFK, Language, Congestion, Seasonality[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.991[a]	.982	.945	1.367	.982	26.700

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	3	.011

a. Predictors: (Constant), Urban, Distance, GJFK, Language, Congestion, Seasonality

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	299.295	6	49.883	26.700	.011[b]
	Residual	5.605	3	1.868		
	Total	304.900	9			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, GJFK, Language, Congestion, Seasonality

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-10.846	14.746		-.736	.515
	Congestion	-.970	.821	-.153	-1.182	.322
	GJFK	17.308	2.014	.940	8.593	.003
	Seasonality	16.443	22.293	.155	.738	.514
	Distance	.001	.001	.130	1.284	.289
	Language	9.821E-7	.000	.299	1.427	.249
	Urban	.503	.379	.169	1.326	.277

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.365	2.743
	GJFK	.512	1.954
	Seasonality	.140	7.167
	Distance	.596	1.678
	Language	.140	7.156
	Urban	.378	2.645

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GJFK	Seasonality
1	1	5.212	1.000	.00	.00	.00	.00
	2	.979	2.308	.00	.00	.25	.00
	3	.764	2.612	.00	.00	.26	.00
	4	.034	12.318	.00	.14	.16	.00
	5	.007	27.793	.02	.63	.00	.02
	6	.004	37.293	.01	.03	.00	.12
	7	.001	101.194	.97	.20	.32	.86

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Distance	Language	Urban
1	1	.00	.00	.00
	2	.00	.06	.00
	3	.00	.08	.00
	4	.31	.00	.00
	5	.64	.13	.05
	6	.04	.24	.48
	7	.01	.49	.47

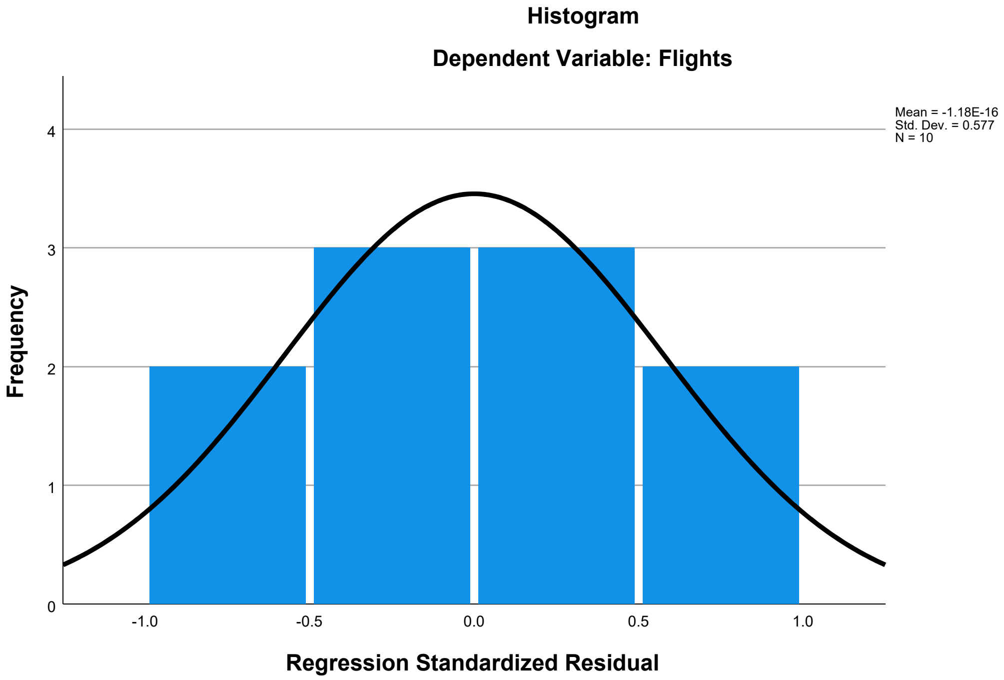
a. Dependent Variable: Flights

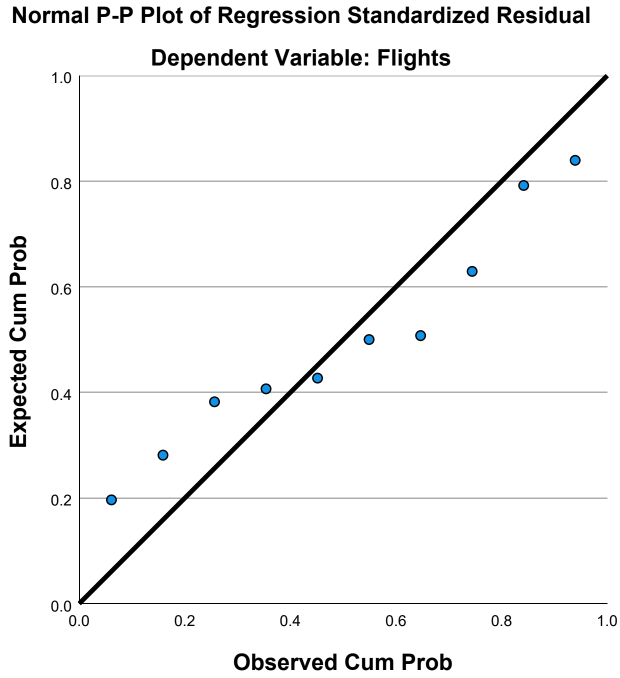
Residuals Statistics[a]

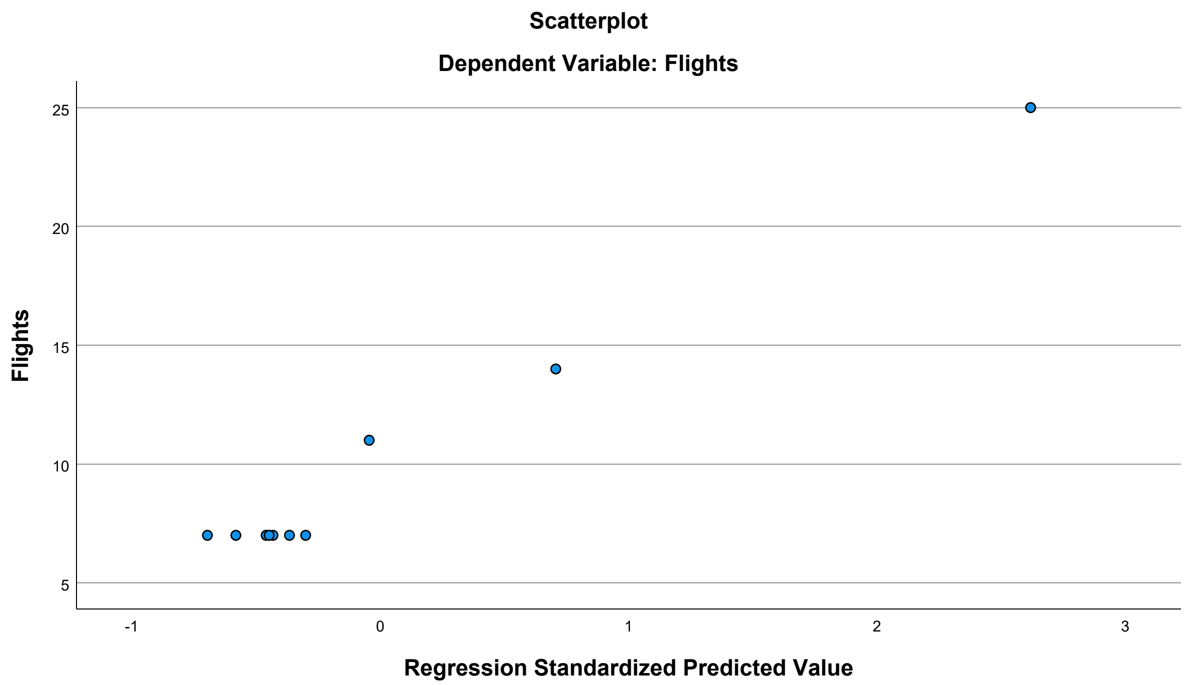
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.89	25.00	9.90	5.767	10
Residual	-1.168	1.356	.000	.789	10
Std. Predicted Value	-.696	2.618	.000	1.000	10
Std. Residual	-.854	.992	.000	.577	10

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -1.18E-16
Std. Dev. = 0.577
N = 10
Frequency
0
1
2
3
4
-1.0
-0.5
0.0
0.5
1.0
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: NAFlights, GLHR, PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.90	5.820	10
NAFlights	1.00000	.000000	10
Congestion	4.80	.919	10
GLHR	.00	.000	10
GJFK	.10	.316	10
PartnerConcentration	.000100	.0000000	10
Distance	4315.50	837.536	10
Language	676691.10	1770232.073	10
Urban	20.40	1.955	10

Correlations

		Flights	NAFlights	Congestion	GLHR
Pearson Correlation	Flights	1.000	.	.266	.
	NAFlights	.	1.000	.	.
	Congestion	.266	.	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.912	.	.459	.
	PartnerConcentration	.	.	.	.
	Distance	-.306	.	-.344	.
	Language	.257	.	-.267	.
	Urban	.316	.	.668	.
Sig. (1-tailed)	Flights	.	.000	.229	.000
	NAFlights	.000	.	.000	.000
	Congestion	.229	.000	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.000	.000	.091	.000
	PartnerConcentration	.000	.000	.000	.000
	Distance	.195	.000	.165	.000
	Language	.236	.000	.228	.000
	Urban	.187	.000	.017	.000
N	Flights	10	10	10	10
	NAFlights	10	10	10	10
	Congestion	10	10	10	10
	GLHR	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Distance	10	10	10	10
	Language	10	10	10	10
	Urban	10	10	10	10

Correlations

		GJFK	PartnerConcentration	Distance	Language
Pearson Correlation	Flights	.912	.	-.306	.257
	NAFlights	.	.	.	.
	Congestion	.459	.	-.344	-.267
	GLHR	.	.	.	.
	GJFK	1.000	.	-.291	-.098
	PartnerConcentration	.	1.000	.	.
	Distance	-.291	.	1.000	-.402
	Language	-.098	.	-.402	1.000
	Urban	.467	.	-.149	-.414
Sig. (1-tailed)	Flights	<.001	.000	.195	.236
	NAFlights	.000	.000	.000	.000
	Congestion	.091	.000	.165	.228
	GLHR	.000	.000	.000	.000
	GJFK	.	.000	.207	.393
	PartnerConcentration	.000	.	.000	.000
	Distance	.207	.000	.	.125
	Language	.393	.000	.125	.
	Urban	.087	.000	.341	.117
N	Flights	10	10	10	10
	NAFlights	10	10	10	10
	Congestion	10	10	10	10
	GLHR	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Distance	10	10	10	10
	Language	10	10	10	10
	Urban	10	10	10	10

Correlations

		Urban
Pearson Correlation	Flights	.316
	NAFlights	.
	Congestion	.668
	GLHR	.
	GJFK	.467
	PartnerConcentration	.
	Distance	-.149
	Language	-.414
	Urban	1.000
Sig. (1-tailed)	Flights	.187
	NAFlights	.000
	Congestion	.017
	GLHR	.000
	GJFK	.087
	PartnerConcentration	.000
	Distance	.341
	Language	.117
	Urban	.
N	Flights	10
	NAFlights	10
	Congestion	10
	GLHR	10
	GJFK	10
	PartnerConcentration	10
	Distance	10
	Language	10
	Urban	10

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, GJFK, Language, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.989[a]	.978	.951	1.287	.978	36.040

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	5	4	.002

a. Predictors: (Constant), Urban, Distance, GJFK, Language, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	298.279	5	59.656	36.040	.002[b]
	Residual	6.621	4	1.655		
	Total	304.900	9			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, GJFK, Language, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.509	7.118		-.212	.842
	Congestion	-.691	.686	-.109	-1.008	.371
	GJFK	18.099	1.605	.983	11.279	<.001
	Distance	.001	.001	.136	1.430	.226
	Language	1.425E-6	.000	.433	4.501	.011
	Urban	.386	.324	.130	1.191	.300

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Congestion	.463	2.160
	GJFK	.714	1.400
	Distance	.600	1.667
	Language	.585	1.708
	Urban	.458	2.183

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GJFK	Distance
1	1	4.221	1.000	.00	.00	.01	.00
	2	.974	2.082	.00	.00	.34	.00
	3	.763	2.351	.00	.00	.36	.00
	4	.034	11.085	.00	.18	.23	.31
	5	.006	25.992	.11	.79	.00	.52
	6	.002	46.060	.89	.02	.06	.16

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Language	Urban
1	1	.00	.00
	2	.25	.00
	3	.32	.00
	4	.01	.00
	5	.14	.17
	6	.28	.82

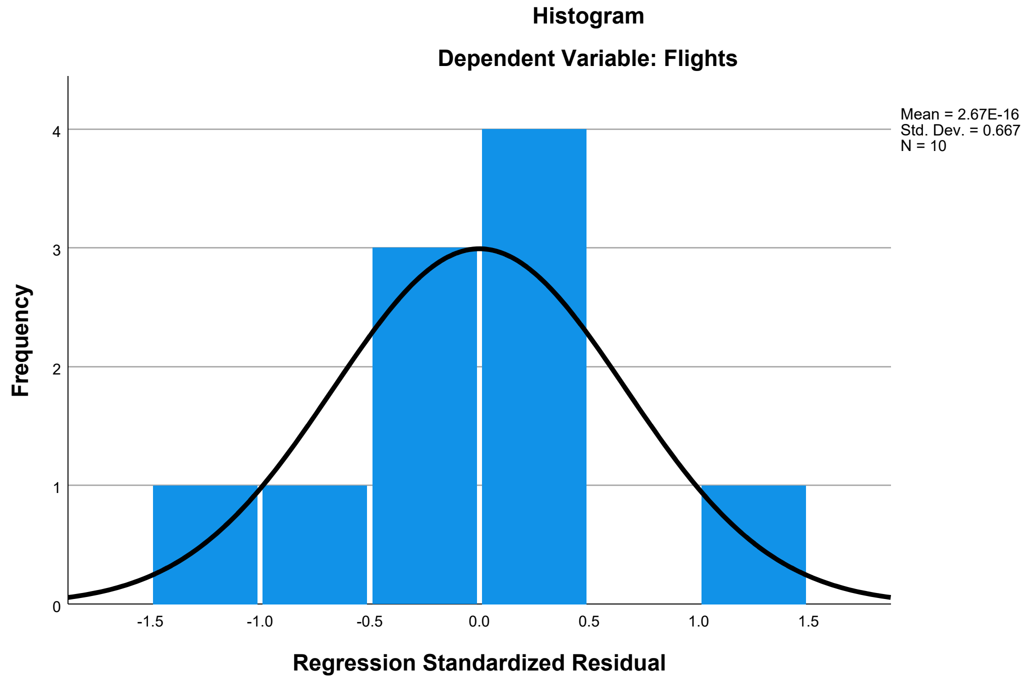
a. Dependent Variable: Flights

Residuals Statistics[a]

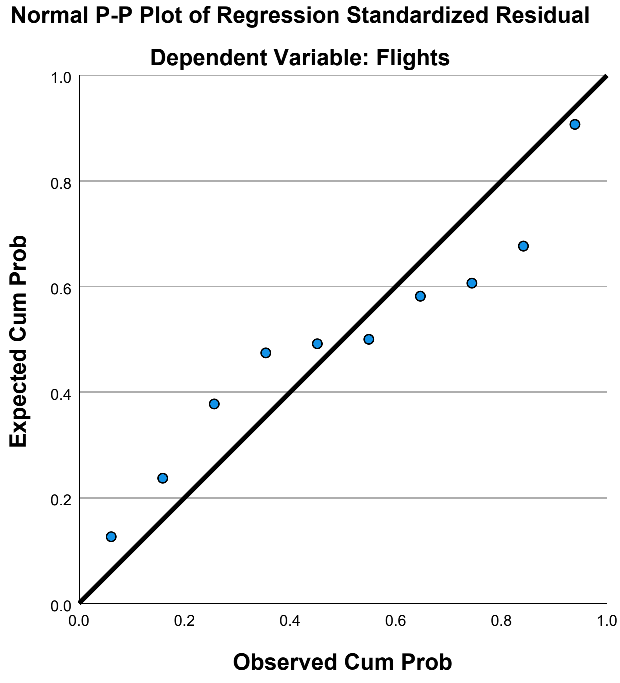
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6.41	25.00	9.90	5.757	10
Residual	-1.472	1.702	.000	.858	10
Std. Predicted Value	-.606	2.623	.000	1.000	10
Std. Residual	-1.144	1.323	.000	.667	10

a. Dependent Variable: Flights

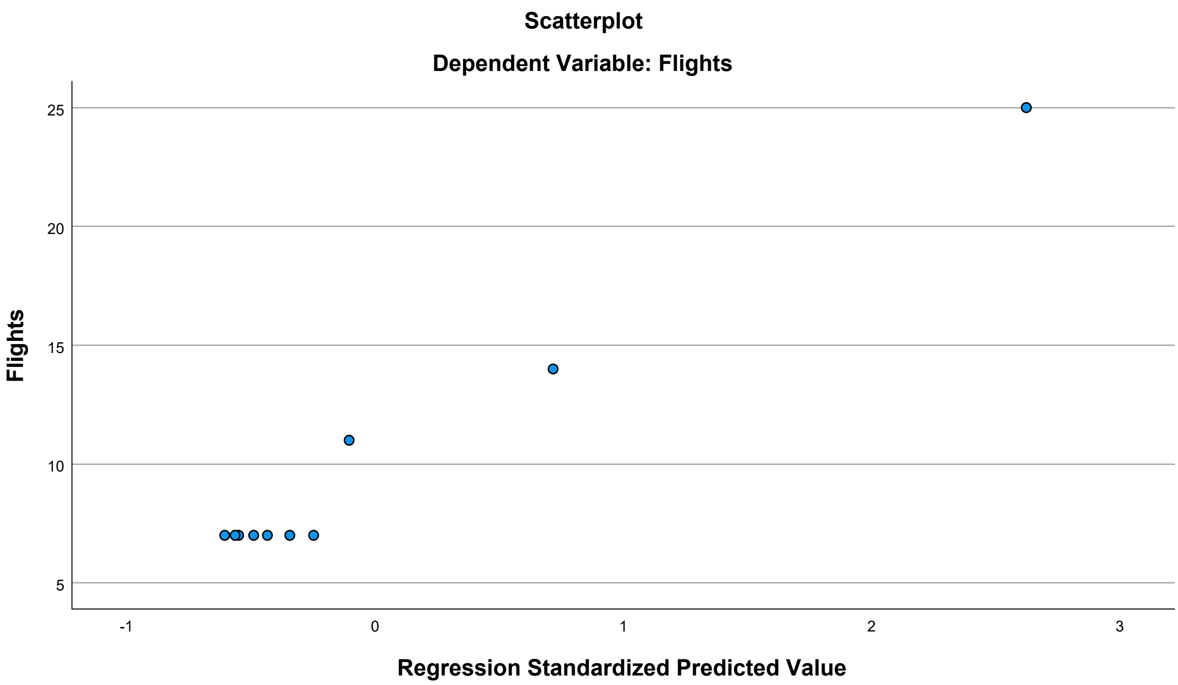
Charts



Histogram
Dependent Variable: Flights
Mean = 2.67E-16
Std. Dev. = 0.667
N = 10
Frequency
0
1
2
3
4
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
25
20
15
10
5
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

```
[DataSet18] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
\2002 - AF.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: HomeConcentration, GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	11.93	7.109	14
HomeConcentration	5.01872200	.000000000	14
Congestion	4.57	.756	14
GLHR	.00	.000	14
GJFK	.07	.267	14
PartnerConcentration	1.6499387143	3.6281269435	14
Seasonality	.60763018658	.13566958150	14
Distance	4.19971	.750119	14
Language	.50044364	1.519010939	14
Ethnicity	.42143550	.573756009	14
Urban	19.36	2.763	14

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.	.395	.
	HomeConcentration	.	1.000	.	.
	Congestion	.395	.	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.853	.	.544	.
	PartnerConcentration	.017	.	-.317	.
	Seasonality	.099	.	-.331	.
	Distance	-.226	.	.009	.
	Language	.089	.	-.164	.
	Ethnicity	.120	.	.125	.
	Urban	.440	.	.705	.
Sig. (1-tailed)	Flights	.	.000	.081	.000
	HomeConcentration	.000	.	.000	.000
	Congestion	.081	.000	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.000	.000	.022	.000
	PartnerConcentration	.477	.000	.135	.000
	Seasonality	.368	.000	.123	.000
	Distance	.219	.000	.488	.000
	Language	.382	.000	.288	.000
	Ethnicity	.341	.000	.335	.000
	Urban	.058	.000	.002	.000
N	Flights	14	14	14	14
	HomeConcentration	14	14	14	14
	Congestion	14	14	14	14
	GLHR	14	14	14	14
	GJFK	14	14	14	14
	PartnerConcentration	14	14	14	14
	Seasonality	14	14	14	14
	Distance	14	14	14	14
	Language	14	14	14	14
	Ethnicity	14	14	14	14
	Urban	14	14	14	14

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.853	.017	.099	-.226
	HomeConcentration	.	.	.	.
	Congestion	.544	-.317	-.331	.009
	GLHR	.	.	.	.
	GJFK	1.000	-.069	-.061	-.222
	PartnerConcentration	-.069	1.000	.554	.000
	Seasonality	-.061	.554	1.000	-.198
	Distance	-.222	.000	-.198	1.000
	Language	-.061	-.147	.104	-.316
	Ethnicity	.028	-.172	.067	-.456
	Urban	.380	-.293	-.534	.085
Sig. (1-tailed)	Flights	<.001	.477	.368	.219
	HomeConcentration	.000	.000	.000	.000
	Congestion	.022	.135	.123	.488
	GLHR	.000	.000	.000	.000
	GJFK	.	.408	.418	.223
	PartnerConcentration	.408	.	.020	.499
	Seasonality	.418	.020	.	.248
	Distance	.223	.499	.248	.
	Language	.419	.308	.361	.136
	Ethnicity	.462	.278	.410	.051
	Urban	.090	.155	.025	.386
N	Flights	14	14	14	14
	HomeConcentration	14	14	14	14
	Congestion	14	14	14	14
	GLHR	14	14	14	14
	GJFK	14	14	14	14
	PartnerConcentration	14	14	14	14
	Seasonality	14	14	14	14
	Distance	14	14	14	14
	Language	14	14	14	14
	Ethnicity	14	14	14	14
	Urban	14	14	14	14

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.089	.120	.440
	HomeConcentration	.	.	.
	Congestion	-.164	.125	.705
	GLHR	.	.	.
	GJFK	-.061	.028	.380
	PartnerConcentration	-.147	-.172	-.293
	Seasonality	.104	.067	-.534
	Distance	-.316	-.456	.085
	Language	1.000	.883	-.117
	Ethnicity	.883	1.000	-.039
	Urban	-.117	-.039	1.000
Sig. (1-tailed)	Flights	.382	.341	.058
	HomeConcentration	.000	.000	.000
	Congestion	.288	.335	.002
	GLHR	.000	.000	.000
	GJFK	.419	.462	.090
	PartnerConcentration	.308	.278	.155
	Seasonality	.361	.410	.025
	Distance	.136	.051	.386
	Language	.	.000	.345
	Ethnicity	.000	.	.448
	Urban	.345	.448	.
N	Flights	14	14	14
	HomeConcentration	14	14	14
	Congestion	14	14	14
	GLHR	14	14	14
	GJFK	14	14	14
	PartnerConcentration	14	14	14
	Seasonality	14	14	14
	Distance	14	14	14
	Language	14	14	14
	Ethnicity	14	14	14
	Urban	14	14	14

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, PartnerConcentration, GJFK, Distance, Seasonality, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.946[a]	.896	.728	3.704	.896	5.360

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	5	.040

a. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, GJFK, Distance, Seasonality, Congestion, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	588.328	8	73.541	5.360	.040[b]
	Residual	68.600	5	13.720		
	Total	656.929	13			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, GJFK, Distance, Seasonality, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-15.989	15.399		-1.038	.347
	Congestion	-5.869	3.577	-.624	-1.641	.162
	GJFK	25.319	5.370	.952	4.714	.005
	PartnerConcentration	-.188	.379	-.096	-.497	.640
	Seasonality	20.396	11.114	.389	1.835	.126
	Distance	1.376	1.887	.145	.729	.498
	Language	-1.745	2.410	-.373	-.724	.502
	Ethnicity	6.818	6.838	.550	.997	.364
	Urban	1.709	.699	.664	2.443	.058

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.144	6.928
	GJFK	.512	1.952
	PartnerConcentration	.560	1.787
	Seasonality	.464	2.154
	Distance	.527	1.899
	Language	.079	12.701
	Ethnicity	.069	14.585
	Urban	.283	3.538

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GJFK
1	1	5.766	1.000	.00	.00	.00
	2	1.430	2.008	.00	.00	.00
	3	.969	2.439	.00	.00	.39
	4	.689	2.894	.00	.00	.12
	5	.090	8.001	.00	.00	.04
	6	.037	12.519	.00	.00	.01
	7	.014	20.194	.00	.00	.13
	8	.004	39.223	.69	.29	.19
	9	.002	53.121	.30	.70	.13

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions: PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.04	.00	.00	.03	.01	.00
	3	.09	.00	.00	.00	.00	.00
	4	.42	.00	.00	.01	.00	.00
	5	.01	.00	.01	.28	.25	.00
	6	.29	.41	.03	.01	.00	.02
	7	.00	.00	.63	.06	.11	.12
	8	.00	.24	.01	.15	.12	.00
	9	.15	.35	.32	.47	.50	.86

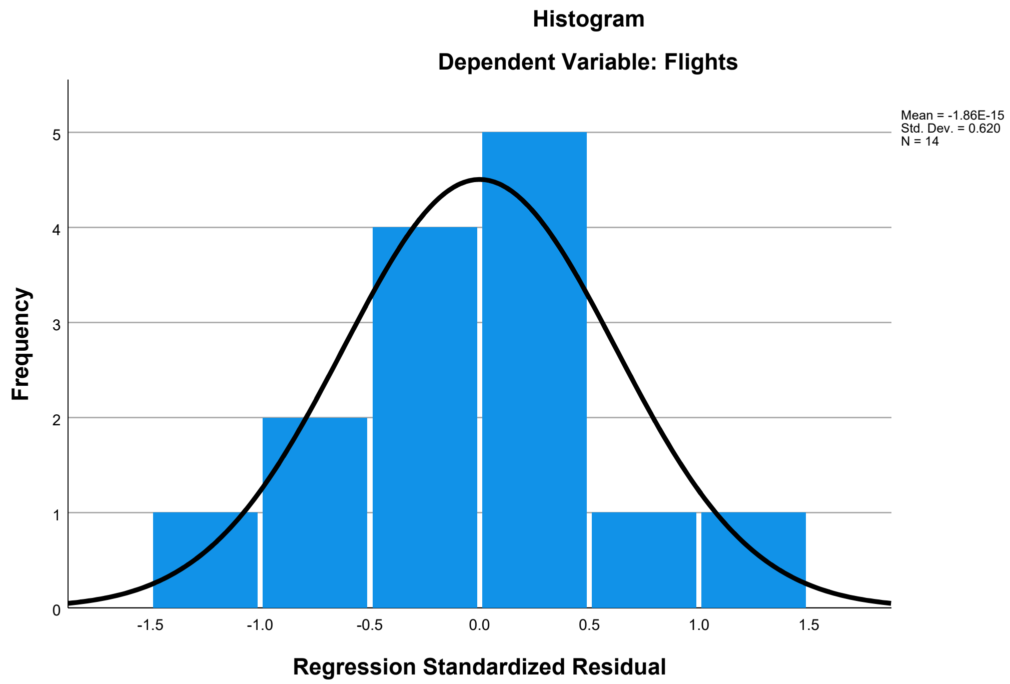
a. Dependent Variable: Flights

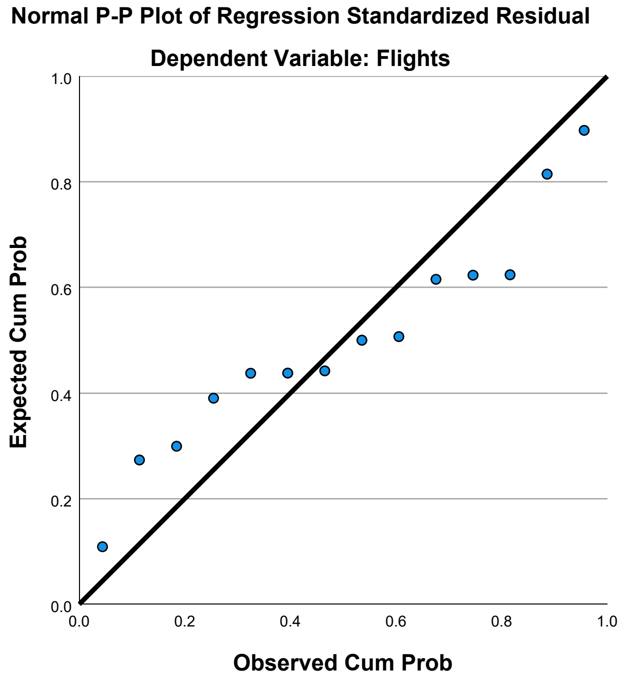
Residuals Statistics[a]

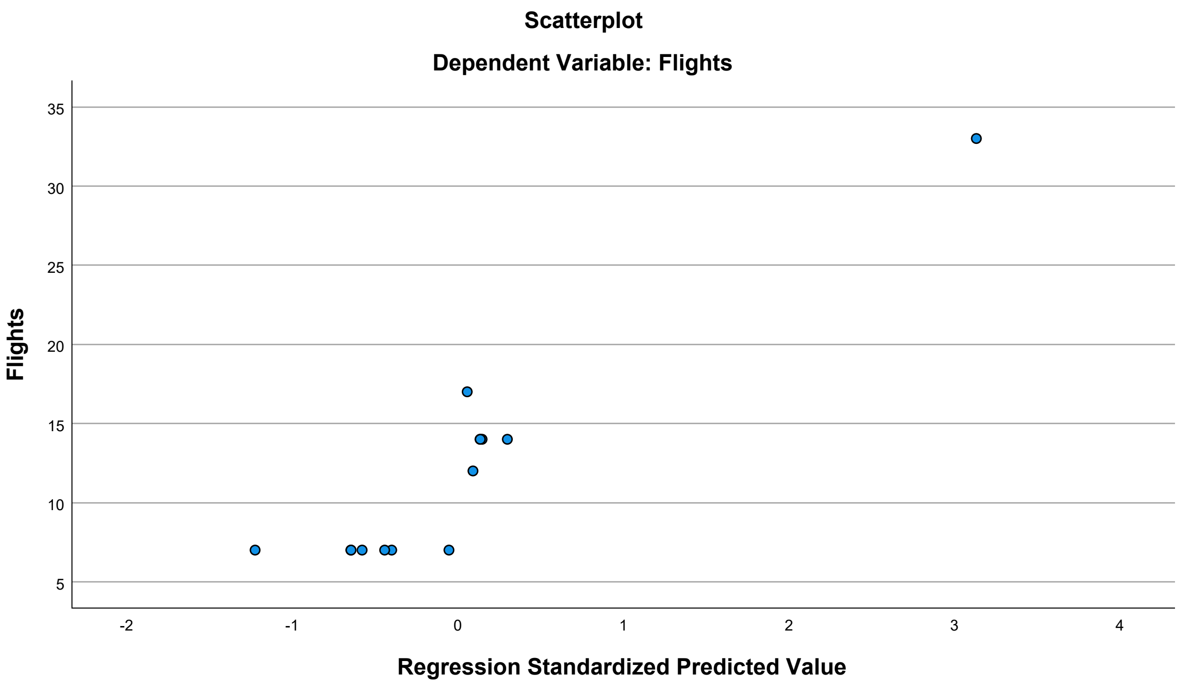
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.69	33.00	11.93	6.727	14
Residual	-4.566	4.692	.000	2.297	14
Std. Predicted Value	-1.225	3.132	.000	1.000	14
Std. Residual	-1.233	1.267	.000	.620	14

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: HomeConcentration, GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	11.93	7.109	14
HomeConcentration	5.01872200	.000000000	14
Congestion	4.57	.756	14
GLHR	.00	.000	14
GJFK	.07	.267	14
PartnerConcentration	1.6499387143	3.6281269435	14
Seasonality	.60763018658	.13566958150	14
Distance	4.19971	.750119	14
Language	.50044364	1.519010939	14
Urban	19.36	2.763	14

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.	.395	.
	HomeConcentration	.	1.000	.	.
	Congestion	.395	.	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.853	.	.544	.
	PartnerConcentration	.017	.	-.317	.
	Seasonality	.099	.	-.331	.
	Distance	-.226	.	.009	.
	Language	.089	.	-.164	.
	Urban	.440	.	.705	.
Sig. (1-tailed)	Flights	.	.000	.081	.000
	HomeConcentration	.000	.	.000	.000
	Congestion	.081	.000	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.000	.000	.022	.000
	PartnerConcentration	.477	.000	.135	.000
	Seasonality	.368	.000	.123	.000
	Distance	.219	.000	.488	.000
	Language	.382	.000	.288	.000
	Urban	.058	.000	.002	.000
N	Flights	14	14	14	14
	HomeConcentration	14	14	14	14

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.853	.017	.099	-.226
	HomeConcentration	.	.	.	.
	Congestion	.544	-.317	-.331	.009
	GLHR	.	.	.	.
	GJFK	1.000	-.069	-.061	-.222
	PartnerConcentration	-.069	1.000	.554	.000
	Seasonality	-.061	.554	1.000	-.198
	Distance	-.222	.000	-.198	1.000
	Language	-.061	-.147	.104	-.316
	Urban	.380	-.293	-.534	.085
Sig. (1-tailed)	Flights	<.001	.477	.368	.219
	HomeConcentration	.000	.000	.000	.000
	Congestion	.022	.135	.123	.488
	GLHR	.000	.000	.000	.000
	GJFK	.	.408	.418	.223
	PartnerConcentration	.408	.	.020	.499
	Seasonality	.418	.020	.	.248
	Distance	.223	.499	.248	.
	Language	.419	.308	.361	.136
	Urban	.090	.155	.025	.386
N	Flights	14	14	14	14
	HomeConcentration	14	14	14	14

Correlations

		Language	Urban
Pearson Correlation	Flights	.089	.440
	HomeConcentration	.	.
	Congestion	-.164	.705
	GLHR	.	.
	GJFK	-.061	.380
	PartnerConcentration	-.147	-.293
	Seasonality	.104	-.534
	Distance	-.316	.085
	Language	1.000	-.117
	Urban	-.117	1.000
Sig. (1-tailed)	Flights	.382	.058
	HomeConcentration	.000	.000
	Congestion	.288	.002
	GLHR	.000	.000
	GJFK	.419	.090
	PartnerConcentration	.308	.155
	Seasonality	.361	.025
	Distance	.136	.386
	Language	.	.345
	Urban	.345	.
N	Flights	14	14
	HomeConcentration	14	14

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	14	14	14	14
	GLHR	14	14	14	14
	GJFK	14	14	14	14
	PartnerConcentration	14	14	14	14
	Seasonality	14	14	14	14
	Distance	14	14	14	14
	Language	14	14	14	14
	Urban	14	14	14	14

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	14	14	14	14
GLHR	14	14	14	14
GJFK	14	14	14	14
PartnerConcentration	14	14	14	14
Seasonality	14	14	14	14
Distance	14	14	14	14
Language	14	14	14	14
Urban	14	14	14	14

Correlations

	Language	Urban
Congestion	14	14
GLHR	14	14
GJFK	14	14
PartnerConcentration	14	14
Seasonality	14	14
Distance	14	14
Language	14	14
Urban	14	14

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, Language, GJFK, Seasonality, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.935[a]	.875	.729	3.702	.875	5.990

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	7	6	.022

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, Language, GJFK, Seasonality, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	574.687	7	82.098	5.990	.022[b]
	Residual	82.241	6	13.707		
	Total	656.929	13			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, Language, GJFK, Seasonality, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-13.930	15.253		-.913	.396
	Congestion	-3.065	2.211	-.326	-1.386	.215
	GJFK	22.954	4.816	.863	4.766	.003
	PartnerConcentration	-.091	.366	-.046	-.249	.812
	Seasonality	17.961	10.838	.343	1.657	.149
	Distance	.273	1.528	.029	.179	.864
	Language	.539	.750	.115	.719	.499
	Urban	1.346	.597	.523	2.254	.065

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.377	2.649
	GJFK	.636	1.571
	PartnerConcentration	.599	1.669
	Seasonality	.488	2.050
	Distance	.803	1.246
	Language	.813	1.230
	Urban	.387	2.581

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GJFK
1	1	5.317	1.000	.00	.00	.00
	2	.991	2.316	.00	.00	.00
	3	.969	2.342	.00	.00	.50
	4	.657	2.845	.00	.00	.14
	5	.037	12.019	.00	.01	.01
	6	.021	16.084	.00	.08	.24
	7	.006	29.966	.10	.88	.09
	8	.003	41.885	.90	.02	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language	Urban
1	1	.00	.00	.00	.00	.00
	2	.16	.00	.00	.50	.00
	3	.07	.00	.00	.03	.00
	4	.36	.00	.00	.28	.00
	5	.31	.43	.04	.10	.03
	6	.02	.00	.76	.04	.05
	7	.03	.00	.07	.05	.33
	8	.05	.57	.12	.00	.59

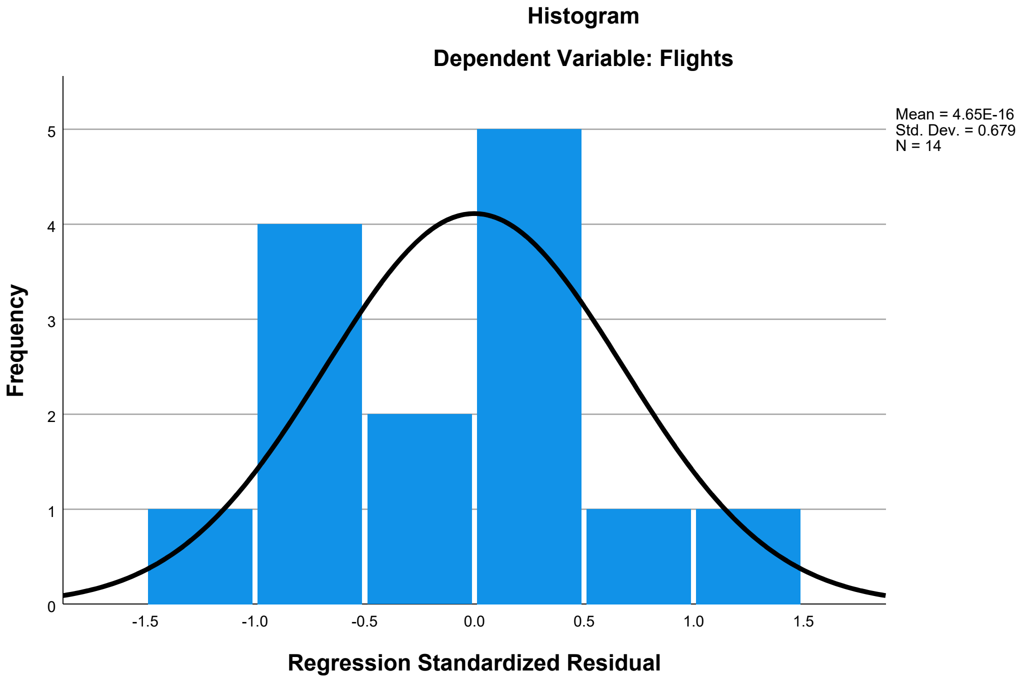
a. Dependent Variable: Flights

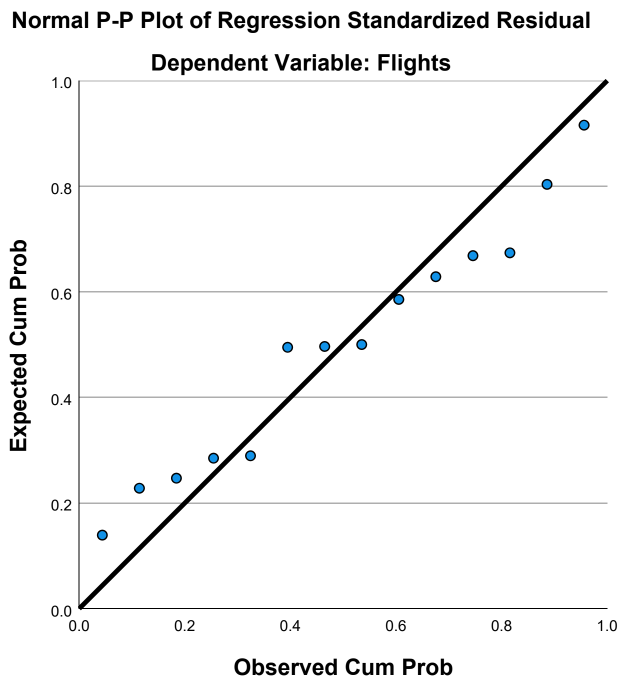
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.33	33.00	11.93	6.649	14
Residual	-4.013	5.095	.000	2.515	14
Std. Predicted Value	-.992	3.169	.000	1.000	14
Std. Residual	-1.084	1.376	.000	.679	14

a. Dependent Variable: Flights

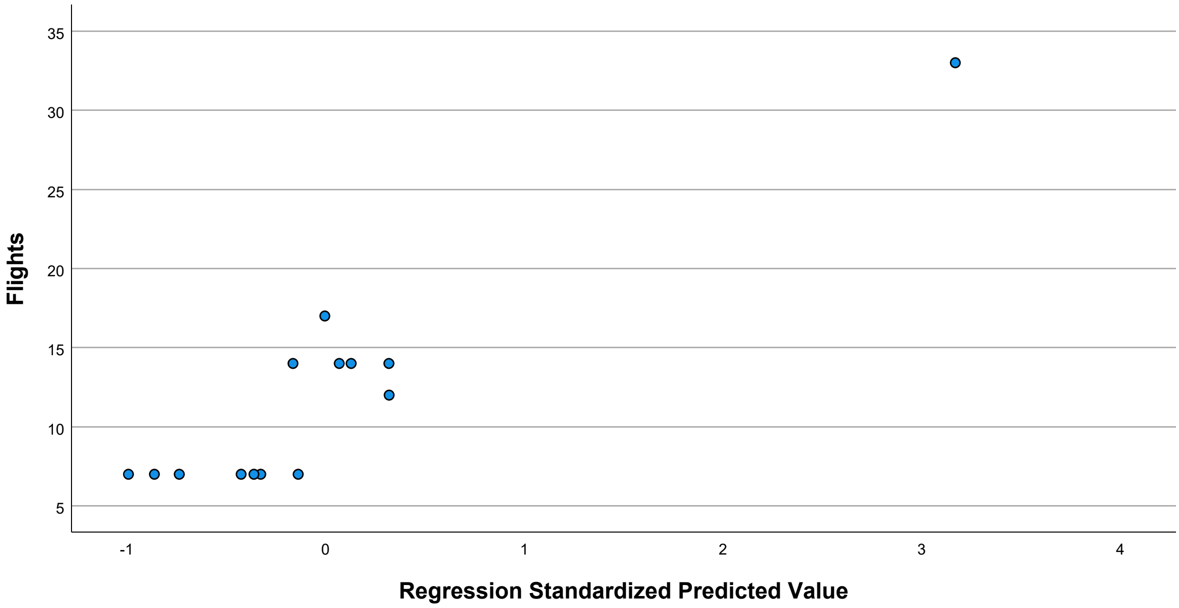
Charts


Histogram
Dependent Variable: Flights
Mean = 4.65E-16
Std. Dev. = 0.679
N = 14
Frequency
0
1
2
3
4
5
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob

Scatterplot

Dependent Variable: Flights



Regression

```
[DataSet19] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
\2007 - AF.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: HomeConcentration, GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	13.00	9.798	15
HomeConcentration	4.32517200	.000000000	15
Congestion	4.67	.816	15
GLHR	.00	.000	15
GJFK	.07	.258	15
PartnerConcentration	2.2931817333	3.9035548099	15
Seasonality	.57626780627	.13982206154	15
Distance	4.24007	.755955	15
Language	.47611140	1.498908393	15
Ethnicity	.44172387	.570550708	15
Urban	18.93	2.549	15

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.	.330	.
	HomeConcentration	.	1.000	.	.
	Congestion	.330	.	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.819	.	.452	.
	PartnerConcentration	-.183	.	-.326	.
	Seasonality	.083	.	-.255	.
	Distance	-.200	.	-.138	.
	Language	.233	.	.159	.
	Ethnicity	.211	.	.353	.
	Urban	.332	.	.778	.
Sig. (1-tailed)	Flights	.	.000	.115	.000
	HomeConcentration	.000	.	.000	.000
	Congestion	.115	.000	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.000	.000	.045	.000
	PartnerConcentration	.257	.000	.118	.000
	Seasonality	.384	.000	.180	.000
	Distance	.237	.000	.312	.000
	Language	.201	.000	.286	.000
	Ethnicity	.226	.000	.099	.000
	Urban	.113	.000	.000	.000
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15
	Language	15	15	15	15
	Ethnicity	15	15	15	15
	Urban	15	15	15	15

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.819	-.183	.083	-.200
	HomeConcentration	.	.	.	.
	Congestion	.452	-.326	-.255	-.138
	GLHR	.	.	.	.
	GJFK	1.000	-.091	.047	-.227
	PartnerConcentration	-.091	1.000	-.346	.057
	Seasonality	.047	-.346	1.000	.130
	Distance	-.227	.057	.130	1.000
	Language	-.055	-.182	.031	-.318
	Ethnicity	.017	-.259	.051	-.477
	Urban	.441	-.154	-.522	.000
Sig. (1-tailed)	Flights	<.001	.257	.384	.237
	HomeConcentration	.000	.000	.000	.000
	Congestion	.045	.118	.180	.312
	GLHR	.000	.000	.000	.000
	GJFK	.	.373	.434	.208
	PartnerConcentration	.373	.	.103	.420
	Seasonality	.434	.103	.	.322
	Distance	.208	.420	.322	.
	Language	.424	.258	.456	.124
	Ethnicity	.476	.176	.428	.036
	Urban	.050	.291	.023	.499
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15
	Language	15	15	15	15
	Ethnicity	15	15	15	15
	Urban	15	15	15	15

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.233	.211	.332
	HomeConcentration	.	.	.
	Congestion	.159	.353	.778
	GLHR	.	.	.
	GJFK	-.055	.017	.441
	PartnerConcentration	-.182	-.259	-.154
	Seasonality	.031	.051	-.522
	Distance	-.318	-.477	.000
	Language	1.000	.865	-.069
	Ethnicity	.865	1.000	-.024
	Urban	-.069	-.024	1.000
Sig. (1-tailed)	Flights	.201	.226	.113
	HomeConcentration	.000	.000	.000
	Congestion	.286	.099	.000
	GLHR	.000	.000	.000
	GJFK	.424	.476	.050
	PartnerConcentration	.258	.176	.291
	Seasonality	.456	.428	.023
	Distance	.124	.036	.499
	Language	.	.000	.404
	Ethnicity	.000	.	.466
	Urban	.404	.466	.
N	Flights	15	15	15
	HomeConcentration	15	15	15
	Congestion	15	15	15
	GLHR	15	15	15
	GJFK	15	15	15
	PartnerConcentration	15	15	15
	Seasonality	15	15	15
	Distance	15	15	15
	Language	15	15	15
	Ethnicity	15	15	15
	Urban	15	15	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, Language, GJFK, Seasonality, Congestion, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.885[a]	.784	.496	6.956	.784	2.722

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	6	.119

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, Language, GJFK, Seasonality, Congestion, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1053.710	8	131.714	2.722	.119[b]
	Residual	290.290	6	48.382		
	Total	1344.000	14			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, Language, GJFK, Seasonality, Congestion, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	10.472	32.411		.323	.758
	Congestion	-3.852	5.390	-.321	-.715	.502
	GJFK	34.785	9.709	.917	3.583	.012
	PartnerConcentration	-.293	.604	-.117	-.484	.645
	Seasonality	-1.430	21.398	-.020	-.067	.949
	Distance	1.358	3.247	.105	.418	.690
	Language	1.838	2.874	.281	.639	.546
	Ethnicity	1.540	9.569	.090	.161	.877
	Urban	.653	1.779	.170	.367	.726

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.178	5.604
	GJFK	.550	1.819
	PartnerConcentration	.622	1.608
	Seasonality	.386	2.590
	Distance	.574	1.743
	Language	.186	5.370
	Ethnicity	.116	8.626
	Urban	.168	5.948

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GJFK
1	1	5.837	1.000	.00	.00	.00
	2	1.419	2.028	.00	.00	.00
	3	.962	2.463	.00	.00	.46
	4	.606	3.103	.00	.00	.09
	5	.099	7.679	.00	.00	.02
	6	.059	9.975	.00	.01	.02
	7	.012	21.954	.02	.01	.14
	8	.004	36.427	.27	.56	.17
	9	.001	62.954	.71	.41	.09

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.04	.00	.00	.06	.01	.00
	3	.06	.00	.00	.00	.00	.00
	4	.51	.00	.00	.02	.00	.00
	5	.01	.01	.01	.60	.38	.00
	6	.03	.21	.00	.03	.03	.01
	7	.00	.09	.97	.10	.22	.02
	8	.22	.23	.01	.11	.17	.03
	9	.12	.46	.00	.07	.18	.94

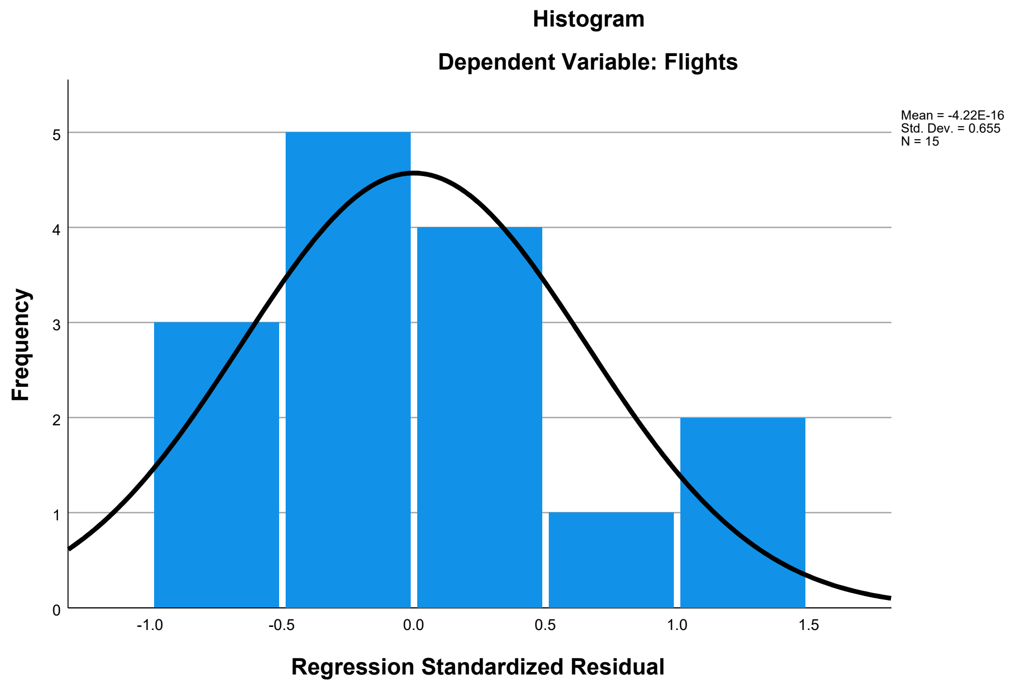
a. Dependent Variable: Flights

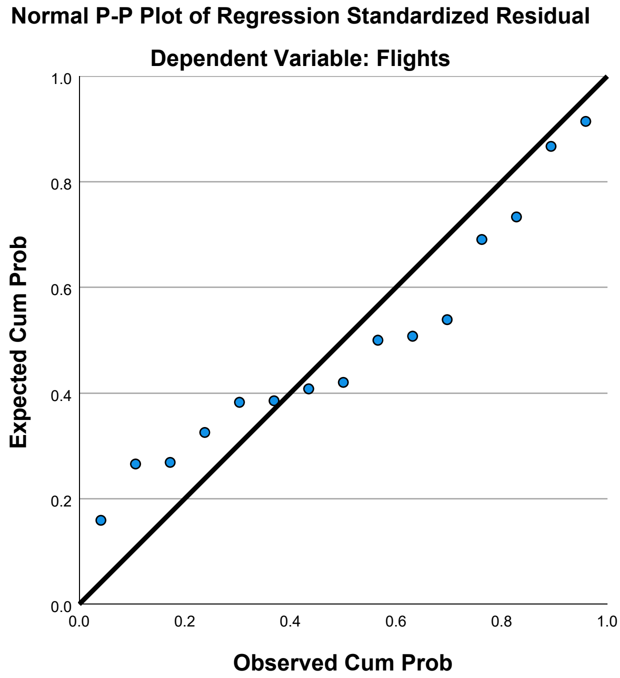
Residuals Statistics[a]

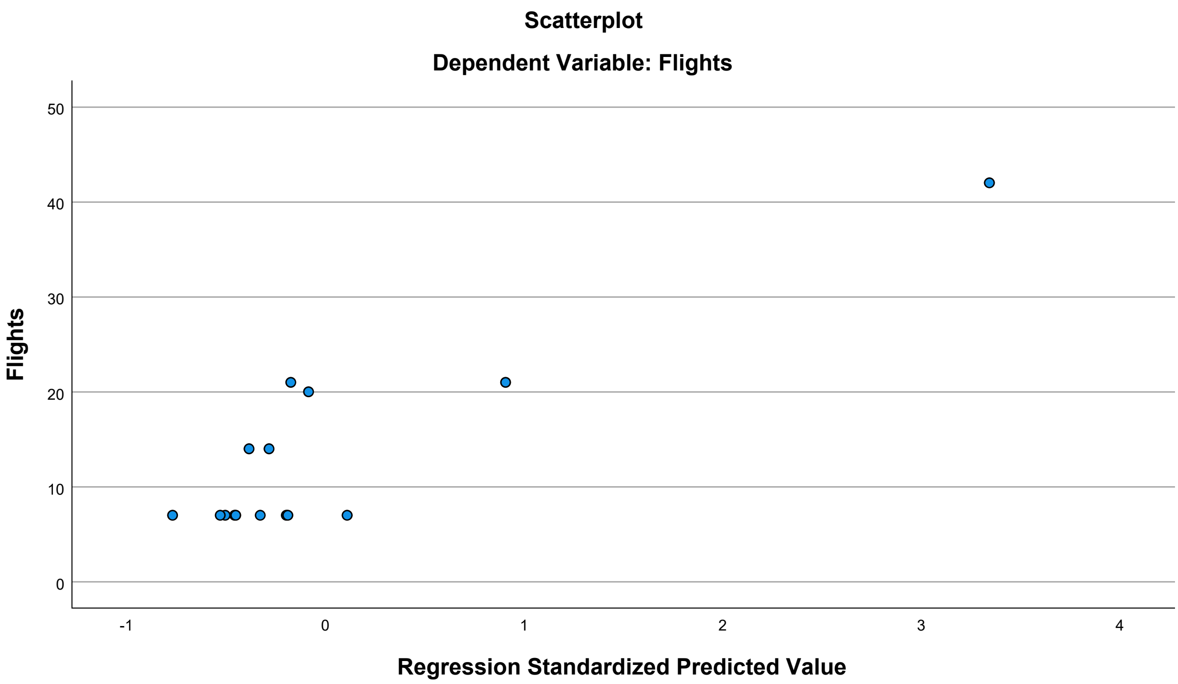
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6.32	42.00	13.00	8.676	15
Residual	-6.946	9.515	.000	4.554	15
Std. Predicted Value	-.770	3.343	.000	1.000	15
Std. Residual	-.999	1.368	.000	.655	15

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: HomeConcentration, GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	13.00	9.798	15
HomeConcentration	4.32517200	.000000000	15
Congestion	4.67	.816	15
GLHR	.00	.000	15
GJFK	.07	.258	15
PartnerConcentration	2.2931817333	3.9035548099	15
Seasonality	.57626780627	.13982206154	15
Distance	4.24007	.755955	15
Language	.47611140	1.498908393	15
Urban	18.93	2.549	15

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.	.330	.
	HomeConcentration	.	1.000	.	.
	Congestion	.330	.	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.819	.	.452	.
	PartnerConcentration	-.183	.	-.326	.
	Seasonality	.083	.	-.255	.
	Distance	-.200	.	-.138	.
	Language	.233	.	.159	.
	Urban	.332	.	.778	.
Sig. (1-tailed)	Flights	.	.000	.115	.000
	HomeConcentration	.000	.	.000	.000
	Congestion	.115	.000	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.000	.000	.045	.000
	PartnerConcentration	.257	.000	.118	.000
	Seasonality	.384	.000	.180	.000
	Distance	.237	.000	.312	.000
	Language	.201	.000	.286	.000
	Urban	.113	.000	.000	.000
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.819	-.183	.083	-.200
	HomeConcentration	.	.	.	.
	Congestion	.452	-.326	-.255	-.138
	GLHR	.	.	.	.
	GJFK	1.000	-.091	.047	-.227
	PartnerConcentration	-.091	1.000	-.346	.057
	Seasonality	.047	-.346	1.000	.130
	Distance	-.227	.057	.130	1.000
	Language	-.055	-.182	.031	-.318
	Urban	.441	-.154	-.522	.000
Sig. (1-tailed)	Flights	<.001	.257	.384	.237
	HomeConcentration	.000	.000	.000	.000
	Congestion	.045	.118	.180	.312
	GLHR	.000	.000	.000	.000
	GJFK	.	.373	.434	.208
	PartnerConcentration	.373	.	.103	.420
	Seasonality	.434	.103	.	.322
	Distance	.208	.420	.322	.
	Language	.424	.258	.456	.124
	Urban	.050	.291	.023	.499
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15

Correlations

		Language	Urban
Pearson Correlation	Flights	.233	.332
	HomeConcentration	.	.
	Congestion	.159	.778
	GLHR	.	.
	GJFK	-.055	.441
	PartnerConcentration	-.182	-.154
	Seasonality	.031	-.522
	Distance	-.318	.000
	Language	1.000	-.069
	Urban	-.069	1.000
Sig. (1-tailed)	Flights	.201	.113
	HomeConcentration	.000	.000
	Congestion	.286	.000
	GLHR	.000	.000
	GJFK	.424	.050
	PartnerConcentration	.258	.291
	Seasonality	.456	.023
	Distance	.124	.499
	Language	.	.404
	Urban	.404	.
N	Flights	15	15
	HomeConcentration	15	15

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15
	Language	15	15	15	15
	Urban	15	15	15	15

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	15	15	15	15
GLHR	15	15	15	15
GJFK	15	15	15	15
PartnerConcentration	15	15	15	15
Seasonality	15	15	15	15
Distance	15	15	15	15
Language	15	15	15	15
Urban	15	15	15	15

Correlations

	Language	Urban
Congestion	15	15
GLHR	15	15
GJFK	15	15
PartnerConcentration	15	15
Seasonality	15	15
Distance	15	15
Language	15	15
Urban	15	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, Language, GJFK, Seasonality, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.885[a]	.783	.566	6.454	.783	3.610

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	7	7	.056

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, Language, GJFK, Seasonality, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1052.456	7	150.351	3.610	.056[b]
	Residual	291.544	7	41.649		
	Total	1344.000	14			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, Language, GJFK, Seasonality, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.588	29.376		.394	.705
	Congestion	-3.303	3.875	-.275	-.852	.422
	GJFK	34.529	8.887	.910	3.885	.006
	PartnerConcentration	-.295	.560	-.117	-.526	.615
	Seasonality	-1.360	19.849	-.019	-.069	.947
	Distance	1.119	2.678	.086	.418	.689
	Language	2.242	1.298	.343	1.727	.128
	Urban	.537	1.510	.140	.356	.732

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Congestion	.297	3.365
	GJFK	.565	1.770
	PartnerConcentration	.622	1.607
	Seasonality	.386	2.589
	Distance	.726	1.378
	Language	.786	1.272
	Urban	.201	4.977

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GJFK
1	1	5.368	1.000	.00	.00	.00
	2	.993	2.325	.00	.00	.00
	3	.962	2.362	.00	.00	.48
	4	.591	3.014	.00	.00	.09
	5	.060	9.421	.00	.02	.03
	6	.018	17.226	.01	.05	.15
	7	.005	31.573	.20	.71	.05
	8	.002	55.455	.79	.21	.20

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language	Urban
1	1	.00	.00	.00	.00	.00
	2	.11	.00	.00	.53	.00
	3	.05	.00	.00	.01	.00
	4	.45	.00	.00	.26	.00
	5	.02	.21	.00	.00	.01
	6	.04	.09	.88	.14	.00
	7	.16	.07	.09	.01	.09
	8	.16	.63	.04	.04	.90

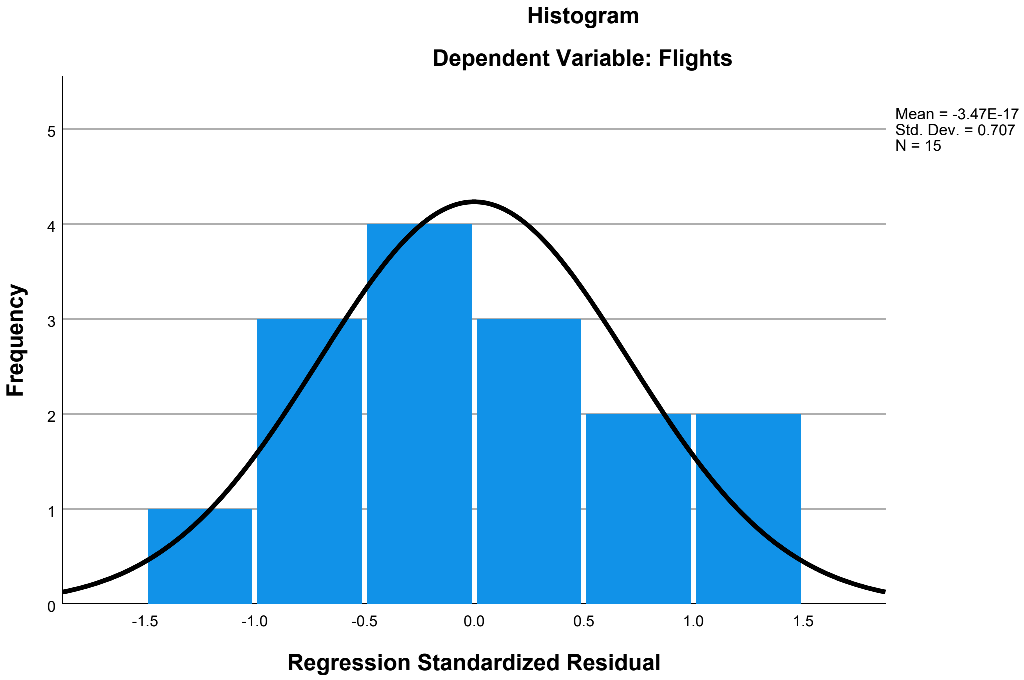
a. Dependent Variable: Flights

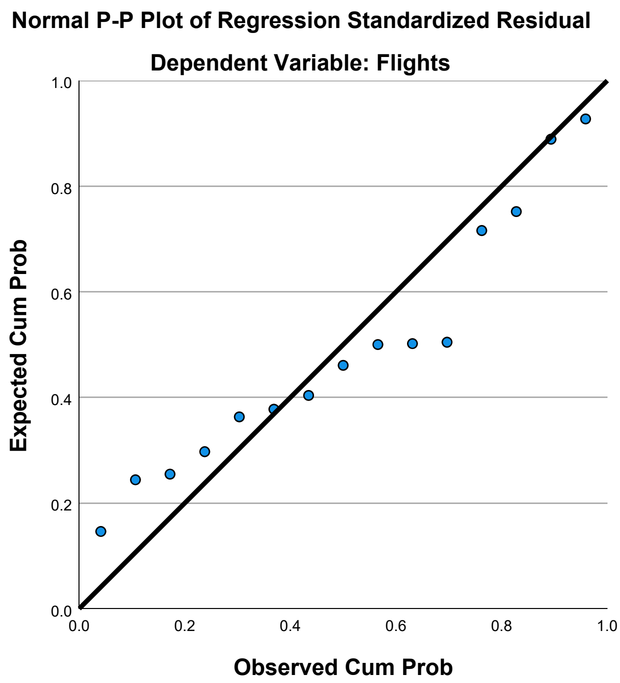
Residuals Statistics[a]

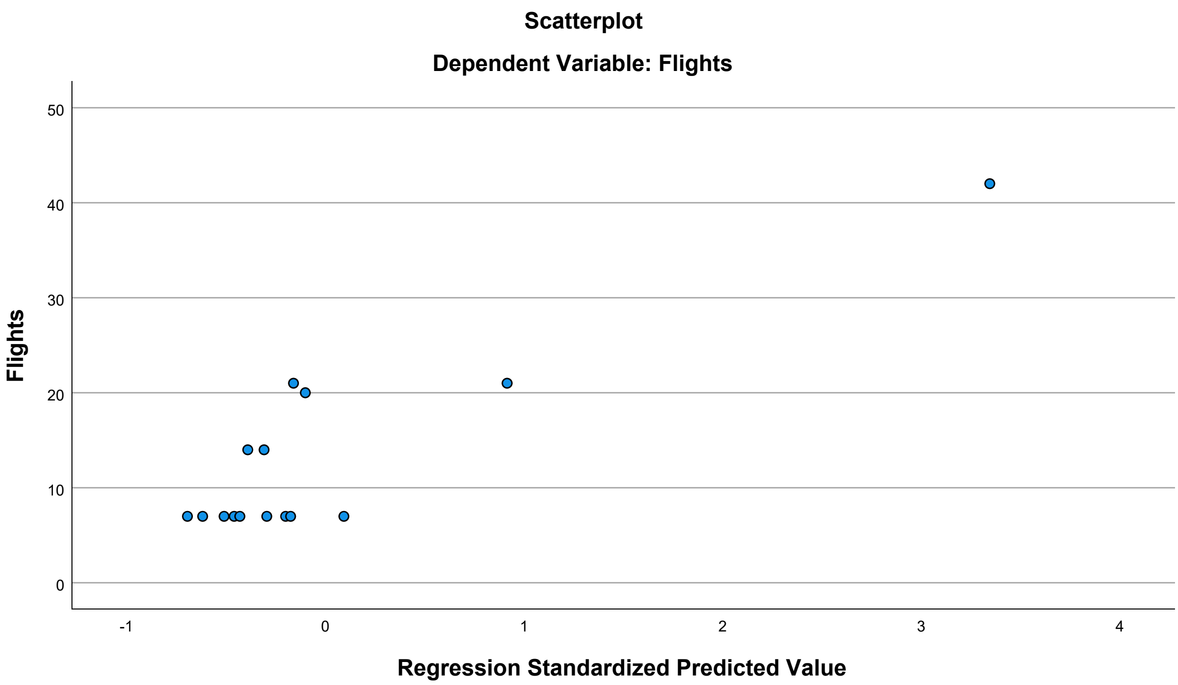
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6.97	42.00	13.00	8.670	15
Residual	-6.800	9.396	.000	4.563	15
Std. Predicted Value	-.695	3.345	.000	1.000	15
Std. Residual	-1.054	1.456	.000	.707	15

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -3.47E-17
Std. Dev. = 0.707
N = 15
Frequency
0
1
2
3
4
5
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: HomeConcentration, GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	13.00	9.798	15
HomeConcentration	4.32517200	.000000000	15
Congestion	4.67	.816	15
GLHR	.00	.000	15
GJFK	.07	.258	15
PartnerConcentration	2.2931817333	3.9035548099	15
Seasonality	.57626780627	.13982206154	15
Distance	4.24007	.755955	15
Language	.47611140	1.498908393	15

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.	.330	.
	HomeConcentration	.	1.000	.	.
	Congestion	.330	.	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.819	.	.452	.
	PartnerConcentration	-.183	.	-.326	.
	Seasonality	.083	.	-.255	.
	Distance	-.200	.	-.138	.
	Language	.233	.	.159	.
Sig. (1-tailed)	Flights	.	.000	.115	.000
	HomeConcentration	.000	.	.000	.000
	Congestion	.115	.000	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.000	.000	.045	.000
	PartnerConcentration	.257	.000	.118	.000
	Seasonality	.384	.000	.180	.000
	Distance	.237	.000	.312	.000
	Language	.201	.000	.286	.000
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15
	Language	15	15	15	15

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.819	-.183	.083	-.200
	HomeConcentration	.	.	.	.
	Congestion	.452	-.326	-.255	-.138
	GLHR	.	.	.	.
	GJFK	1.000	-.091	.047	-.227
	PartnerConcentration	-.091	1.000	-.346	.057
	Seasonality	.047	-.346	1.000	.130
	Distance	-.227	.057	.130	1.000
	Language	-.055	-.182	.031	-.318
Sig. (1-tailed)	Flights	<.001	.257	.384	.237
	HomeConcentration	.000	.000	.000	.000
	Congestion	.045	.118	.180	.312
	GLHR	.000	.000	.000	.000
	GJFK	.	.373	.434	.208
	PartnerConcentration	.373	.	.103	.420
	Seasonality	.434	.103	.	.322
	Distance	.208	.420	.322	.
	Language	.424	.258	.456	.124
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15
	Language	15	15	15	15

Correlations

		Language
Pearson Correlation	Flights	.233
	HomeConcentration	.
	Congestion	.159
	GLHR	.
	GJFK	-.055
	PartnerConcentration	-.182
	Seasonality	.031
	Distance	-.318
	Language	1.000
Sig. (1-tailed)	Flights	.201
	HomeConcentration	.000
	Congestion	.286
	GLHR	.000
	GJFK	.424
	PartnerConcentration	.258
	Seasonality	.456
	Distance	.124
	Language	.
N	Flights	15
	HomeConcentration	15
	Congestion	15
	GLHR	15
	GJFK	15
	PartnerConcentration	15
	Seasonality	15
	Distance	15
	Language	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Language, Seasonality, GJFK, PartnerConcentration, Distance, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.883[a]	.779	.614	6.091	.779	4.704

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	6	8	.024

a. Predictors: (Constant), Language, Seasonality, GJFK, PartnerConcentration, Distance, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1047.182	6	174.530	4.704	.024[b]
	Residual	296.818	8	37.102		
	Total	1344.000	14			

a. Dependent Variable: Flights

b. Predictors: (Constant), Language, Seasonality, GJFK, PartnerConcentration, Distance, Congestion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	18.905	19.802		.955	.368
	Congestion	-2.386	2.731	-.199	-.874	.408
	GJFK	35.773	7.712	.943	4.639	.002
	PartnerConcentration	-.345	.512	-.137	-.673	.520
	Seasonality	-5.880	14.397	-.084	-.408	.694
	Distance	1.415	2.402	.109	.589	.572
	Language	2.148	1.200	.329	1.791	.111

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.533	1.877
	GJFK	.668	1.496
	PartnerConcentration	.664	1.507
	Seasonality	.654	1.529
	Distance	.804	1.245
	Language	.820	1.220

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GJFK
1	1	4.393	1.000	.00	.00	.00
	2	.993	2.103	.00	.00	.00
	3	.961	2.138	.00	.00	.57
	4	.582	2.747	.00	.00	.10
	5	.048	9.599	.00	.11	.02
	6	.018	15.694	.01	.14	.18
	7	.004	31.273	.98	.74	.13

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language
1	1	.01	.00	.00	.00
	2	.12	.00	.00	.55
	3	.05	.00	.00	.02
	4	.47	.00	.00	.27
	5	.03	.44	.00	.01
	6	.04	.12	.93	.16
	7	.28	.44	.07	.00

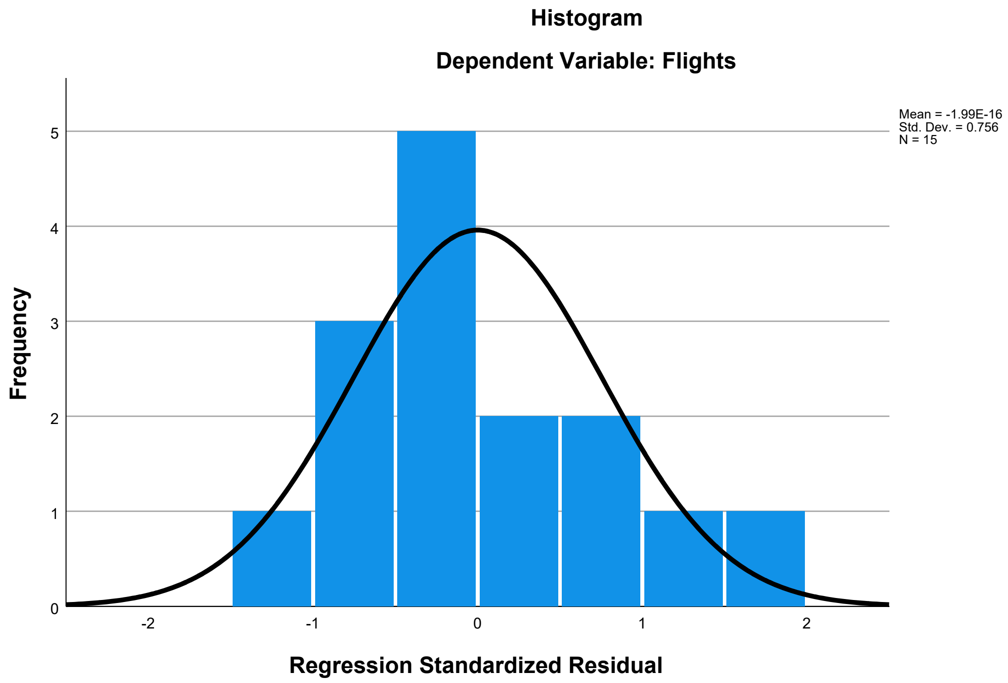
a. Dependent Variable: Flights

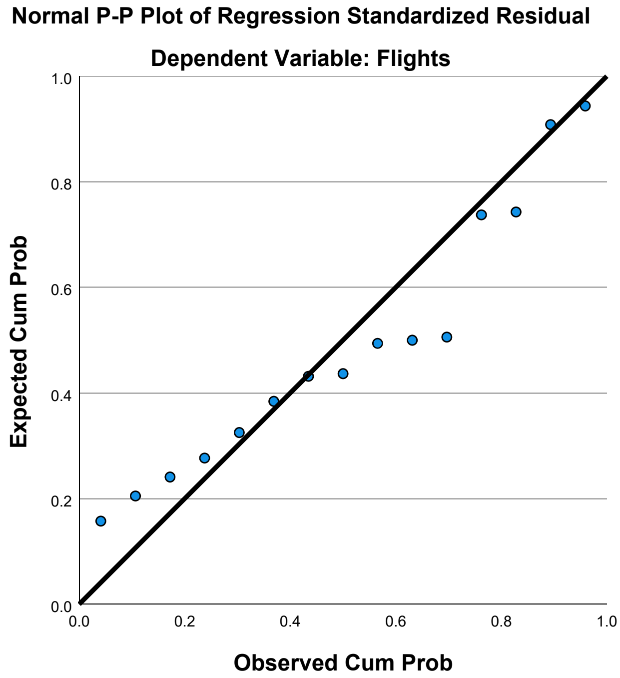
Residuals Statistics[a]

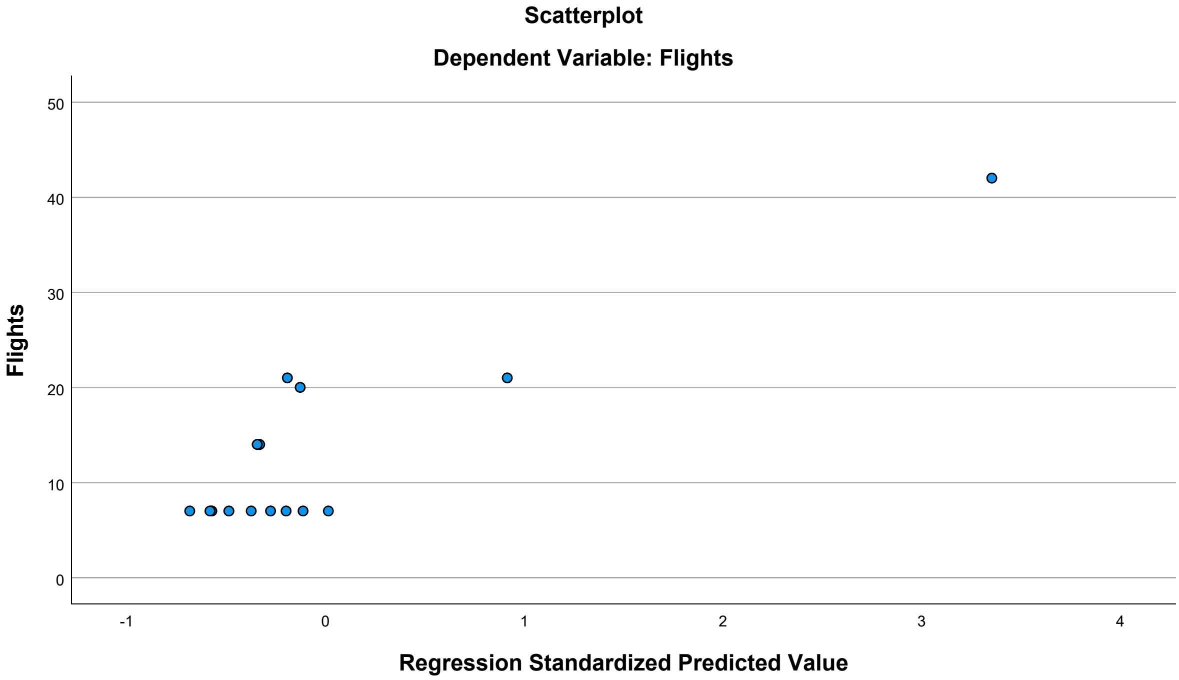
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	7.09	42.00	13.00	8.649	15
Residual	-6.124	9.663	.000	4.604	15
Std. Predicted Value	-.683	3.353	.000	1.000	15
Std. Residual	-1.005	1.586	.000	.756	15

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-1
0
1
2
3
4

Regression

```
[DataSet1] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines\
2012 - AF.sav
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Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: HomeConcentration, GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	12.62	8.262	13
HomeConcentration	4.47600	.000000	13
Congestion	4.69	.751	13
GLHR	.00	.000	13
GJFK	.08	.277	13
PartnerConcentration	1.3192921538	2.7348508313	13
Seasonality	.59868795921	.15038182864	13
Distance	4.28877	.752024	13
Language	.53857346	1.661421507	13
Ethnicity	.47704469	.635974581	13
Urban	19.62	2.181	13

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.	.396	.
	HomeConcentration	.	1.000	.	.
	Congestion	.396	.	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.814	.	.523	.
	PartnerConcentration	.052	.	-.383	.
	Seasonality	.772	.	.349	.
	Distance	-.263	.	-.097	.
	Language	.270	.	.169	.
	Ethnicity	.246	.	.387	.
	Urban	.606	.	.329	.
Sig. (1-tailed)	Flights	.	.000	.090	.000
	HomeConcentration	.000	.	.000	.000
	Congestion	.090	.000	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.000	.000	.033	.000
	PartnerConcentration	.433	.000	.099	.000
	Seasonality	.001	.000	.121	.000
	Distance	.193	.000	.377	.000
	Language	.186	.000	.290	.000
	Ethnicity	.209	.000	.095	.000
	Urban	.014	.000	.136	.000
N	Flights	13	13	13	13
	HomeConcentration	13	13	13	13
	Congestion	13	13	13	13
	GLHR	13	13	13	13
	GJFK	13	13	13	13
	PartnerConcentration	13	13	13	13
	Seasonality	13	13	13	13
	Distance	13	13	13	13
	Language	13	13	13	13
	Ethnicity	13	13	13	13
	Urban	13	13	13	13

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.814	.052	.772	-.263
	HomeConcentration	.	.	.	.
	Congestion	.523	-.383	.349	-.097
	GLHR	.	.	.	.
	GJFK	1.000	-.011	.469	-.267
	PartnerConcentration	-.011	1.000	-.128	-.121
	Seasonality	.469	-.128	1.000	-.086
	Distance	-.267	-.121	-.086	1.000
	Language	-.073	-.157	.295	-.372
	Ethnicity	.000	-.158	.371	-.566
	Urban	.466	-.068	.644	-.067
Sig. (1-tailed)	Flights	<.001	.433	.001	.193
	HomeConcentration	.000	.000	.000	.000
	Congestion	.033	.099	.121	.377
	GLHR	.000	.000	.000	.000
	GJFK	.	.486	.053	.189
	PartnerConcentration	.486	.	.338	.347
	Seasonality	.053	.338	.	.390
	Distance	.189	.347	.390	.
	Language	.406	.305	.164	.105
	Ethnicity	.500	.304	.106	.022
	Urban	.054	.413	.009	.414
N	Flights	13	13	13	13
	HomeConcentration	13	13	13	13
	Congestion	13	13	13	13
	GLHR	13	13	13	13
	GJFK	13	13	13	13
	PartnerConcentration	13	13	13	13
	Seasonality	13	13	13	13
	Distance	13	13	13	13
	Language	13	13	13	13
	Ethnicity	13	13	13	13
	Urban	13	13	13	13

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.270	.246	.606
	HomeConcentration	.	.	.
	Congestion	.169	.387	.329
	GLHR	.	.	.
	GJFK	-.073	.000	.466
	PartnerConcentration	-.157	-.158	-.068
	Seasonality	.295	.371	.644
	Distance	-.372	-.566	-.067
	Language	1.000	.871	-.059
	Ethnicity	.871	1.000	.091
	Urban	-.059	.091	1.000
Sig. (1-tailed)	Flights	.186	.209	.014
	HomeConcentration	.000	.000	.000
	Congestion	.290	.095	.136
	GLHR	.000	.000	.000
	GJFK	.406	.500	.054
	PartnerConcentration	.305	.304	.413
	Seasonality	.164	.106	.009
	Distance	.105	.022	.414
	Language	.	.000	.424
	Ethnicity	.000	.	.384
	Urban	.424	.384	.
N	Flights	13	13	13
	HomeConcentration	13	13	13
	Congestion	13	13	13
	GLHR	13	13	13
	GJFK	13	13	13
	PartnerConcentration	13	13	13
	Seasonality	13	13	13
	Distance	13	13	13
	Language	13	13	13
	Ethnicity	13	13	13
	Urban	13	13	13

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, PartnerConcentration, Distance, Congestion, GJFK, Seasonality, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.978[a]	.957	.870	2.978	.957	11.048

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	4	.017

a. Predictors: (Constant), Urban, Language, PartnerConcentration, Distance, Congestion, GJFK, Seasonality, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	783.612	8	97.952	11.048	.017[b]
	Residual	35.465	4	8.866		
	Total	819.077	12			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, PartnerConcentration, Distance, Congestion, GJFK, Seasonality, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-11.434	12.357		-.925	.407
	Congestion	1.440	2.434	.131	.592	.586
	GJFK	13.827	6.567	.464	2.106	.103
	PartnerConcentration	.476	.365	.158	1.306	.262
	Seasonality	25.248	10.138	.460	2.490	.067
	Distance	-1.996	2.296	-.182	-.869	.434
	Language	3.547	1.474	.713	2.406	.074
	Ethnicity	-8.950	5.732	-.689	-1.561	.193
	Urban	.581	.566	.153	1.028	.362

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.221	4.523
	GJFK	.223	4.489
	PartnerConcentration	.743	1.345
	Seasonality	.318	3.146
	Distance	.248	4.036
	Language	.123	8.119
	Ethnicity	.056	17.988
	Urban	.486	2.059

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GJFK
1	1	5.841	1.000	.00	.00	.00
	2	1.404	2.039	.00	.00	.01
	3	.915	2.527	.00	.00	.18
	4	.698	2.892	.00	.00	.03
	5	.098	7.722	.00	.00	.01
	6	.028	14.366	.01	.04	.04
	7	.009	25.334	.09	.03	.00
	8	.003	42.950	.18	.36	.30
	9	.003	46.835	.72	.57	.42

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions: PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.05	.00	.00	.04	.01	.00
	3	.10	.00	.00	.00	.00	.00
	4	.59	.00	.00	.01	.00	.00
	5	.00	.00	.01	.43	.18	.00
	6	.00	.43	.01	.01	.00	.00
	7	.09	.07	.24	.05	.05	.23
	8	.01	.50	.60	.13	.39	.41
	9	.15	.01	.16	.34	.36	.35

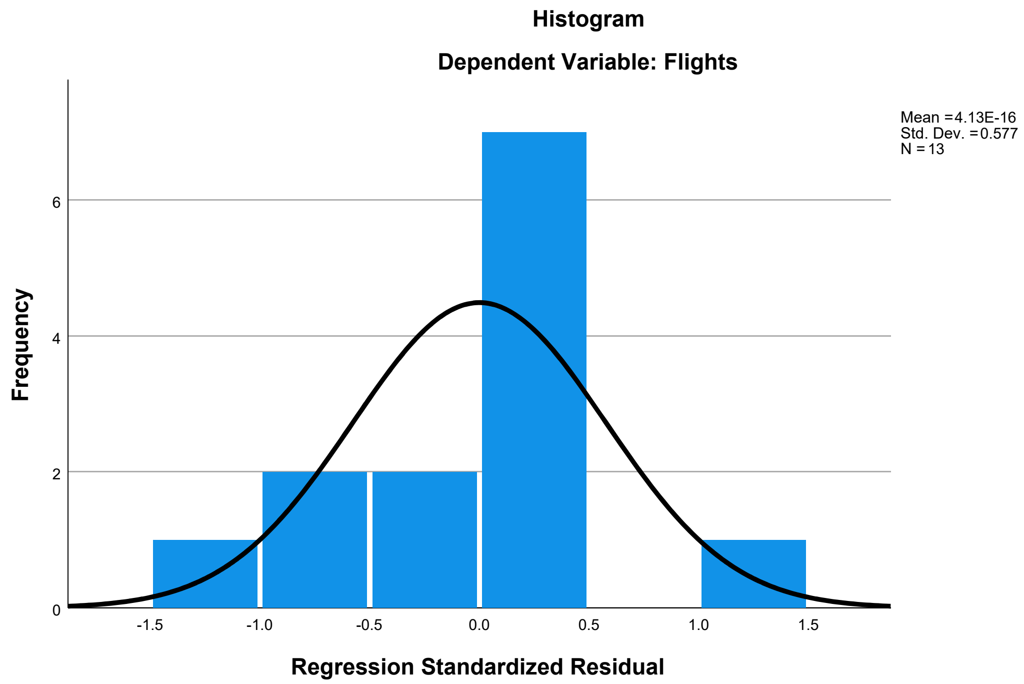
a. Dependent Variable: Flights

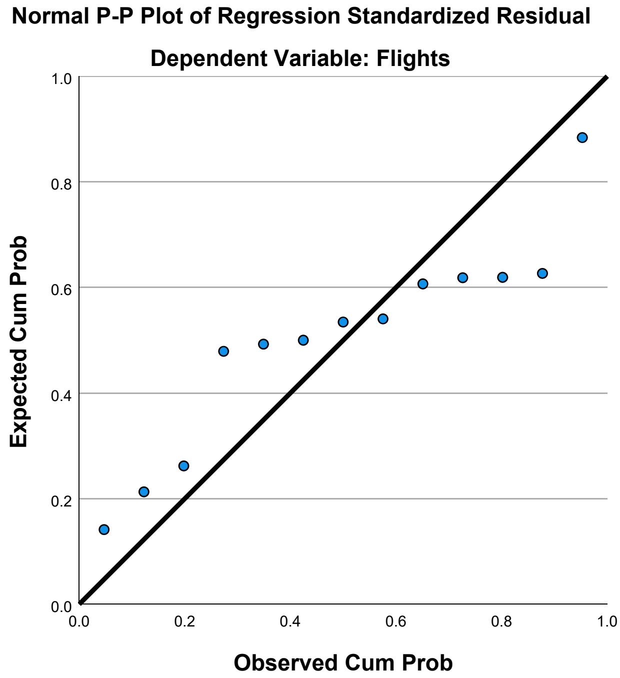
Residuals Statistics[a]

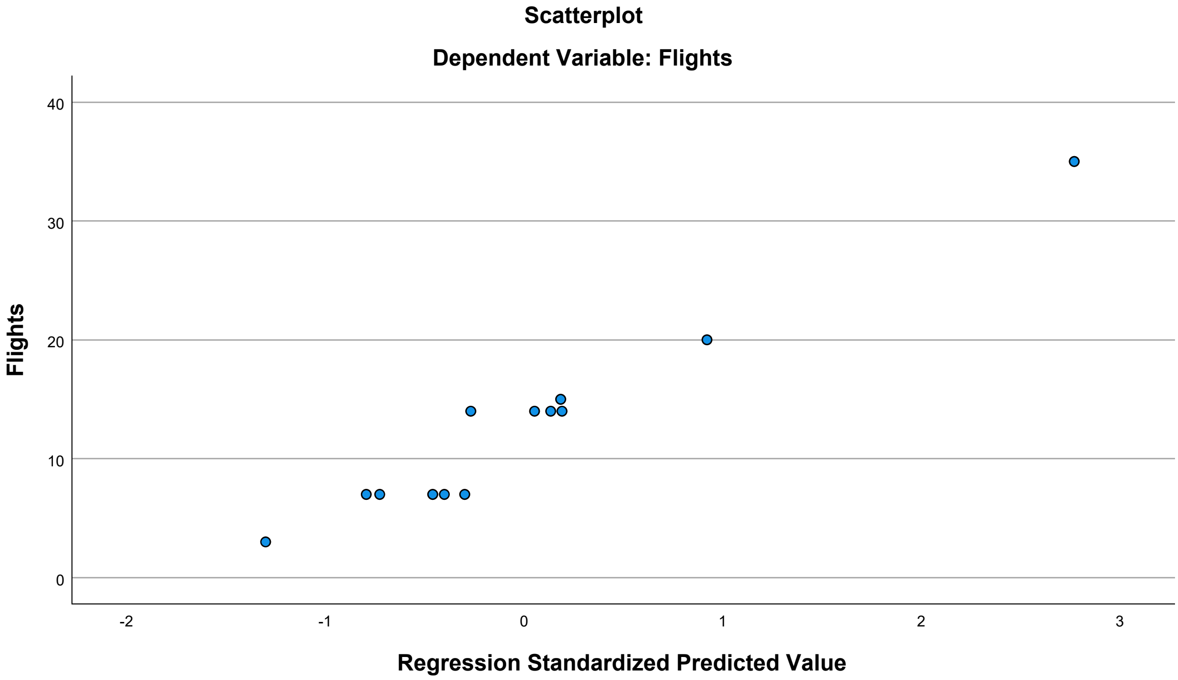
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.10	35.00	12.62	8.081	13
Residual	-3.199	3.554	.000	1.719	13
Std. Predicted Value	-1.302	2.770	.000	1.000	13
Std. Residual	-1.074	1.194	.000	.577	13

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: HomeConcentration, GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	12.62	8.262	13
HomeConcentration	4.47600	.000000	13
Congestion	4.69	.751	13
GLHR	.00	.000	13
GJFK	.08	.277	13
PartnerConcentration	1.3192921538	2.7348508313	13
Seasonality	.59868795921	.15038182864	13
Distance	4.28877	.752024	13
Language	.53857346	1.661421507	13
Urban	19.62	2.181	13

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.	.396	.
	HomeConcentration	.	1.000	.	.
	Congestion	.396	.	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.814	.	.523	.
	PartnerConcentration	.052	.	-.383	.
	Seasonality	.772	.	.349	.
	Distance	-.263	.	-.097	.
	Language	.270	.	.169	.
	Urban	.606	.	.329	.
Sig. (1-tailed)	Flights	.	.000	.090	.000
	HomeConcentration	.000	.	.000	.000
	Congestion	.090	.000	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.000	.000	.033	.000
	PartnerConcentration	.433	.000	.099	.000
	Seasonality	.001	.000	.121	.000
	Distance	.193	.000	.377	.000
	Language	.186	.000	.290	.000
	Urban	.014	.000	.136	.000
N	Flights	13	13	13	13
	HomeConcentration	13	13	13	13

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.814	.052	.772	-.263
	HomeConcentration	.	.	.	.
	Congestion	.523	-.383	.349	-.097
	GLHR	.	.	.	.
	GJFK	1.000	-.011	.469	-.267
	PartnerConcentration	-.011	1.000	-.128	-.121
	Seasonality	.469	-.128	1.000	-.086
	Distance	-.267	-.121	-.086	1.000
	Language	-.073	-.157	.295	-.372
	Urban	.466	-.068	.644	-.067
Sig. (1-tailed)	Flights	<.001	.433	.001	.193
	HomeConcentration	.000	.000	.000	.000
	Congestion	.033	.099	.121	.377
	GLHR	.000	.000	.000	.000
	GJFK	.	.486	.053	.189
	PartnerConcentration	.486	.	.338	.347
	Seasonality	.053	.338	.	.390
	Distance	.189	.347	.390	.
	Language	.406	.305	.164	.105
	Urban	.054	.413	.009	.414
N	Flights	13	13	13	13
	HomeConcentration	13	13	13	13

Correlations

		Language	Urban
Pearson Correlation	Flights	.270	.606
	HomeConcentration	.	.
	Congestion	.169	.329
	GLHR	.	.
	GJFK	-.073	.466
	PartnerConcentration	-.157	-.068
	Seasonality	.295	.644
	Distance	-.372	-.067
	Language	1.000	-.059
	Urban	-.059	1.000
Sig. (1-tailed)	Flights	.186	.014
	HomeConcentration	.000	.000
	Congestion	.290	.136
	GLHR	.000	.000
	GJFK	.406	.054
	PartnerConcentration	.305	.413
	Seasonality	.164	.009
	Distance	.105	.414
	Language	.	.424
	Urban	.424	.
N	Flights	13	13
	HomeConcentration	13	13

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	13	13	13	13
	GLHR	13	13	13	13
	GJFK	13	13	13	13
	PartnerConcentration	13	13	13	13
	Seasonality	13	13	13	13
	Distance	13	13	13	13
	Language	13	13	13	13
	Urban	13	13	13	13

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
	Congestion	13	13	13	13
	GLHR	13	13	13	13
	GJFK	13	13	13	13
	PartnerConcentration	13	13	13	13
	Seasonality	13	13	13	13
	Distance	13	13	13	13
	Language	13	13	13	13
	Urban	13	13	13	13

Correlations

		Language	Urban
	Congestion	13	13
	GLHR	13	13
	GJFK	13	13
	PartnerConcentration	13	13
	Seasonality	13	13
	Distance	13	13
	Language	13	13
	Urban	13	13

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, PartnerConcentration, Distance, Congestion, GJFK, Seasonality[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.965[a]	.930	.833	3.379	.930	9.536

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	7	5	.012

a. Predictors: (Constant), Urban, Language, PartnerConcentration, Distance, Congestion, GJFK, Seasonality

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	761.998	7	108.857	9.536	.012[b]
	Residual	57.079	5	11.416		
	Total	819.077	12			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, PartnerConcentration, Distance, Congestion, GJFK, Seasonality

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-8.129	13.814		-.588	.582
	Congestion	-1.496	1.754	-.136	-.853	.433
	GJFK	21.191	5.185	.711	4.087	.009
	PartnerConcentration	.352	.404	.117	.872	.423
	Seasonality	18.011	10.231	.328	1.760	.139
	Distance	.871	1.565	.079	.556	.602
	Language	1.516	.787	.305	1.926	.112
	Urban	.527	.641	.139	.822	.448

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.548	1.824
	GJFK	.460	2.174
	PartnerConcentration	.780	1.282
	Seasonality	.402	2.488
	Distance	.687	1.456
	Language	.556	1.798
	Urban	.487	2.052

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	Congestion	GJFK
1	1	5.361	1.000	.00	.00	.00
	2	1.017	2.296	.00	.00	.07
	3	.911	2.426	.00	.00	.33
	4	.656	2.859	.00	.00	.06
	5	.028	13.717	.01	.08	.10
	6	.016	18.227	.01	.15	.24
	7	.007	26.738	.11	.70	.17
	8	.003	43.186	.88	.07	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions				
		PartnerConcentration	Seasonality	Distance	Language	Urban
1	1	.01	.00	.00	.00	.00
	2	.12	.00	.00	.31	.00
	3	.18	.00	.00	.01	.00
	4	.47	.00	.00	.23	.00
	5	.00	.54	.04	.09	.00
	6	.00	.00	.80	.16	.03
	7	.16	.24	.01	.08	.24
	8	.06	.21	.15	.11	.73

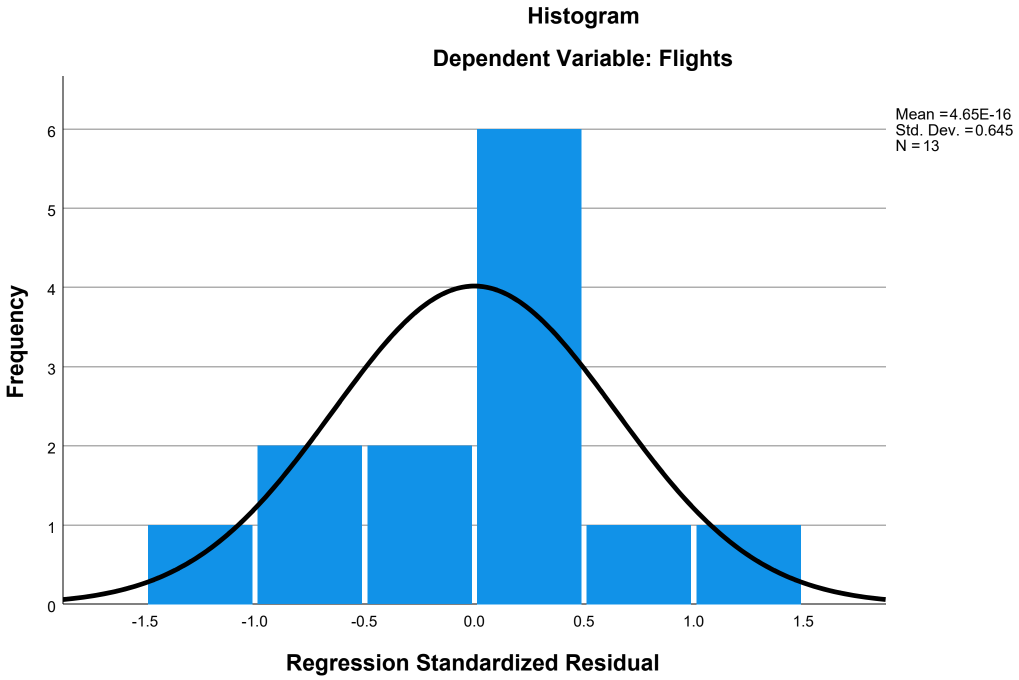
a. Dependent Variable: Flights

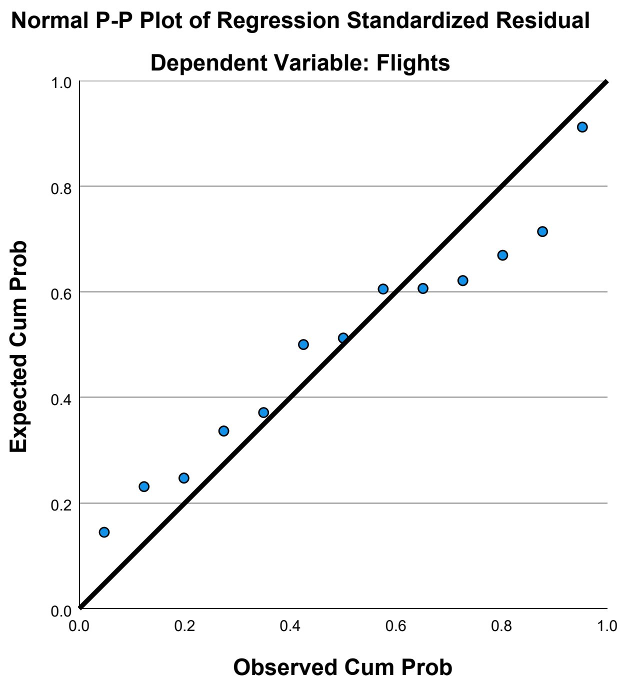
Residuals Statistics[a]

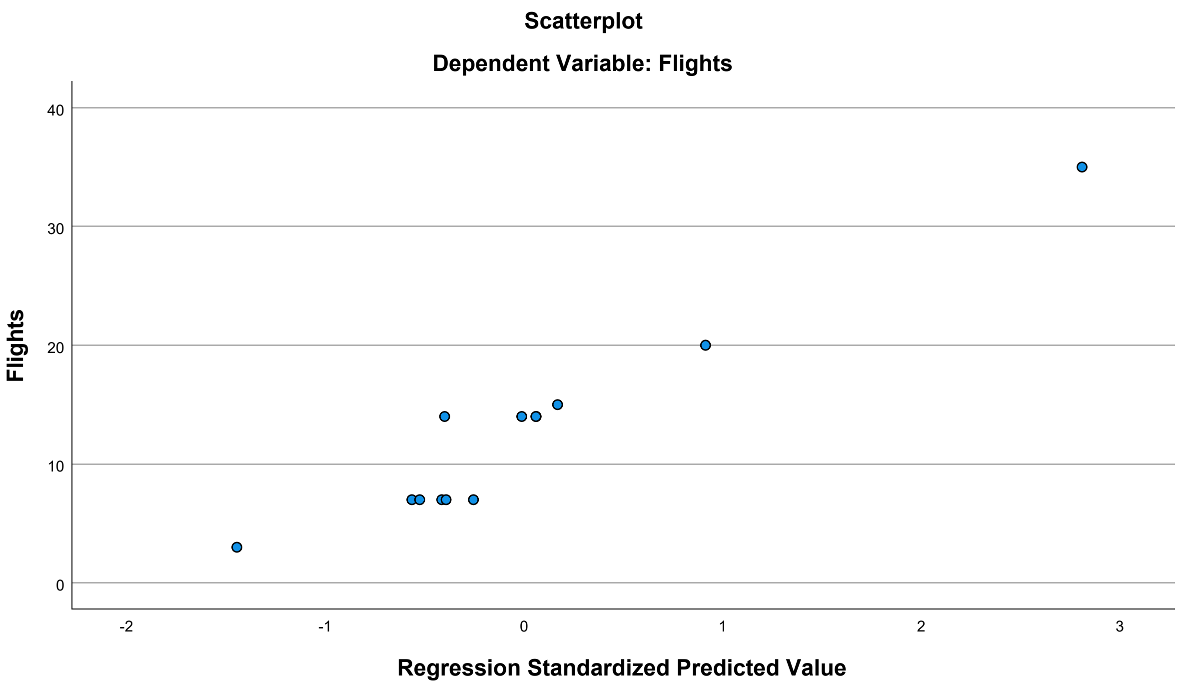
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.09	35.00	12.62	7.969	13
Residual	-3.583	4.571	.000	2.181	13
Std. Predicted Value	-1.446	2.809	.000	1.000	13
Std. Residual	-1.060	1.353	.000	.645	13

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean =4.65E-16
Std. Dev. =0.645
N = 13
Frequency
0
1
2
3
4
5
6
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
40
30
20
10
0
-2
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

```
[DataSet2] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines\
2017 - AF.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	11.73	6.552	15
HomeConcentration	4.37202613	.747493015	15
Congestion	4.80	.862	15
GLHR	.00	.000	15
GJFK	.13	.352	15
PartnerConcentration	1.1807577333	1.6791727715	15
Seasonality	.70512820513	.23095993341	15
Distance	4.26793	.736757	15
Language	.49215200	1.588905246	15
Ethnicity	.43141253	.504848086	15
Urban	19.67	1.988	15

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.200	.154	.
	HomeConcentration	.200	1.000	-.385	.
	Congestion	.154	-.385	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.357	-.681	.565	.
	PartnerConcentration	.236	-.289	-.042	.
	Seasonality	.111	.146	-.136	.
	Distance	-.178	.243	-.075	.
	Language	.387	.062	.107	.
	Ethnicity	.236	.010	.381	.
	Urban	.322	-.464	.584	.
Sig. (1-tailed)	Flights	.	.238	.291	.000
	HomeConcentration	.238	.	.078	.000
	Congestion	.291	.078	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.095	.003	.014	.000
	PartnerConcentration	.199	.148	.441	.000
	Seasonality	.347	.302	.315	.000
	Distance	.262	.192	.396	.000
	Language	.077	.413	.352	.000
	Ethnicity	.198	.486	.080	.000
	Urban	.121	.041	.011	.000
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15
	Language	15	15	15	15
	Ethnicity	15	15	15	15
	Urban	15	15	15	15

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.357	.236	.111	-.178
	HomeConcentration	-.681	-.289	.146	.243
	Congestion	.565	-.042	-.136	-.075
	GLHR	.	.	.	.
	GJFK	1.000	.424	-.141	-.357
	PartnerConcentration	.424	1.000	.515	-.117
	Seasonality	-.141	.515	1.000	.097
	Distance	-.357	-.117	.097	1.000
	Language	-.092	-.202	-.066	-.344
	Ethnicity	-.014	-.258	-.159	-.519
	Urban	.681	.168	-.091	-.062
Sig. (1-tailed)	Flights	.095	.199	.347	.262
	HomeConcentration	.003	.148	.302	.192
	Congestion	.014	.441	.315	.396
	GLHR	.000	.000	.000	.000
	GJFK	.	.058	.308	.096
	PartnerConcentration	.058	.	.025	.339
	Seasonality	.308	.025	.	.366
	Distance	.096	.339	.366	.
	Language	.373	.235	.408	.105
	Ethnicity	.480	.177	.285	.024
	Urban	.003	.274	.374	.414
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15
	Language	15	15	15	15
	Ethnicity	15	15	15	15
	Urban	15	15	15	15

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.387	.236	.322
	HomeConcentration	.062	.010	-.464
	Congestion	.107	.381	.584
	GLHR	.	.	.
	GJFK	-.092	-.014	.681
	PartnerConcentration	-.202	-.258	.168
	Seasonality	-.066	-.159	-.091
	Distance	-.344	-.519	-.062
	Language	1.000	.830	-.203
	Ethnicity	.830	1.000	-.071
	Urban	-.203	-.071	1.000
Sig. (1-tailed)	Flights	.077	.198	.121
	HomeConcentration	.413	.486	.041
	Congestion	.352	.080	.011
	GLHR	.000	.000	.000
	GJFK	.373	.480	.003
	PartnerConcentration	.235	.177	.274
	Seasonality	.408	.285	.374
	Distance	.105	.024	.414
	Language	.	.000	.234
	Ethnicity	.000	.	.401
	Urban	.234	.401	.
N	Flights	15	15	15
	HomeConcentration	15	15	15
	Congestion	15	15	15
	GLHR	15	15	15
	GJFK	15	15	15
	PartnerConcentration	15	15	15
	Seasonality	15	15	15
	Distance	15	15	15
	Language	15	15	15
	Ethnicity	15	15	15
	Urban	15	15	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Seasonality, Language, HomeConcentration, Congestion, PartnerConcentration, GJFK, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.899[a]	.808	.462	4.804	.808	2.338

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	9	5	.181

a. Predictors: (Constant), Urban, Distance, Seasonality, Language, HomeConcentration, Congestion, PartnerConcentration, GJ Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	485.550	9	53.950	2.338	.181[b]
	Residual	115.383	5	23.077		
	Total	600.933	14			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Seasonality, Language, HomeConcentration, Congestion, PartnerConcentration, GJFK, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-45.663	21.916		-2.084	.092
	HomeConcentration	7.190	2.358	.820	3.049	.028
	Congestion	-2.346	3.597	-.309	-.652	.543
	GJFK	16.779	10.252	.901	1.637	.163
	PartnerConcentration	.456	1.281	.117	.356	.737
	Seasonality	2.202	8.036	.078	.274	.795
	Distance	1.473	3.366	.166	.438	.680
	Language	2.501	1.956	.606	1.278	.257
	Ethnicity	.153	9.003	.012	.017	.987
	Urban	1.287	.991	.391	1.298	.251

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.531	1.885
	Congestion	.171	5.831
	GJFK	.127	7.894
	PartnerConcentration	.356	2.806
	Seasonality	.479	2.090
	Distance	.268	3.730
	Language	.171	5.859
	Ethnicity	.080	12.534
	Urban	.425	2.355

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.985	1.000	.00	.00	.00
	2	1.463	2.185	.00	.00	.00
	3	.932	2.737	.00	.00	.00
	4	.437	3.996	.00	.00	.00
	5	.112	7.914	.00	.00	.00
	6	.041	13.082	.00	.01	.00
	7	.017	19.995	.00	.44	.05
	8	.007	31.396	.09	.42	.06
	9	.003	46.785	.01	.01	.86
	10	.002	58.249	.90	.12	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Ethnicity
1	1	.00	.00	.00	.00	.00	.00
	2	.01	.03	.00	.00	.05	.01
	3	.07	.02	.00	.00	.02	.00
	4	.05	.32	.00	.00	.03	.00
	5	.02	.05	.00	.00	.44	.23
	6	.03	.38	.83	.01	.00	.00
	7	.08	.02	.00	.11	.00	.00
	8	.13	.00	.00	.09	.00	.00
	9	.61	.16	.16	.75	.46	.74
	10	.01	.02	.00	.04	.00	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.00
	5	.00
	6	.00
	7	.00
	8	.23
	9	.02
	10	.74

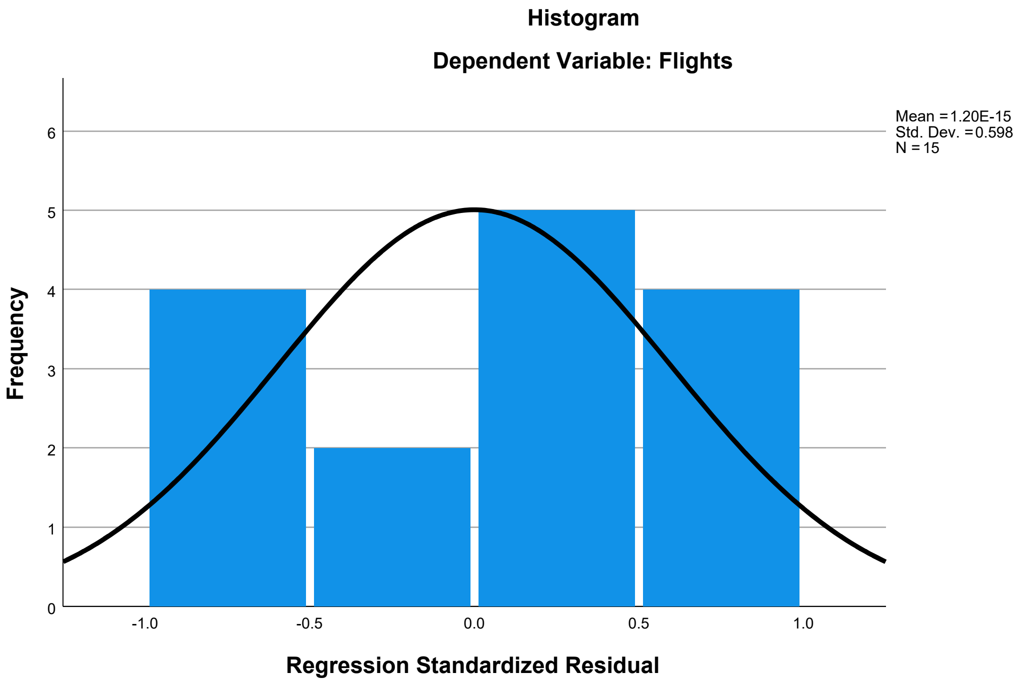
a. Dependent Variable: Flights

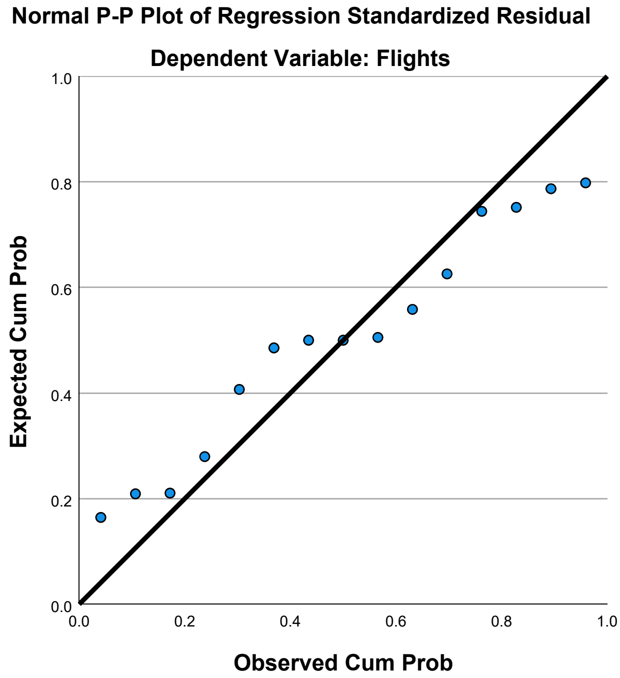
Residuals Statistics[a]

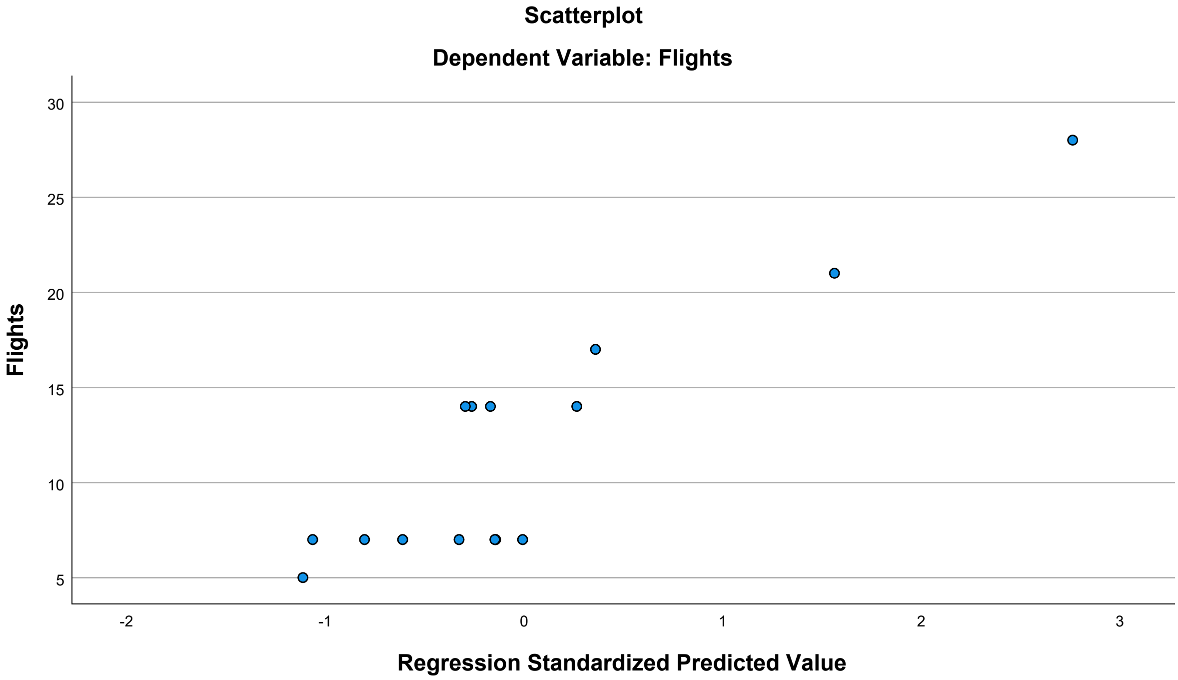
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.18	28.00	11.73	5.889	15
Residual	-4.690	4.009	.000	2.871	15
Std. Predicted Value	-1.114	2.762	.000	1.000	15
Std. Residual	-.976	.835	.000	.598	15

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	11.73	6.552	15
HomeConcentration	4.37202613	.747493015	15
Congestion	4.80	.862	15
GLHR	.00	.000	15
GJFK	.13	.352	15
PartnerConcentration	1.1807577333	1.6791727715	15
Seasonality	.70512820513	.23095993341	15
Distance	4.26793	.736757	15
Language	.49215200	1.588905246	15
Urban	19.67	1.988	15

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.200	.154	.
	HomeConcentration	.200	1.000	-.385	.
	Congestion	.154	-.385	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.357	-.681	.565	.
	PartnerConcentration	.236	-.289	-.042	.
	Seasonality	.111	.146	-.136	.
	Distance	-.178	.243	-.075	.
	Language	.387	.062	.107	.
	Urban	.322	-.464	.584	.
Sig. (1-tailed)	Flights	.	.238	.291	.000
	HomeConcentration	.238	.	.078	.000
	Congestion	.291	.078	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.095	.003	.014	.000
	PartnerConcentration	.199	.148	.441	.000
	Seasonality	.347	.302	.315	.000
	Distance	.262	.192	.396	.000
	Language	.077	.413	.352	.000
	Urban	.121	.041	.011	.000
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	.357	.236	.111	-.178
	HomeConcentration	-.681	-.289	.146	.243
	Congestion	.565	-.042	-.136	-.075
	GLHR	.	.	.	.
	GJFK	1.000	.424	-.141	-.357
	PartnerConcentration	.424	1.000	.515	-.117
	Seasonality	-.141	.515	1.000	.097
	Distance	-.357	-.117	.097	1.000
	Language	-.092	-.202	-.066	-.344
	Urban	.681	.168	-.091	-.062
Sig. (1-tailed)	Flights	.095	.199	.347	.262
	HomeConcentration	.003	.148	.302	.192
	Congestion	.014	.441	.315	.396
	GLHR	.000	.000	.000	.000
	GJFK	.	.058	.308	.096
	PartnerConcentration	.058	.	.025	.339
	Seasonality	.308	.025	.	.366
	Distance	.096	.339	.366	.
	Language	.373	.235	.408	.105
	Urban	.003	.274	.374	.414
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15

Correlations

		Language	Urban
Pearson Correlation	Flights	.387	.322
	HomeConcentration	.062	-.464
	Congestion	.107	.584
	GLHR	.	.
	GJFK	-.092	.681
	PartnerConcentration	-.202	.168
	Seasonality	-.066	-.091
	Distance	-.344	-.062
	Language	1.000	-.203
	Urban	-.203	1.000
Sig. (1-tailed)	Flights	.077	.121
	HomeConcentration	.413	.041
	Congestion	.352	.011
	GLHR	.000	.000
	GJFK	.373	.003
	PartnerConcentration	.235	.274
	Seasonality	.408	.374
	Distance	.105	.414
	Language	.	.234
	Urban	.234	.
N	Flights	15	15
	HomeConcentration	15	15

Correlations

		Flights	HomeConcentration	Congestion	GLHR
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	GJFK	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15
	Language	15	15	15	15
	Urban	15	15	15	15

Correlations

	GJFK	PartnerConcentration	Seasonality	Distance
Congestion	15	15	15	15
GLHR	15	15	15	15
GJFK	15	15	15	15
PartnerConcentration	15	15	15	15
Seasonality	15	15	15	15
Distance	15	15	15	15
Language	15	15	15	15
Urban	15	15	15	15

Correlations

	Language	Urban
Congestion	15	15
GLHR	15	15
GJFK	15	15
PartnerConcentration	15	15
Seasonality	15	15
Distance	15	15
Language	15	15
Urban	15	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Seasonality, Language, HomeConcentration, Congestion, PartnerConcentration, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.899[a]	.808	.552	4.385	.808	3.156

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	6	.089

a. Predictors: (Constant), Urban, Distance, Seasonality, Language, HomeConcentration, Congestion, PartnerConcentration, GJ

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	485.543	8	60.693	3.156	.089[b]
	Residual	115.390	6	19.232		
	Total	600.933	14			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Seasonality, Language, HomeConcentration, Congestion, PartnerConcentration, GJFK

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-45.630	19.929		-2.290	.062
	HomeConcentration	7.192	2.152	.821	3.342	.016
	Congestion	-2.297	1.992	-.302	-1.153	.293
	GJFK	16.674	7.471	.896	2.232	.067
	PartnerConcentration	.461	1.139	.118	.404	.700
	Seasonality	2.159	6.960	.076	.310	.767
	Distance	1.429	1.955	.161	.731	.492
	Language	2.530	.868	.613	2.913	.027
	Urban	1.287	.905	.391	1.423	.205

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.531	1.883
	Congestion	.466	2.146
	GJFK	.199	5.030
	PartnerConcentration	.376	2.662
	Seasonality	.532	1.881
	Distance	.662	1.510
	Language	.722	1.386
	Urban	.425	2.354

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.507	1.000	.00	.00	.00
	2	1.160	2.368	.00	.00	.00
	3	.817	2.822	.00	.00	.00
	4	.436	3.864	.00	.00	.00
	5	.041	12.625	.00	.01	.00
	6	.018	19.184	.00	.41	.07
	7	.012	23.141	.00	.03	.63
	8	.007	30.411	.09	.42	.30
	9	.002	55.956	.90	.13	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Seasonality	Distance	Language	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.06	.05	.00	.00	.19	.00
	3	.07	.00	.00	.00	.48	.00
	4	.08	.35	.00	.00	.07	.00
	5	.05	.39	.92	.03	.01	.00
	6	.06	.01	.00	.37	.05	.00
	7	.50	.15	.06	.49	.13	.00
	8	.11	.01	.00	.10	.00	.23
	9	.07	.04	.00	.01	.07	.77

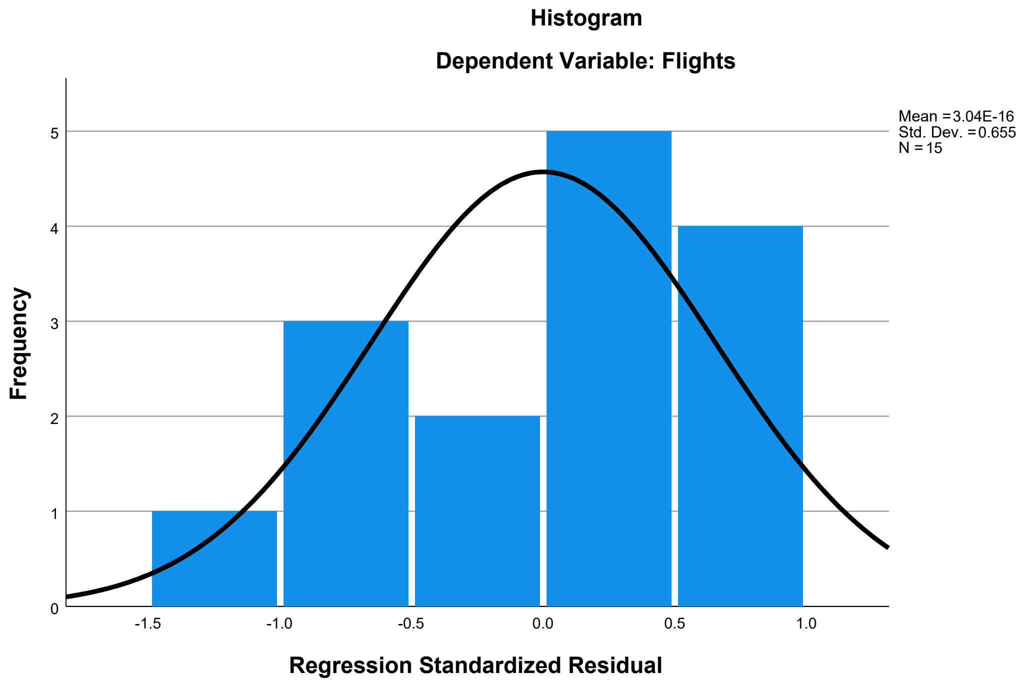
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.21	28.00	11.73	5.889	15
Residual	-4.698	3.974	.000	2.871	15
Std. Predicted Value	-1.108	2.762	.000	1.000	15
Std. Residual	-1.071	.906	.000	.655	15

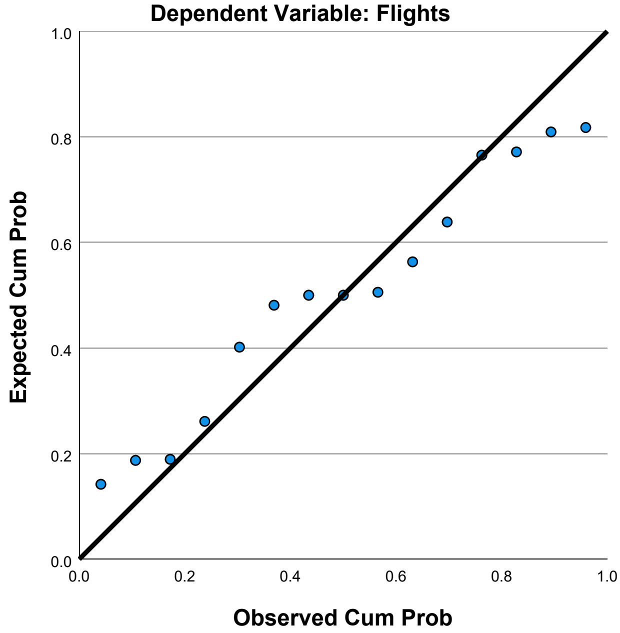
a. Dependent Variable: Flights

Charts



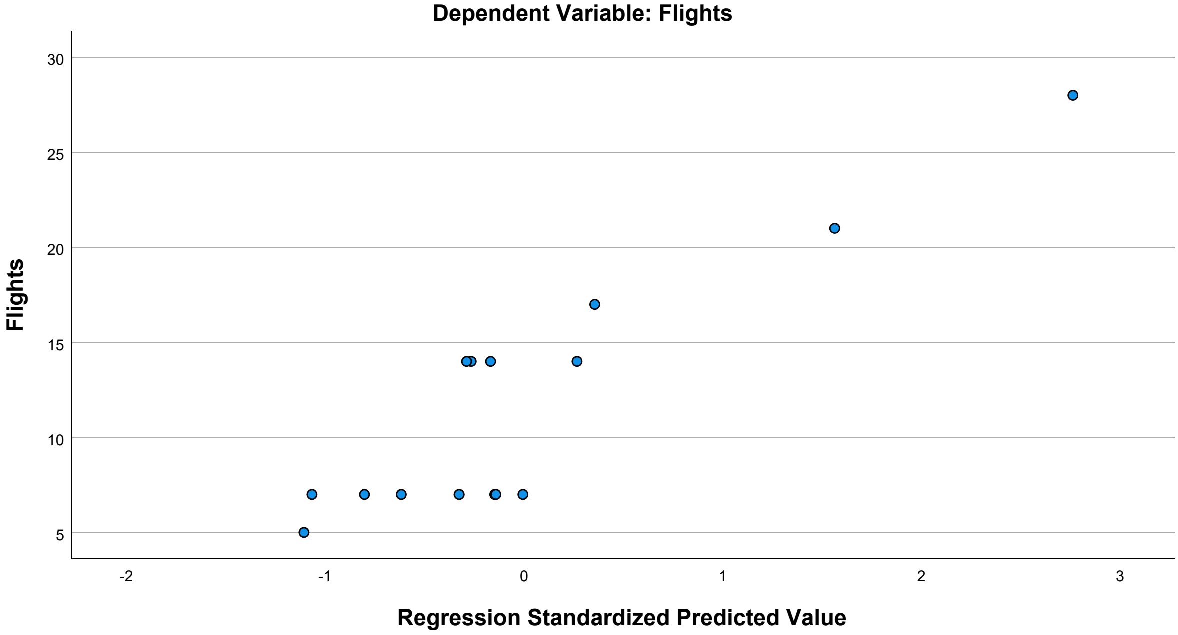
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	11.73	6.552	15
HomeConcentration	4.37202613	.747493015	15
Congestion	4.80	.862	15
GLHR	.00	.000	15
PartnerConcentration	1.1807577333	1.6791727715	15
Seasonality	.70512820513	.23095993341	15
Distance	4.26793	.736757	15
Language	.49215200	1.588905246	15
Urban	19.67	1.988	15

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.200	.154	.
	HomeConcentration	.200	1.000	-.385	.
	Congestion	.154	-.385	1.000	.
	GLHR	.	.	.	1.000
	PartnerConcentration	.236	-.289	-.042	.
	Seasonality	.111	.146	-.136	.
	Distance	-.178	.243	-.075	.
	Language	.387	.062	.107	.
	Urban	.322	-.464	.584	.
Sig. (1-tailed)	Flights	.	.238	.291	.000
	HomeConcentration	.238	.	.078	.000
	Congestion	.291	.078	.	.000
	GLHR	.000	.000	.000	.
	PartnerConcentration	.199	.148	.441	.000
	Seasonality	.347	.302	.315	.000
	Distance	.262	.192	.396	.000
	Language	.077	.413	.352	.000
	Urban	.121	.041	.011	.000
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15
	Language	15	15	15	15
	Urban	15	15	15	15

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.236	.111	-.178	.387
	HomeConcentration	-.289	.146	.243	.062
	Congestion	-.042	-.136	-.075	.107
	GLHR	.	.	.	.
	PartnerConcentration	1.000	.515	-.117	-.202
	Seasonality	.515	1.000	.097	-.066
	Distance	-.117	.097	1.000	-.344
	Language	-.202	-.066	-.344	1.000
	Urban	.168	-.091	-.062	-.203
Sig. (1-tailed)	Flights	.199	.347	.262	.077
	HomeConcentration	.148	.302	.192	.413
	Congestion	.441	.315	.396	.352
	GLHR	.000	.000	.000	.000
	PartnerConcentration	.	.025	.339	.235
	Seasonality	.025	.	.366	.408
	Distance	.339	.366	.	.105
	Language	.235	.408	.105	.
	Urban	.274	.374	.414	.234
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Distance	15	15	15	15
	Language	15	15	15	15
	Urban	15	15	15	15

Correlations

		Urban
Pearson Correlation	Flights	.322
	HomeConcentration	-.464
	Congestion	.584
	GLHR	.
	PartnerConcentration	.168
	Seasonality	-.091
	Distance	-.062
	Language	-.203
	Urban	1.000
Sig. (1-tailed)	Flights	.121
	HomeConcentration	.041
	Congestion	.011
	GLHR	.000
	PartnerConcentration	.274
	Seasonality	.374
	Distance	.414
	Language	.234
	Urban	.
N	Flights	15
	HomeConcentration	15
	Congestion	15
	GLHR	15
	PartnerConcentration	15
	Seasonality	15
	Distance	15
	Language	15
	Urban	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Seasonality, Language, HomeConcentration, Congestion, PartnerConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.805[a]	.649	.297	5.493	.649	1.845

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	7	7	.219

a. Predictors: (Constant), Urban, Distance, Seasonality, Language, HomeConcentration, Congestion, PartnerConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	389.743	7	55.678	1.845	.219[b]
	Residual	211.190	7	30.170		
	Total	600.933	14			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Seasonality, Language, HomeConcentration, Congestion, PartnerConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-52.183	24.688		-2.114	.072
	HomeConcentration	5.378	2.495	.614	2.155	.068
	Congestion	-.415	2.261	-.055	-.184	.860
	PartnerConcentration	1.872	1.186	.480	1.578	.159
	Seasonality	-3.773	8.056	-.133	-.468	.654
	Distance	-.236	2.263	-.027	-.104	.920
	Language	2.338	1.082	.567	2.160	.068
	Urban	2.171	1.019	.659	2.132	.070

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.619	1.614
	Congestion	.568	1.762
	PartnerConcentration	.543	1.842
	Seasonality	.622	1.607
	Distance	.775	1.290
	Language	.729	1.372
	Urban	.526	1.903

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.336	1.000	.00	.00	.00
	2	.988	2.532	.00	.00	.00
	3	.551	3.392	.00	.00	.00
	4	.067	9.741	.00	.02	.06
	5	.031	14.219	.00	.17	.12
	6	.017	19.473	.00	.27	.00
	7	.008	29.063	.07	.27	.78
	8	.002	53.525	.92	.28	.04

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language	Urban
1	1	.00	.00	.00	.00	.00
	2	.06	.00	.00	.54	.00
	3	.46	.00	.00	.20	.00
	4	.10	.48	.00	.00	.01
	5	.27	.50	.08	.03	.00
	6	.00	.00	.85	.12	.01
	7	.11	.02	.02	.02	.24
	8	.00	.00	.05	.09	.75

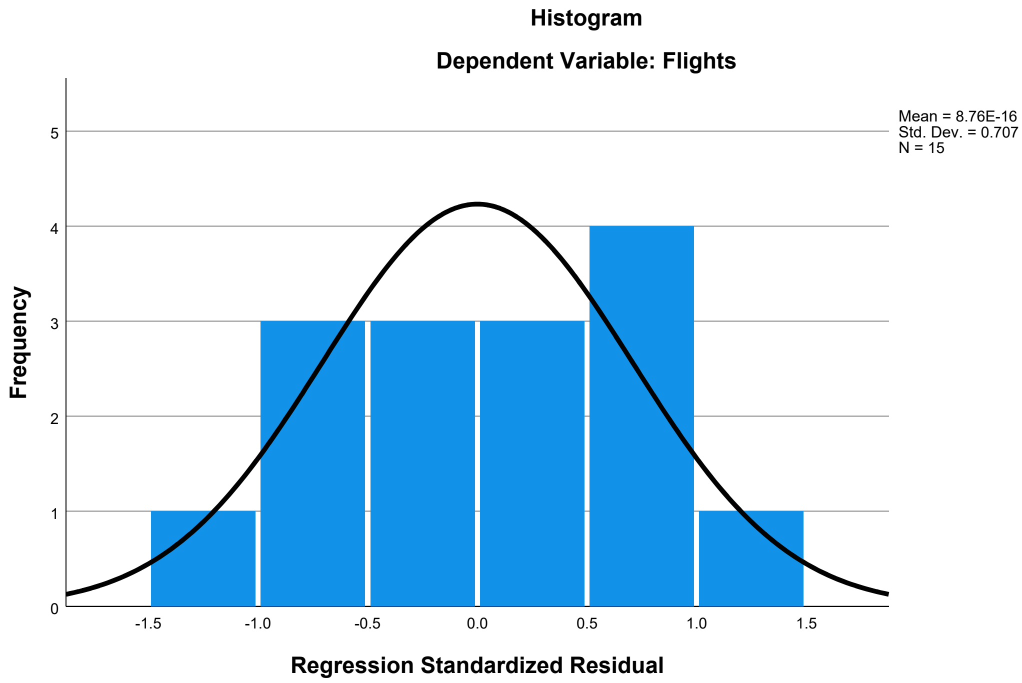
a. Dependent Variable: Flights

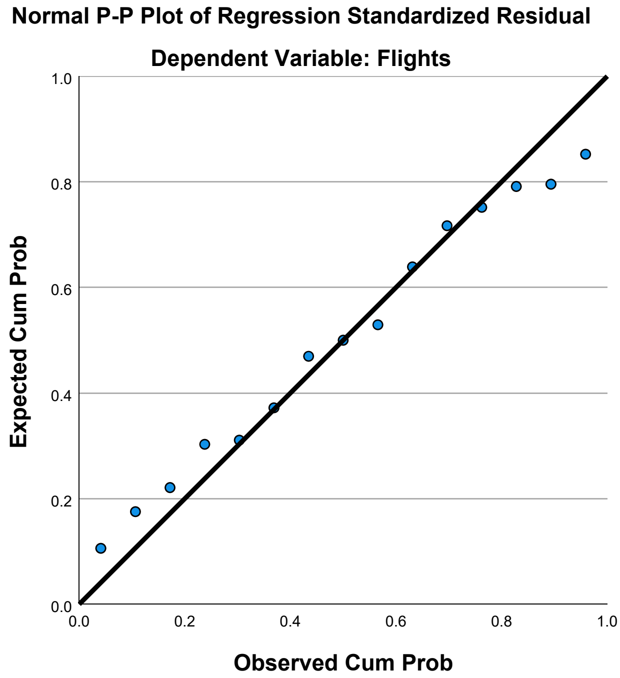
Residuals Statistics[a]

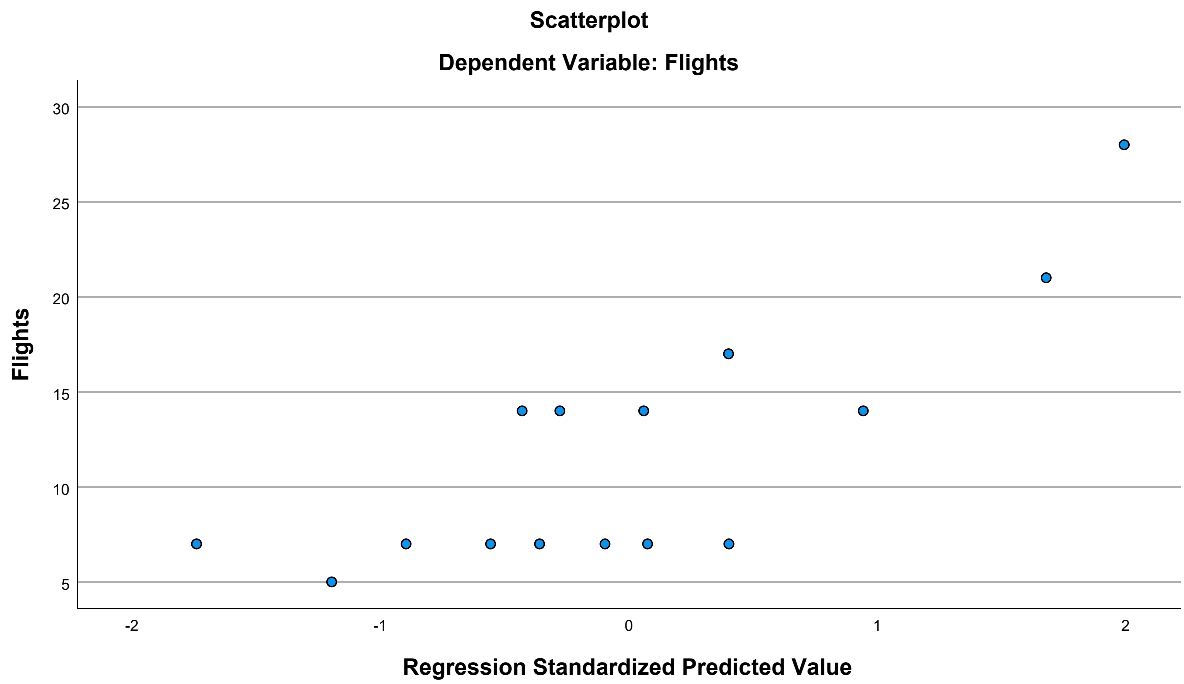
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.55	22.25	11.73	5.276	15
Residual	-6.858	5.745	.000	3.884	15
Std. Predicted Value	-1.741	1.994	.000	1.000	15
Std. Residual	-1.249	1.046	.000	.707	15

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	11.73	6.552	15
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Congestion	4.80	.862	15
GLHR	.00	.000	15
PartnerConcentration	1.1807577333	1.6791727715	15
Seasonality	.70512820513	.23095993341	15
Language	.49215200	1.588905246	15
Urban	19.67	1.988	15

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.200	.154	.
	HomeConcentration	.200	1.000	-.385	.
	Congestion	.154	-.385	1.000	.
	GLHR	.	.	.	1.000
	PartnerConcentration	.236	-.289	-.042	.
	Seasonality	.111	.146	-.136	.
	Language	.387	.062	.107	.
	Urban	.322	-.464	.584	.
Sig. (1-tailed)	Flights	.	.238	.291	.000
	HomeConcentration	.238	.	.078	.000
	Congestion	.291	.078	.	.000
	GLHR	.000	.000	.000	.
	PartnerConcentration	.199	.148	.441	.000
	Seasonality	.347	.302	.315	.000
	Language	.077	.413	.352	.000
	Urban	.121	.041	.011	.000
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Language	15	15	15	15
	Urban	15	15	15	15

Correlations

		PartnerConcentration	Seasonality	Language	Urban
Pearson Correlation	Flights	.236	.111	.387	.322
	HomeConcentration	-.289	.146	.062	-.464
	Congestion	-.042	-.136	.107	.584
	GLHR	.	.	.	.
	PartnerConcentration	1.000	.515	-.202	.168
	Seasonality	.515	1.000	-.066	-.091
	Language	-.202	-.066	1.000	-.203
	Urban	.168	-.091	-.203	1.000
Sig. (1-tailed)	Flights	.199	.347	.077	.121
	HomeConcentration	.148	.302	.413	.041
	Congestion	.441	.315	.352	.011
	GLHR	.000	.000	.000	.000
	PartnerConcentration	.	.025	.235	.274
	Seasonality	.025	.	.408	.374
	Language	.235	.408	.	.234
	Urban	.274	.374	.234	.
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15
	Congestion	15	15	15	15
	GLHR	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Language	15	15	15	15
	Urban	15	15	15	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, Language, HomeConcentration, Congestion, PartnerConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.805[a]	.648	.384	5.142	.648	2.455

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	6	8	.120

a. Predictors: (Constant), Urban, Seasonality, Language, HomeConcentration, Congestion, PartnerConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	389.414	6	64.902	2.455	.120[b]
	Residual	211.519	8	26.440		
	Total	600.933	14			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, Language, HomeConcentration, Congestion, PartnerConcentration

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-52.974	21.997		-2.408	.043
	HomeConcentration	5.333	2.301	.608	2.317	.049
	Congestion	-.433	2.110	-.057	-.205	.843
	PartnerConcentration	1.894	1.093	.485	1.733	.121
	Seasonality	-3.893	7.466	-.137	-.521	.616
	Language	2.383	.930	.578	2.563	.033
	Urban	2.177	.952	.660	2.285	.052

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.638	1.567
	Congestion	.571	1.751
	PartnerConcentration	.561	1.783
	Seasonality	.635	1.574
	Language	.865	1.156
	Urban	.527	1.898

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	5.382	1.000	.00	.00	.00
	2	.988	2.334	.00	.00	.00
	3	.525	3.202	.00	.00	.00
	4	.067	8.979	.00	.02	.06
	5	.029	13.584	.00	.29	.11
	6	.008	26.659	.07	.34	.79
	7	.002	48.176	.92	.35	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Language	Urban
1	1	.01	.00	.00	.00
	2	.07	.00	.64	.00
	3	.48	.00	.26	.00
	4	.10	.50	.00	.01
	5	.24	.48	.00	.00
	6	.10	.01	.04	.21
	7	.00	.01	.05	.78

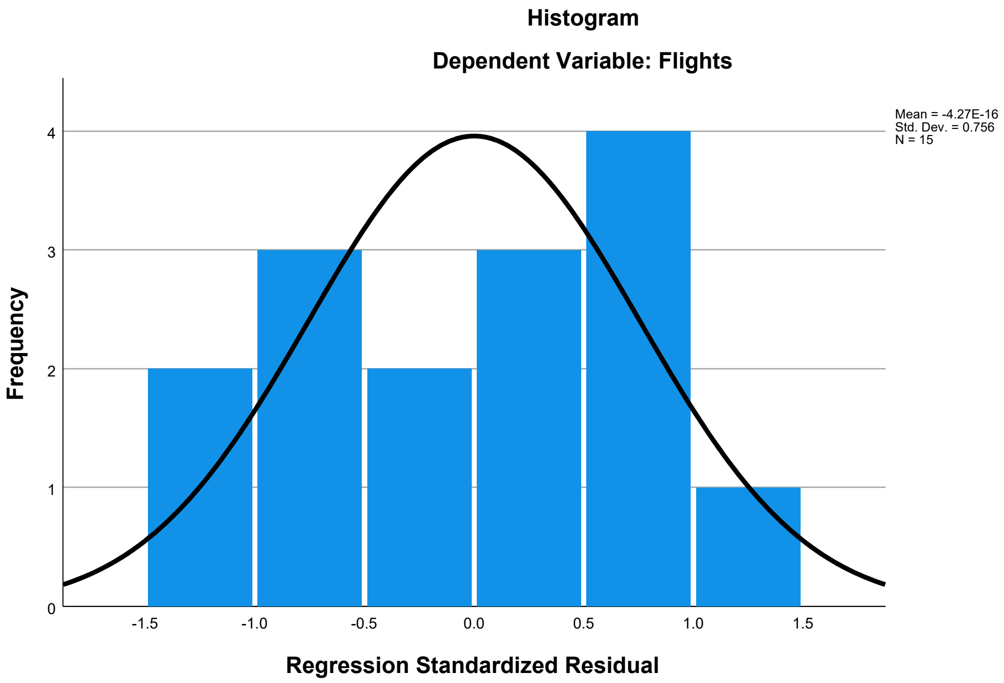
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.43	22.12	11.73	5.274	15
Residual	-6.704	5.884	.000	3.887	15
Std. Predicted Value	-1.764	1.969	.000	1.000	15
Std. Residual	-1.304	1.144	.000	.756	15

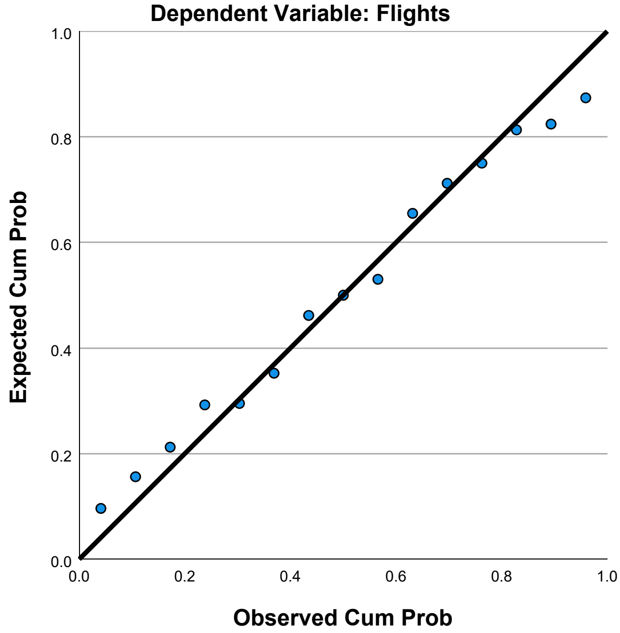
a. Dependent Variable: Flights

Charts



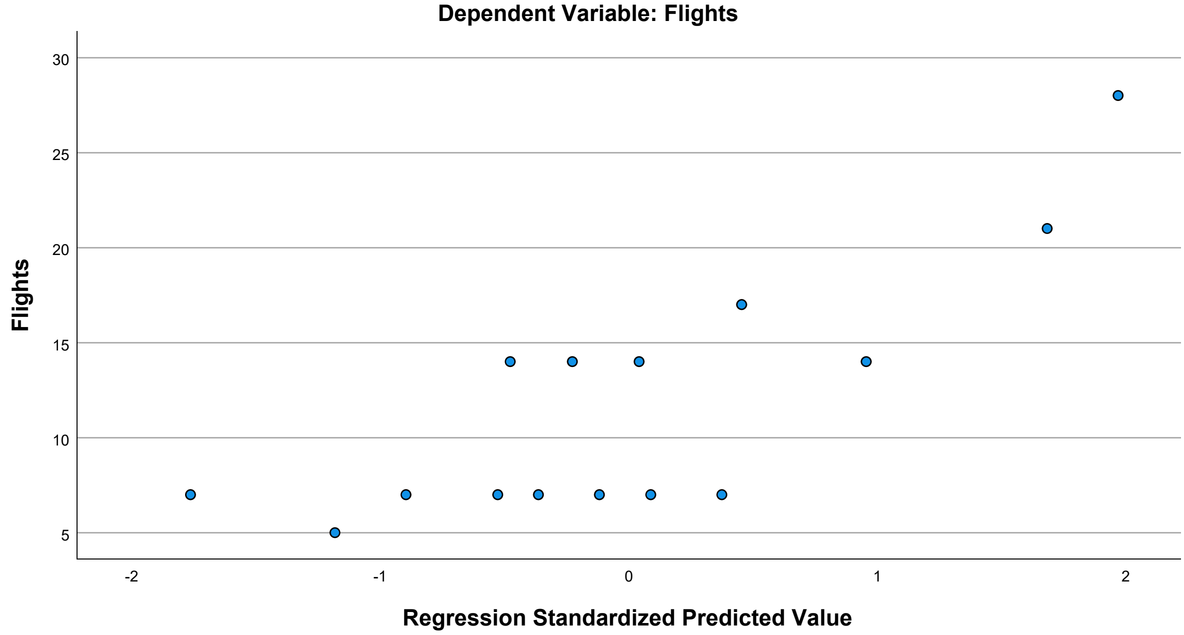
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	11.73	6.552	15
HomeConcentration	4.37202613	.747493015	15
GLHR	.00	.000	15
PartnerConcentration	1.1807577333	1.6791727715	15
Seasonality	.70512820513	.23095993341	15
Language	.49215200	1.588905246	15
Urban	19.67	1.988	15

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.200	.	.236
	HomeConcentration	.200	1.000	.	-.289
	GLHR	.	.	1.000	.
	PartnerConcentration	.236	-.289	.	1.000
	Seasonality	.111	.146	.	.515
	Language	.387	.062	.	-.202
	Urban	.322	-.464	.	.168
Sig. (1-tailed)	Flights	.	.238	.000	.199
	HomeConcentration	.238	.	.000	.148
	GLHR	.000	.000	.	.000
	PartnerConcentration	.199	.148	.000	.
	Seasonality	.347	.302	.000	.025
	Language	.077	.413	.000	.235
	Urban	.121	.041	.000	.274
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15
	GLHR	15	15	15	15
	PartnerConcentration	15	15	15	15
	Seasonality	15	15	15	15
	Language	15	15	15	15
	Urban	15	15	15	15

Correlations

		Seasonality	Language	Urban
Pearson Correlation	Flights	.111	.387	.322
	HomeConcentration	.146	.062	-.464
	GLHR	.	.	.
	PartnerConcentration	.515	-.202	.168
	Seasonality	1.000	-.066	-.091
	Language	-.066	1.000	-.203
	Urban	-.091	-.203	1.000
Sig. (1-tailed)	Flights	.347	.077	.121
	HomeConcentration	.302	.413	.041
	GLHR	.000	.000	.000
	PartnerConcentration	.025	.235	.274
	Seasonality	.	.408	.374
	Language	.408	.	.234
	Urban	.374	.234	.
N	Flights	15	15	15
	HomeConcentration	15	15	15
	GLHR	15	15	15
	PartnerConcentration	15	15	15
	Seasonality	15	15	15
	Language	15	15	15
	Urban	15	15	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, Language, HomeConcentration, PartnerConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.804[a]	.646	.450	4.861	.646	3.287

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	5	9	.058

a. Predictors: (Constant), Urban, Seasonality, Language, HomeConcentration, PartnerConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	388.301	5	77.660	3.287	.058[b]
	Residual	212.632	9	23.626		
	Total	600.933	14			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, Language, HomeConcentration, PartnerConcentration

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-53.335	20.727		-2.573	.030
	HomeConcentration	5.429	2.130	.619	2.548	.031
	PartnerConcentration	1.933	1.017	.495	1.901	.090
	Seasonality	-3.971	7.048	-.140	-.563	.587
	Language	2.335	.851	.566	2.743	.023
	Urban	2.070	.753	.628	2.747	.023

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.665	1.503
	PartnerConcentration	.579	1.728
	Seasonality	.637	1.570
	Language	.922	1.084
	Urban	.752	1.329

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	PartnerConcentration
1	1	4.431	1.000	.00	.00	.01
	2	.987	2.119	.00	.00	.07
	3	.507	2.957	.00	.00	.50
	4	.053	9.178	.01	.00	.17
	5	.021	14.657	.00	.56	.24
	6	.002	43.161	.99	.44	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Language	Urban
1	1	.00	.00	.00
	2	.00	.69	.00
	3	.00	.26	.00
	4	.77	.00	.03
	5	.22	.00	.09
	6	.00	.04	.89

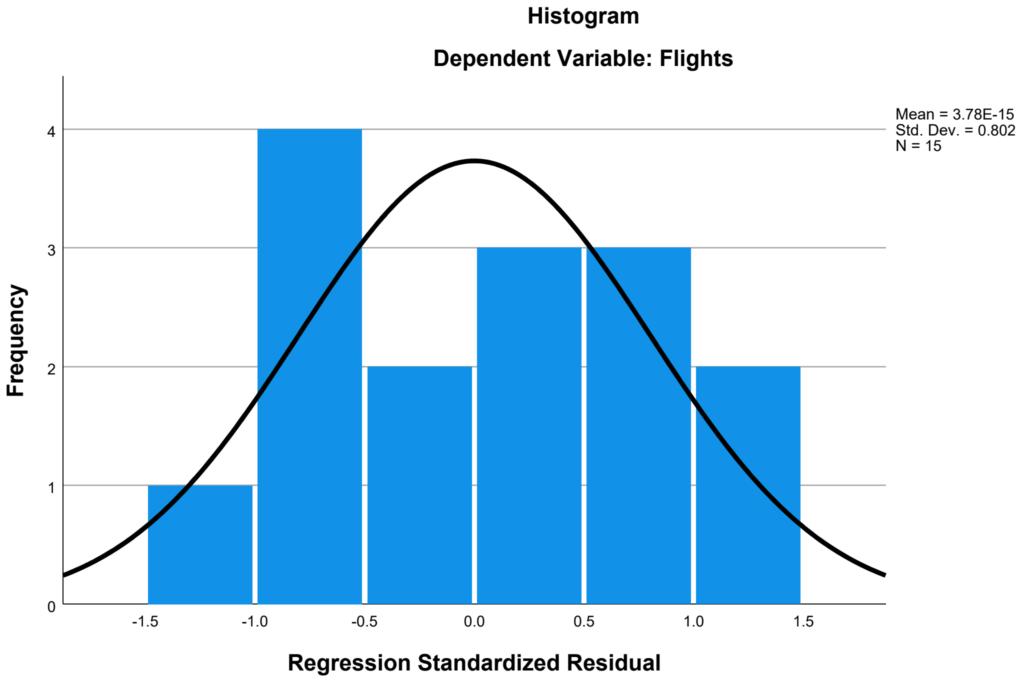
a. Dependent Variable: Flights

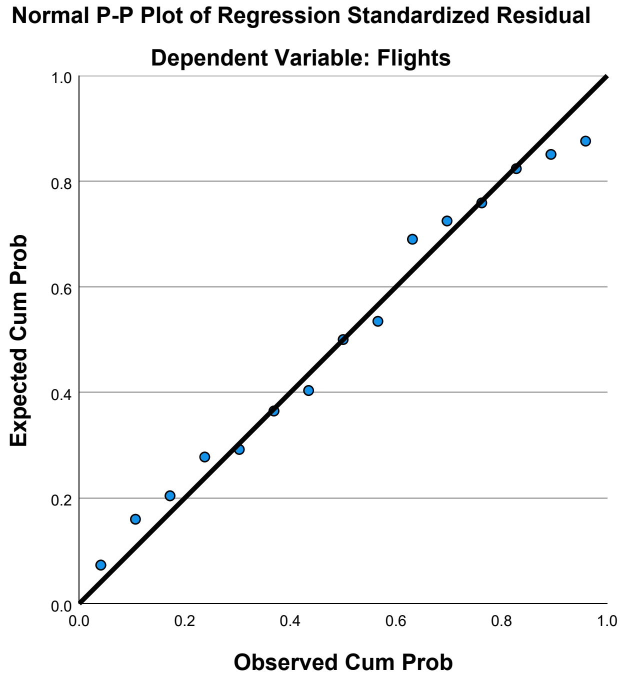
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.48	22.39	11.73	5.266	15
Residual	-7.070	5.614	.000	3.897	15
Std. Predicted Value	-1.757	2.023	.000	1.000	15
Std. Residual	-1.454	1.155	.000	.802	15

a. Dependent Variable: Flights

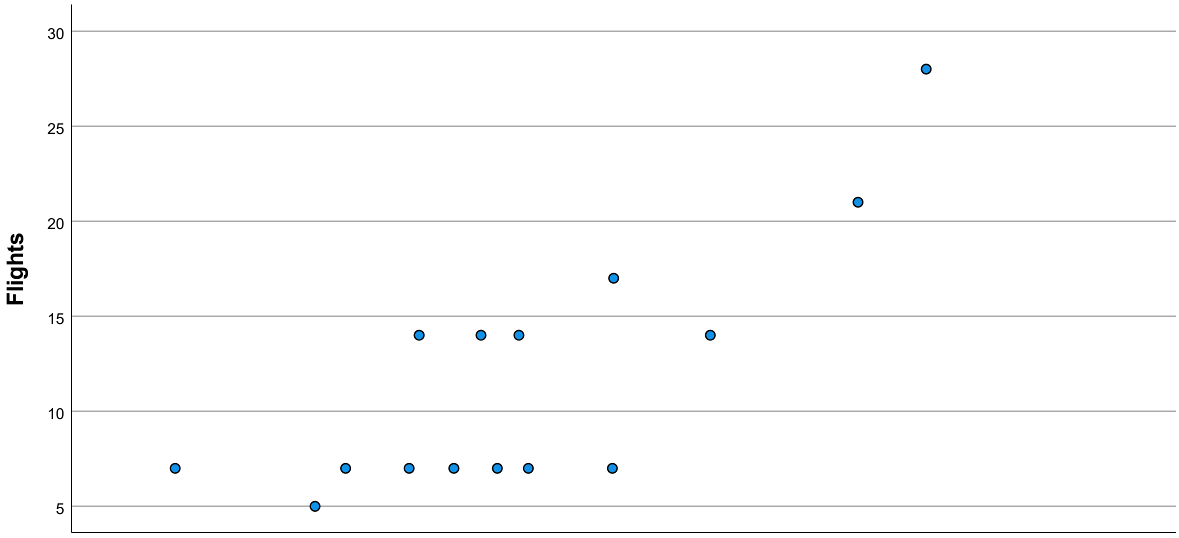
Charts


Histogram
Dependent Variable: Flights
Mean = 3.78E-15
Std. Dev. = 0.802
N = 15
Frequency
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob

Scatterplot

Dependent Variable: Flights



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	11.73	6.552	15
HomeConcentration	4.37202613	.747493015	15
GLHR	.00	.000	15
PartnerConcentration	1.1807577333	1.6791727715	15
Language	.49215200	1.588905246	15
Urban	19.67	1.988	15

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.200	.	.236
	HomeConcentration	.200	1.000	.	-.289
	GLHR	.	.	1.000	.
	PartnerConcentration	.236	-.289	.	1.000
	Language	.387	.062	.	-.202
	Urban	.322	-.464	.	.168
Sig. (1-tailed)	Flights	.	.238	.000	.199
	HomeConcentration	.238	.	.000	.148
	GLHR	.000	.000	.	.000
	PartnerConcentration	.199	.148	.000	.
	Language	.077	.413	.000	.235
	Urban	.121	.041	.000	.274
N	Flights	15	15	15	15
	HomeConcentration	15	15	15	15
	GLHR	15	15	15	15
	PartnerConcentration	15	15	15	15
	Language	15	15	15	15
	Urban	15	15	15	15

Correlations

		Language	Urban
Pearson Correlation	Flights	.387	.322
	HomeConcentration	.062	-.464
	GLHR	.	.
	PartnerConcentration	-.202	.168
	Language	1.000	-.203
	Urban	-.203	1.000
Sig. (1-tailed)	Flights	.077	.121
	HomeConcentration	.413	.041
	GLHR	.000	.000
	PartnerConcentration	.235	.274
	Language	.	.234
	Urban	.234	.
N	Flights	15	15
	HomeConcentration	15	15
	GLHR	15	15
	PartnerConcentration	15	15
	Language	15	15
	Urban	15	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Language, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.796[a]	.634	.487	4.692	.634	4.325

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	4	10	.027

a. Predictors: (Constant), Urban, PartnerConcentration, Language, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	380.800	4	95.200	4.325	.027[b]
	Residual	220.133	10	22.013		
	Total	600.933	14			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Language, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-54.577	19.894		-2.743	.021
	HomeConcentration	5.062	1.958	.578	2.585	.027
	PartnerConcentration	1.597	.795	.409	2.009	.072
	Language	2.319	.821	.562	2.823	.018
	Urban	2.092	.726	.635	2.881	.016

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.734	1.362
	PartnerConcentration	.883	1.133
	Language	.924	1.083
	Urban	.754	1.326

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions PartnerConcentration
1	1	3.486	1.000	.00	.00	.02
	2	.982	1.884	.00	.00	.11
	3	.507	2.623	.00	.00	.76
	4	.024	12.091	.00	.48	.09
	5	.002	38.215	.99	.52	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Language	Variance Proportions Urban
1	1	.01	.00
	2	.69	.00
	3	.26	.00
	4	.00	.11
	5	.04	.89

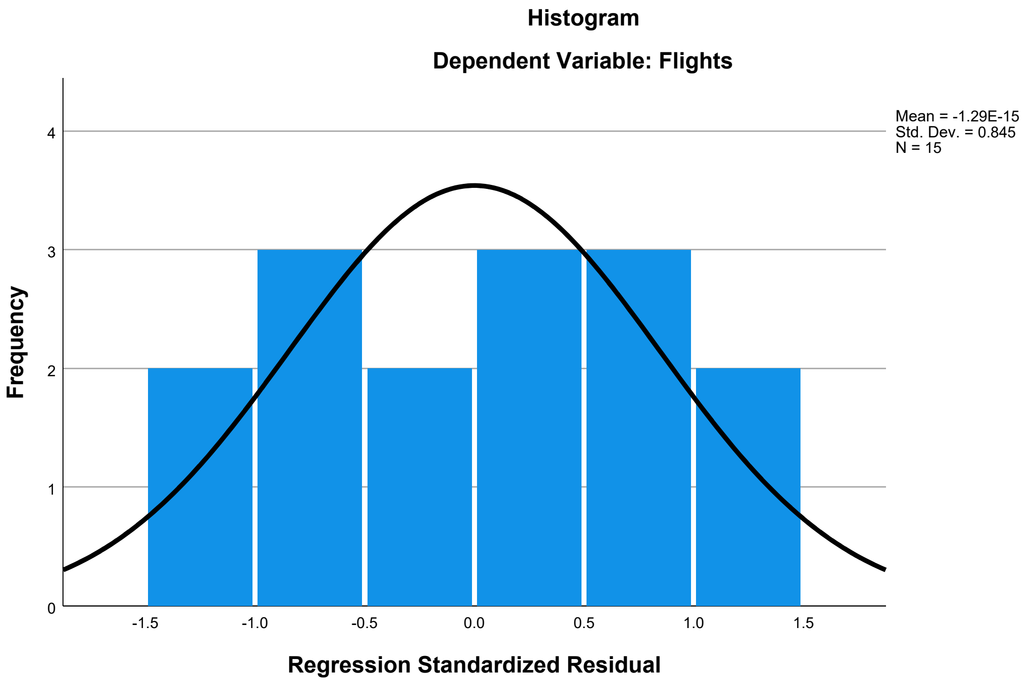
a. Dependent Variable: Flights

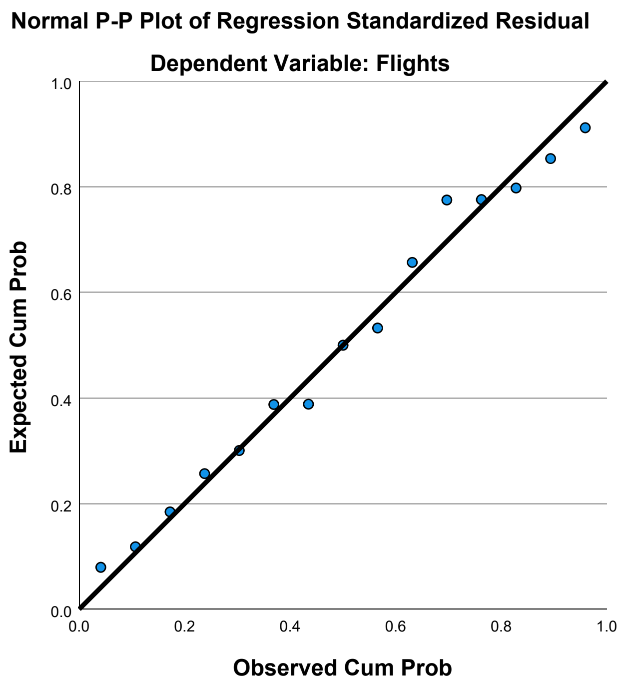
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.07	21.66	11.73	5.215	15
Residual	-6.612	6.345	.000	3.965	15
Std. Predicted Value	-1.853	1.902	.000	1.000	15
Std. Residual	-1.409	1.352	.000	.845	15

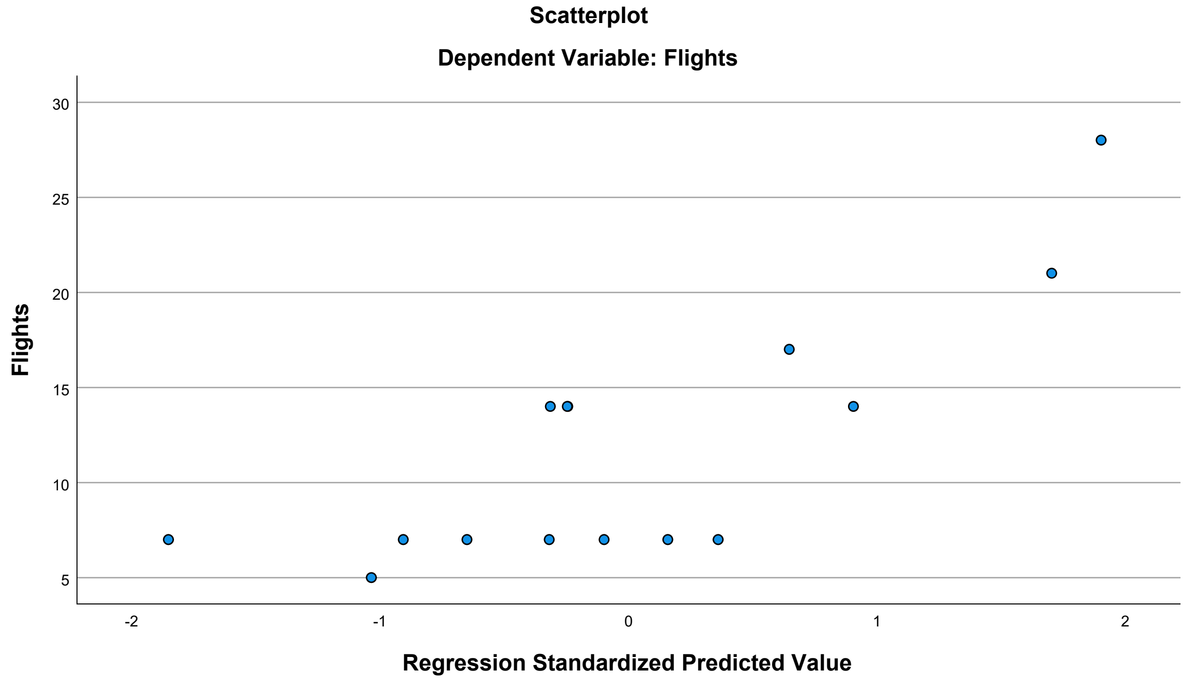
a. Dependent Variable: Flights

Charts





Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0



Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
30
25
20
15
10
5
-2
-1
0
1
2

Regression

```
[DataSet17] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
\1997 - KL.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: HomeConcentration, GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.00	.943	10
HomeConcentration	3.9408100	.00000000	10
Congestion	4.90	.876	10
GLHR	.00	.000	10
GJFK	.10	.316	10
PartnerConcentration	1.6512211000	2.8707388589	10
Seasonality	.54967948718	.17410268998	10
Distance	4.41180	.773519	10
Language	.01363800	.021712970	10
Ethnicity	.18381110	.166560101	10
Urban	16.50	4.197	10

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.	-.269	.
	HomeConcentration	.	1.000	.	.
	Congestion	-.269	.	1.000	.
	GLHR	.	.	.	1.000
	GJFK	-.745	.	.441	.
	PartnerConcentration	-.007	.	-.649	.
	Seasonality	.338	.	-.404	.
	Distance	.587	.	-.053	.
	Language	-.037	.	.646	.
	Ethnicity	-.233	.	.326	.
	Urban	-.112	.	.227	.
Sig. (1-tailed)	Flights	.	.000	.226	.000
	HomeConcentration	.000	.	.000	.000
	Congestion	.226	.000	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.007	.000	.101	.000
	PartnerConcentration	.492	.000	.021	.000
	Seasonality	.169	.000	.123	.000
	Distance	.037	.000	.442	.000
	Language	.459	.000	.022	.000
	Ethnicity	.259	.000	.179	.000
	Urban	.379	.000	.264	.000
N	Flights	10	10	10	10
	HomeConcentration	10	10	10	10
	Congestion	10	10	10	10
	GLHR	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Seasonality	10	10	10	10
	Distance	10	10	10	10
	Language	10	10	10	10
	Ethnicity	10	10	10	10
	Urban	10	10	10	10

Correlations

		GJFK	PartnerConcentration	Seasonality	Distance
Pearson Correlation	Flights	-.745	-.007	.338	.587
	HomeConcentration	.	.	.	.
	Congestion	.441	-.649	-.404	-.053
	GLHR	.	.	.	.
	GJFK	1.000	-.192	-.479	-.353
	PartnerConcentration	-.192	1.000	.592	.040
	Seasonality	-.479	.592	1.000	.032
	Distance	-.353	.040	.032	1.000
	Language	-.045	-.294	-.091	-.277
	Ethnicity	.163	.217	.491	-.494
	Urban	.460	-.351	-.300	.217
Sig. (1-tailed)	Flights	.007	.492	.169	.037
	HomeConcentration	.000	.000	.000	.000
	Congestion	.101	.021	.123	.442
	GLHR	.000	.000	.000	.000
	GJFK	.	.298	.081	.158
	PartnerConcentration	.298	.	.036	.456
	Seasonality	.081	.036	.	.466
	Distance	.158	.456	.466	.
	Language	.451	.205	.401	.219
	Ethnicity	.326	.273	.075	.074
	Urban	.090	.160	.200	.274
N	Flights	10	10	10	10
	HomeConcentration	10	10	10	10
	Congestion	10	10	10	10
	GLHR	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Seasonality	10	10	10	10
	Distance	10	10	10	10
	Language	10	10	10	10
	Ethnicity	10	10	10	10
	Urban	10	10	10	10

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	-.037	-.233	-.112
	HomeConcentration	.	.	.
	Congestion	.646	.326	.227
	GLHR	.	.	.
	GJFK	-.045	.163	.460
	PartnerConcentration	-.294	.217	-.351
	Seasonality	-.091	.491	-.300
	Distance	-.277	-.494	.217
	Language	1.000	.567	-.477
	Ethnicity	.567	1.000	-.338
	Urban	-.477	-.338	1.000
Sig. (1-tailed)	Flights	.459	.259	.379
	HomeConcentration	.000	.000	.000
	Congestion	.022	.179	.264
	GLHR	.000	.000	.000
	GJFK	.451	.326	.090
	PartnerConcentration	.205	.273	.160
	Seasonality	.401	.075	.200
	Distance	.219	.074	.274
	Language	.	.044	.081
	Ethnicity	.044	.	.170
	Urban	.081	.170	.
N	Flights	10	10	10
	HomeConcentration	10	10	10
	Congestion	10	10	10
	GLHR	10	10	10
	GJFK	10	10	10
	PartnerConcentration	10	10	10
	Seasonality	10	10	10
	Distance	10	10	10
	Language	10	10	10
	Ethnicity	10	10	10
	Urban	10	10	10

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Congestion, Seasonality, GJFK, PartnerConcentration, Language, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.904[a]	.818	-.642	1.208	.818	.560

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	1	.782

a. Predictors: (Constant), Urban, Distance, Congestion, Seasonality, GJFK, PartnerConcentration, Language, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.540	8	.818	.560	.782[b]
	Residual	1.460	1	1.460		
	Total	8.000	9			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Congestion, Seasonality, GJFK, PartnerConcentration, Language, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	6.965	5.348		1.302	.417
	Congestion	-1.196	1.645	-1.111	-.727	.600
	GJFK	-.783	3.298	-.263	-.237	.852
	PartnerConcentration	-.213	.300	-.648	-.708	.608
	Seasonality	.395	6.788	.073	.058	.963
	Distance	.932	.962	.765	.969	.510
	Language	26.797	61.540	.617	.435	.739
	Ethnicity	2.343	8.444	.414	.277	.828
	Urban	.073	.186	.324	.392	.762

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	Congestion	.078	12.788
	GJFK	.149	6.705
	PartnerConcentration	.218	4.583
	Seasonality	.116	8.611
	Distance	.293	3.412
	Language	.091	11.007
	Ethnicity	.082	12.196
	Urban	.267	3.739

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions Congestion	Variance Proportions GJFK
1	1	6.245	1.000	.00	.00	.00
	2	1.090	2.394	.00	.00	.06
	3	.892	2.645	.00	.00	.05
	4	.610	3.199	.00	.00	.03
	5	.135	6.810	.00	.00	.02
	6	.012	22.487	.02	.00	.22
	7	.009	26.331	.14	.00	.03
	8	.006	33.052	.30	.03	.45
	9	.002	62.845	.54	.97	.14

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.06	.00	.00	.01	.00	.00
	3	.01	.00	.00	.04	.00	.00
	4	.08	.00	.00	.00	.01	.00
	5	.20	.01	.00	.11	.11	.00
	6	.21	.10	.06	.04	.02	.80
	7	.00	.16	.45	.08	.27	.00
	8	.01	.69	.02	.48	.40	.08
	9	.43	.05	.46	.25	.18	.11

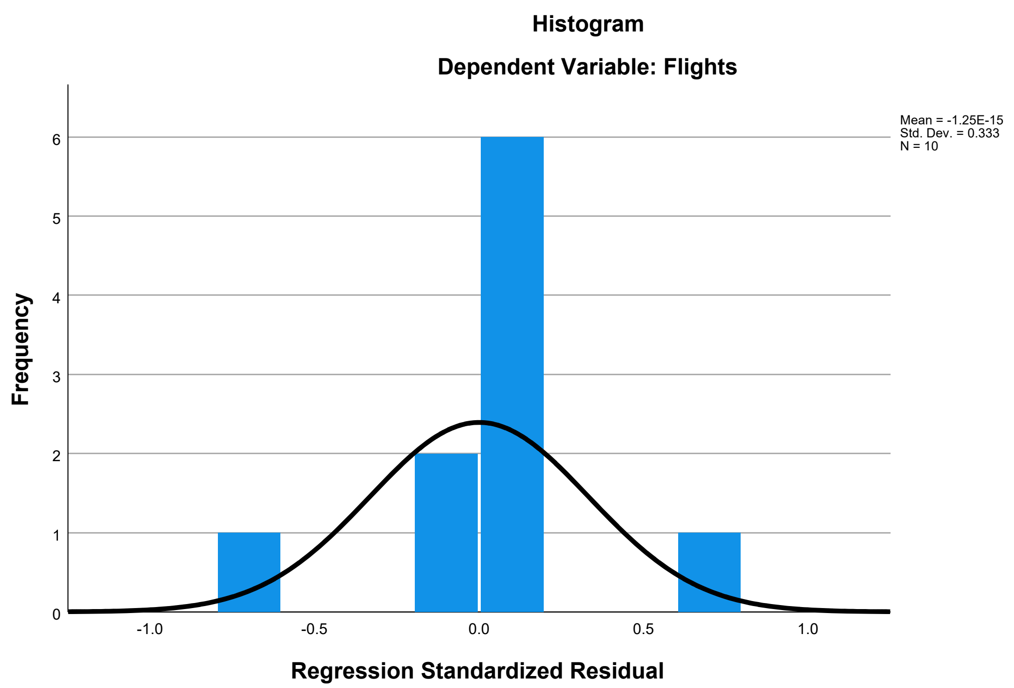
a. Dependent Variable: Flights

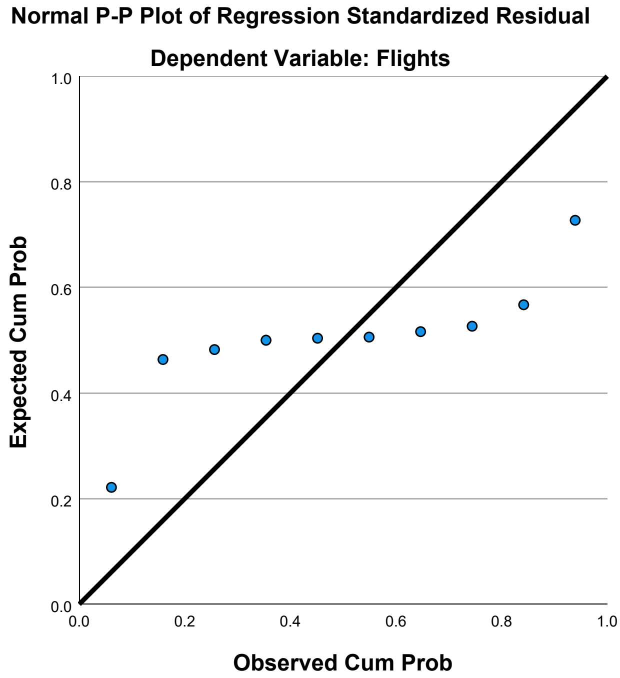
Residuals Statistics[a]

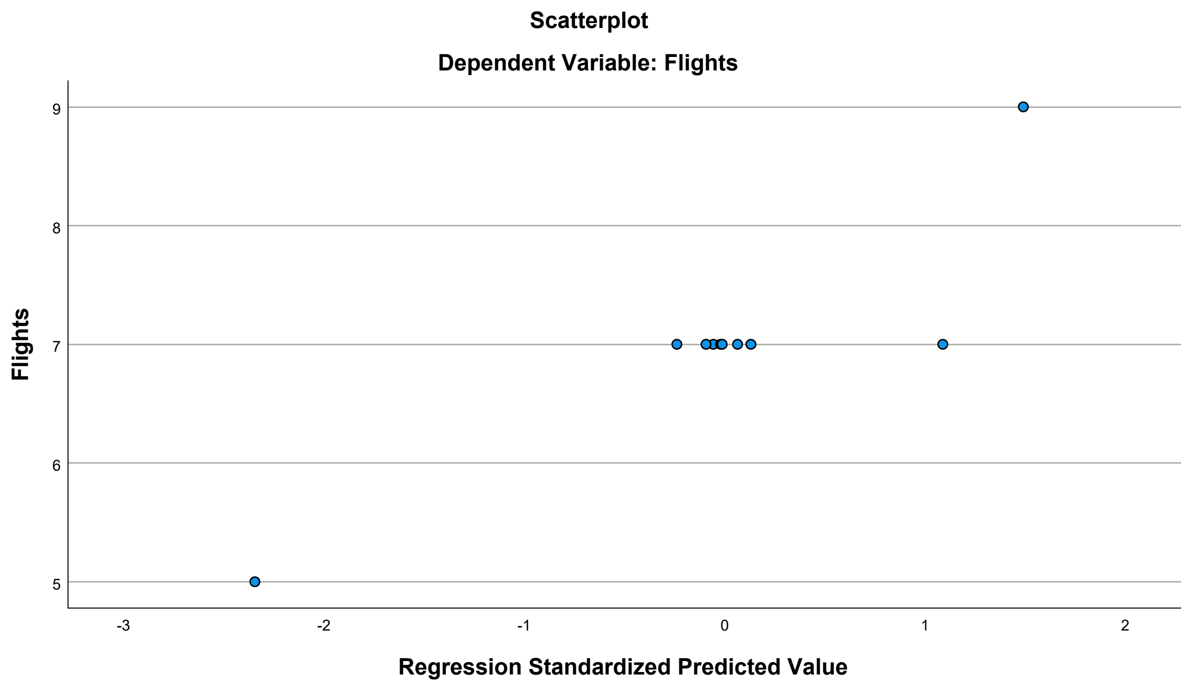
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.00	8.27	7.00	.852	10
Residual	-.928	.730	.000	.403	10
Std. Predicted Value	-2.346	1.490	.000	1.000	10
Std. Residual	-.768	.604	.000	.333	10

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: HomeConcentration, GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.00	.943	10
HomeConcentration	3.9408100	.00000000	10
GLHR	.00	.000	10
GJFK	.10	.316	10
PartnerConcentration	1.6512211000	2.8707388589	10
Seasonality	.54967948718	.17410268998	10
Distance	4.41180	.773519	10
Language	.01363800	.021712970	10
Ethnicity	.18381110	.166560101	10
Urban	16.50	4.197	10

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.	.	-.745
	HomeConcentration	.	1.000	.	.
	GLHR	.	.	1.000	.
	GJFK	-.745	.	.	1.000
	PartnerConcentration	-.007	.	.	-.192
	Seasonality	.338	.	.	-.479
	Distance	.587	.	.	-.353
	Language	-.037	.	.	-.045
	Ethnicity	-.233	.	.	.163
	Urban	-.112	.	.	.460
Sig. (1-tailed)	Flights	.	.000	.000	.007
	HomeConcentration	.000	.	.000	.000
	GLHR	.000	.000	.	.000
	GJFK	.007	.000	.000	.
	PartnerConcentration	.492	.000	.000	.298
	Seasonality	.169	.000	.000	.081
	Distance	.037	.000	.000	.158
	Language	.459	.000	.000	.451
	Ethnicity	.259	.000	.000	.326
	Urban	.379	.000	.000	.090
N	Flights	10	10	10	10
	HomeConcentration	10	10	10	10

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	-.007	.338	.587	-.037
	HomeConcentration	.	.	.	.
	GLHR	.	.	.	.
	GJFK	-.192	-.479	-.353	-.045
	PartnerConcentration	1.000	.592	.040	-.294
	Seasonality	.592	1.000	.032	-.091
	Distance	.040	.032	1.000	-.277
	Language	-.294	-.091	-.277	1.000
	Ethnicity	.217	.491	-.494	.567
	Urban	-.351	-.300	.217	-.477
Sig. (1-tailed)	Flights	.492	.169	.037	.459
	HomeConcentration	.000	.000	.000	.000
	GLHR	.000	.000	.000	.000
	GJFK	.298	.081	.158	.451
	PartnerConcentration	.	.036	.456	.205
	Seasonality	.036	.	.466	.401
	Distance	.456	.466	.	.219
	Language	.205	.401	.219	.
	Ethnicity	.273	.075	.074	.044
	Urban	.160	.200	.274	.081
N	Flights	10	10	10	10
	HomeConcentration	10	10	10	10

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	-.233	-.112
	HomeConcentration	.	.
	GLHR	.	.
	GJFK	.163	.460
	PartnerConcentration	.217	-.351
	Seasonality	.491	-.300
	Distance	-.494	.217
	Language	.567	-.477
	Ethnicity	1.000	-.338
	Urban	-.338	1.000
Sig. (1-tailed)	Flights	.259	.379
	HomeConcentration	.000	.000
	GLHR	.000	.000
	GJFK	.326	.090
	PartnerConcentration	.273	.160
	Seasonality	.075	.200
	Distance	.074	.274
	Language	.044	.081
	Ethnicity	.	.170
	Urban	.170	.
N	Flights	10	10
	HomeConcentration	10	10

Correlations

		Flights	HomeConcentration	GLHR	GJFK
	GLHR	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Seasonality	10	10	10	10
	Distance	10	10	10	10
	Language	10	10	10	10
	Ethnicity	10	10	10	10
	Urban	10	10	10	10

Correlations

		PartnerConcentration	Seasonality	Distance	Language
	GLHR	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Seasonality	10	10	10	10
	Distance	10	10	10	10
	Language	10	10	10	10
	Ethnicity	10	10	10	10
	Urban	10	10	10	10

Correlations

		Ethnicity	Urban
	GLHR	10	10
	GJFK	10	10
	PartnerConcentration	10	10
	Seasonality	10	10
	Distance	10	10
	Language	10	10
	Ethnicity	10	10
	Urban	10	10

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Seasonality, Language, GJFK, PartnerConcentration, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.849[a]	.721	-.255	1.056	.721	.738

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	7	2	.682

a. Predictors: (Constant), Urban, Distance, Seasonality, Language, GJFK, PartnerConcentration, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.768	7	.824	.738	.682[b]
	Residual	2.232	2	1.116		
	Total	8.000	9			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Seasonality, Language, GJFK, PartnerConcentration, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.496	3.613		1.245	.339
	GJFK	-1.918	2.540	-.643	-.755	.529
	PartnerConcentration	-.072	.201	-.220	-.359	.754
	Seasonality	.683	5.925	.126	.115	.919
	Distance	.469	.630	.385	.744	.534
	Language	-1.109	42.061	-.026	-.026	.981
	Ethnicity	.504	7.044	.089	.072	.949
	Urban	.018	.148	.079	.120	.916

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	GJFK	.192	5.205
	PartnerConcentration	.372	2.685
	Seasonality	.117	8.582
	Distance	.522	1.916
	Language	.149	6.727
	Ethnicity	.090	11.101
	Urban	.321	3.119

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	GJFK	PartnerConcentration
1	1	5.289	1.000	.00	.00	.00
	2	1.076	2.217	.00	.08	.09
	3	.892	2.435	.00	.06	.02
	4	.583	3.013	.00	.03	.16
	5	.133	6.298	.00	.03	.33
	6	.012	20.752	.04	.33	.39
	7	.009	24.291	.23	.02	.01
	8	.005	31.639	.73	.45	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00
	2	.00	.00	.01	.00	.00
	3	.00	.00	.06	.00	.00
	4	.00	.00	.00	.01	.00
	5	.01	.00	.19	.12	.00
	6	.12	.11	.04	.03	.92
	7	.13	.88	.10	.28	.00
	8	.74	.00	.59	.55	.07

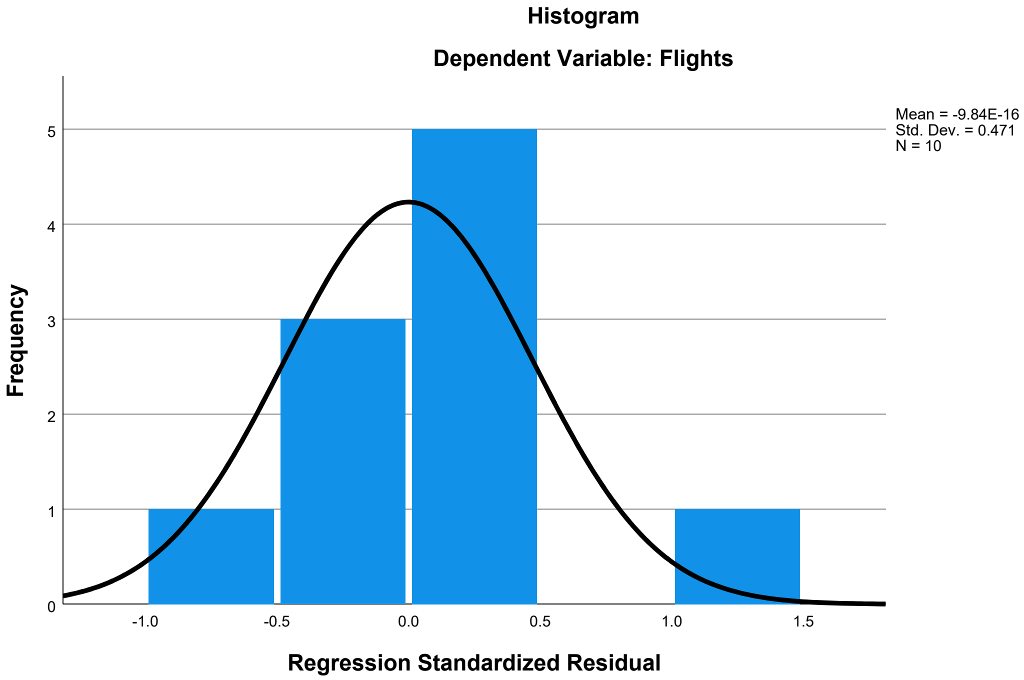
a. Dependent Variable: Flights

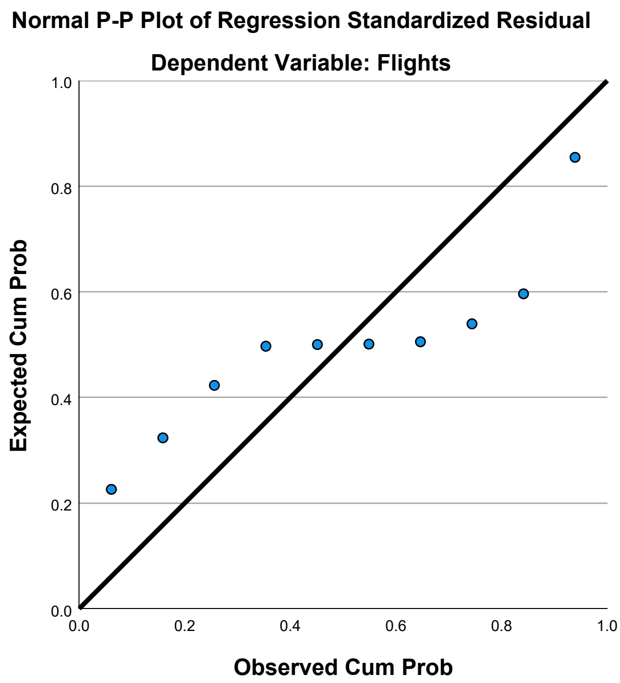
Residuals Statistics[a]

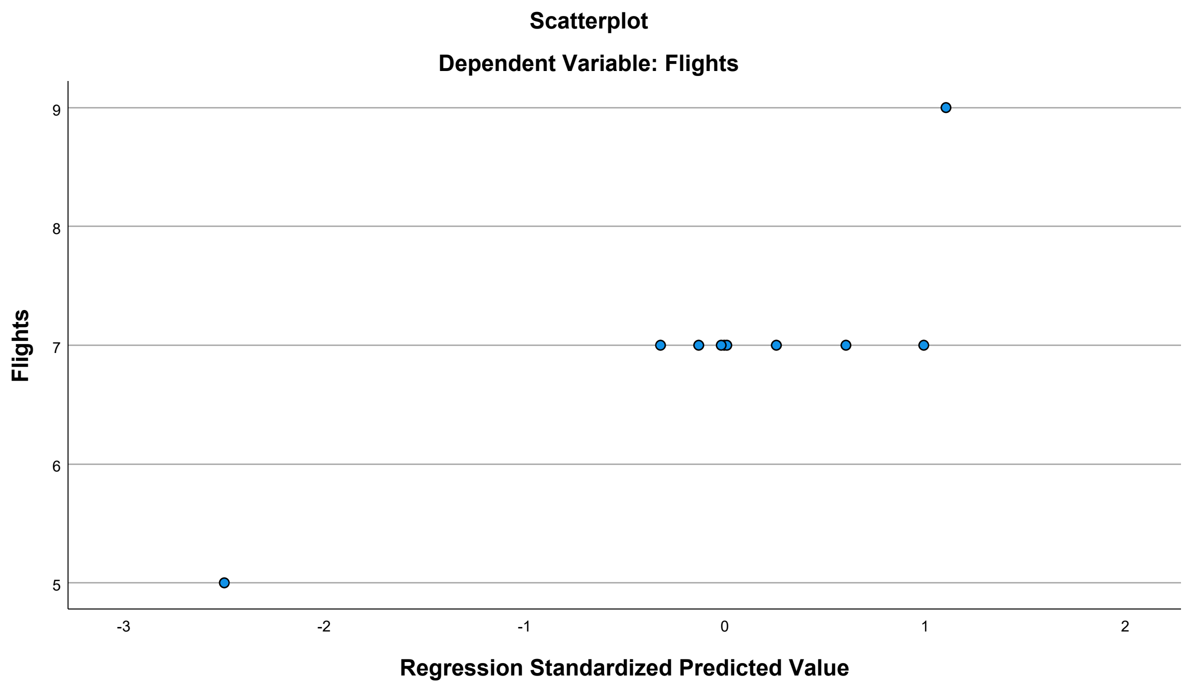
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.00	7.88	7.00	.801	10
Residual	-.795	1.116	.000	.498	10
Std. Predicted Value	-2.498	1.104	.000	1.000	10
Std. Residual	-.753	1.056	.000	.471	10

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -9.84E-16
Std. Dev. = 0.471
N = 10
Frequency
0
1
2
3
4
5
-1.0
-0.5
0.0
0.5
1.0
1.5
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: HomeConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.00	.943	10
HomeConcentration	3.9408100	.00000000	10
GJFK	.10	.316	10
PartnerConcentration	1.6512211000	2.8707388589	10
Seasonality	.54967948718	.17410268998	10
Distance	4.41180	.773519	10
Language	.01363800	.021712970	10
Urban	16.50	4.197	10

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.	-.745	-.007
	HomeConcentration	.	1.000	.	.
	GJFK	-.745	.	1.000	-.192
	PartnerConcentration	-.007	.	-.192	1.000
	Seasonality	.338	.	-.479	.592
	Distance	.587	.	-.353	.040
	Language	-.037	.	-.045	-.294
	Urban	-.112	.	.460	-.351
Sig. (1-tailed)	Flights	.	.000	.007	.492
	HomeConcentration	.000	.	.000	.000
	GJFK	.007	.000	.	.298
	PartnerConcentration	.492	.000	.298	.
	Seasonality	.169	.000	.081	.036
	Distance	.037	.000	.158	.456
	Language	.459	.000	.451	.205
	Urban	.379	.000	.090	.160
N	Flights	10	10	10	10
	HomeConcentration	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Seasonality	10	10	10	10
	Distance	10	10	10	10
	Language	10	10	10	10
	Urban	10	10	10	10

Correlations

		Seasonality	Distance	Language	Urban
Pearson Correlation	Flights	.338	.587	-.037	-.112
	HomeConcentration	.	.	.	.
	GJFK	-.479	-.353	-.045	.460
	PartnerConcentration	.592	.040	-.294	-.351
	Seasonality	1.000	.032	-.091	-.300
	Distance	.032	1.000	-.277	.217
	Language	-.091	-.277	1.000	-.477
	Urban	-.300	.217	-.477	1.000
Sig. (1-tailed)	Flights	.169	.037	.459	.379
	HomeConcentration	.000	.000	.000	.000
	GJFK	.081	.158	.451	.090
	PartnerConcentration	.036	.456	.205	.160
	Seasonality	.	.466	.401	.200
	Distance	.466	.	.219	.274
	Language	.401	.219	.	.081
	Urban	.200	.274	.081	.
N	Flights	10	10	10	10
	HomeConcentration	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Seasonality	10	10	10	10
	Distance	10	10	10	10
	Language	10	10	10	10
	Urban	10	10	10	10

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Seasonality, Language, GJFK, PartnerConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change	Change Statistics: df1	Change Statistics: df2	Change Statistics: Sig. F Change
1	.849[a]	.720	.161	.864	.720	1.288	6	3	.452

a. Predictors: (Constant), Urban, Distance, Seasonality, Language, GJFK, PartnerConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.762	6	.960	1.288	.452[b]
	Residual	2.238	3	.746		
	Total	8.000	9			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Seasonality, Language, GJFK, PartnerConcentration

Coefficients[a]

Model		Unstandardized Coefficients: B	Unstandardized Coefficients: Std. Error	Standardized Coefficients: Beta	t	Sig.
1	(Constant)	4.409	2.781		1.585	.211
	GJFK	-1.787	1.447	-.599	-1.235	.305
	PartnerConcentration	-.070	.163	-.213	-.431	.696
	Seasonality	1.049	2.444	.194	.429	.697
	Distance	.450	.467	.369	.963	.406
	Language	1.393	19.097	.032	.073	.946
	Urban	.018	.121	.082	.153	.888

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	GJFK	.396	2.527
	PartnerConcentration	.381	2.628
	Seasonality	.458	2.184
	Distance	.635	1.575
	Language	.482	2.075
	Urban	.322	3.105

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	GJFK	PartnerConcentration
1	1	4.584	1.000	.00	.00	.00
	2	1.066	2.073	.00	.18	.09
	3	.856	2.314	.00	.12	.05
	4	.437	3.240	.00	.09	.25
	5	.038	10.916	.00	.05	.24
	6	.012	19.570	.03	.45	.37
	7	.007	25.353	.97	.10	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Distance	Language	Urban
1	1	.00	.00	.01	.00
	2	.00	.00	.02	.00
	3	.00	.00	.21	.00
	4	.00	.00	.22	.00
	5	.68	.11	.04	.00
	6	.11	.37	.33	.94
	7	.21	.52	.17	.05

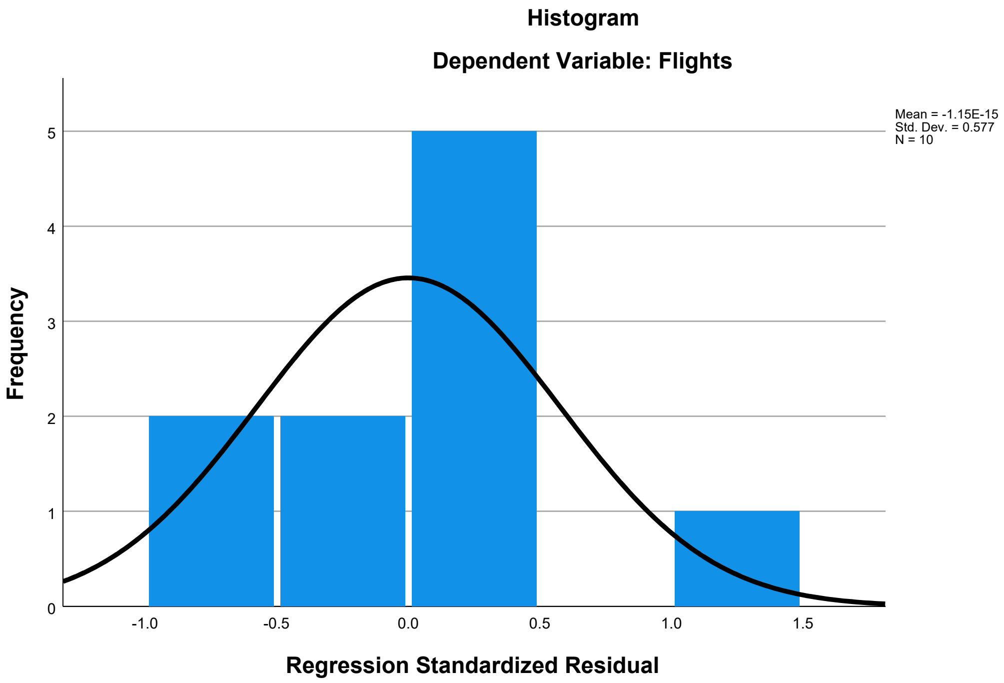
a. Dependent Variable: Flights

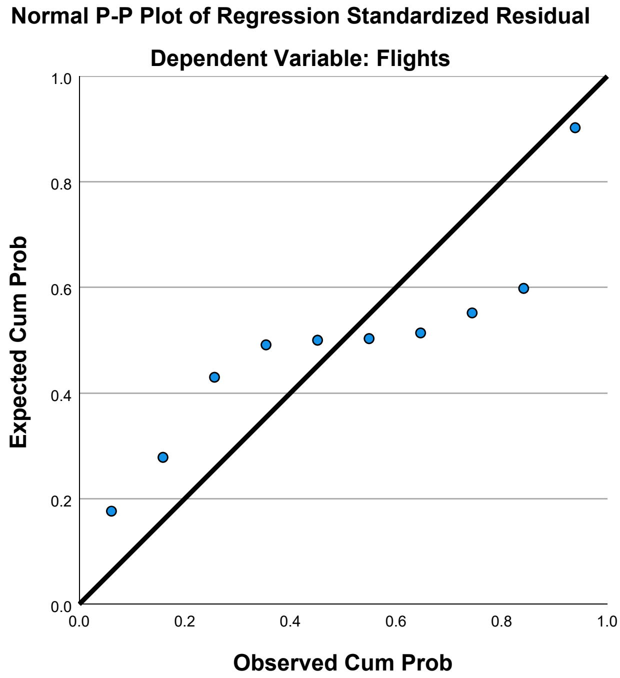
Residuals Statistics[a]

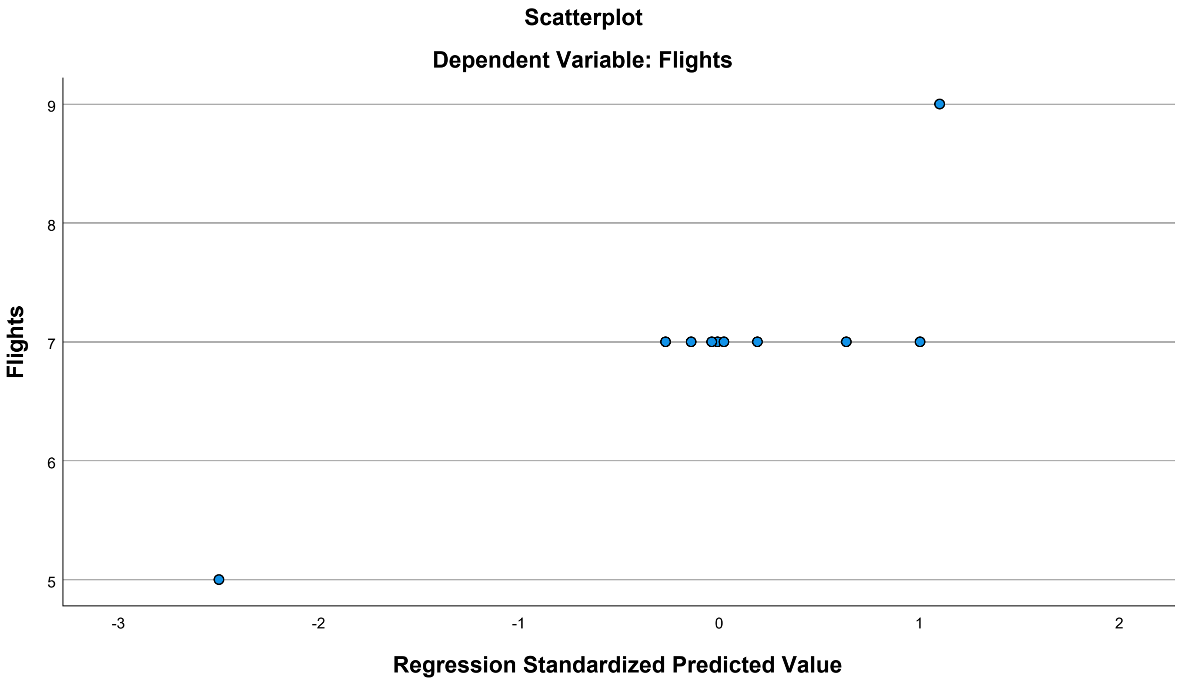
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.00	7.88	7.00	.800	10
Residual	-.803	1.119	.000	.499	10
Std. Predicted Value	-2.499	1.101	.000	1.000	10
Std. Residual	-.929	1.295	.000	.577	10

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: HomeConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.00	.943	10
HomeConcentration	3.9408100	.00000000	10
GJFK	.10	.316	10
PartnerConcentration	1.6512211000	2.8707388589	10
Seasonality	.54967948718	.17410268998	10
Distance	4.41180	.773519	10
Urban	16.50	4.197	10

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.	-.745	-.007
	HomeConcentration	.	1.000	.	.
	GJFK	-.745	.	1.000	-.192
	PartnerConcentration	-.007	.	-.192	1.000
	Seasonality	.338	.	-.479	.592
	Distance	.587	.	-.353	.040
	Urban	-.112	.	.460	-.351
Sig. (1-tailed)	Flights	.	.000	.007	.492
	HomeConcentration	.000	.	.000	.000
	GJFK	.007	.000	.	.298
	PartnerConcentration	.492	.000	.298	.
	Seasonality	.169	.000	.081	.036
	Distance	.037	.000	.158	.456
	Urban	.379	.000	.090	.160
N	Flights	10	10	10	10
	HomeConcentration	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Seasonality	10	10	10	10
	Distance	10	10	10	10
	Urban	10	10	10	10

Correlations

		Seasonality	Distance	Urban
Pearson Correlation	Flights	.338	.587	-.112
	HomeConcentration	.	.	.
	GJFK	-.479	-.353	.460
	PartnerConcentration	.592	.040	-.351
	Seasonality	1.000	.032	-.300
	Distance	.032	1.000	.217
	Urban	-.300	.217	1.000
Sig. (1-tailed)	Flights	.169	.037	.379
	HomeConcentration	.000	.000	.000
	GJFK	.081	.158	.090
	PartnerConcentration	.036	.456	.160
	Seasonality	.	.466	.200
	Distance	.466	.	.274
	Urban	.200	.274	.
N	Flights	10	10	10
	HomeConcentration	10	10	10
	GJFK	10	10	10
	PartnerConcentration	10	10	10
	Seasonality	10	10	10
	Distance	10	10	10
	Urban	10	10	10

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Seasonality, PartnerConcentration, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.848[a]	.720	.370	.749	.720	2.055

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	5	4	.252

a. Predictors: (Constant), Urban, Distance, Seasonality, PartnerConcentration, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.758	5	1.152	2.055	.252[b]
	Residual	2.242	4	.560		
	Total	8.000	9			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Seasonality, PartnerConcentration, GJFK

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.510	2.093		2.155	.097
	GJFK	-1.761	1.214	-.591	-1.450	.221
	PartnerConcentration	-.076	.118	-.233	-.648	.552
	Seasonality	1.079	2.087	.199	.517	.632
	Distance	.450	.405	.369	1.112	.328
	Urban	.013	.081	.057	.159	.882

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	GJFK	.422	2.367
	PartnerConcentration	.543	1.842
	Seasonality	.472	2.120
	Distance	.635	1.575
	Urban	.534	1.874

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	GJFK	PartnerConcentration
1	1	4.309	1.000	.00	.00	.01
	2	1.044	2.031	.00	.26	.09
	3	.576	2.736	.00	.15	.44
	4	.043	10.032	.00	.09	.30
	5	.020	14.556	.13	.15	.04
	6	.008	23.305	.87	.35	.12

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions		
		Seasonality	Distance	Urban
1	1	.00	.00	.00
	2	.00	.00	.00
	3	.00	.00	.00
	4	.60	.08	.07
	5	.02	.15	.87
	6	.37	.77	.06

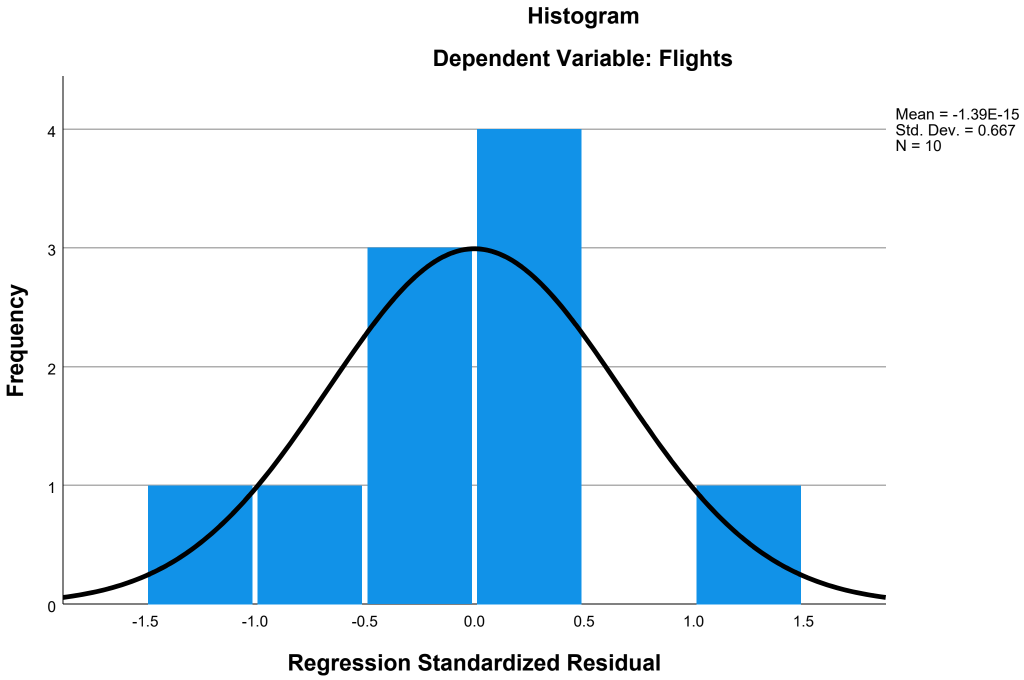
a. Dependent Variable: Flights

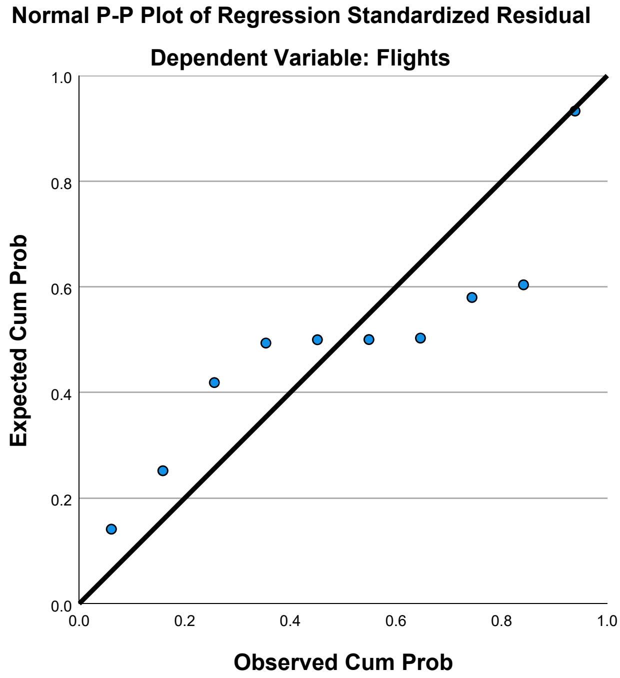
Residuals Statistics[a]

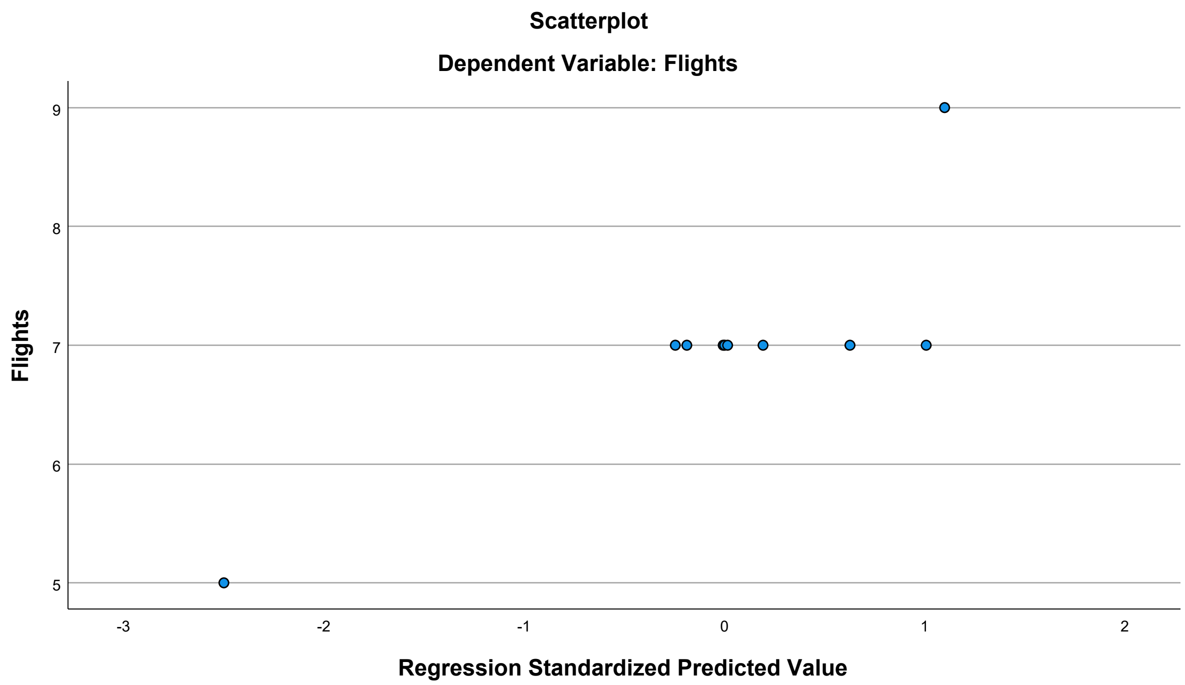
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.00	7.88	7.00	.800	10
Residual	-.806	1.121	.000	.499	10
Std. Predicted Value	-2.500	1.099	.000	1.000	10
Std. Residual	-1.076	1.497	.000	.667	10

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -1.39E-15
Std. Dev. = 0.667
N = 10
Frequency
0
1
2
3
4
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: HomeConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.00	.943	10
HomeConcentration	3.9408100	.00000000	10
GJFK	.10	.316	10
PartnerConcentration	1.6512211000	2.8707388589	10
Distance	4.41180	.773519	10
Urban	16.50	4.197	10

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.	-.745	-.007
	HomeConcentration	.	1.000	.	.
	GJFK	-.745	.	1.000	-.192
	PartnerConcentration	-.007	.	-.192	1.000
	Distance	.587	.	-.353	.040
	Urban	-.112	.	.460	-.351
Sig. (1-tailed)	Flights	.	.000	.007	.492
	HomeConcentration	.000	.	.000	.000
	GJFK	.007	.000	.	.298
	PartnerConcentration	.492	.000	.298	.
	Distance	.037	.000	.158	.456
	Urban	.379	.000	.090	.160
N	Flights	10	10	10	10
	HomeConcentration	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Distance	10	10	10	10
	Urban	10	10	10	10

Correlations

		Distance	Urban
Pearson Correlation	Flights	.587	-.112
	HomeConcentration	.	.
	GJFK	-.353	.460
	PartnerConcentration	.040	-.351
	Distance	1.000	.217
	Urban	.217	1.000
Sig. (1-tailed)	Flights	.037	.379
	HomeConcentration	.000	.000
	GJFK	.158	.090
	PartnerConcentration	.456	.160
	Distance	.	.274
	Urban	.274	.
N	Flights	10	10
	HomeConcentration	10	10
	GJFK	10	10
	PartnerConcentration	10	10
	Distance	10	10
	Urban	10	10

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change
1	.837[a]	.701	.462	.692	.701	2.932	4	5	.134

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.609	4	1.402	2.932	.134[b]
	Residual	2.391	5	.478		
	Total	8.000	9			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, GJFK

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	5.169	1.533		3.371	.020
	GJFK	-2.082	.964	-.698	-2.159	.083
	PartnerConcentration	-.039	.087	-.120	-.455	.668
	Distance	.396	.361	.325	1.096	.323
	Urban	.022	.074	.097	.295	.780

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	GJFK	.572	1.749
	PartnerConcentration	.862	1.161
	Distance	.681	1.468
	Urban	.558	1.792

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	GJFK	PartnerConcentration
1	1	3.388	1.000	.00	.01	.02
	2	1.009	1.833	.00	.35	.19
	3	.571	2.436	.00	.23	.65
	4	.021	12.750	.26	.22	.14
	5	.011	17.345	.74	.19	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Distance	Urban
1	1	.00	.00
	2	.00	.00
	3	.00	.00
	4	.07	.94
	5	.93	.05

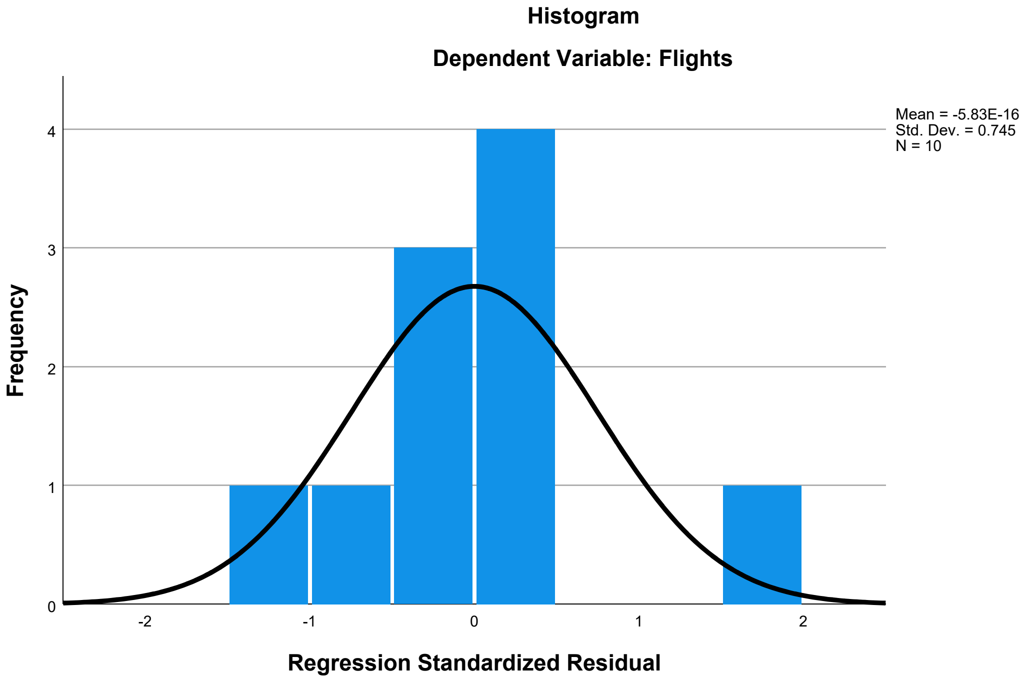
a. Dependent Variable: Flights

Residuals Statistics[a]

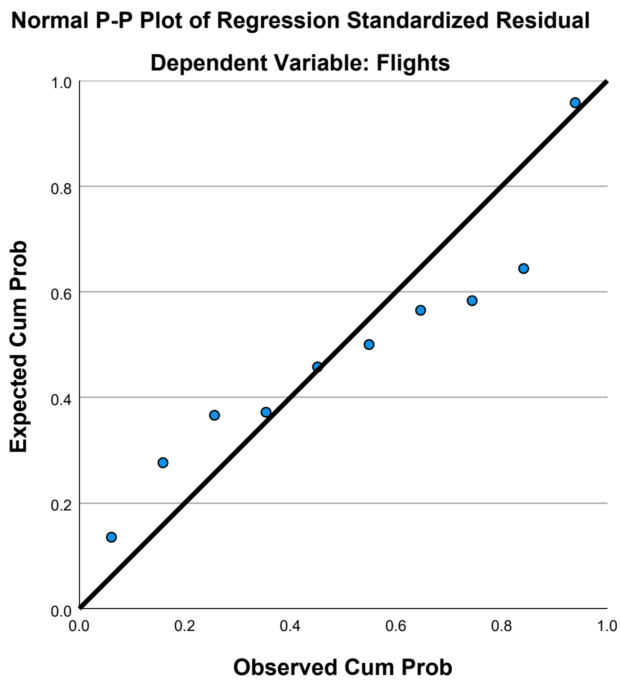
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.00	7.80	7.00	.789	10
Residual	-.762	1.196	.000	.515	10
Std. Predicted Value	-2.534	1.019	.000	1.000	10
Std. Residual	-1.102	1.729	.000	.745	10

a. Dependent Variable: Flights

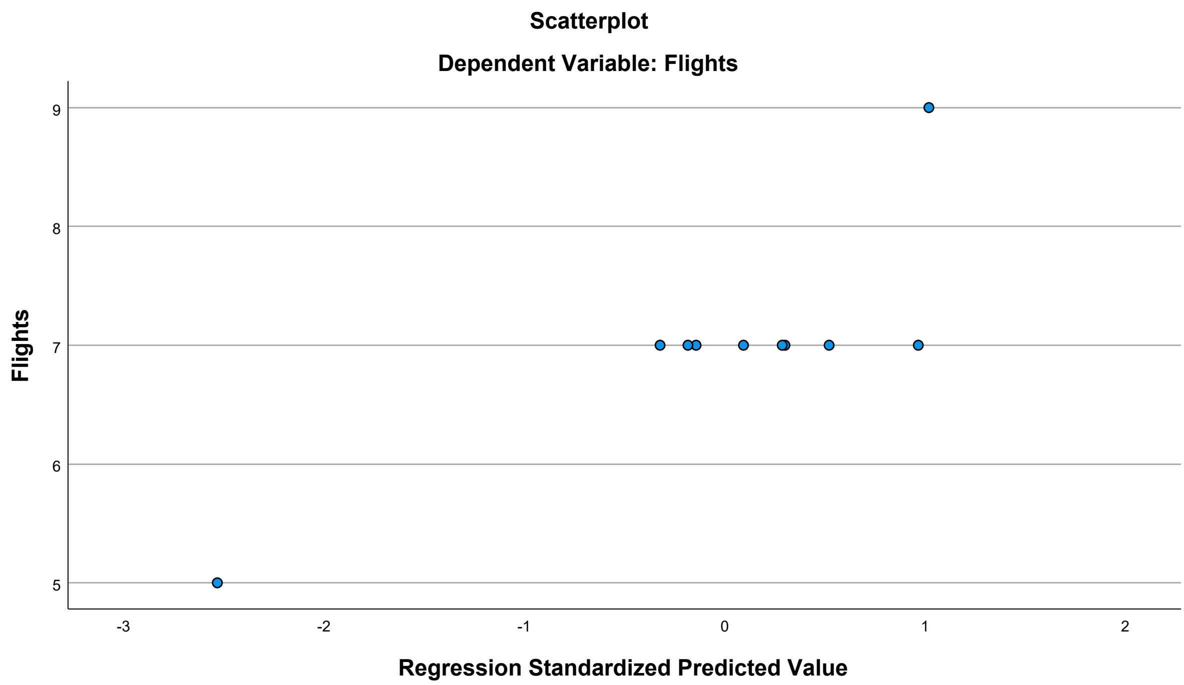
Charts



Histogram
Dependent Variable: Flights
Mean = -5.83E-16
Std. Dev. = 0.745
N = 10
Frequency
0
1
2
3
4
-2
-1
0
1
2
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: HomeConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.00	.943	10
HomeConcentration	3.9408100	.00000000	10
GJFK	.10	.316	10
PartnerConcentration	1.6512211000	2.8707388589	10
Distance	4.41180	.773519	10

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.	-.745	-.007
	HomeConcentration	.	1.000	.	.
	GJFK	-.745	.	1.000	-.192
	PartnerConcentration	-.007	.	-.192	1.000
	Distance	.587	.	-.353	.040
Sig. (1-tailed)	Flights	.	.000	.007	.492
	HomeConcentration	.000	.	.000	.000
	GJFK	.007	.000	.	.298
	PartnerConcentration	.492	.000	.298	.
	Distance	.037	.000	.158	.456
N	Flights	10	10	10	10
	HomeConcentration	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Distance	10	10	10	10

Correlations

		Distance
Pearson Correlation	Flights	.587
	HomeConcentration	.
	GJFK	-.353
	PartnerConcentration	.040
	Distance	1.000
Sig. (1-tailed)	Flights	.037
	HomeConcentration	.000
	GJFK	.158
	PartnerConcentration	.456
	Distance	.
N	Flights	10
	HomeConcentration	10
	GJFK	10
	PartnerConcentration	10
	Distance	10

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Distance, PartnerConcentration, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.834[a]	.696	.544	.637	.696	4.576	3	6	.054

a. Predictors: (Constant), Distance, PartnerConcentration, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.567	3	1.856	4.576	.054[b]
	Residual	2.433	6	.406		
	Total	8.000	9			

a. Dependent Variable: Flights

b. Predictors: (Constant), Distance, PartnerConcentration, GJFK

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.304	1.348		3.934	.008
	GJFK	-1.920	.731	-.644	-2.627	.039
	PartnerConcentration	-.048	.075	-.145	-.632	.551
	Distance	.446	.293	.366	1.519	.180

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	GJFK	.844	1.185
	PartnerConcentration	.962	1.039
	Distance	.874	1.144

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	GJFK	PartnerConcentration	Distance
1	1	2.466	1.000	.00	.02	.05	.00
	2	.994	1.575	.00	.59	.16	.00
	3	.528	2.162	.00	.24	.78	.01
	4	.012	14.626	.99	.15	.01	.99

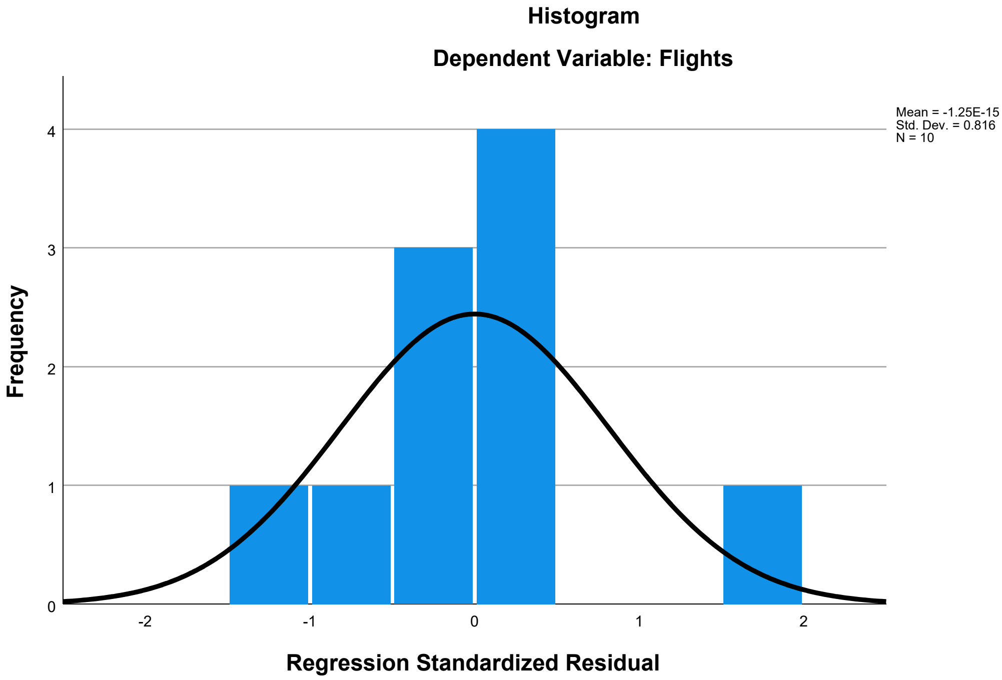
a. Dependent Variable: Flights

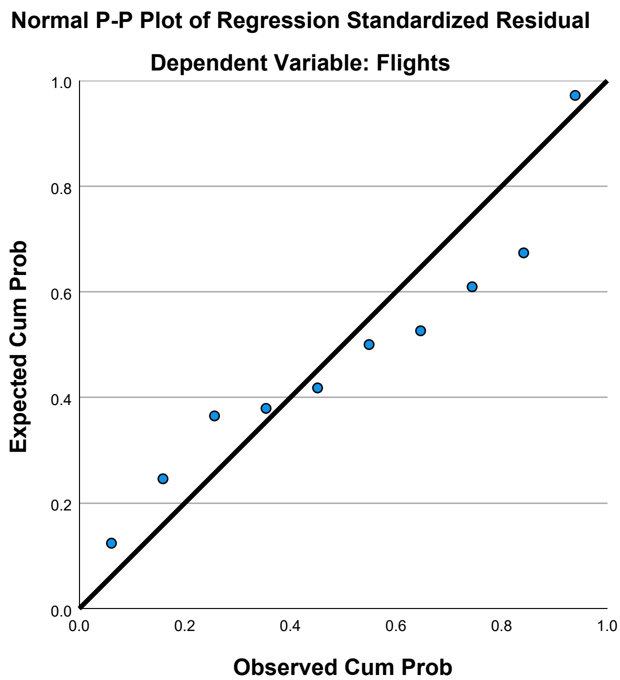
Residuals Statistics[a]

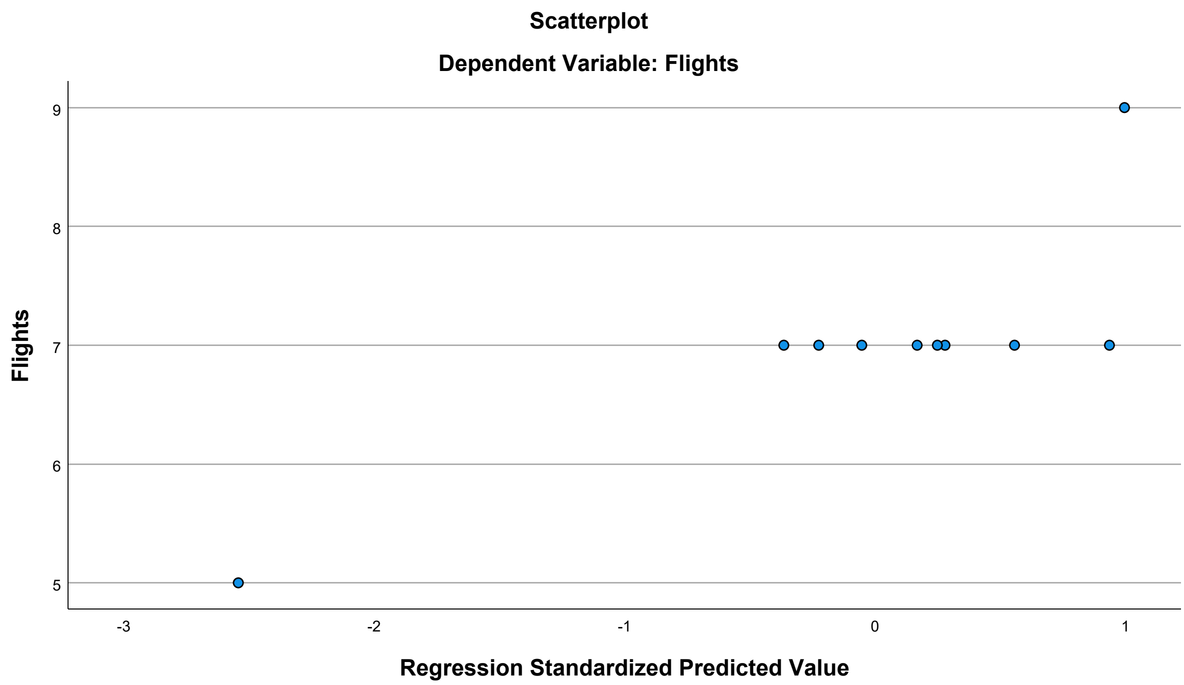
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.00	7.78	7.00	.786	10
Residual	-.736	1.217	.000	.520	10
Std. Predicted Value	-2.543	.996	.000	1.000	10
Std. Residual	-1.156	1.910	.000	.816	10

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -1.25E-15
Std. Dev. = 0.816
N = 10
Frequency
0
1
2
3
4
-2
-1
0
1
2
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: HomeConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.00	.943	10
HomeConcentration	3.9408100	.00000000	10
GJFK	.10	.316	10
Distance	4.41180	.773519	10

Correlations

		Flights	HomeConcentration	GJFK	Distance
Pearson Correlation	Flights	1.000	.	-.745	.587
	HomeConcentration	.	1.000	.	.
	GJFK	-.745	.	1.000	-.353
	Distance	.587	.	-.353	1.000
Sig. (1-tailed)	Flights	.	.000	.007	.037
	HomeConcentration	.000	.	.000	.000
	GJFK	.007	.000	.	.158
	Distance	.037	.000	.158	.
N	Flights	10	10	10	10
	HomeConcentration	10	10	10	10
	GJFK	10	10	10	10
	Distance	10	10	10	10

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Distance, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.822[a]	.676	.583	.609	.676	7.290

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	2	7	.019

a. Predictors: (Constant), Distance, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.405	2	2.702	7.290	.019[b]
	Residual	2.595	7	.371		
	Total	8.000	9			

a. Dependent Variable: Flights

b. Predictors: (Constant), Distance, GJFK

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance
1	(Constant)	5.192	1.278		4.063	.005	
	GJFK	-1.832	.686	-.614	-2.670	.032	.875
	Distance	.451	.280	.370	1.610	.152	.875

Coefficients[a]

Model		Collinearity Statistics VIF
1	(Constant)	
	GJFK	1.143
	Distance	1.143

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions GJFK	Variance Proportions Distance
1	1	2.132	1.000	.00	.04	.00
	2	.857	1.577	.00	.81	.00
	3	.012	13.549	.99	.15	.99

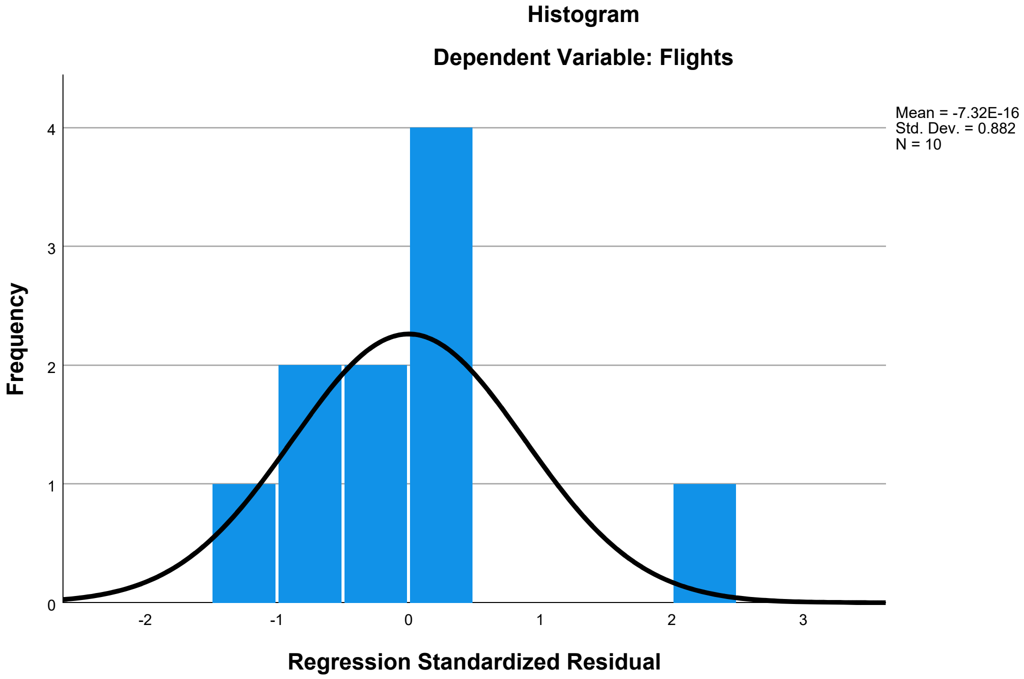
a. Dependent Variable: Flights

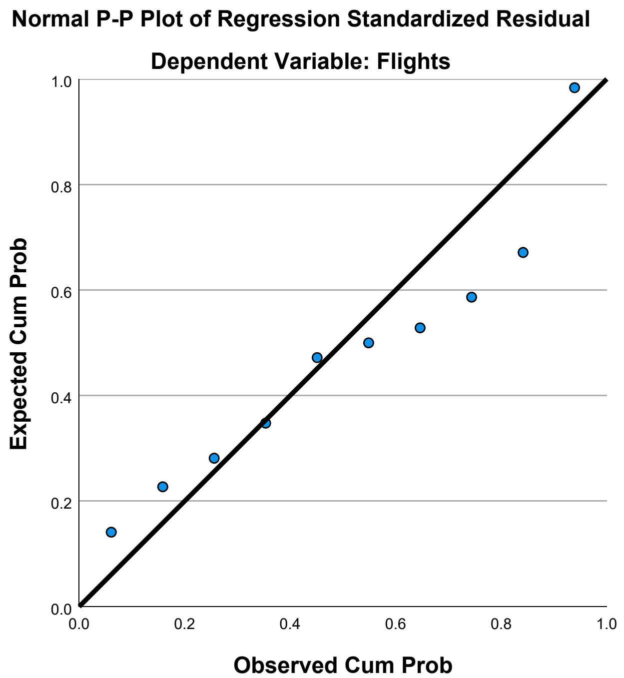
Residuals Statistics[a]

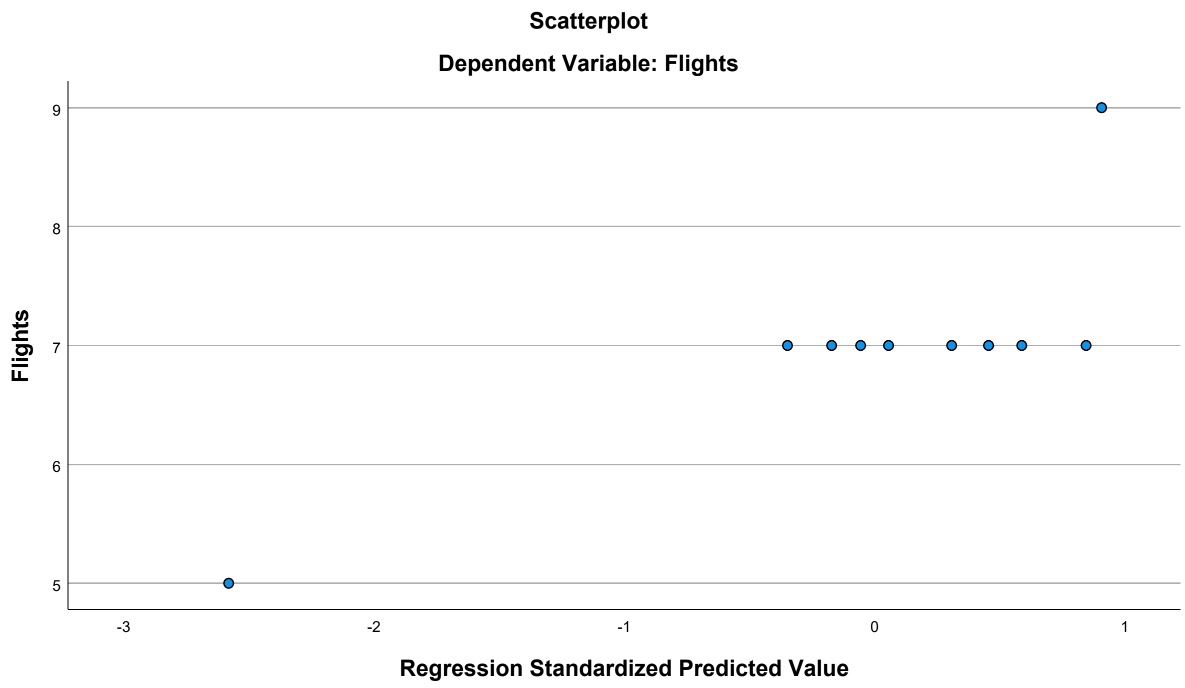
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.00	7.70	7.00	.775	10
Residual	-.655	1.298	.000	.537	10
Std. Predicted Value	-2.581	.906	.000	1.000	10
Std. Residual	-1.075	2.131	.000	.882	10

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -7.32E-16
Std. Dev. = 0.882
N = 10
Frequency
0
1
2
3
4
-2
-1
0
1
2
3
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
9
8
7
6
5
-3
-2
-1
0
1
Regression Standardized Predicted Value

Regression

```
[DataSet18] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
\2002 - KL.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: HomeConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.00	.943	10
HomeConcentration	3.9408100	.00000000	10
Congestion	4.90	.876	10
GJFK	.10	.316	10
PartnerConcentration	1.6512211000	2.8707388589	10
Seasonality	.54967948718	.17410268998	10
Distance	4.41180	.773519	10
Language	.01363800	.021712970	10
Ethnicity	.18381110	.166560101	10
Urban	16.50	4.197	10

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.	-.269	-.745
	HomeConcentration	.	1.000	.	.
	Congestion	-.269	.	1.000	.441
	GJFK	-.745	.	.441	1.000
	PartnerConcentration	-.007	.	-.649	-.192
	Seasonality	.338	.	-.404	-.479
	Distance	.587	.	-.053	-.353
	Language	-.037	.	.646	-.045
	Ethnicity	-.233	.	.326	.163
	Urban	-.112	.	.227	.460
Sig. (1-tailed)	Flights	.	.000	.226	.007
	HomeConcentration	.000	.	.000	.000
	Congestion	.226	.000	.	.101
	GJFK	.007	.000	.101	.
	PartnerConcentration	.492	.000	.021	.298
	Seasonality	.169	.000	.123	.081
	Distance	.037	.000	.442	.158
	Language	.459	.000	.022	.451
	Ethnicity	.259	.000	.179	.326
	Urban	.379	.000	.264	.090

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	-.007	.338	.587	-.037
	HomeConcentration	.	.	.	.
	Congestion	-.649	-.404	-.053	.646
	GJFK	-.192	-.479	-.353	-.045
	PartnerConcentration	1.000	.592	.040	-.294
	Seasonality	.592	1.000	.032	-.091
	Distance	.040	.032	1.000	-.277
	Language	-.294	-.091	-.277	1.000
	Ethnicity	.217	.491	-.494	.567
	Urban	-.351	-.300	.217	-.477
Sig. (1-tailed)	Flights	.492	.169	.037	.459
	HomeConcentration	.000	.000	.000	.000
	Congestion	.021	.123	.442	.022
	GJFK	.298	.081	.158	.451
	PartnerConcentration	.	.036	.456	.205
	Seasonality	.036	.	.466	.401
	Distance	.456	.466	.	.219
	Language	.205	.401	.219	.
	Ethnicity	.273	.075	.074	.044
	Urban	.160	.200	.274	.081

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	-.233	-.112
	HomeConcentration	.	.
	Congestion	.326	.227
	GJFK	.163	.460
	PartnerConcentration	.217	-.351
	Seasonality	.491	-.300
	Distance	-.494	.217
	Language	.567	-.477
	Ethnicity	1.000	-.338
	Urban	-.338	1.000
Sig. (1-tailed)	Flights	.259	.379
	HomeConcentration	.000	.000
	Congestion	.179	.264
	GJFK	.326	.090
	PartnerConcentration	.273	.160
	Seasonality	.075	.200
	Distance	.074	.274
	Language	.044	.081
	Ethnicity	.	.170
	Urban	.170	.

Correlations

		Flights	HomeConcentration	Congestion	GJFK
N	Flights	10	10	10	10
	HomeConcentration	10	10	10	10
	Congestion	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Seasonality	10	10	10	10
	Distance	10	10	10	10
	Language	10	10	10	10
	Ethnicity	10	10	10	10
	Urban	10	10	10	10

Correlations

		PartnerConcentration	Seasonality	Distance	Language
N	Flights	10	10	10	10
	HomeConcentration	10	10	10	10
	Congestion	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Seasonality	10	10	10	10
	Distance	10	10	10	10
	Language	10	10	10	10
	Ethnicity	10	10	10	10
	Urban	10	10	10	10

Correlations

		Ethnicity	Urban
N	Flights	10	10
	HomeConcentration	10	10
	Congestion	10	10
	GJFK	10	10
	PartnerConcentration	10	10
	Seasonality	10	10
	Distance	10	10
	Language	10	10
	Ethnicity	10	10
	Urban	10	10

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Congestion, Seasonality, GJFK, PartnerConcentration, Language, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.904[a]	.818	-.642	1.208	.818	.560

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	1	.782

a. Predictors: (Constant), Urban, Distance, Congestion, Seasonality, GJFK, PartnerConcentration, Language, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.540	8	.818	.560	.782[b]
	Residual	1.460	1	1.460		
	Total	8.000	9			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Congestion, Seasonality, GJFK, PartnerConcentration, Language, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.965	5.348		1.302	.417
	Congestion	-1.196	1.645	-1.111	-.727	.600
	GJFK	-.783	3.298	-.263	-.237	.852
	PartnerConcentration	-.213	.300	-.648	-.708	.608
	Seasonality	.395	6.788	.073	.058	.963
	Distance	.932	.962	.765	.969	.510
	Language	26.797	61.540	.617	.435	.739
	Ethnicity	2.343	8.444	.414	.277	.828
	Urban	.073	.186	.324	.392	.762

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.078	12.788
	GJFK	.149	6.705
	PartnerConcentration	.218	4.583
	Seasonality	.116	8.611
	Distance	.293	3.412
	Language	.091	11.007
	Ethnicity	.082	12.196
	Urban	.267	3.739

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

				Variance Proportions		
Model	Dimension	Eigenvalue	Condition Index	(Constant)	Congestion	GJFK
1	1	6.245	1.000	.00	.00	.00
	2	1.090	2.394	.00	.00	.06
	3	.892	2.645	.00	.00	.05
	4	.610	3.199	.00	.00	.03
	5	.135	6.810	.00	.00	.02
	6	.012	22.487	.02	.00	.22
	7	.009	26.331	.14	.00	.03
	8	.006	33.052	.30	.03	.45
	9	.002	62.845	.54	.97	.14

Collinearity Diagnostics[a]

		Variance Proportions					
Model	Dimension	PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.06	.00	.00	.01	.00	.00
	3	.01	.00	.00	.04	.00	.00
	4	.08	.00	.00	.00	.01	.00
	5	.20	.01	.00	.11	.11	.00
	6	.21	.10	.06	.04	.02	.80
	7	.00	.16	.45	.08	.27	.00
	8	.01	.69	.02	.48	.40	.08
	9	.43	.05	.46	.25	.18	.11

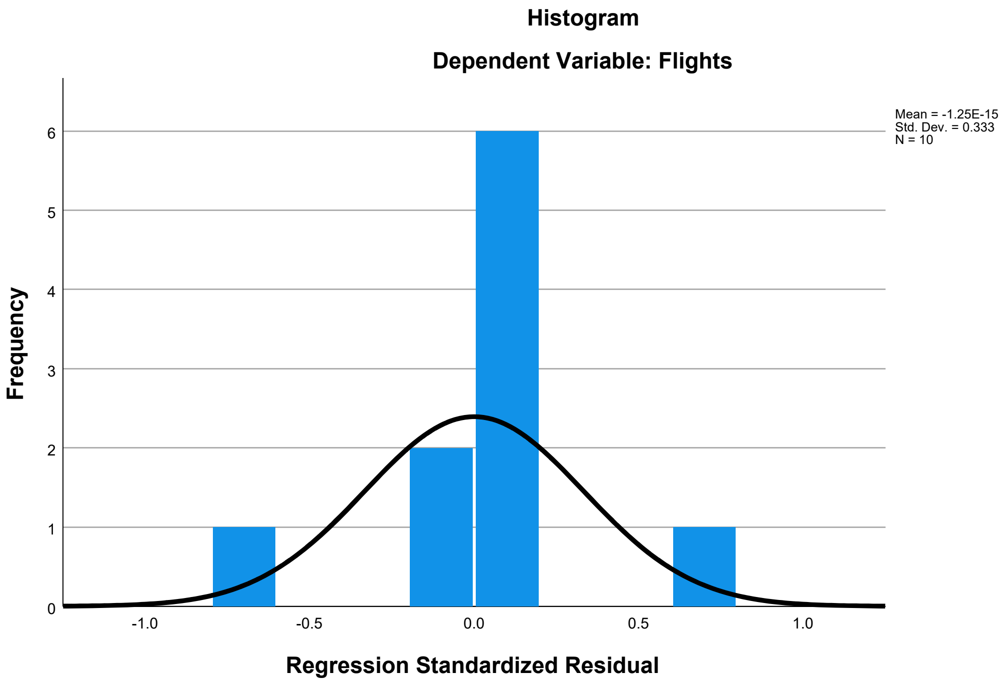
a. Dependent Variable: Flights

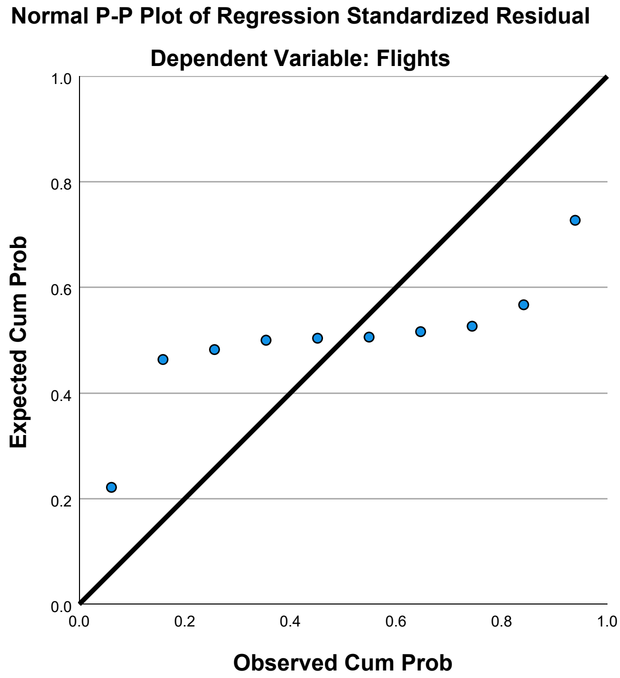
Residuals Statistics[a]

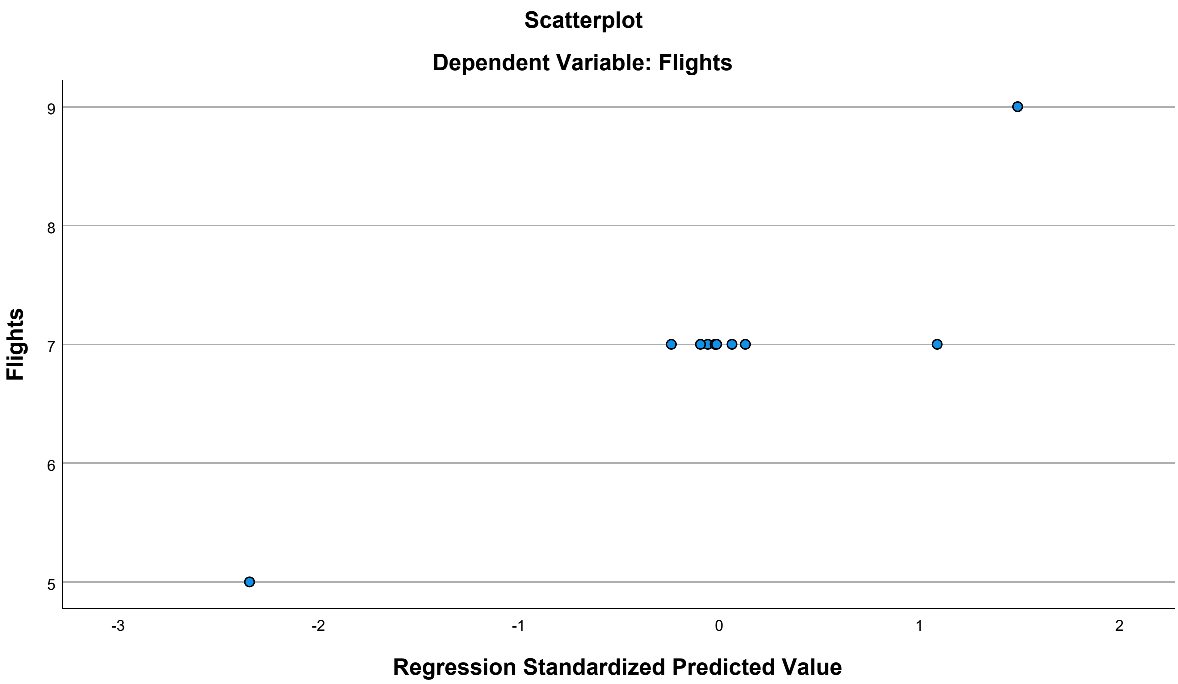
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.00	8.27	7.00	.852	10
Residual	-.928	.730	.000	.403	10
Std. Predicted Value	-2.346	1.490	.000	1.000	10
Std. Residual	-.768	.604	.000	.333	10

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
5
6
7
8
9
-3
-2
-1
0
1
2

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.00	.943	10
GJFK	.10	.316	10
PartnerConcentration	1.6512211000	2.8707388589	10
Seasonality	.54967948718	.17410268998	10
Distance	4.41180	.773519	10
Language	.01363800	.021712970	10
Ethnicity	.18381110	.166560101	10
Urban	16.50	4.197	10

Correlations

		Flights	GJFK	PartnerConcentration	Seasonality
Pearson Correlation	Flights	1.000	-.745	-.007	.338
	GJFK	-.745	1.000	-.192	-.479
	PartnerConcentration	-.007	-.192	1.000	.592
	Seasonality	.338	-.479	.592	1.000
	Distance	.587	-.353	.040	.032
	Language	-.037	-.045	-.294	-.091
	Ethnicity	-.233	.163	.217	.491
	Urban	-.112	.460	-.351	-.300
Sig. (1-tailed)	Flights	.	.007	.492	.169
	GJFK	.007	.	.298	.081
	PartnerConcentration	.492	.298	.	.036
	Seasonality	.169	.081	.036	.
	Distance	.037	.158	.456	.466
	Language	.459	.451	.205	.401
	Ethnicity	.259	.326	.273	.075
	Urban	.379	.090	.160	.200
N	Flights	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Seasonality	10	10	10	10
	Distance	10	10	10	10
	Language	10	10	10	10
	Ethnicity	10	10	10	10
	Urban	10	10	10	10

Correlations

		Distance	Language	Ethnicity	Urban
Pearson Correlation	Flights	.587	-.037	-.233	-.112
	GJFK	-.353	-.045	.163	.460
	PartnerConcentration	.040	-.294	.217	-.351
	Seasonality	.032	-.091	.491	-.300
	Distance	1.000	-.277	-.494	.217
	Language	-.277	1.000	.567	-.477
	Ethnicity	-.494	.567	1.000	-.338
	Urban	.217	-.477	-.338	1.000
Sig. (1-tailed)	Flights	.037	.459	.259	.379
	GJFK	.158	.451	.326	.090
	PartnerConcentration	.456	.205	.273	.160
	Seasonality	.466	.401	.075	.200
	Distance	.	.219	.074	.274
	Language	.219	.	.044	.081
	Ethnicity	.074	.044	.	.170
	Urban	.274	.081	.170	.
N	Flights	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Seasonality	10	10	10	10
	Distance	10	10	10	10
	Language	10	10	10	10
	Ethnicity	10	10	10	10
	Urban	10	10	10	10

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Seasonality, Language, GJFK, PartnerConcentration, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change
1	.849[a]	.721	-.255	1.056	.721	.738	7	2	.682

a. Predictors: (Constant), Urban, Distance, Seasonality, Language, GJFK, PartnerConcentration, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.768	7	.824	.738	.682[b]
	Residual	2.232	2	1.116		
	Total	8.000	9			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Seasonality, Language, GJFK, PartnerConcentration, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.496	3.613		1.245	.339
	GJFK	-1.918	2.540	-.643	-.755	.529
	PartnerConcentration	-.072	.201	-.220	-.359	.754
	Seasonality	.683	5.925	.126	.115	.919
	Distance	.469	.630	.385	.744	.534
	Language	-1.109	42.061	-.026	-.026	.981
	Ethnicity	.504	7.044	.089	.072	.949
	Urban	.018	.148	.079	.120	.916

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	GJFK	.192	5.205
	PartnerConcentration	.372	2.685
	Seasonality	.117	8.582
	Distance	.522	1.916
	Language	.149	6.727
	Ethnicity	.090	11.101
	Urban	.321	3.119

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	GJFK	PartnerConcentration
1	1	5.289	1.000	.00	.00	.00
	2	1.076	2.217	.00	.08	.09
	3	.892	2.435	.00	.06	.02
	4	.583	3.013	.00	.03	.16
	5	.133	6.298	.00	.03	.33
	6	.012	20.752	.04	.33	.39
	7	.009	24.291	.23	.02	.01
	8	.005	31.639	.73	.45	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00
	2	.00	.00	.01	.00	.00
	3	.00	.00	.06	.00	.00
	4	.00	.00	.00	.01	.00
	5	.01	.00	.19	.12	.00
	6	.12	.11	.04	.03	.92
	7	.13	.88	.10	.28	.00
	8	.74	.00	.59	.55	.07

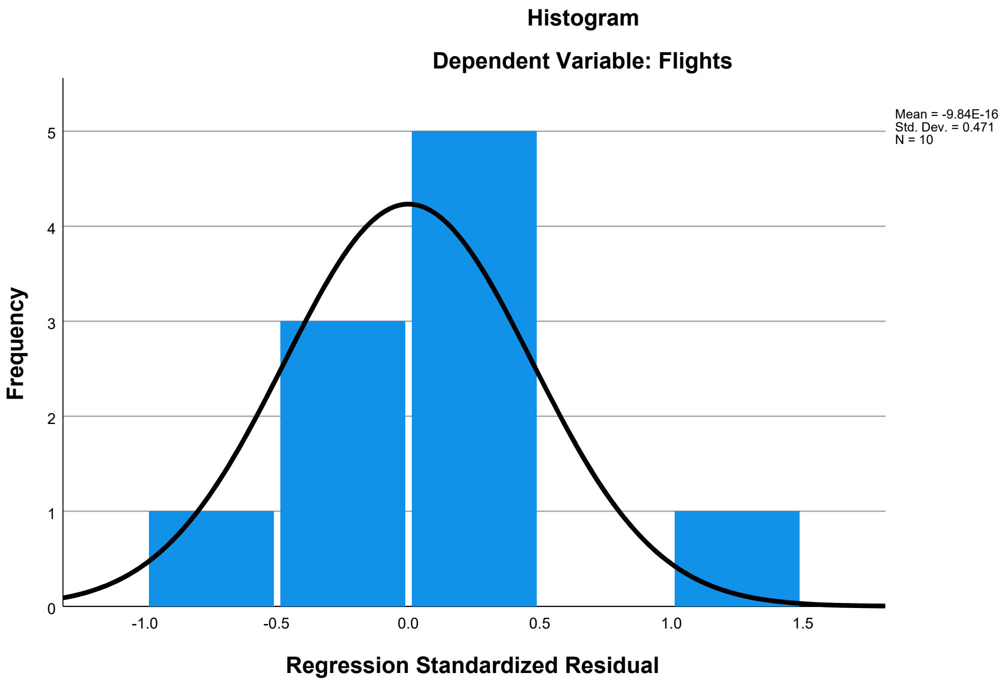
a. Dependent Variable: Flights

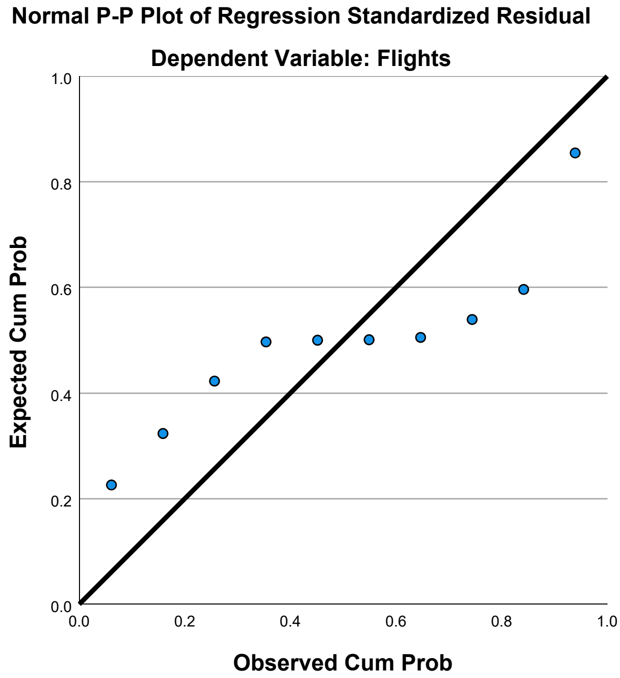
Residuals Statistics[a]

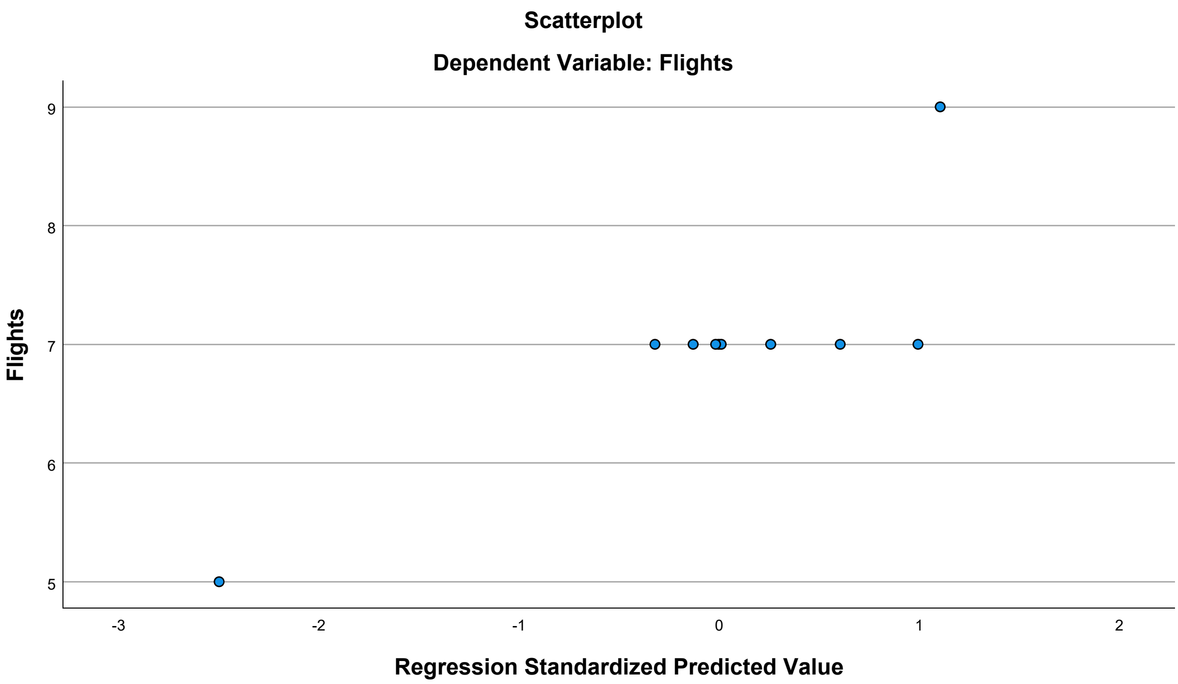
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.00	7.88	7.00	.801	10
Residual	-.795	1.116	.000	.498	10
Std. Predicted Value	-2.498	1.104	.000	1.000	10
Std. Residual	-.753	1.056	.000	.471	10

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
-3
-2
-1
0
1
2
5
6
7
8
9

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.00	.943	10
GJFK	.10	.316	10
PartnerConcentration	1.6512211000	2.8707388589	10
Seasonality	.54967948718	.17410268998	10
Distance	4.41180	.773519	10
Language	.01363800	.021712970	10
Urban	16.50	4.197	10

Correlations

		Flights	GJFK	PartnerConcentration	Seasonality
Pearson Correlation	Flights	1.000	-.745	-.007	.338
	GJFK	-.745	1.000	-.192	-.479
	PartnerConcentration	-.007	-.192	1.000	.592
	Seasonality	.338	-.479	.592	1.000
	Distance	.587	-.353	.040	.032
	Language	-.037	-.045	-.294	-.091
	Urban	-.112	.460	-.351	-.300
Sig. (1-tailed)	Flights	.	.007	.492	.169
	GJFK	.007	.	.298	.081
	PartnerConcentration	.492	.298	.	.036
	Seasonality	.169	.081	.036	.
	Distance	.037	.158	.456	.466
	Language	.459	.451	.205	.401
	Urban	.379	.090	.160	.200
N	Flights	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Seasonality	10	10	10	10
	Distance	10	10	10	10
	Language	10	10	10	10
	Urban	10	10	10	10

Correlations

		Distance	Language	Urban
Pearson Correlation	Flights	.587	-.037	-.112
	GJFK	-.353	-.045	.460
	PartnerConcentration	.040	-.294	-.351
	Seasonality	.032	-.091	-.300
	Distance	1.000	-.277	.217
	Language	-.277	1.000	-.477
	Urban	.217	-.477	1.000
Sig. (1-tailed)	Flights	.037	.459	.379
	GJFK	.158	.451	.090
	PartnerConcentration	.456	.205	.160
	Seasonality	.466	.401	.200
	Distance	.	.219	.274
	Language	.219	.	.081
	Urban	.274	.081	.
N	Flights	10	10	10
	GJFK	10	10	10
	PartnerConcentration	10	10	10
	Seasonality	10	10	10
	Distance	10	10	10
	Language	10	10	10
	Urban	10	10	10

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, Seasonality, Language, GJFK, PartnerConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change
1	.849[a]	.720	.161	.864	.720	1.288

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	3	.452

a. Predictors: (Constant), Urban, Distance, Seasonality, Language, GJFK, PartnerConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.762	6	.960	1.288	.452[b]
	Residual	2.238	3	.746		
	Total	8.000	9			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, Seasonality, Language, GJFK, PartnerConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.409	2.781		1.585	.211
	GJFK	-1.787	1.447	-.599	-1.235	.305
	PartnerConcentration	-.070	.163	-.213	-.431	.696
	Seasonality	1.049	2.444	.194	.429	.697
	Distance	.450	.467	.369	.963	.406
	Language	1.393	19.097	.032	.073	.946
	Urban	.018	.121	.082	.153	.888

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	GJFK	.396	2.527
	PartnerConcentration	.381	2.628
	Seasonality	.458	2.184
	Distance	.635	1.575
	Language	.482	2.075
	Urban	.322	3.105

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	GJFK	PartnerConcentration
1	1	4.584	1.000	.00	.00	.00
	2	1.066	2.073	.00	.18	.09
	3	.856	2.314	.00	.12	.05
	4	.437	3.240	.00	.09	.25
	5	.038	10.916	.00	.05	.24
	6	.012	19.570	.03	.45	.37
	7	.007	25.353	.97	.10	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Distance	Language	Urban
1	1	.00	.00	.01	.00
	2	.00	.00	.02	.00
	3	.00	.00	.21	.00
	4	.00	.00	.22	.00
	5	.68	.11	.04	.00
	6	.11	.37	.33	.94
	7	.21	.52	.17	.05

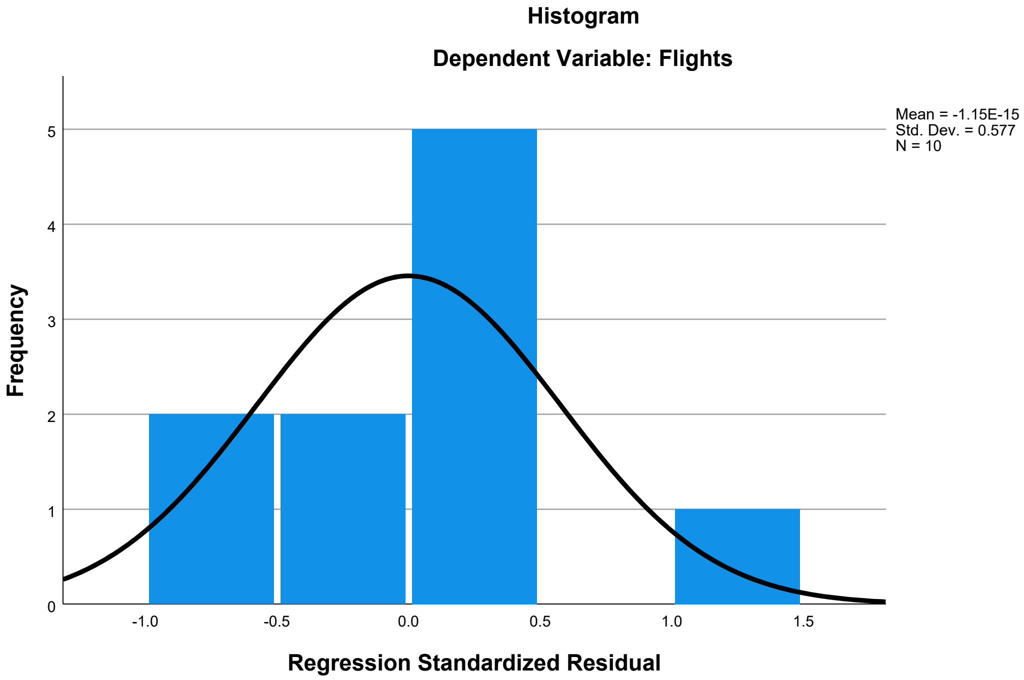
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.00	7.88	7.00	.800	10
Residual	-.803	1.119	.000	.499	10
Std. Predicted Value	-2.499	1.101	.000	1.000	10
Std. Residual	-.929	1.295	.000	.577	10

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -1.15E-15
Std. Dev. = 0.577
N = 10
Frequency
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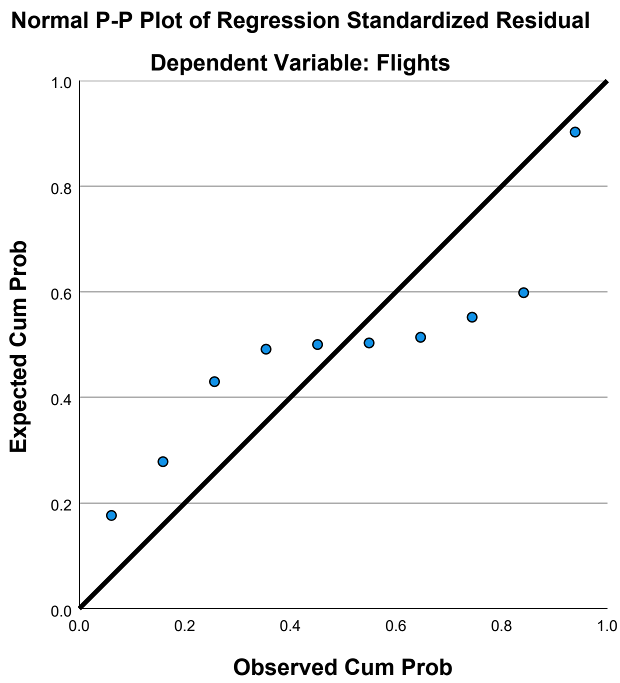
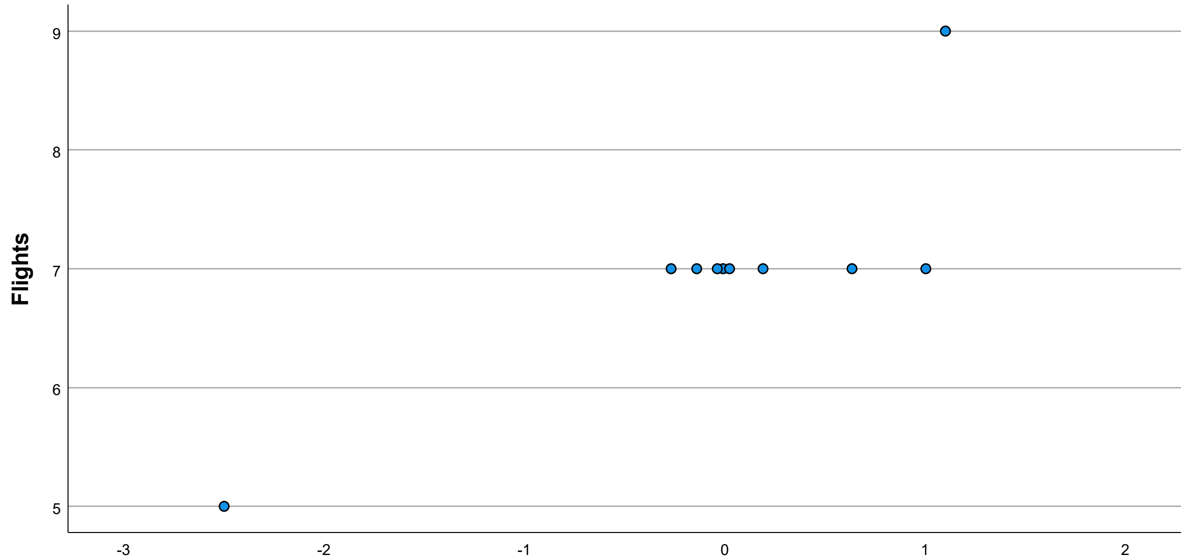
1
2
3
4
5
-1.0
-0.5
0.0
0.5
1.0
1.5
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob

Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.00	.943	10
GJFK	.10	.316	10
PartnerConcentration	1.6512211000	2.8707388589	10
Seasonality	.54967948718	.17410268998	10
Distance	4.41180	.773519	10
Language	.01363800	.021712970	10

Correlations

		Flights	GJFK	PartnerConcentration	Seasonality
Pearson Correlation	Flights	1.000	-.745	-.007	.338
	GJFK	-.745	1.000	-.192	-.479
	PartnerConcentration	-.007	-.192	1.000	.592
	Seasonality	.338	-.479	.592	1.000
	Distance	.587	-.353	.040	.032
	Language	-.037	-.045	-.294	-.091
Sig. (1-tailed)	Flights	.	.007	.492	.169
	GJFK	.007	.	.298	.081
	PartnerConcentration	.492	.298	.	.036
	Seasonality	.169	.081	.036	.
	Distance	.037	.158	.456	.466
	Language	.459	.451	.205	.401
N	Flights	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Seasonality	10	10	10	10
	Distance	10	10	10	10
	Language	10	10	10	10

Correlations

		Distance	Language
Pearson Correlation	Flights	.587	-.037
	GJFK	-.353	-.045
	PartnerConcentration	.040	-.294
	Seasonality	.032	-.091
	Distance	1.000	-.277
	Language	-.277	1.000
Sig. (1-tailed)	Flights	.037	.459
	GJFK	.158	.451
	PartnerConcentration	.456	.205
	Seasonality	.466	.401
	Distance	.	.219
	Language	.219	.
N	Flights	10	10
	GJFK	10	10
	PartnerConcentration	10	10
	Seasonality	10	10
	Distance	10	10
	Language	10	10

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Language, GJFK, PartnerConcentration, Distance, Seasonality[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.847[a]	.718	.366	.751	.718	2.038

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	5	4	.255

a. Predictors: (Constant), Language, GJFK, PartnerConcentration, Distance, Seasonality

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.745	5	1.149	2.038	.255[b]
	Residual	2.255	4	.564		
	Total	8.000	9			

a. Dependent Variable: Flights

b. Predictors: (Constant), Language, GJFK, PartnerConcentration, Distance, Seasonality

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.571	2.235		2.046	.110
	GJFK	-1.655	1.009	-.555	-1.641	.176
	PartnerConcentration	-.085	.114	-.258	-.742	.499
	Seasonality	1.149	2.047	.212	.561	.605
	Distance	.478	.374	.392	1.280	.270
	Language	-.443	12.900	-.010	-.034	.974

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	GJFK	.616	1.624
	PartnerConcentration	.584	1.712
	Seasonality	.493	2.027
	Distance	.750	1.333
	Language	.798	1.252

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	GJFK	PartnerConcentration
1	1	3.686	1.000	.00	.00	.01
	2	1.050	1.873	.00	.28	.13
	3	.846	2.088	.00	.25	.08
	4	.372	3.147	.00	.06	.46
	5	.038	9.840	.01	.05	.30
	6	.007	22.485	.99	.35	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Distance	Language
1	1	.00	.00	.01
	2	.00	.00	.07
	3	.00	.00	.31
	4	.00	.01	.46
	5	.69	.16	.04
	6	.30	.83	.12

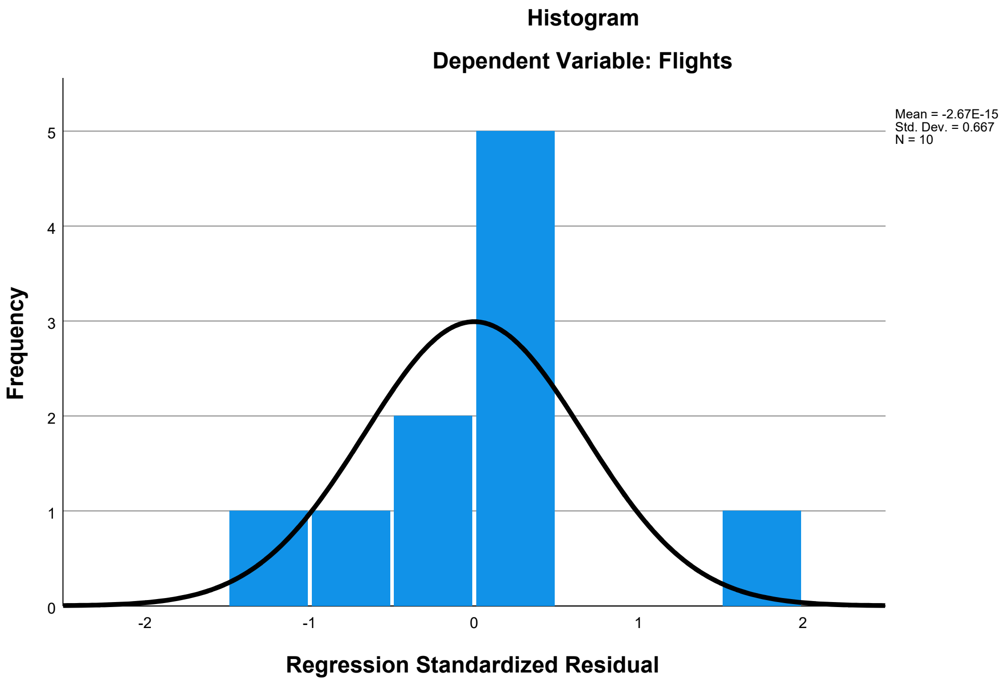
a. Dependent Variable: Flights

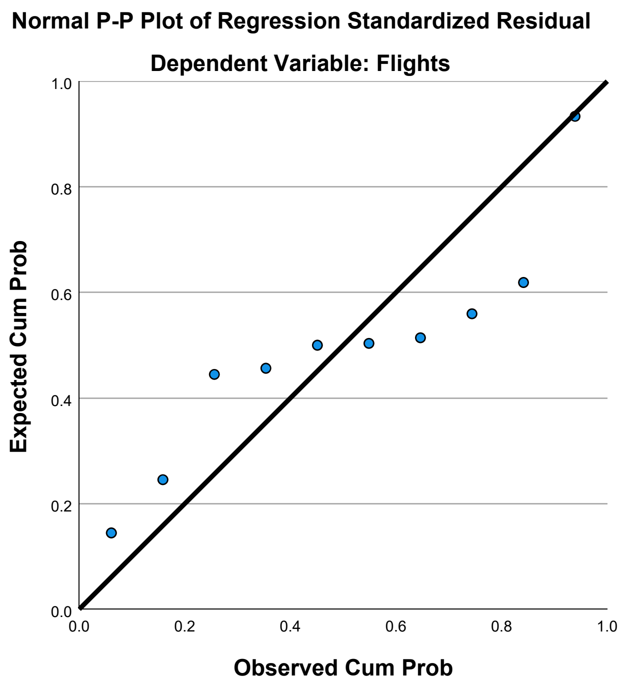
Residuals Statistics[a]

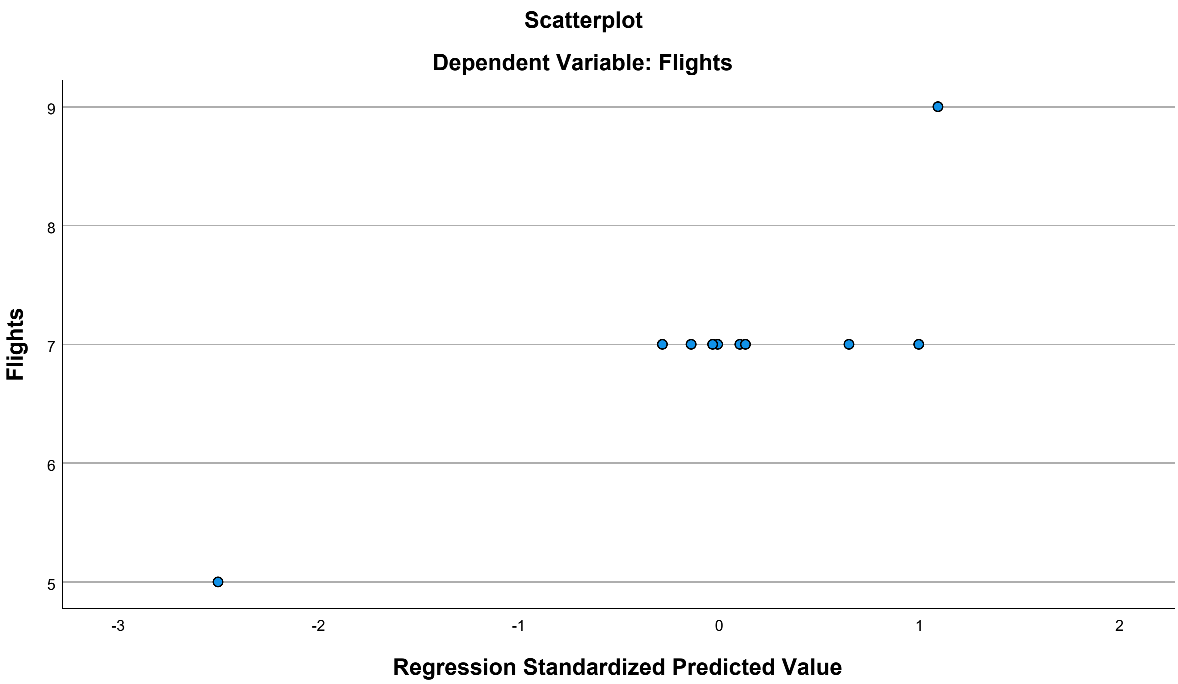
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.00	7.87	7.00	.799	10
Residual	-.796	1.127	.000	.501	10
Std. Predicted Value	-2.503	1.092	.000	1.000	10
Std. Residual	-1.060	1.502	.000	.667	10

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
9
8
7
6
5
-3
-2
-1
0
1
2

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.00	.943	10
GJFK	.10	.316	10
PartnerConcentration	1.6512211000	2.8707388589	10
Seasonality	.54967948718	.17410268998	10
Distance	4.41180	.773519	10

Correlations

		Flights	GJFK	PartnerConcentration	Seasonality
Pearson Correlation	Flights	1.000	-.745	-.007	.338
	GJFK	-.745	1.000	-.192	-.479
	PartnerConcentration	-.007	-.192	1.000	.592
	Seasonality	.338	-.479	.592	1.000
	Distance	.587	-.353	.040	.032
Sig. (1-tailed)	Flights	.	.007	.492	.169
	GJFK	.007	.	.298	.081
	PartnerConcentration	.492	.298	.	.036
	Seasonality	.169	.081	.036	.
	Distance	.037	.158	.456	.466
N	Flights	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Seasonality	10	10	10	10
	Distance	10	10	10	10

Correlations

		Distance
Pearson Correlation	Flights	.587
	GJFK	-.353
	PartnerConcentration	.040
	Seasonality	.032
	Distance	1.000
Sig. (1-tailed)	Flights	.037
	GJFK	.158
	PartnerConcentration	.456
	Seasonality	.466
	Distance	.
N	Flights	10
	GJFK	10
	PartnerConcentration	10
	Seasonality	10
	Distance	10

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Distance, Seasonality, GJFK, PartnerConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.847[a]	.718	.492	.672	.718	3.183

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	4	5	.118

a. Predictors: (Constant), Distance, Seasonality, GJFK, PartnerConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.744	4	1.436	3.183	.118[b]
	Residual	2.256	5	.451		
	Total	8.000	9			

a. Dependent Variable: Flights

b. Predictors: (Constant), Distance, Seasonality, GJFK, PartnerConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.544	1.868		2.433	.059
	GJFK	-1.648	.884	-.553	-1.864	.121
	PartnerConcentration	-.084	.098	-.254	-.853	.433
	Seasonality	1.148	1.831	.212	.627	.558
	Distance	.482	.315	.396	1.531	.186

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	GJFK	.641	1.559
	PartnerConcentration	.634	1.578
	Seasonality	.493	2.027
	Distance	.845	1.184

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	GJFK	PartnerConcentration
1	1	3.397	1.000	.00	.00	.02
	2	1.012	1.832	.00	.47	.08
	3	.543	2.501	.00	.16	.58
	4	.040	9.262	.00	.05	.24
	5	.008	20.299	.99	.32	.09

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Distance
1	1	.00	.00
	2	.00	.00
	3	.00	.00
	4	.64	.20
	5	.36	.80

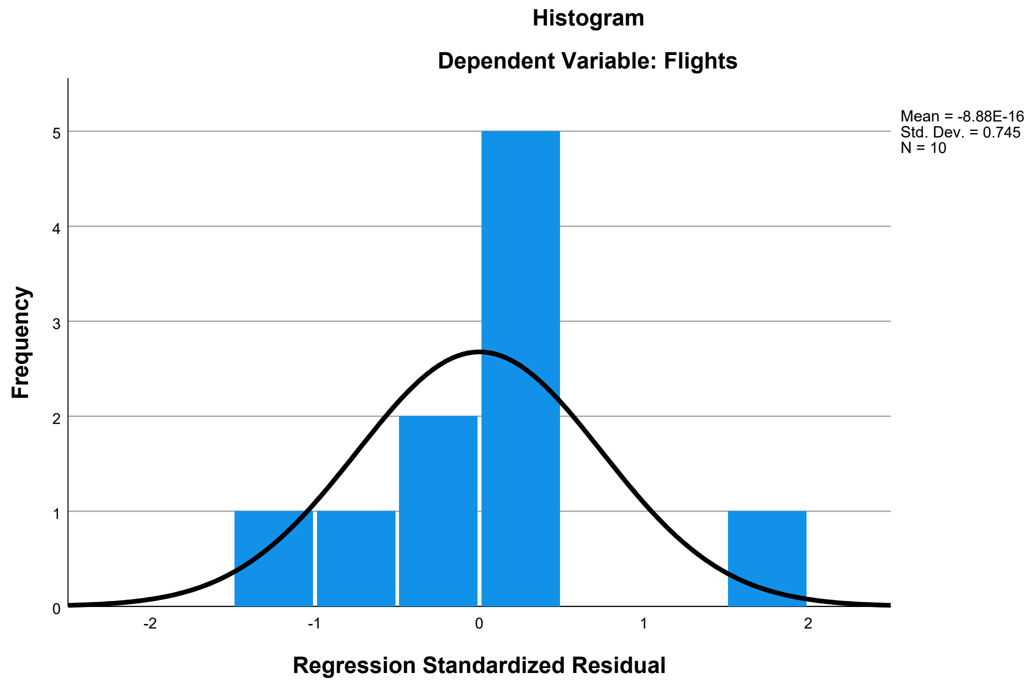
a. Dependent Variable: Flights

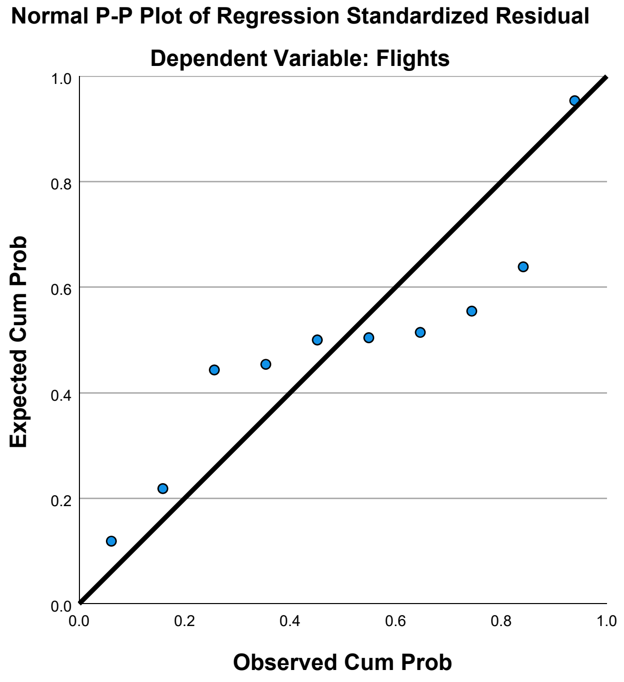
Residuals Statistics[a]

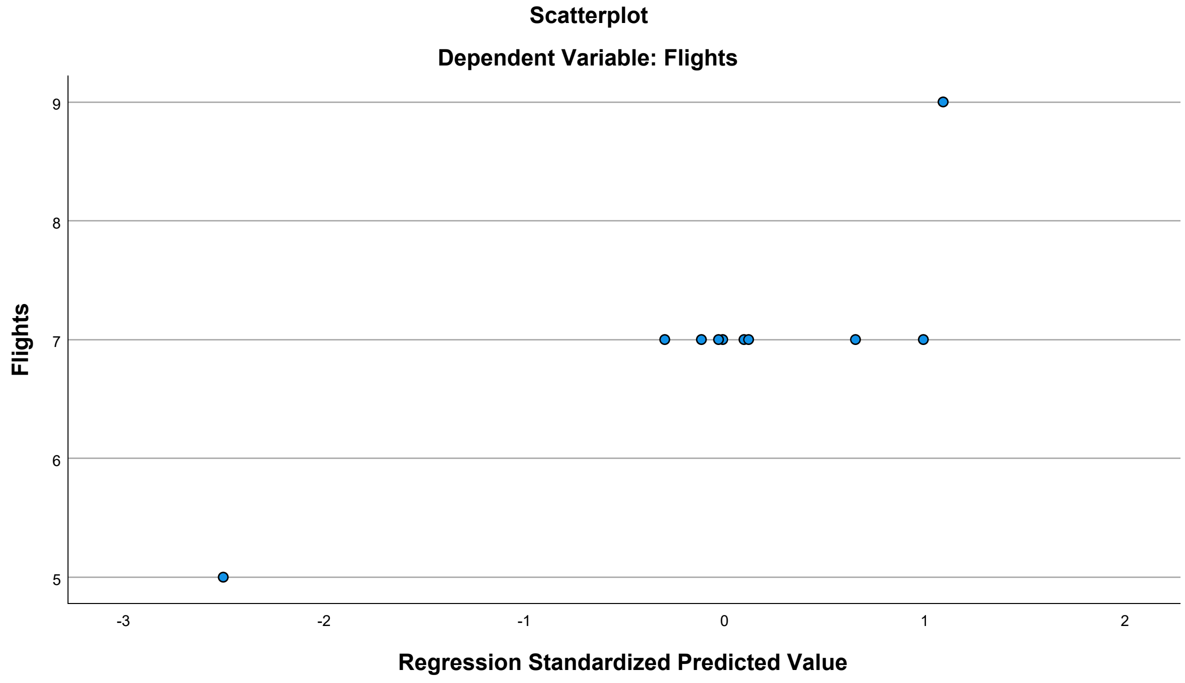
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.00	7.87	7.00	.799	10
Residual	-.793	1.128	.000	.501	10
Std. Predicted Value	-2.503	1.092	.000	1.000	10
Std. Residual	-1.181	1.679	.000	.745	10

a. Dependent Variable: Flights

Charts







Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.00	.943	10
GJFK	.10	.316	10
PartnerConcentration	1.6512211000	2.8707388589	10
Distance	4.41180	.773519	10

Correlations

		Flights	GJFK	PartnerConcentration	Distance
Pearson Correlation	Flights	1.000	-.745	-.007	.587
	GJFK	-.745	1.000	-.192	-.353
	PartnerConcentration	-.007	-.192	1.000	.040
	Distance	.587	-.353	.040	1.000
Sig. (1-tailed)	Flights	.	.007	.492	.037
	GJFK	.007	.	.298	.158
	PartnerConcentration	.492	.298	.	.456
	Distance	.037	.158	.456	.
N	Flights	10	10	10	10
	GJFK	10	10	10	10
	PartnerConcentration	10	10	10	10
	Distance	10	10	10	10

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Distance, PartnerConcentration, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.834[a]	.696	.544	.637	.696	4.576

Model Summary[b]

	Change Statistics		
Model	df1	df2	Sig. F Change
1	3	6	.054

a. Predictors: (Constant), Distance, PartnerConcentration, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.567	3	1.856	4.576	.054[b]
	Residual	2.433	6	.406		
	Total	8.000	9			

a. Dependent Variable: Flights

b. Predictors: (Constant), Distance, PartnerConcentration, GJFK

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.304	1.348		3.934	.008
	GJFK	-1.920	.731	-.644	-2.627	.039
	PartnerConcentration	-.048	.075	-.145	-.632	.551
	Distance	.446	.293	.366	1.519	.180

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	GJFK	.844	1.185
	PartnerConcentration	.962	1.039
	Distance	.874	1.144

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	GJFK	PartnerConcentration
1	1	2.466	1.000	.00	.02	.05
	2	.994	1.575	.00	.59	.16
	3	.528	2.162	.00	.24	.78
	4	.012	14.626	.99	.15	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Distance
1	1	.00
	2	.00
	3	.01
	4	.99

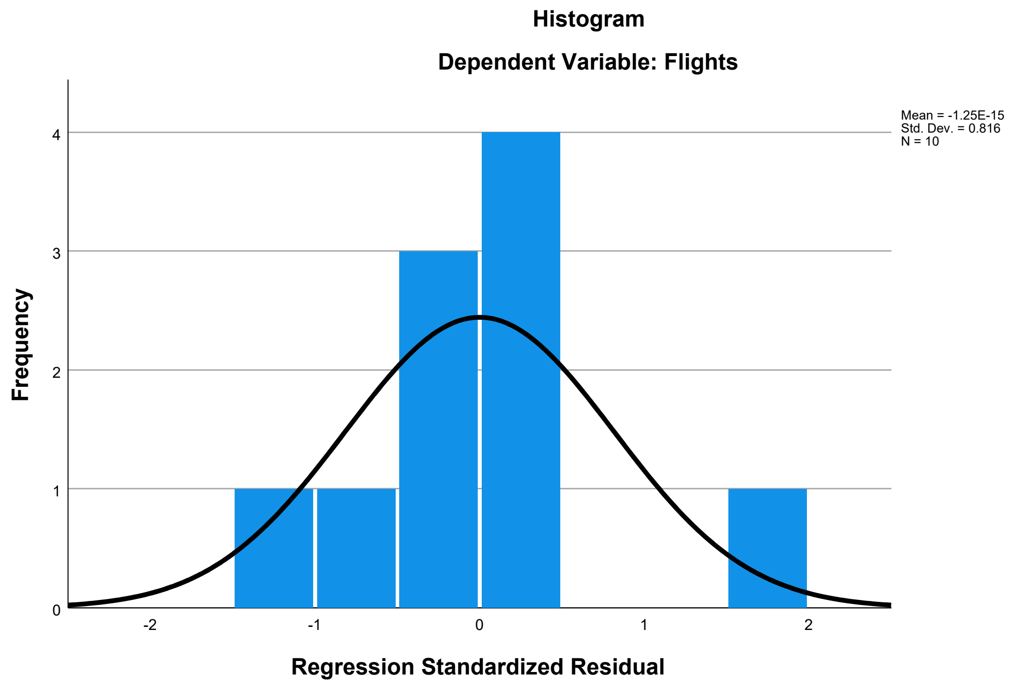
a. Dependent Variable: Flights

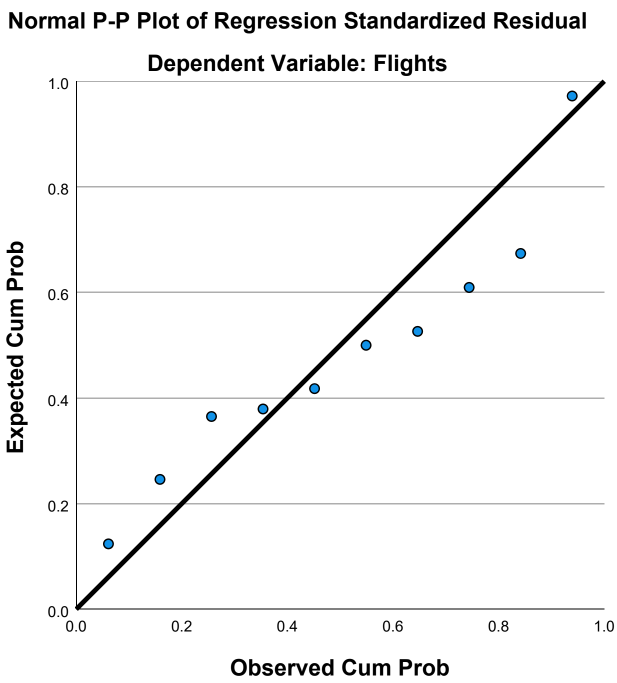
Residuals Statistics[a]

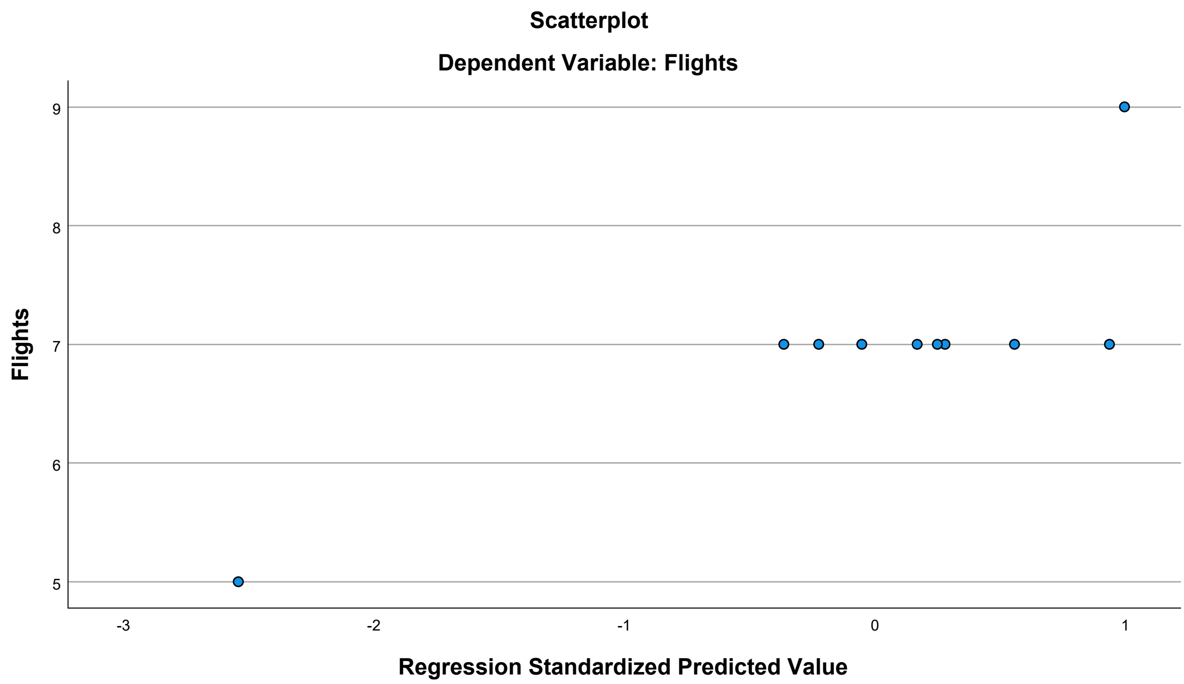
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.00	7.78	7.00	.786	10
Residual	-.736	1.217	.000	.520	10
Std. Predicted Value	-2.543	.996	.000	1.000	10
Std. Residual	-1.156	1.910	.000	.816	10

a. Dependent Variable: Flights

Charts







Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.00	.943	10
GJFK	.10	.316	10
Distance	4.41180	.773519	10

Correlations

		Flights	GJFK	Distance
Pearson Correlation	Flights	1.000	-.745	.587
	GJFK	-.745	1.000	-.353
	Distance	.587	-.353	1.000
Sig. (1-tailed)	Flights	.	.007	.037
	GJFK	.007	.	.158
	Distance	.037	.158	.
N	Flights	10	10	10
	GJFK	10	10	10
	Distance	10	10	10

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Distance, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.822[a]	.676	.583	.609	.676	7.290

Model Summary[b]

	Change Statistics		
Model	df1	df2	Sig. F Change
1	2	7	.019

a. Predictors: (Constant), Distance, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.405	2	2.702	7.290	.019[b]
	Residual	2.595	7	.371		
	Total	8.000	9			

a. Dependent Variable: Flights

b. Predictors: (Constant), Distance, GJFK

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance
1	(Constant)	5.192	1.278		4.063	.005	
	GJFK	-1.832	.686	-.614	-2.670	.032	.875
	Distance	.451	.280	.370	1.610	.152	.875

Coefficients[a]

Model		Collinearity Statistics VIF
1	(Constant)	
	GJFK	1.143
	Distance	1.143

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	GJFK	Distance
1	1	2.132	1.000	.00	.04	.00
	2	.857	1.577	.00	.81	.00
	3	.012	13.549	.99	.15	.99

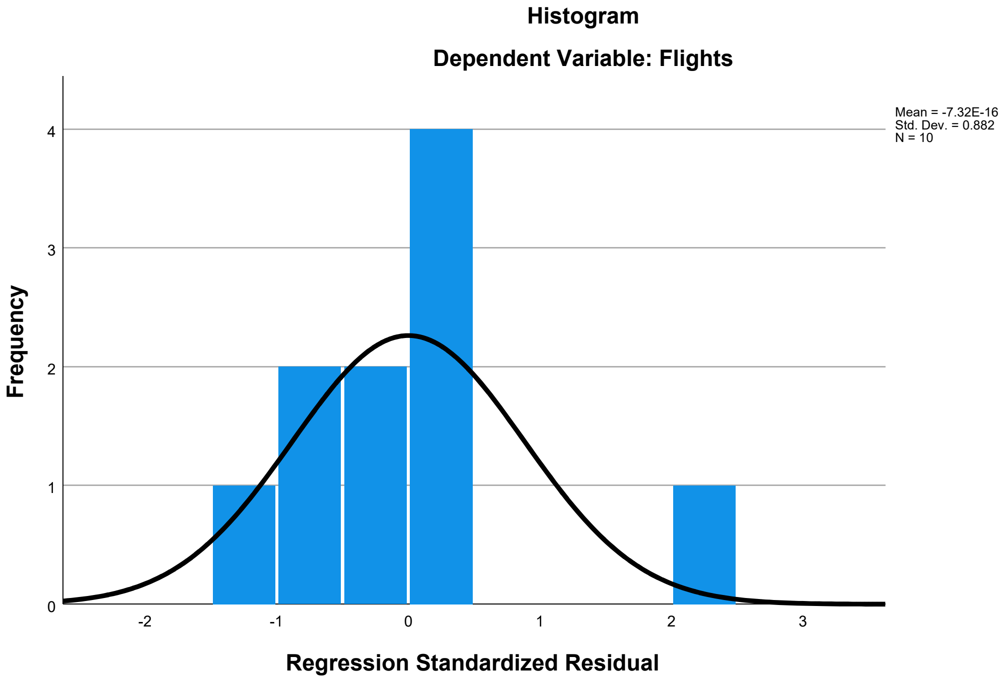
a. Dependent Variable: Flights

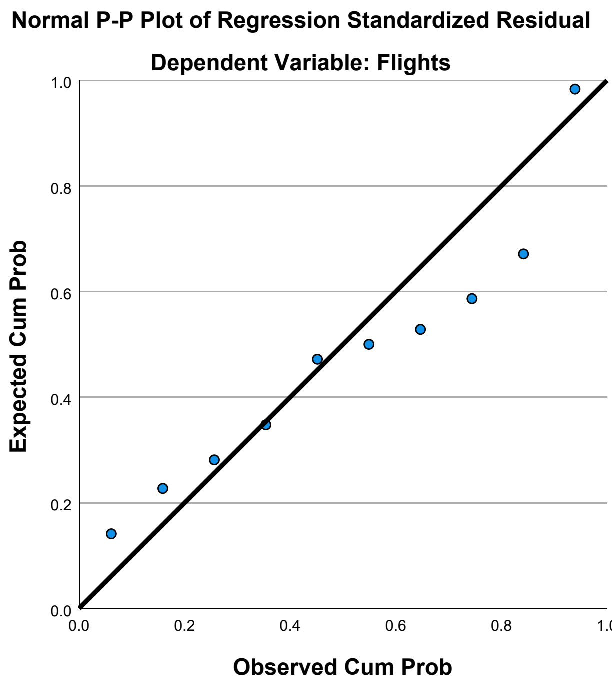
Residuals Statistics[a]

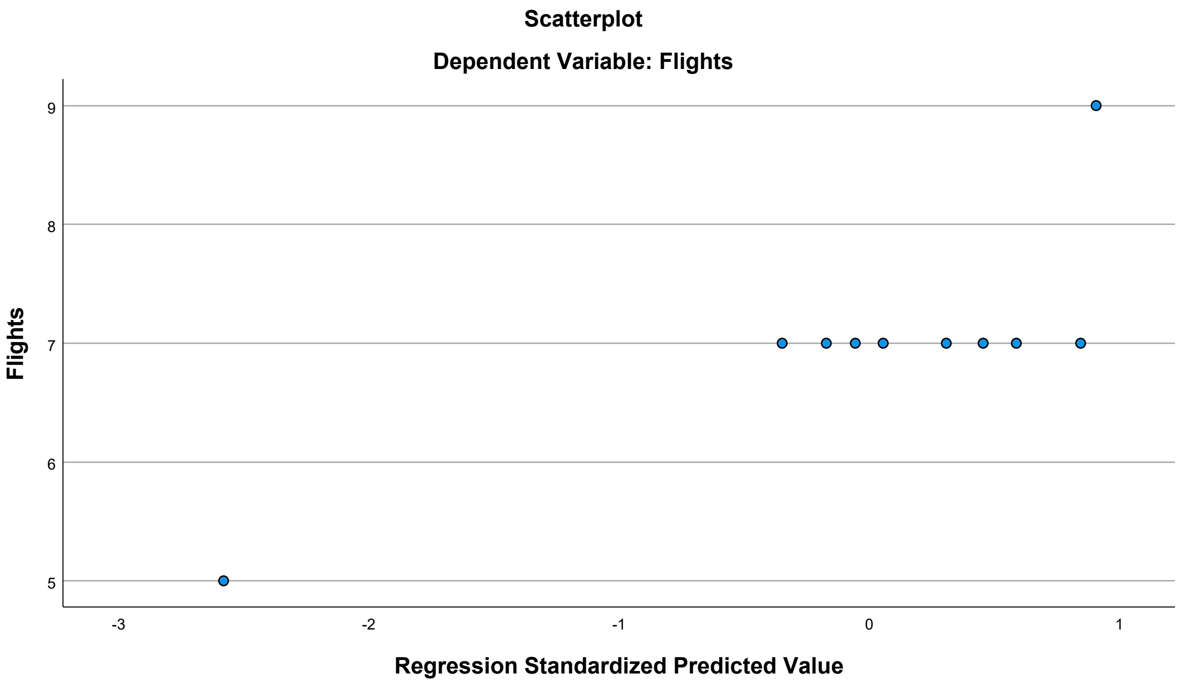
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.00	7.70	7.00	.775	10
Residual	-.655	1.298	.000	.537	10
Std. Predicted Value	-2.581	.906	.000	1.000	10
Std. Residual	-1.075	2.131	.000	.882	10

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -7.32E-16
Std. Dev. = 0.882
N = 10
Frequency
4
3
2
1
0
-2
-1
0
1
2
3
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
9
8
7
6
5
-3
-2
-1
0
1
Regression Standardized Predicted Value

Regression

```
[DataSet20] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
\2007 - KL.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: HomeConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.09	2.948	11
HomeConcentration	4.76768600	.000000000	11
Congestion	5.09	.831	11
GJFK	.09	.302	11
PartnerConcentration	2.5824310909	4.3671878203	11
Seasonality	.54425496531	.05365969776	11
Distance	4.32136	.772064	11
Language	.01239227	.020350926	11
Ethnicity	.14600900	.136211122	11
Urban	18.73	2.240	11

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.	.160	.552
	HomeConcentration	.	1.000	.	.
	Congestion	.160	.	1.000	.363
	GJFK	.552	.	.363	1.000
	PartnerConcentration	.046	.	-.623	-.120
	Seasonality	.270	.	.237	-.159
	Distance	.110	.	-.207	-.295
	Language	.318	.	.536	-.025
	Ethnicity	.413	.	.690	.280
	Urban	.292	.	.498	.485
Sig. (1-tailed)	Flights	.	.000	.320	.039
	HomeConcentration	.000	.	.000	.000
	Congestion	.320	.000	.	.136
	GJFK	.039	.000	.136	.
	PartnerConcentration	.446	.000	.020	.363
	Seasonality	.211	.000	.241	.320
	Distance	.374	.000	.270	.189
	Language	.170	.000	.045	.471
	Ethnicity	.103	.000	.009	.202
	Urban	.192	.000	.060	.065

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.046	.270	.110	.318
	HomeConcentration	.	.	.	.
	Congestion	-.623	.237	-.207	.536
	GJFK	-.120	-.159	-.295	-.025
	PartnerConcentration	1.000	-.126	.072	-.301
	Seasonality	-.126	1.000	.382	.634
	Distance	.072	.382	1.000	-.192
	Language	-.301	.634	-.192	1.000
	Ethnicity	-.322	.491	-.339	.899
	Urban	-.224	.029	-.262	.117
Sig. (1-tailed)	Flights	.446	.211	.374	.170
	HomeConcentration	.000	.000	.000	.000
	Congestion	.020	.241	.270	.045
	GJFK	.363	.320	.189	.471
	PartnerConcentration	.	.356	.417	.184
	Seasonality	.356	.	.123	.018
	Distance	.417	.123	.	.286
	Language	.184	.018	.286	.
	Ethnicity	.167	.063	.154	.000
	Urban	.254	.466	.218	.366

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.413	.292
	HomeConcentration	.	.
	Congestion	.690	.498
	GJFK	.280	.485
	PartnerConcentration	-.322	-.224
	Seasonality	.491	.029
	Distance	-.339	-.262
	Language	.899	.117
	Ethnicity	1.000	.395
	Urban	.395	1.000
Sig. (1-tailed)	Flights	.103	.192
	HomeConcentration	.000	.000
	Congestion	.009	.060
	GJFK	.202	.065
	PartnerConcentration	.167	.254
	Seasonality	.063	.466
	Distance	.154	.218
	Language	.000	.366
	Ethnicity	.	.115
	Urban	.115	.

Correlations

		Flights	HomeConcentration	Congestion	GJFK
N	Flights	11	11	11	11
	HomeConcentration	11	11	11	11
	Congestion	11	11	11	11
	GJFK	11	11	11	11
	PartnerConcentration	11	11	11	11
	Seasonality	11	11	11	11
	Distance	11	11	11	11
	Language	11	11	11	11
	Ethnicity	11	11	11	11
	Urban	11	11	11	11

Correlations

		PartnerConcentration	Seasonality	Distance	Language
N	Flights	11	11	11	11
	HomeConcentration	11	11	11	11
	Congestion	11	11	11	11
	GJFK	11	11	11	11
	PartnerConcentration	11	11	11	11
	Seasonality	11	11	11	11
	Distance	11	11	11	11
	Language	11	11	11	11
	Ethnicity	11	11	11	11
	Urban	11	11	11	11

Correlations

		Ethnicity	Urban
N	Flights	11	11
	HomeConcentration	11	11
	Congestion	11	11
	GJFK	11	11
	PartnerConcentration	11	11
	Seasonality	11	11
	Distance	11	11
	Language	11	11
	Ethnicity	11	11
	Urban	11	11

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, PartnerConcentration, Distance, GJFK, Congestion, Language, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	.824[a]	.678	-.608	3.739	.678	.527	8	2	.788

a. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, Distance, GJFK, Congestion, Language, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	58.954	8	7.369	.527	.788[b]
	Residual	27.955	2	13.978		
	Total	86.909	10			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, Distance, GJFK, Congestion, Language, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	7.576	21.798		.348	.761
	Congestion	-1.609	2.679	-.454	-.601	.609
	GJFK	7.399	5.471	.757	1.353	.309
	PartnerConcentration	.058	.364	.085	.158	.889
	Seasonality	-12.349	39.336	-.225	-.314	.783
	Distance	2.063	2.266	.540	.911	.459
	Language	113.889	222.795	.786	.511	.660
	Ethnicity	1.007	35.296	.047	.029	.980
	Urban	.274	.749	.208	.366	.750

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.282	3.547
	GJFK	.514	1.947
	PartnerConcentration	.554	1.805
	Seasonality	.314	3.187
	Distance	.457	2.189
	Language	.068	14.708
	Ethnicity	.060	16.537
	Urban	.497	2.014

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

				Variance Proportions		
Model	Dimension	Eigenvalue	Condition Index	(Constant)	Congestion	GJFK
1	1	6.362	1.000	.00	.00	.00
	2	1.193	2.309	.00	.00	.03
	3	.901	2.658	.00	.00	.43
	4	.483	3.628	.00	.00	.02
	5	.036	13.235	.00	.01	.46
	6	.013	22.025	.02	.03	.05
	7	.006	32.506	.00	.71	.00
	8	.004	42.024	.16	.05	.00
	9	.002	63.476	.82	.20	.00

Collinearity Diagnostics[a]

		Variance Proportions					
Model	Dimension	PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.13	.00	.00	.01	.00	.00
	3	.00	.00	.00	.01	.00	.00
	4	.46	.00	.00	.02	.00	.00
	5	.00	.00	.08	.31	.27	.01
	6	.01	.00	.45	.31	.46	.04
	7	.23	.03	.00	.00	.01	.30
	8	.10	.21	.22	.31	.21	.64
	9	.06	.75	.24	.04	.04	.01

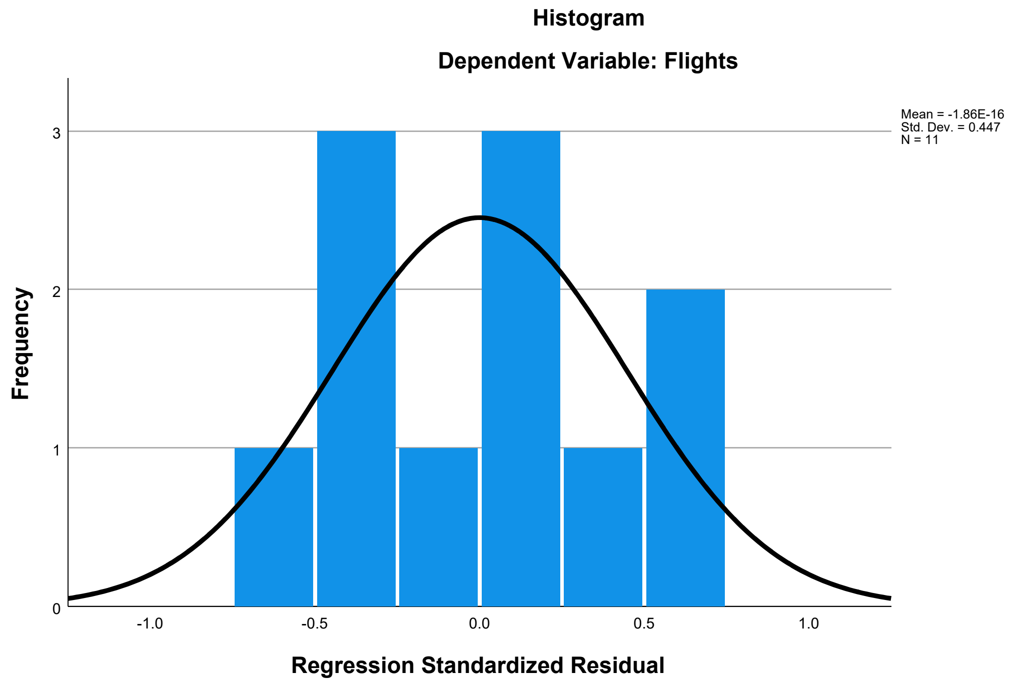
a. Dependent Variable: Flights

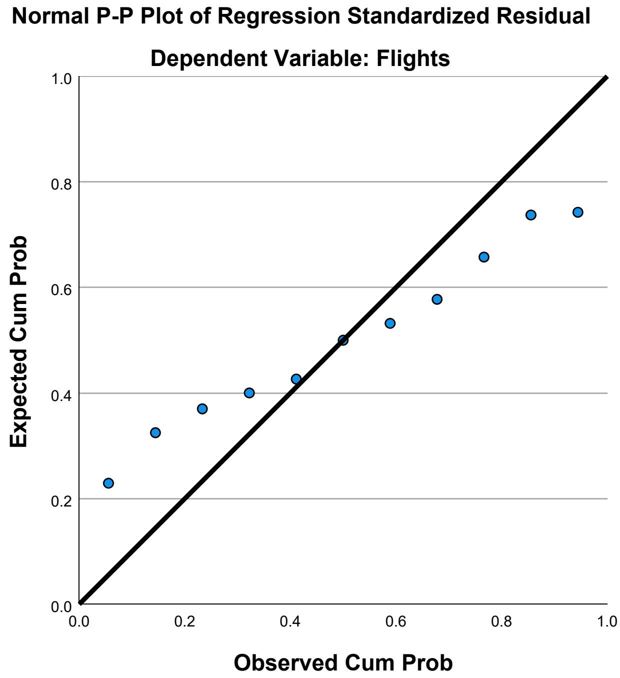
Residuals Statistics[a]

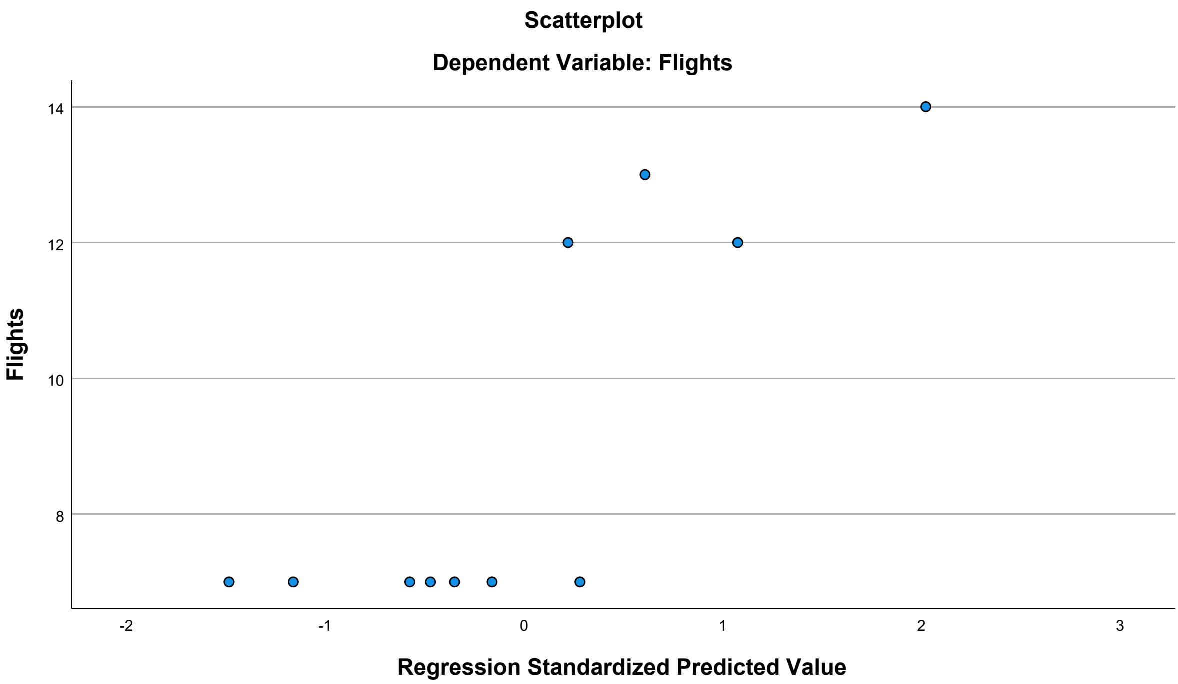
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.48	14.00	9.09	2.428	11
Residual	-2.773	2.433	.000	1.672	11
Std. Predicted Value	-1.485	2.022	.000	1.000	11
Std. Residual	-.742	.651	.000	.447	11

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: HomeConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.09	2.948	11
HomeConcentration	4.76768600	.000000000	11
Congestion	5.09	.831	11
GJFK	.09	.302	11
PartnerConcentration	2.5824310909	4.3671878203	11
Seasonality	.54425496531	.05365969776	11
Distance	4.32136	.772064	11
Language	.01239227	.020350926	11
Urban	18.73	2.240	11

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.	.160	.552
	HomeConcentration	.	1.000	.	.
	Congestion	.160	.	1.000	.363
	GJFK	.552	.	.363	1.000
	PartnerConcentration	.046	.	-.623	-.120
	Seasonality	.270	.	.237	-.159
	Distance	.110	.	-.207	-.295
	Language	.318	.	.536	-.025
	Urban	.292	.	.498	.485
Sig. (1-tailed)	Flights	.	.000	.320	.039
	HomeConcentration	.000	.	.000	.000
	Congestion	.320	.000	.	.136
	GJFK	.039	.000	.136	.
	PartnerConcentration	.446	.000	.020	.363
	Seasonality	.211	.000	.241	.320
	Distance	.374	.000	.270	.189
	Language	.170	.000	.045	.471
	Urban	.192	.000	.060	.065
N	Flights	11	11	11	11
	HomeConcentration	11	11	11	11
	Congestion	11	11	11	11
	GJFK	11	11	11	11
	PartnerConcentration	11	11	11	11
	Seasonality	11	11	11	11
	Distance	11	11	11	11
	Language	11	11	11	11
	Urban	11	11	11	11

Correlations

		PartnerConcentration	Seasonality	Distance	Language
Pearson Correlation	Flights	.046	.270	.110	.318
	HomeConcentration	.	.	.	.
	Congestion	-.623	.237	-.207	.536
	GJFK	-.120	-.159	-.295	-.025
	PartnerConcentration	1.000	-.126	.072	-.301
	Seasonality	-.126	1.000	.382	.634
	Distance	.072	.382	1.000	-.192
	Language	-.301	.634	-.192	1.000
	Urban	-.224	.029	-.262	.117
Sig. (1-tailed)	Flights	.446	.211	.374	.170
	HomeConcentration	.000	.000	.000	.000
	Congestion	.020	.241	.270	.045
	GJFK	.363	.320	.189	.471
	PartnerConcentration	.	.356	.417	.184
	Seasonality	.356	.	.123	.018
	Distance	.417	.123	.	.286
	Language	.184	.018	.286	.
	Urban	.254	.466	.218	.366
N	Flights	11	11	11	11
	HomeConcentration	11	11	11	11
	Congestion	11	11	11	11
	GJFK	11	11	11	11
	PartnerConcentration	11	11	11	11
	Seasonality	11	11	11	11
	Distance	11	11	11	11
	Language	11	11	11	11
	Urban	11	11	11	11

Correlations

		Urban
Pearson Correlation	Flights	.292
	HomeConcentration	.
	Congestion	.498
	GJFK	.485
	PartnerConcentration	-.224
	Seasonality	.029
	Distance	-.262
	Language	.117
	Urban	1.000
Sig. (1-tailed)	Flights	.192
	HomeConcentration	.000
	Congestion	.060
	GJFK	.065
	PartnerConcentration	.254
	Seasonality	.466
	Distance	.218
	Language	.366
	Urban	.
N	Flights	11
	HomeConcentration	11
	Congestion	11
	GJFK	11
	PartnerConcentration	11
	Seasonality	11
	Distance	11
	Language	11
	Urban	11

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, PartnerConcentration, Distance, GJFK, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.824[a]	.678	-.073	3.053	.678	.903

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	7	3	.592

a. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, Distance, GJFK, Congestion, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	58.942	7	8.420	.903	.592[b]
	Residual	27.967	3	9.322		
	Total	86.909	10			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, Distance, GJFK, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	7.406	17.130		.432	.695
	Congestion	-1.582	2.051	-.446	-.771	.497
	GJFK	7.473	3.936	.764	1.899	.154
	PartnerConcentration	.060	.288	.089	.208	.848
	Seasonality	-12.370	32.118	-.225	-.385	.726
	Distance	2.051	1.819	.537	1.128	.341
	Language	119.394	91.080	.824	1.311	.281
	Urban	.283	.559	.215	.505	.648

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.321	3.118
	GJFK	.662	1.511
	PartnerConcentration	.588	1.701
	Seasonality	.314	3.186
	Distance	.473	2.115
	Language	.271	3.685
	Urban	.594	1.683

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

				Variance Proportions		
Model	Dimension	Eigenvalue	Condition Index	(Constant)	Congestion	GJFK
1	1	5.671	1.000	.00	.00	.00
	2	.990	2.393	.00	.00	.24
	3	.878	2.541	.00	.00	.37
	4	.426	3.650	.00	.00	.06
	5	.022	15.960	.00	.04	.22
	6	.006	30.526	.01	.79	.01
	7	.004	36.104	.21	.00	.07
	8	.002	58.982	.78	.16	.02

Collinearity Diagnostics[a]

		Variance Proportions				
Model	Dimension	PartnerConcentration	Seasonality	Distance	Language	Urban
1	1	.00	.00	.00	.00	.00
	2	.19	.00	.00	.03	.00
	3	.06	.00	.00	.07	.00
	4	.38	.00	.00	.20	.00
	5	.02	.00	.37	.03	.07
	6	.26	.04	.03	.02	.29
	7	.05	.13	.35	.07	.63
	8	.04	.83	.25	.58	.00

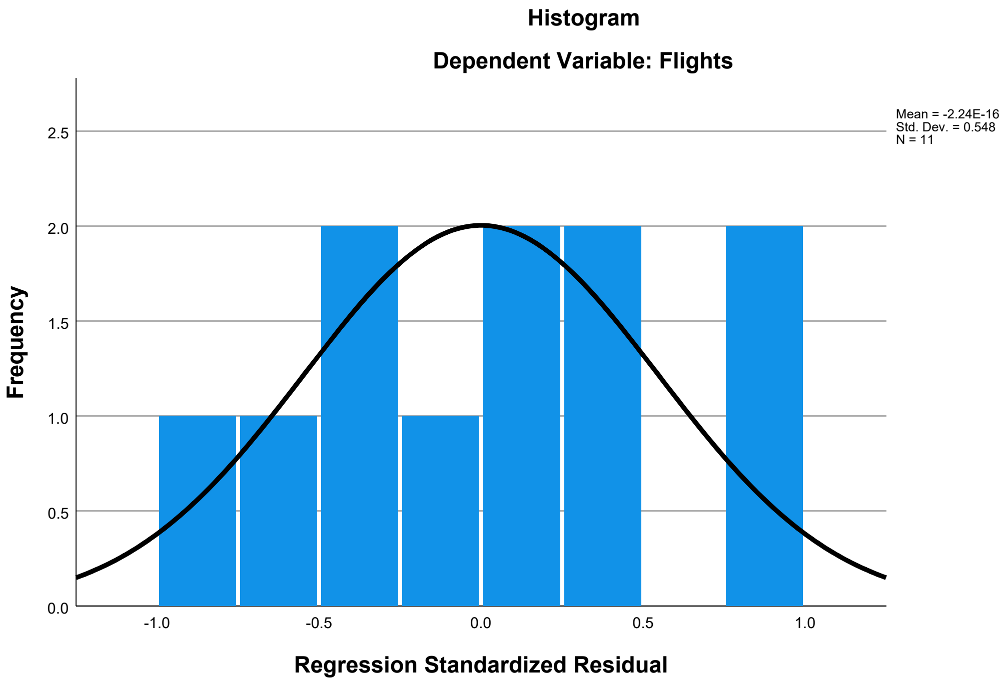
a. Dependent Variable: Flights

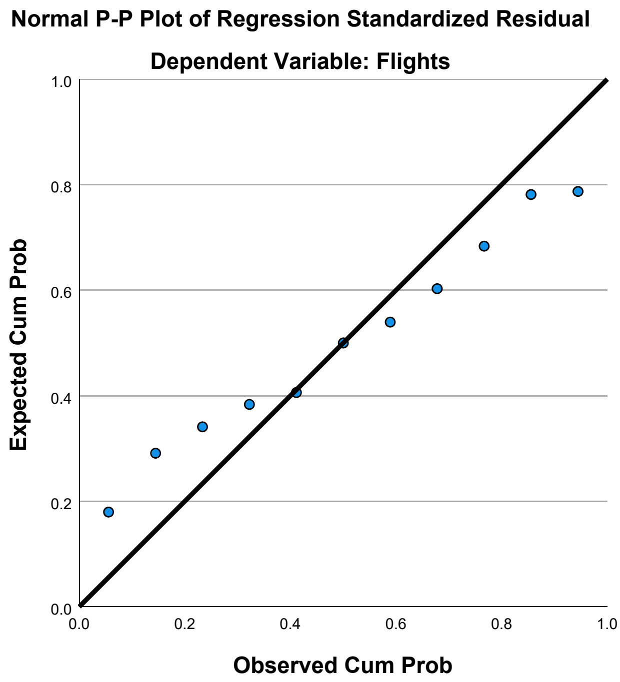
Residuals Statistics[a]

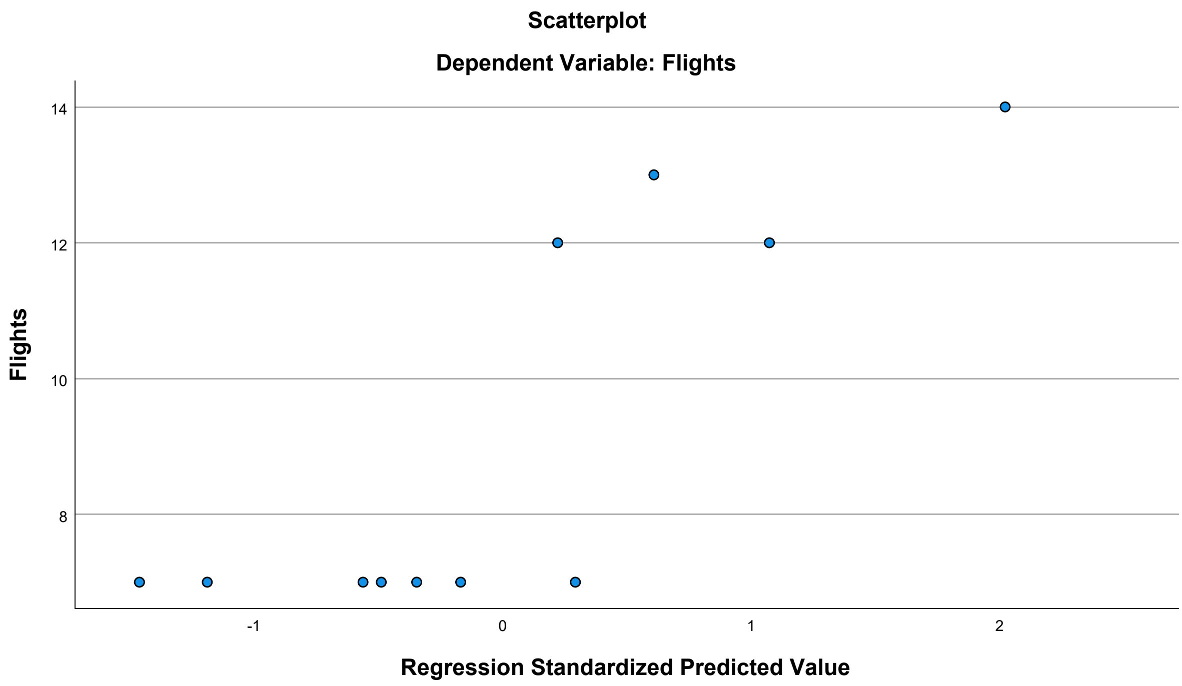
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.54	14.00	9.09	2.428	11
Residual	-2.801	2.432	.000	1.672	11
Std. Predicted Value	-1.462	2.022	.000	1.000	11
Std. Residual	-.917	.797	.000	.548	11

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: HomeConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.09	2.948	11
HomeConcentration	4.76768600	.000000000	11
Congestion	5.09	.831	11
GJFK	.09	.302	11
PartnerConcentration	2.5824310909	4.3671878203	11
Seasonality	.54425496531	.05365969776	11
Distance	4.32136	.772064	11
Urban	18.73	2.240	11

Correlations

		Flights	HomeConcentration	Congestion	GJFK
Pearson Correlation	Flights	1.000	.	.160	.552
	HomeConcentration	.	1.000	.	.
	Congestion	.160	.	1.000	.363
	GJFK	.552	.	.363	1.000
	PartnerConcentration	.046	.	-.623	-.120
	Seasonality	.270	.	.237	-.159
	Distance	.110	.	-.207	-.295
	Urban	.292	.	.498	.485
Sig. (1-tailed)	Flights	.	.000	.320	.039
	HomeConcentration	.000	.	.000	.000
	Congestion	.320	.000	.	.136
	GJFK	.039	.000	.136	.
	PartnerConcentration	.446	.000	.020	.363
	Seasonality	.211	.000	.241	.320
	Distance	.374	.000	.270	.189
	Urban	.192	.000	.060	.065
N	Flights	11	11	11	11
	HomeConcentration	11	11	11	11
	Congestion	11	11	11	11
	GJFK	11	11	11	11
	PartnerConcentration	11	11	11	11
	Seasonality	11	11	11	11
	Distance	11	11	11	11
	Urban	11	11	11	11

Correlations

		PartnerConcentration	Seasonality	Distance	Urban
Pearson Correlation	Flights	.046	.270	.110	.292
	HomeConcentration	.	.	.	.
	Congestion	-.623	.237	-.207	.498
	GJFK	-.120	-.159	-.295	.485
	PartnerConcentration	1.000	-.126	.072	-.224
	Seasonality	-.126	1.000	.382	.029
	Distance	.072	.382	1.000	-.262
	Urban	-.224	.029	-.262	1.000
Sig. (1-tailed)	Flights	.446	.211	.374	.192
	HomeConcentration	.000	.000	.000	.000
	Congestion	.020	.241	.270	.060
	GJFK	.363	.320	.189	.065
	PartnerConcentration	.	.356	.417	.254
	Seasonality	.356	.	.123	.466
	Distance	.417	.123	.	.218
	Urban	.254	.466	.218	.
N	Flights	11	11	11	11
	HomeConcentration	11	11	11	11
	Congestion	11	11	11	11
	GJFK	11	11	11	11
	PartnerConcentration	11	11	11	11
	Seasonality	11	11	11	11
	Distance	11	11	11	11
	Urban	11	11	11	11

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, PartnerConcentration, Distance, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.703[a]	.494	-.265	3.316	.494	.651

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	4	.697

a. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, Distance, GJFK, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.923	6	7.154	.651	.697[b]
	Residual	43.986	4	10.996		
	Total	86.909	10			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, Distance, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-4.953	15.533		-.319	.766
	Congestion	-.348	1.979	-.098	-.176	.869
	GJFK	6.546	4.205	.670	1.557	.195
	PartnerConcentration	.077	.313	.114	.246	.818
	Seasonality	19.179	23.100	.349	.830	.453
	Distance	.632	1.587	.166	.398	.711
	Urban	.099	.588	.075	.168	.874

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.406	2.462
	GJFK	.684	1.462
	PartnerConcentration	.589	1.697
	Seasonality	.716	1.397
	Distance	.732	1.366
	Urban	.634	1.578

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GJFK
1	1	5.349	1.000	.00	.00	.00
	2	.959	2.362	.00	.00	.51
	3	.651	2.867	.00	.00	.18
	4	.025	14.649	.00	.06	.18
	5	.007	26.955	.01	.44	.02
	6	.005	31.439	.04	.49	.09
	7	.003	41.159	.95	.00	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Urban
1	1	.00	.00	.00	.00
	2	.09	.00	.00	.00
	3	.47	.00	.00	.00
	4	.06	.00	.57	.04
	5	.16	.09	.01	.58
	6	.16	.65	.39	.02
	7	.05	.26	.03	.36

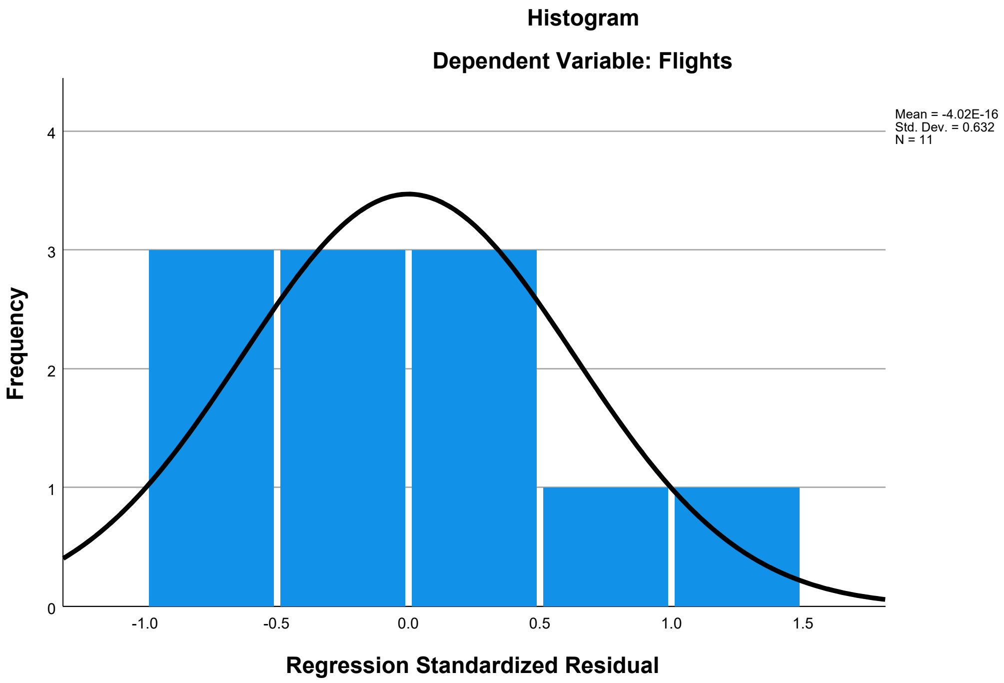
a. Dependent Variable: Flights

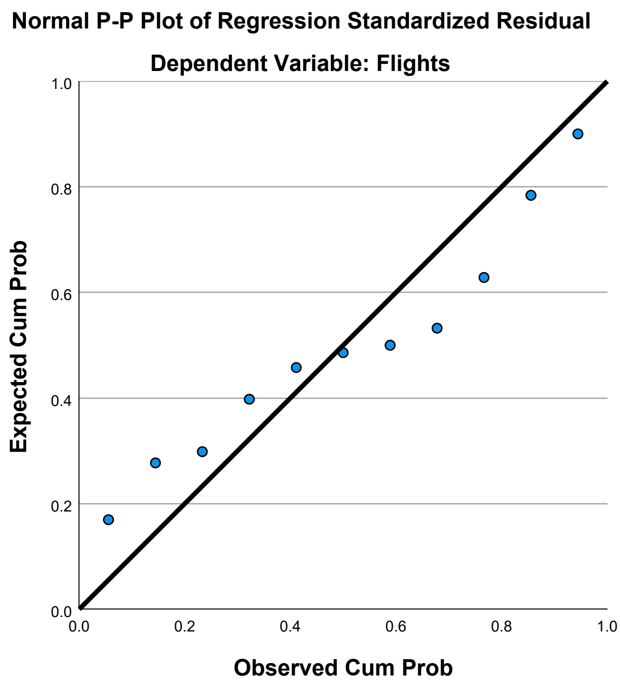
Residuals Statistics[a]

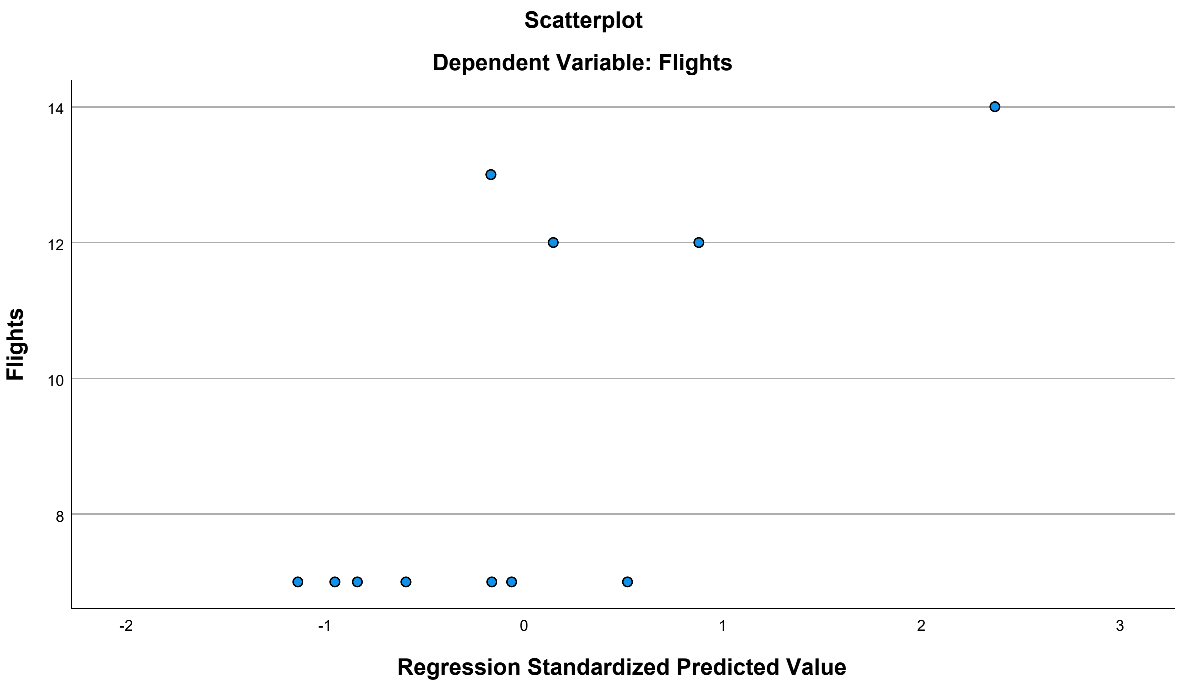
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6.73	14.00	9.09	2.072	11
Residual	-3.169	4.255	.000	2.097	11
Std. Predicted Value	-1.139	2.369	.000	1.000	11
Std. Residual	-.956	1.283	.000	.632	11

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
14
12
10
8
-2
-1
0
1
2
3

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.09	2.948	11
GJFK	.09	.302	11
PartnerConcentration	2.5824310909	4.3671878203	11
Seasonality	.54425496531	.05365969776	11
Distance	4.32136	.772064	11
Urban	18.73	2.240	11

Correlations

		Flights	GJFK	PartnerConcentration	Seasonality
Pearson Correlation	Flights	1.000	.552	.046	.270
	GJFK	.552	1.000	-.120	-.159
	PartnerConcentration	.046	-.120	1.000	-.126
	Seasonality	.270	-.159	-.126	1.000
	Distance	.110	-.295	.072	.382
	Urban	.292	.485	-.224	.029
Sig. (1-tailed)	Flights	.	.039	.446	.211
	GJFK	.039	.	.363	.320
	PartnerConcentration	.446	.363	.	.356
	Seasonality	.211	.320	.356	.
	Distance	.374	.189	.417	.123
	Urban	.192	.065	.254	.466
N	Flights	11	11	11	11
	GJFK	11	11	11	11
	PartnerConcentration	11	11	11	11
	Seasonality	11	11	11	11
	Distance	11	11	11	11
	Urban	11	11	11	11

Correlations

		Distance	Urban
Pearson Correlation	Flights	.110	.292
	GJFK	-.295	.485
	PartnerConcentration	.072	-.224
	Seasonality	.382	.029
	Distance	1.000	-.262
	Urban	-.262	1.000
Sig. (1-tailed)	Flights	.374	.192
	GJFK	.189	.065
	PartnerConcentration	.417	.254
	Seasonality	.123	.466
	Distance	.	.218
	Urban	.218	.
N	Flights	11	11
	GJFK	11	11
	PartnerConcentration	11	11
	Seasonality	11	11
	Distance	11	11
	Urban	11	11

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, PartnerConcentration, Distance, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.700[a]	.490	-.020	2.977	.490	.961

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	5	5	.517

a. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, Distance, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.583	5	8.517	.961	.517[b]
	Residual	44.326	5	8.865		
	Total	86.909	10			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, PartnerConcentration, Distance, GJFK

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-5.686	13.437		-.423	.690
	GJFK	6.377	3.676	.652	1.735	.143
	PartnerConcentration	.110	.224	.163	.494	.642
	Seasonality	17.822	19.552	.324	.912	.404
	Distance	.688	1.397	.180	.493	.643
	Urban	.066	.501	.050	.132	.900

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	GJFK	.722	1.386
	PartnerConcentration	.930	1.075
	Seasonality	.805	1.242
	Distance	.763	1.311
	Urban	.705	1.419

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	GJFK	PartnerConcentration
1	1	4.391	1.000	.00	.00	.01
	2	.955	2.144	.00	.56	.12
	3	.623	2.655	.00	.16	.80
	4	.021	14.465	.01	.17	.01
	5	.006	26.451	.00	.09	.00
	6	.003	37.249	.99	.02	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions		
		Seasonality	Distance	Urban
1	1	.00	.00	.00
	2	.00	.00	.00
	3	.00	.00	.00
	4	.00	.67	.13
	5	.66	.30	.45
	6	.33	.03	.42

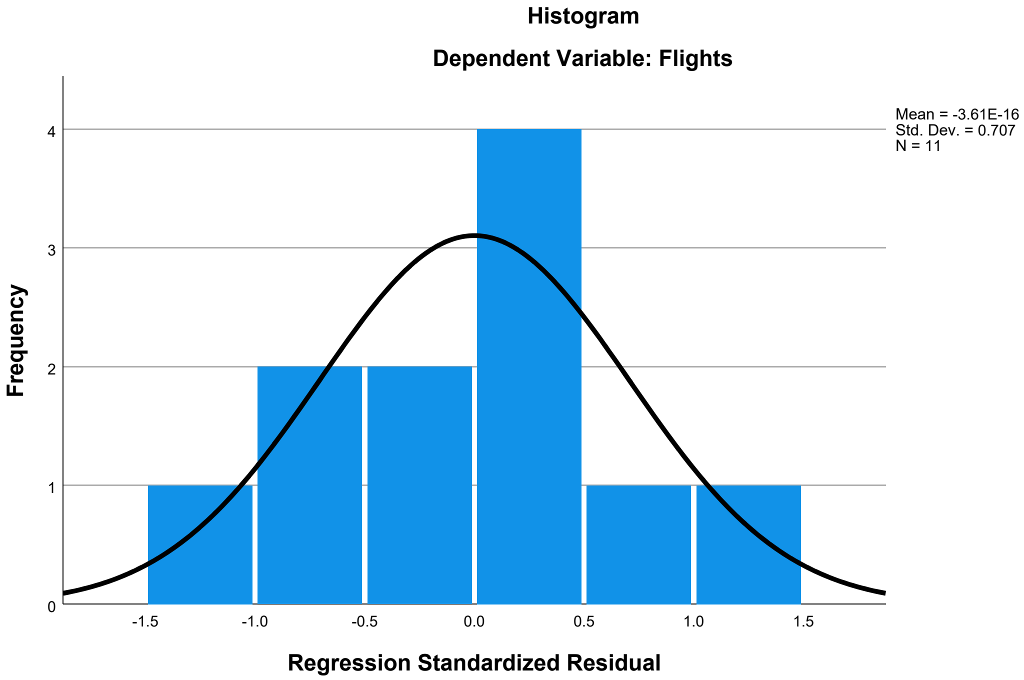
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6.69	14.00	9.09	2.064	11
Residual	-3.103	4.194	.000	2.105	11
Std. Predicted Value	-1.161	2.379	.000	1.000	11
Std. Residual	-1.042	1.408	.000	.707	11

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
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Std. Dev. = 0.707
N = 11
Frequency
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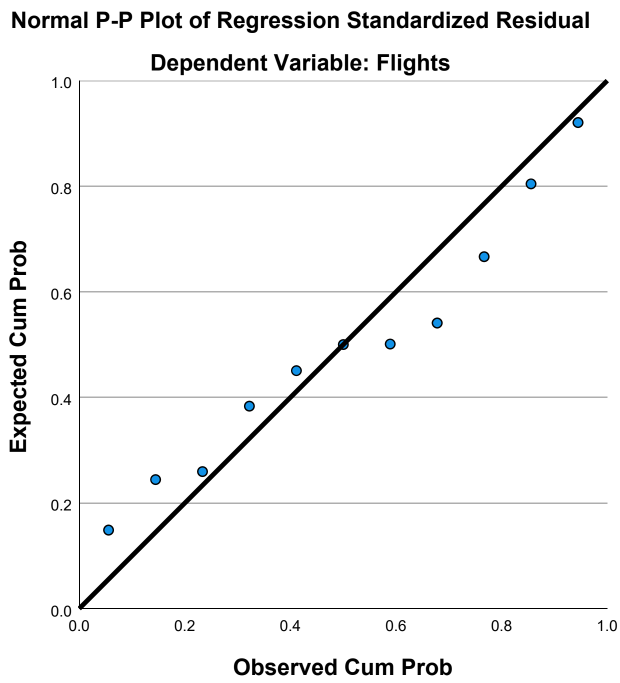
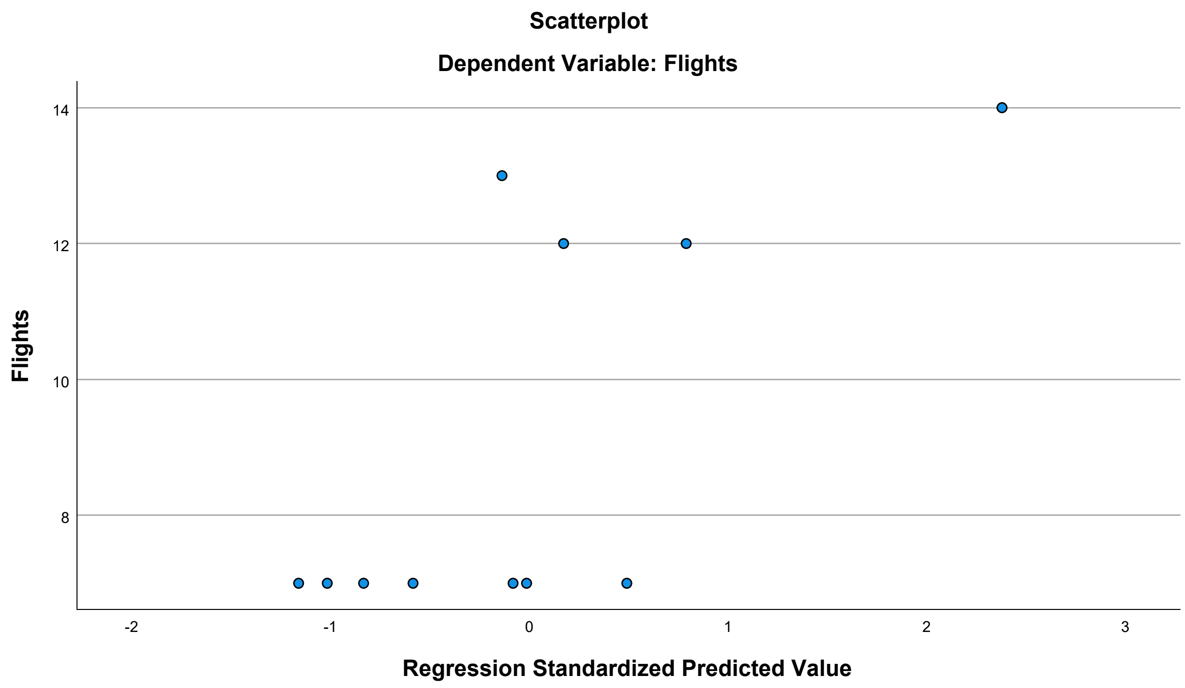
1
2
3
4
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.09	2.948	11
GJFK	.09	.302	11
PartnerConcentration	2.5824310909	4.3671878203	11
Seasonality	.54425496531	.05365969776	11
Distance	4.32136	.772064	11

Correlations

		Flights	GJFK	PartnerConcentration	Seasonality
Pearson Correlation	Flights	1.000	.552	.046	.270
	GJFK	.552	1.000	-.120	-.159
	PartnerConcentration	.046	-.120	1.000	-.126
	Seasonality	.270	-.159	-.126	1.000
	Distance	.110	-.295	.072	.382
Sig. (1-tailed)	Flights	.	.039	.446	.211
	GJFK	.039	.	.363	.320
	PartnerConcentration	.446	.363	.	.356
	Seasonality	.211	.320	.356	.
	Distance	.374	.189	.417	.123
N	Flights	11	11	11	11
	GJFK	11	11	11	11
	PartnerConcentration	11	11	11	11
	Seasonality	11	11	11	11
	Distance	11	11	11	11

Correlations

		Distance
Pearson Correlation	Flights	.110
	GJFK	-.295
	PartnerConcentration	.072
	Seasonality	.382
	Distance	1.000
Sig. (1-tailed)	Flights	.374
	GJFK	.189
	PartnerConcentration	.417
	Seasonality	.123
	Distance	.
N	Flights	11
	GJFK	11
	PartnerConcentration	11
	Seasonality	11
	Distance	11

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Distance, PartnerConcentration, GJFK, Seasonality[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.699[a]	.488	.147	2.723	.488	1.431

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	4	6	.330

a. Predictors: (Constant), Distance, PartnerConcentration, GJFK, Seasonality

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.428	4	10.607	1.431	.330[b]
	Residual	44.481	6	7.414		
	Total	86.909	10			

a. Dependent Variable: Flights

b. Predictors: (Constant), Distance, PartnerConcentration, GJFK, Seasonality

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4.529	9.327		-.486	.644
	GJFK	6.593	3.013	.674	2.189	.071
	PartnerConcentration	.106	.202	.156	.523	.619
	Seasonality	18.236	17.649	.332	1.033	.341
	Distance	.653	1.255	.171	.521	.621

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	GJFK	.899	1.113
	PartnerConcentration	.955	1.047
	Seasonality	.827	1.210
	Distance	.790	1.266

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	GJFK	PartnerConcentration	Seasonality	Distance
1	1	3.425	1.000	.00	.01	.02	.00	.00
	2	.953	1.896	.00	.72	.11	.00	.00
	3	.603	2.382	.00	.16	.83	.00	.00
	4	.015	15.116	.10	.08	.00	.07	.98
	5	.004	28.969	.89	.03	.03	.93	.01

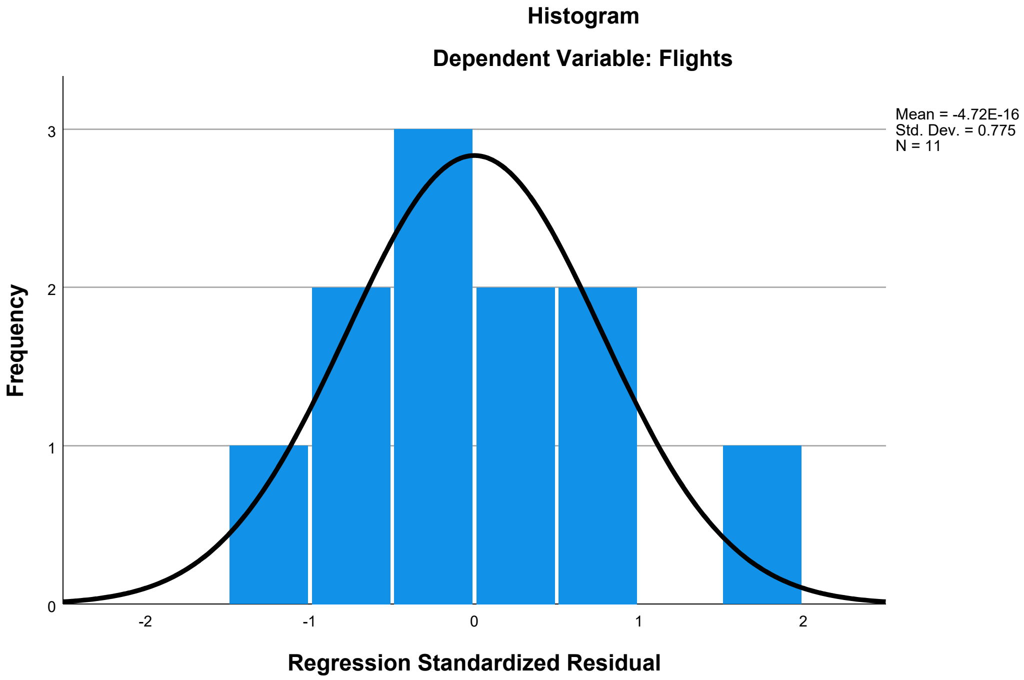
a. Dependent Variable: Flights

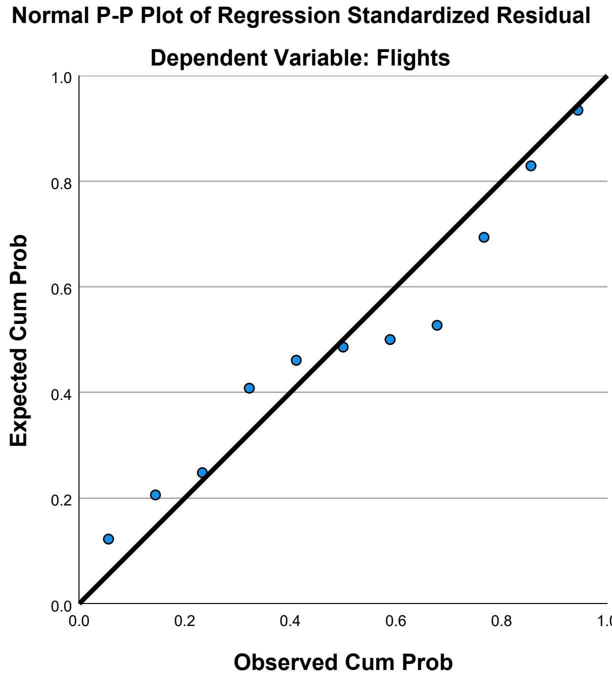
Residuals Statistics[a]

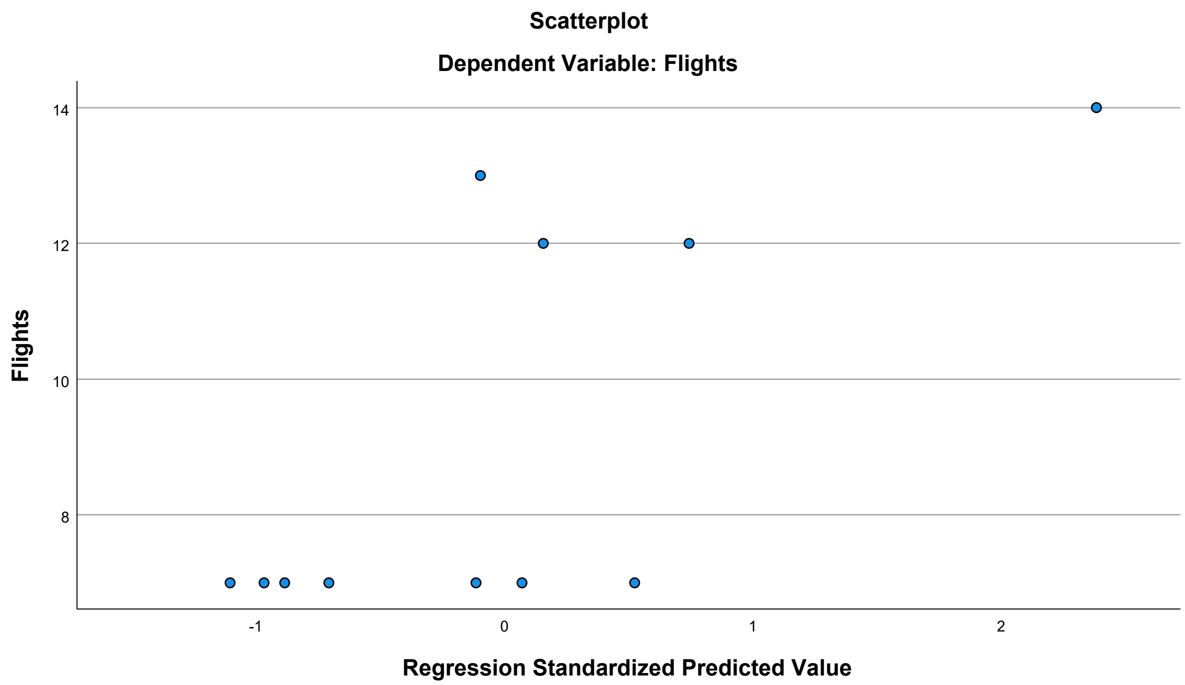
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6.82	14.00	9.09	2.060	11
Residual	-3.170	4.109	.000	2.109	11
Std. Predicted Value	-1.105	2.383	.000	1.000	11
Std. Residual	-1.164	1.509	.000	.775	11

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -4.72E-16
Std. Dev. = 0.775
N = 11
Frequency
0
1
2
3
-2
-1
0
1
2
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.09	2.948	11
GJFK	.09	.302	11
PartnerConcentration	2.5824310909	4.3671878203	11
Seasonality	.54425496531	.05365969776	11

Correlations

		Flights	GJFK	PartnerConcentration	Seasonality
Pearson Correlation	Flights	1.000	.552	.046	.270
	GJFK	.552	1.000	-.120	-.159
	PartnerConcentration	.046	-.120	1.000	-.126
	Seasonality	.270	-.159	-.126	1.000
Sig. (1-tailed)	Flights	.	.039	.446	.211
	GJFK	.039	.	.363	.320
	PartnerConcentration	.446	.363	.	.356
	Seasonality	.211	.320	.356	.
N	Flights	11	11	11	11
	GJFK	11	11	11	11
	PartnerConcentration	11	11	11	11
	Seasonality	11	11	11	11

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Seasonality, PartnerConcentration, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.682[a]	.465	.236	2.577	.465	2.028	3	7	.199

a. Predictors: (Constant), Seasonality, PartnerConcentration, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40.417	3	13.472	2.028	.199[b]
	Residual	46.492	7	6.642		
	Total	86.909	10			

a. Dependent Variable: Flights

b. Predictors: (Constant), Seasonality, PartnerConcentration, GJFK

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.523	8.636		-.408	.696
	GJFK	6.212	2.766	.635	2.246	.060
	PartnerConcentration	.116	.190	.172	.610	.561
	Seasonality	21.589	15.554	.393	1.388	.208

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	GJFK	.955	1.047
	PartnerConcentration	.964	1.037
	Seasonality	.953	1.049

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	GJFK	PartnerConcentration
1	1	2.493	1.000	.00	.02	.05
	2	.949	1.621	.00	.73	.14
	3	.554	2.120	.00	.20	.77
	4	.004	24.591	1.00	.04	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Seasonality
1	1	.00
	2	.00
	3	.00
	4	1.00

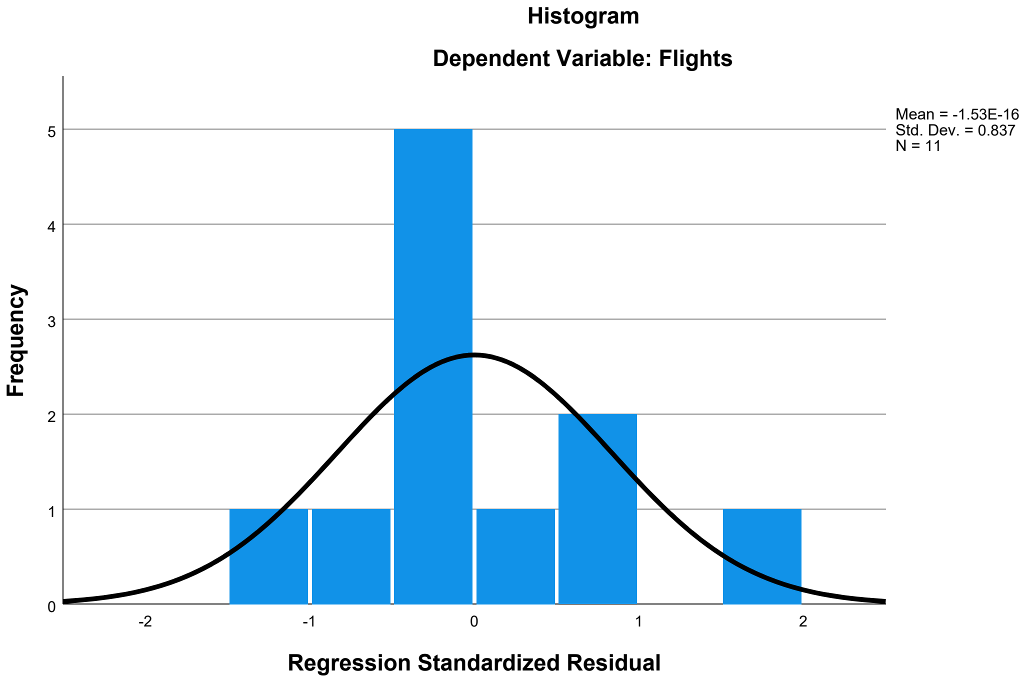
a. Dependent Variable: Flights

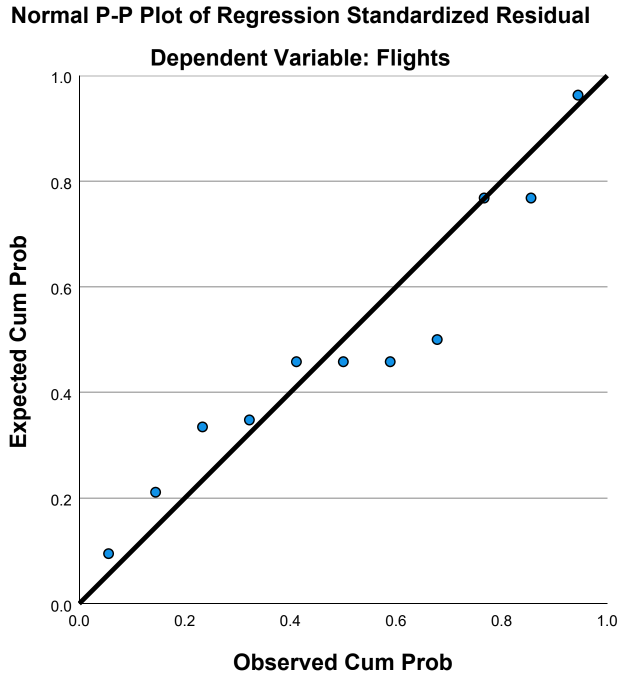
Residuals Statistics[a]

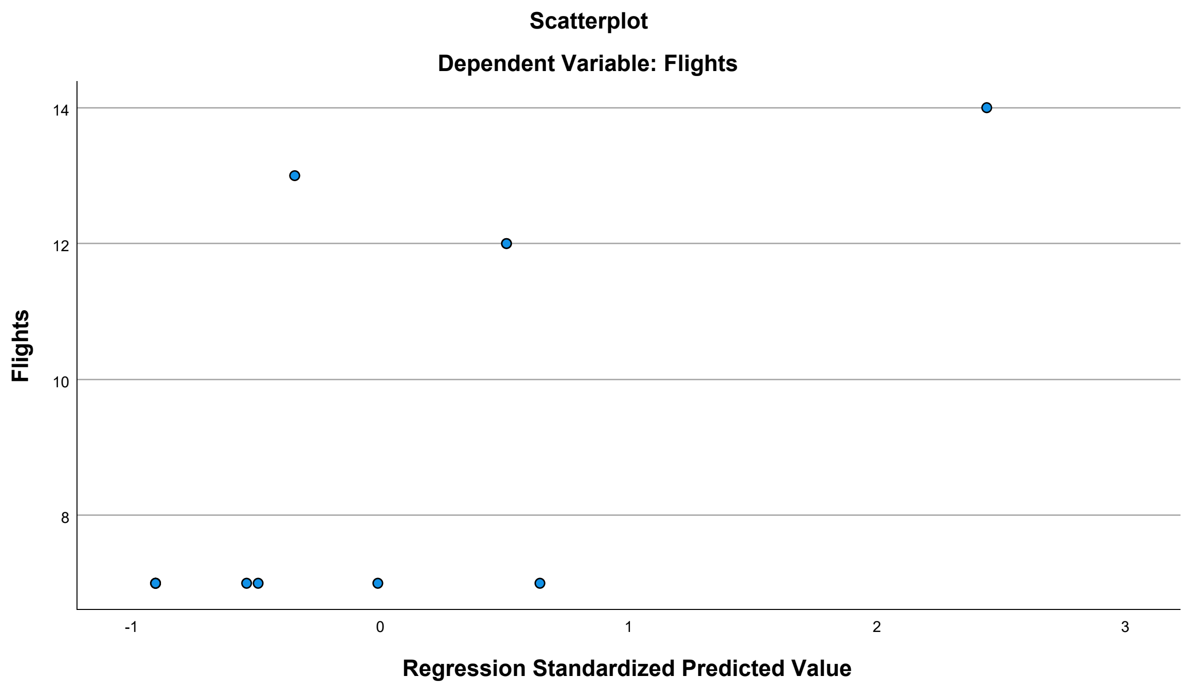
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	7.27	14.00	9.09	2.010	11
Residual	-3.383	4.602	.000	2.156	11
Std. Predicted Value	-.905	2.442	.000	1.000	11
Std. Residual	-1.313	1.786	.000	.837	11

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -1.53E-16
Std. Dev. = 0.837
N = 11
Frequency
5
4
3
2
1
0
-2
-1
0
1
2
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.09	2.948	11
GJFK	.09	.302	11
PartnerConcentration	2.5824310909	4.3671878203	11

Correlations

		Flights	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.552	.046
	GJFK	.552	1.000	-.120
	PartnerConcentration	.046	-.120	1.000
Sig. (1-tailed)	Flights	.	.039	.446
	GJFK	.039	.	.363
	PartnerConcentration	.446	.363	.
N	Flights	11	11	11
	GJFK	11	11	11
	PartnerConcentration	11	11	11

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	PartnerConcentration, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.564[a]	.318	.147	2.722	.318	1.864	2	8	.217

a. Predictors: (Constant), PartnerConcentration, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.622	2	13.811	1.864	.217[b]
	Residual	59.287	8	7.411		
	Total	86.909	10			

a. Dependent Variable: Flights

b. Predictors: (Constant), PartnerConcentration, GJFK

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.389	1.018		8.238	<.001
	GJFK	5.533	2.876	.566	1.924	.091
	PartnerConcentration	.077	.199	.114	.388	.708

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	GJFK	.986	1.015
	PartnerConcentration	.986	1.015

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	GJFK	PartnerConcentration
1	1	1.635	1.000	.19	.08	.16
	2	.947	1.314	.00	.71	.18
	3	.418	1.978	.81	.20	.66

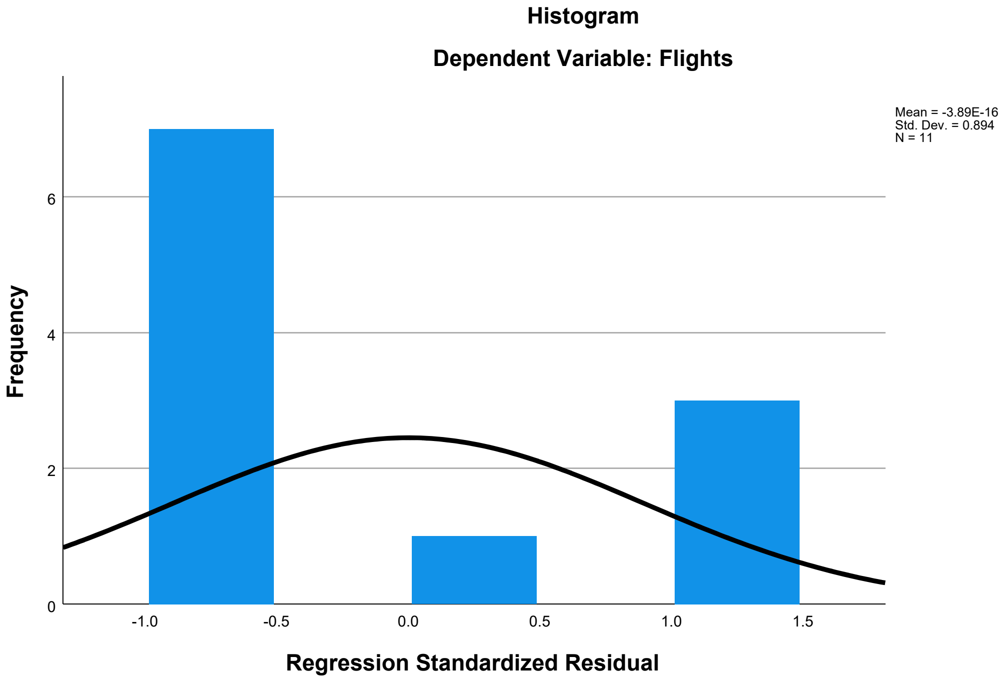
a. Dependent Variable: Flights

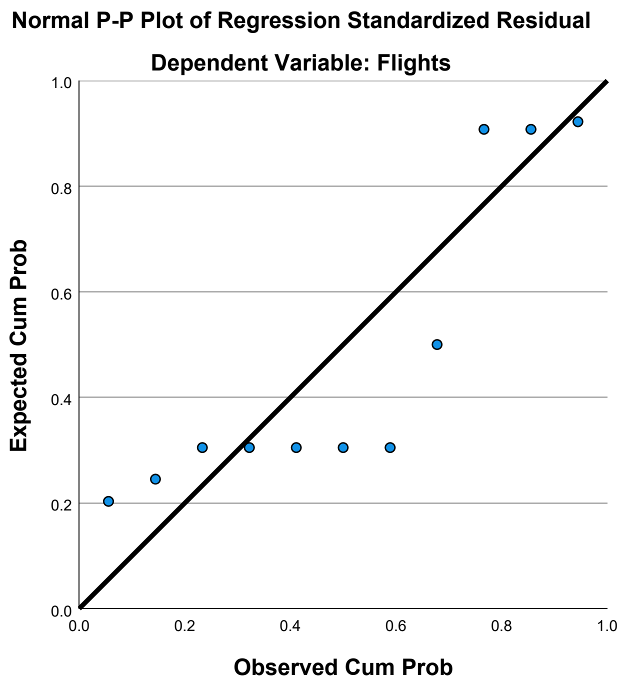
Residuals Statistics[a]

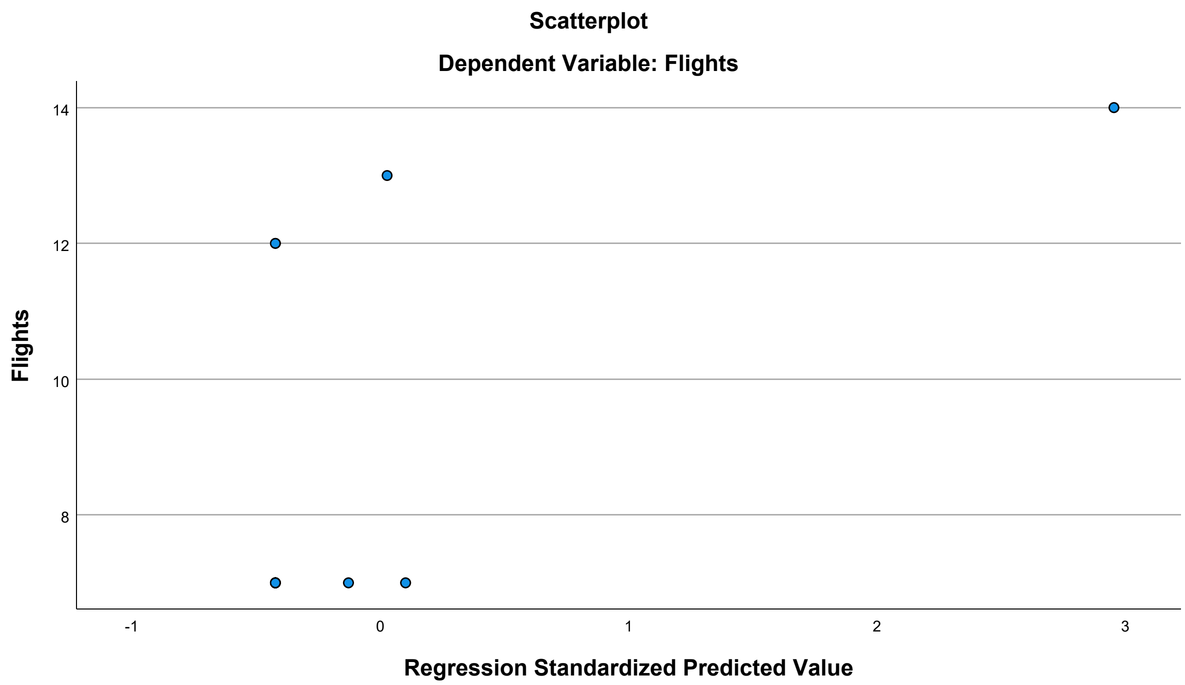
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	8.39	14.00	9.09	1.662	11
Residual	-2.261	3.863	.000	2.435	11
Std. Predicted Value	-.422	2.954	.000	1.000	11
Std. Residual	-.830	1.419	.000	.894	11

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -3.89E-16
Std. Dev. = 0.894
N = 11
Frequency
0
2
4
6
-1.0
-0.5
0.0
0.5
1.0
1.5
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.09	2.948	11
GJFK	.09	.302	11

Correlations

		Flights	GJFK
Pearson Correlation	Flights	1.000	.552
	GJFK	.552	1.000
Sig. (1-tailed)	Flights	.	.039
	GJFK	.039	.
N	Flights	11	11
	GJFK	11	11

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.552[a]	.305	.228	2.591	.305	3.950

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	1	9	.078

a. Predictors: (Constant), GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26.509	1	26.509	3.950	.078[b]
	Residual	60.400	9	6.711		
	Total	86.909	10			

a. Dependent Variable: Flights

b. Predictors: (Constant), GJFK

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics
		B	Std. Error	Beta			Tolerance
1	(Constant)	8.600	.819		10.498	<.001	
	GJFK	5.400	2.717	.552	1.987	.078	1.000

Coefficients[a]

Model		Collinearity Statistics
		VIF
1	(Constant)	
	GJFK	1.000

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	GJFK
1	1	1.302	1.000	.35	.35
	2	.698	1.365	.65	.65

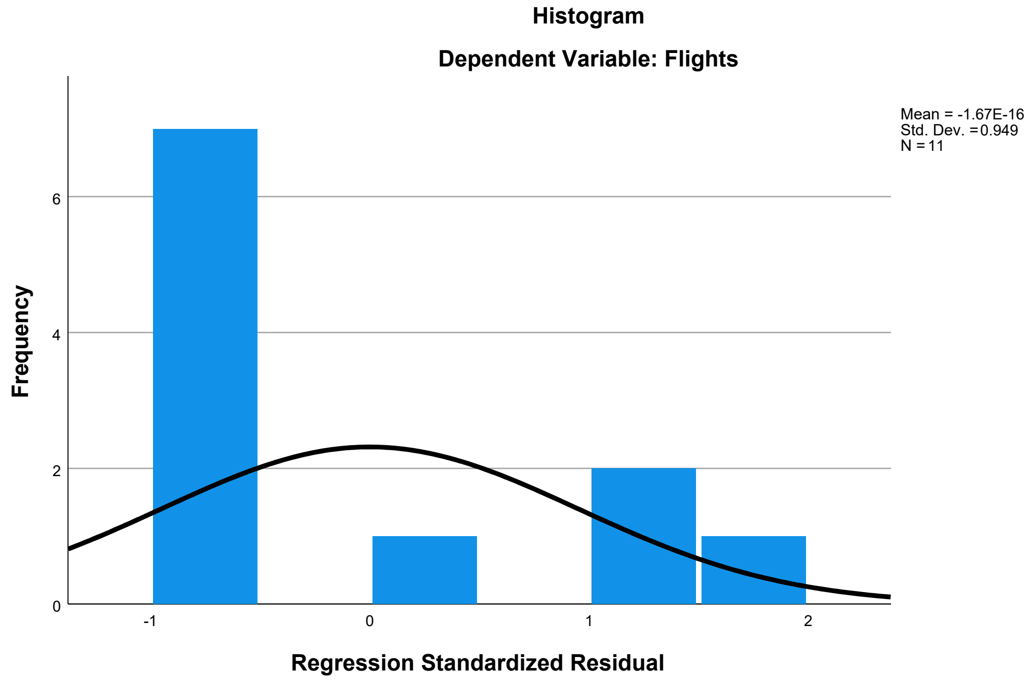
a. Dependent Variable: Flights

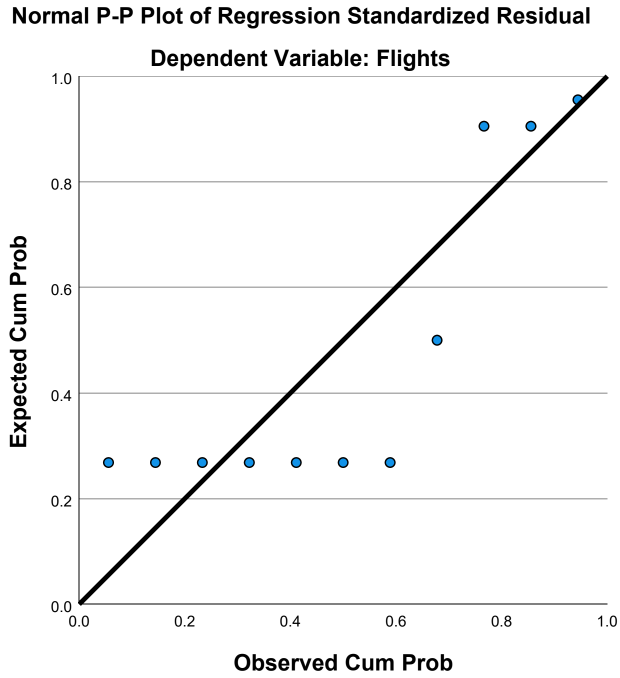
Residuals Statistics[a]

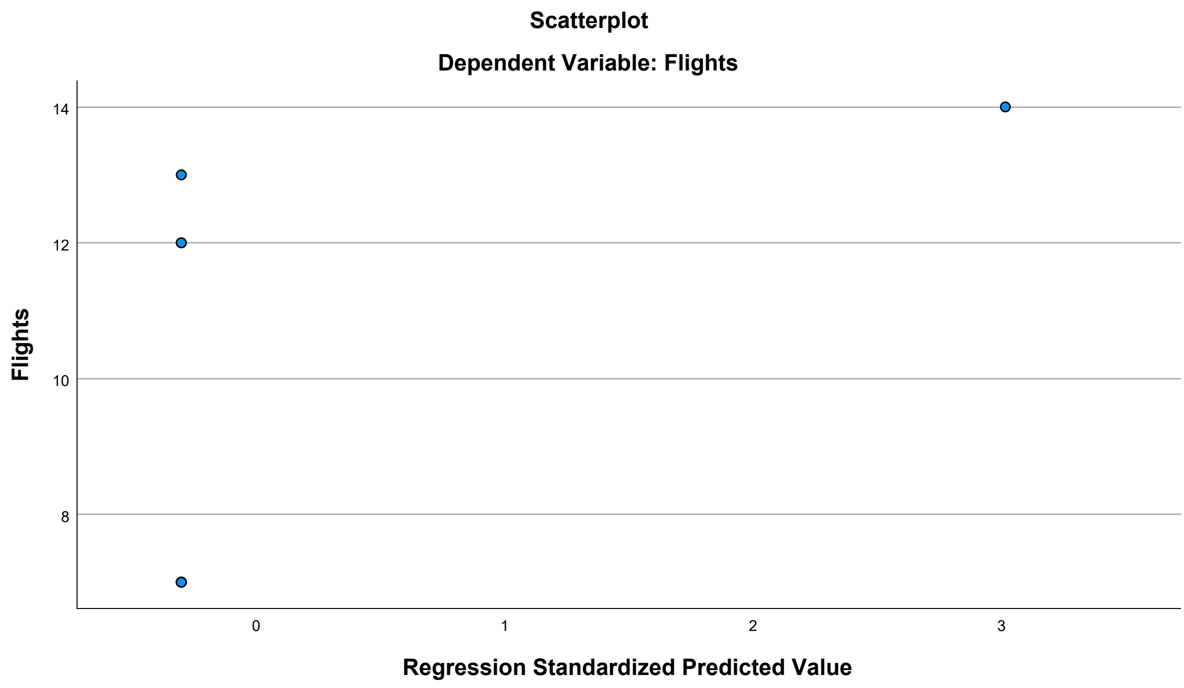
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	8.60	14.00	9.09	1.628	11
Residual	-1.600	4.400	.000	2.458	11
Std. Predicted Value	-.302	3.015	.000	1.000	11
Std. Residual	-.618	1.698	.000	.949	11

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
8
10
12
14
0
1
2
3

Regression

```
[DataSet21] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
\2012 - KL.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.50	2.908	12
Congestion	4.92	.793	12
GJFK	.08	.289	12
PartnerConcentration	.93284150000	2.6234133468	12
Seasonality	.59831059463	.13833136544	12
Distance	4.43800	.718614	12
Language	.01159542	.016849166	12
Ethnicity	.14850967	.136152290	12
Urban	18.83	1.586	12

Correlations

		Flights	Congestion	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.572	.596	-.069
	Congestion	.572	1.000	.430	-.342
	GJFK	.596	.430	1.000	.035
	PartnerConcentration	-.069	-.342	.035	1.000
	Seasonality	-.276	-.158	-.224	-.268
	Distance	-.438	-.251	-.352	-.093
	Language	.588	.662	-.014	-.182
	Ethnicity	.717	.714	.260	-.135
	Urban	.710	.277	.629	.121
Sig. (1-tailed)	Flights	.	.026	.020	.415
	Congestion	.026	.	.081	.139
	GJFK	.020	.081	.	.457
	PartnerConcentration	.415	.139	.457	.
	Seasonality	.192	.312	.242	.200
	Distance	.077	.215	.131	.387
	Language	.022	.010	.483	.285
	Ethnicity	.004	.005	.207	.338
	Urban	.005	.192	.014	.354
N	Flights	12	12	12	12
	Congestion	12	12	12	12

Correlations

		Seasonality	Distance	Language	Ethnicity
Pearson Correlation	Flights	-.276	-.438	.588	.717
	Congestion	-.158	-.251	.662	.714
	GJFK	-.224	-.352	-.014	.260
	PartnerConcentration	-.268	-.093	-.182	-.135
	Seasonality	1.000	.252	.103	.076
	Distance	.252	1.000	-.275	-.410
	Language	.103	-.275	1.000	.916
	Ethnicity	.076	-.410	.916	1.000
	Urban	-.224	-.248	.064	.329
Sig. (1-tailed)	Flights	.192	.077	.022	.004
	Congestion	.312	.215	.010	.005
	GJFK	.242	.131	.483	.207
	PartnerConcentration	.200	.387	.285	.338
	Seasonality	.	.215	.375	.407
	Distance	.215	.	.193	.093
	Language	.375	.193	.	.000
	Ethnicity	.407	.093	.000	.
	Urban	.242	.219	.422	.148
N	Flights	12	12	12	12
	Congestion	12	12	12	12

Correlations

		Urban
Pearson Correlation	Flights	.710
	Congestion	.277
	GJFK	.629
	PartnerConcentration	.121
	Seasonality	-.224
	Distance	-.248
	Language	.064
	Ethnicity	.329
	Urban	1.000
Sig. (1-tailed)	Flights	.005
	Congestion	.192
	GJFK	.014
	PartnerConcentration	.354
	Seasonality	.242
	Distance	.219
	Language	.422
	Ethnicity	.148
	Urban	.
N	Flights	12
	Congestion	12

Correlations

		Flights	Congestion	GJFK	PartnerConcentration
	GJFK	12	12	12	12
	PartnerConcentration	12	12	12	12
	Seasonality	12	12	12	12
	Distance	12	12	12	12
	Language	12	12	12	12
	Ethnicity	12	12	12	12
	Urban	12	12	12	12

Correlations

		Seasonality	Distance	Language	Ethnicity
	GJFK	12	12	12	12
	PartnerConcentration	12	12	12	12
	Seasonality	12	12	12	12
	Distance	12	12	12	12
	Language	12	12	12	12
	Ethnicity	12	12	12	12
	Urban	12	12	12	12

Correlations

		Urban
	GJFK	12
	PartnerConcentration	12
	Seasonality	12
	Distance	12
	Language	12
	Ethnicity	12
	Urban	12

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, PartnerConcentration, Seasonality, Distance, GJFK, Congestion, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.967[a]	.936	.764	1.413	.936	5.447

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	3	.095

a. Predictors: (Constant), Urban, Language, PartnerConcentration, Seasonality, Distance, GJFK, Congestion, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	87.010	8	10.876	5.447	.095[b]
	Residual	5.990	3	1.997		
	Total	93.000	11			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, PartnerConcentration, Seasonality, Distance, GJFK, Congestion, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.209	9.829		-.021	.984
	Congestion	-1.387	1.066	-.378	-1.300	.284
	GJFK	4.844	2.532	.481	1.913	.152
	PartnerConcentration	-.210	.196	-.189	-1.071	.363
	Seasonality	-5.164	3.891	-.246	-1.327	.276
	Distance	-.107	.745	-.026	-.143	.895
	Language	190.611	97.575	1.105	1.953	.146
	Ethnicity	-7.192	13.017	-.337	-.553	.619
	Urban	.942	.406	.514	2.323	.103

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	Congestion	.254	3.938
	GJFK	.340	2.944
	PartnerConcentration	.687	1.456
	Seasonality	.627	1.596
	Distance	.633	1.579
	Language	.067	14.891
	Ethnicity	.058	17.304
	Urban	.439	2.279

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GJFK
1	1	6.249	1.000	.00	.00	.00
	2	1.066	2.421	.00	.00	.00
	3	.928	2.595	.00	.00	.31
	4	.680	3.032	.00	.00	.02
	5	.037	12.951	.00	.02	.00
	6	.024	16.177	.00	.00	.41
	7	.010	24.597	.01	.06	.00
	8	.005	35.753	.02	.62	.08
	9	.001	74.885	.97	.30	.18

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.31	.00	.00	.01	.00	.00
	3	.01	.00	.00	.00	.00	.00
	4	.37	.00	.00	.02	.00	.00
	5	.01	.52	.01	.03	.04	.00
	6	.04	.09	.06	.54	.45	.01
	7	.00	.09	.92	.09	.24	.01
	8	.19	.07	.00	.26	.08	.22
	9	.06	.23	.01	.04	.18	.76

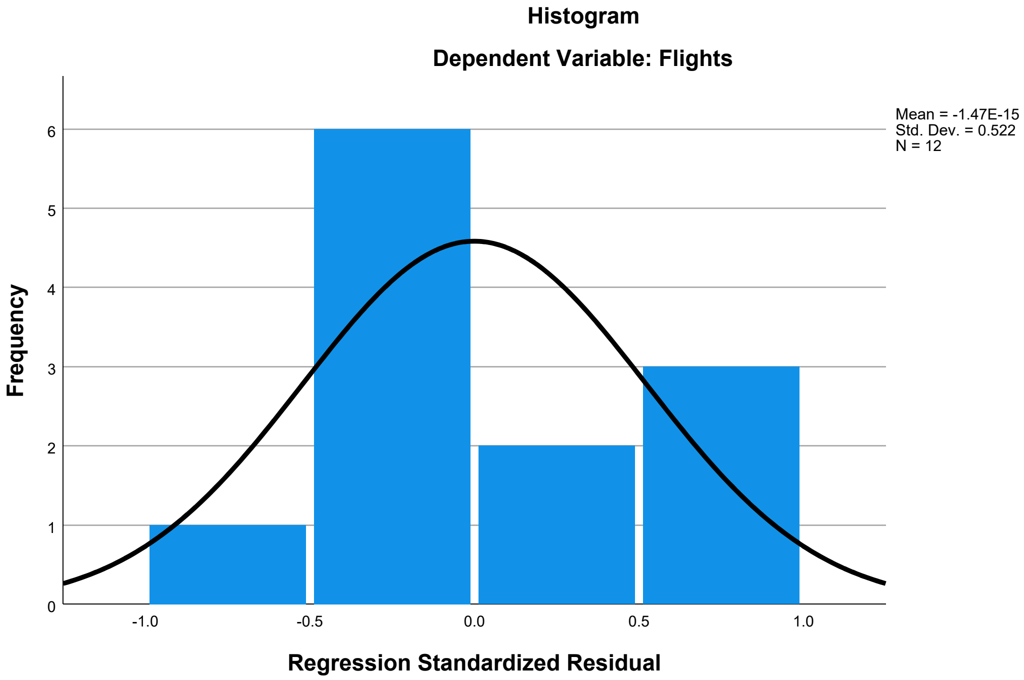
a. Dependent Variable: Flights

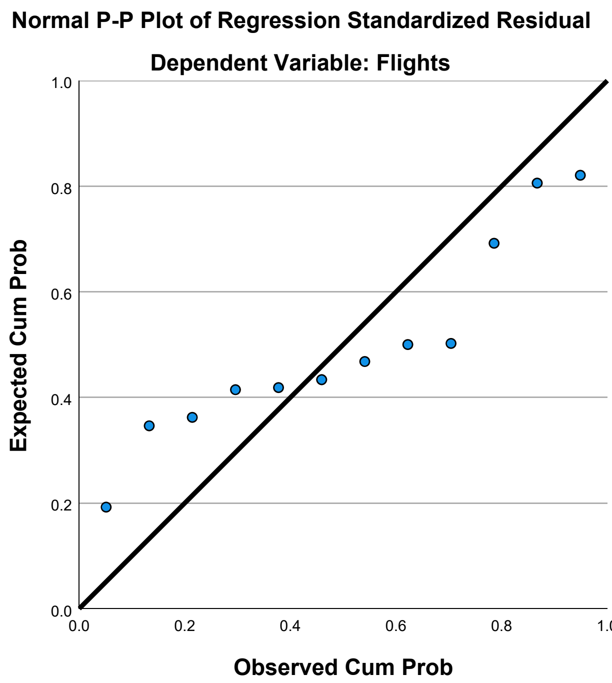
Residuals Statistics[a]

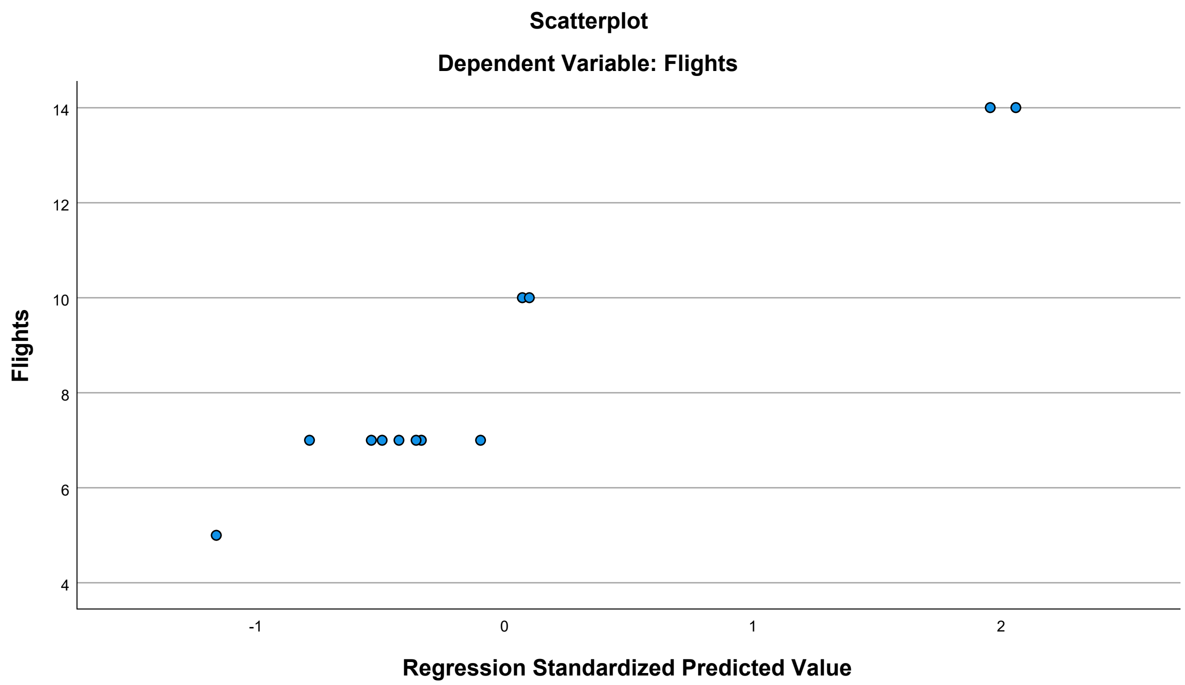
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.24	14.29	8.50	2.812	12
Residual	-1.229	1.297	.000	.738	12
Std. Predicted Value	-1.160	2.059	.000	1.000	12
Std. Residual	-.870	.918	.000	.522	12

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -1.47E-15
Std. Dev. = 0.522
N = 12
Frequency
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.50	2.908	12
Congestion	4.92	.793	12
GJFK	.08	.289	12
PartnerConcentration	.93284150000	2.6234133468	12
Seasonality	.59831059463	.13833136544	12
Distance	4.43800	.718614	12
Language	.01159542	.016849166	12
Urban	18.83	1.586	12

Correlations

		Flights	Congestion	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.572	.596	-.069
	Congestion	.572	1.000	.430	-.342
	GJFK	.596	.430	1.000	.035
	PartnerConcentration	-.069	-.342	.035	1.000
	Seasonality	-.276	-.158	-.224	-.268
	Distance	-.438	-.251	-.352	-.093
	Language	.588	.662	-.014	-.182
	Urban	.710	.277	.629	.121
Sig. (1-tailed)	Flights	.	.026	.020	.415
	Congestion	.026	.	.081	.139
	GJFK	.020	.081	.	.457
	PartnerConcentration	.415	.139	.457	.
	Seasonality	.192	.312	.242	.200
	Distance	.077	.215	.131	.387
	Language	.022	.010	.483	.285
	Urban	.005	.192	.014	.354
N	Flights	12	12	12	12
	Congestion	12	12	12	12
	GJFK	12	12	12	12
	PartnerConcentration	12	12	12	12
	Seasonality	12	12	12	12
	Distance	12	12	12	12
	Language	12	12	12	12
	Urban	12	12	12	12

Correlations

		Seasonality	Distance	Language	Urban
Pearson Correlation	Flights	-.276	-.438	.588	.710
	Congestion	-.158	-.251	.662	.277
	GJFK	-.224	-.352	-.014	.629
	PartnerConcentration	-.268	-.093	-.182	.121
	Seasonality	1.000	.252	.103	-.224
	Distance	.252	1.000	-.275	-.248
	Language	.103	-.275	1.000	.064
	Urban	-.224	-.248	.064	1.000
Sig. (1-tailed)	Flights	.192	.077	.022	.005
	Congestion	.312	.215	.010	.192
	GJFK	.242	.131	.483	.014
	PartnerConcentration	.200	.387	.285	.354
	Seasonality	.	.215	.375	.242
	Distance	.215	.	.193	.219
	Language	.375	.193	.	.422
	Urban	.242	.219	.422	.
N	Flights	12	12	12	12
	Congestion	12	12	12	12
	GJFK	12	12	12	12
	PartnerConcentration	12	12	12	12
	Seasonality	12	12	12	12
	Distance	12	12	12	12
	Language	12	12	12	12
	Urban	12	12	12	12

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Language, PartnerConcentration, Seasonality, Distance, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.964[a]	.929	.805	1.284	.929	7.481

Model Summary[b]

	Change Statistics		
Model	df1	df2	Sig. F Change
1	7	4	.035

a. Predictors: (Constant), Urban, Language, PartnerConcentration, Seasonality, Distance, GJFK, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	86.400	7	12.343	7.481	.035[b]
	Residual	6.600	4	1.650		
	Total	93.000	11			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Language, PartnerConcentration, Seasonality, Distance, GJFK, Congestion

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.608	8.420		.191	.858
	Congestion	-1.468	.960	-.400	-1.530	.201
	GJFK	4.446	2.207	.441	2.014	.114
	PartnerConcentration	-.222	.177	-.200	-1.252	.279
	Seasonality	-5.880	3.335	-.280	-1.763	.153
	Distance	.032	.637	.008	.051	.962
	Language	142.383	39.640	.825	3.592	.023
	Urban	.832	.321	.454	2.590	.061

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.259	3.862
	GJFK	.369	2.706
	PartnerConcentration	.695	1.439
	Seasonality	.705	1.419
	Distance	.715	1.398
	Language	.336	2.974
	Urban	.578	1.731

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GJFK
1	1	5.537	1.000	.00	.00	.00
	2	.974	2.384	.00	.00	.08
	3	.893	2.490	.00	.00	.28
	4	.540	3.201	.00	.00	.00
	5	.036	12.454	.00	.02	.06
	6	.013	20.771	.01	.02	.16
	7	.005	32.504	.01	.63	.02
	8	.001	64.347	.98	.32	.40

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language	Urban
1	1	.00	.00	.00	.00	.00
	2	.37	.00	.00	.04	.00
	3	.15	.00	.00	.00	.00
	4	.17	.00	.00	.30	.00
	5	.03	.69	.01	.01	.00
	6	.01	.03	.96	.12	.03
	7	.21	.12	.02	.33	.28
	8	.06	.16	.00	.20	.68

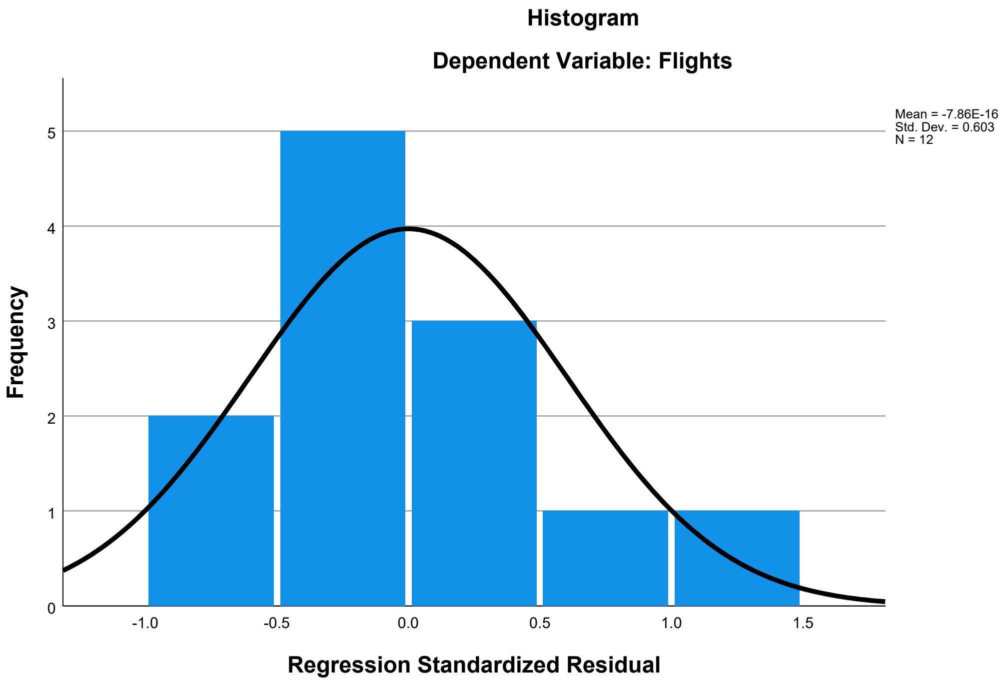
a. Dependent Variable: Flights

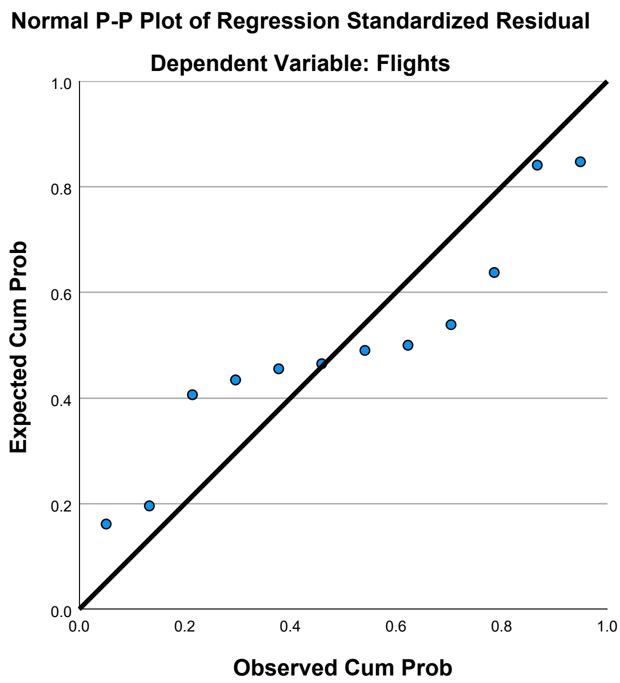
Residuals Statistics[a]

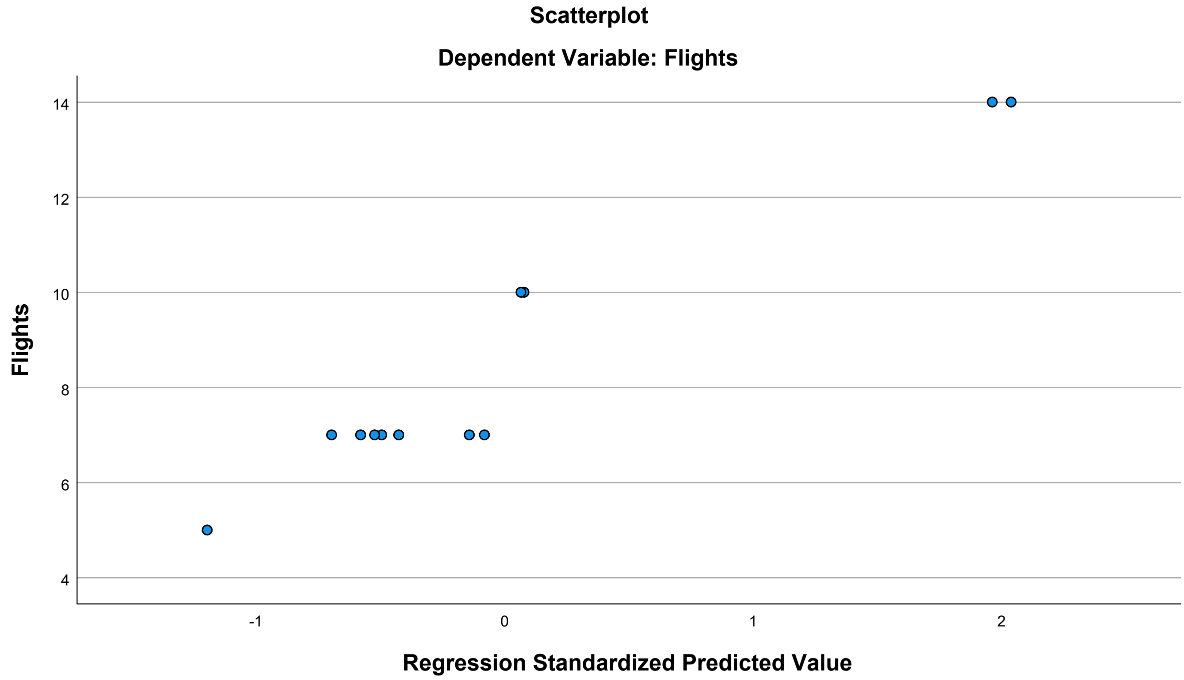
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.14	14.21	8.50	2.803	12
Residual	-1.271	1.317	.000	.775	12
Std. Predicted Value	-1.197	2.038	.000	1.000	12
Std. Residual	-.989	1.025	.000	.603	12

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
4
6
8
10
12
14
-1
0
1
2

Regression

```
[DataSet22] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
\2017 - KL.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.79	3.556	14
Congestion	4.79	.802	14
GJFK	.07	.267	14
PartnerConcentration	1.5689131429	3.1369778542	14
Seasonality	.61913016955	.17771337825	14
Distance	4.41279	.670404	14
Language	.01043786	.013887765	14
Ethnicity	.14456014	.130557165	14
Urban	17.64	2.763	14

Correlations

		Flights	Congestion	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.684	.503	-.063
	Congestion	.684	1.000	.436	-.300
	GJFK	.503	.436	1.000	.125
	PartnerConcentration	-.063	-.300	.125	1.000
	Seasonality	-.418	-.170	-.193	-.130
	Distance	.044	-.186	-.334	.004
	Language	.352	.615	.008	-.255
	Ethnicity	.351	.628	.181	-.204
	Urban	.830	.553	.454	-.007
Sig. (1-tailed)	Flights	.	.003	.033	.415
	Congestion	.003	.	.060	.149
	GJFK	.033	.060	.	.335
	PartnerConcentration	.415	.149	.335	.
	Seasonality	.068	.281	.254	.329
	Distance	.441	.263	.121	.495
	Language	.108	.010	.489	.189
	Ethnicity	.109	.008	.267	.242
	Urban	.000	.020	.052	.491
N	Flights	14	14	14	14
	Congestion	14	14	14	14

Correlations

		Seasonality	Distance	Language	Ethnicity
Pearson Correlation	Flights	-.418	.044	.352	.351
	Congestion	-.170	-.186	.615	.628
	GJFK	-.193	-.334	.008	.181
	PartnerConcentration	-.130	.004	-.255	-.204
	Seasonality	1.000	.180	-.078	-.053
	Distance	.180	1.000	-.250	-.375
	Language	-.078	-.250	1.000	.952
	Ethnicity	-.053	-.375	.952	1.000
	Urban	-.502	-.171	.154	.233
Sig. (1-tailed)	Flights	.068	.441	.108	.109
	Congestion	.281	.263	.010	.008
	GJFK	.254	.121	.489	.267
	PartnerConcentration	.329	.495	.189	.242
	Seasonality	.	.269	.395	.429
	Distance	.269	.	.194	.093
	Language	.395	.194	.	.000
	Ethnicity	.429	.093	.000	.
	Urban	.034	.280	.300	.211
N	Flights	14	14	14	14
	Congestion	14	14	14	14

Correlations

		Urban
Pearson Correlation	Flights	.830
	Congestion	.553
	GJFK	.454
	PartnerConcentration	-.007
	Seasonality	-.502
	Distance	-.171
	Language	.154
	Ethnicity	.233
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	Congestion	.020
	GJFK	.052
	PartnerConcentration	.491
	Seasonality	.034
	Distance	.280
	Language	.300
	Ethnicity	.211
	Urban	.
N	Flights	14
	Congestion	14

Correlations

		Flights	Congestion	GJFK	PartnerConcentration
	GJFK	14	14	14	14
	PartnerConcentration	14	14	14	14
	Seasonality	14	14	14	14
	Distance	14	14	14	14
	Language	14	14	14	14
	Ethnicity	14	14	14	14
	Urban	14	14	14	14

Correlations

		Seasonality	Distance	Language	Ethnicity
	GJFK	14	14	14	14
	PartnerConcentration	14	14	14	14
	Seasonality	14	14	14	14
	Distance	14	14	14	14
	Language	14	14	14	14
	Ethnicity	14	14	14	14
	Urban	14	14	14	14

Correlations

		Urban
	GJFK	14
	PartnerConcentration	14
	Seasonality	14
	Distance	14
	Language	14
	Ethnicity	14
	Urban	14

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, Language, Seasonality, GJFK, Congestion, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.953[a]	.908	.762	1.735	.908	6.202

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	5	.030

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, Language, Seasonality, GJFK, Congestion, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	149.311	8	18.664	6.202	.030[b]
	Residual	15.046	5	3.009		
	Total	164.357	13			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, Language, Seasonality, GJFK, Congestion, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-15.132	6.447		-2.347	.066
	Congestion	.064	1.145	.014	.056	.958
	GJFK	5.503	2.765	.414	1.990	.103
	PartnerConcentration	.009	.172	.008	.055	.958
	Seasonality	.566	3.516	.028	.161	.878
	Distance	1.329	.875	.251	1.520	.189
	Language	301.590	167.088	1.178	1.805	.131
	Ethnicity	-25.244	17.262	-.927	-1.462	.203
	Urban	.935	.270	.726	3.456	.018

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Congestion	.275	3.638
	GJFK	.424	2.360
	PartnerConcentration	.799	1.252
	Seasonality	.593	1.687
	Distance	.673	1.485
	Language	.043	23.262
	Ethnicity	.046	21.941
	Urban	.415	2.411

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GJFK
1	1	6.323	1.000	.00	.00	.00
	2	1.095	2.403	.00	.00	.03
	3	.928	2.611	.00	.00	.35
	4	.548	3.397	.00	.00	.04
	5	.067	9.690	.00	.01	.03
	6	.021	17.514	.00	.00	.27
	7	.010	25.161	.00	.17	.02
	8	.005	36.674	.08	.52	.10
	9	.004	39.898	.92	.30	.17

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.27	.00	.00	.01	.00	.00
	3	.00	.00	.00	.00	.00	.00
	4	.57	.00	.00	.01	.00	.00
	5	.01	.43	.00	.00	.01	.03
	6	.01	.00	.19	.32	.30	.07
	7	.07	.16	.59	.20	.38	.02
	8	.01	.36	.00	.30	.19	.86
	9	.07	.04	.21	.16	.12	.03

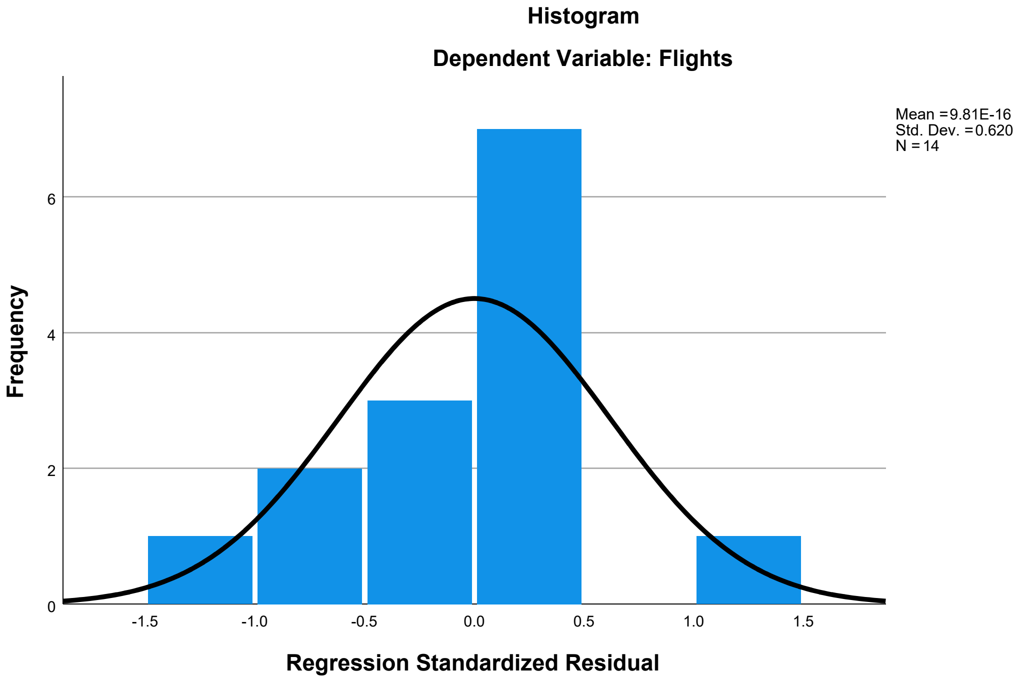
a. Dependent Variable: Flights

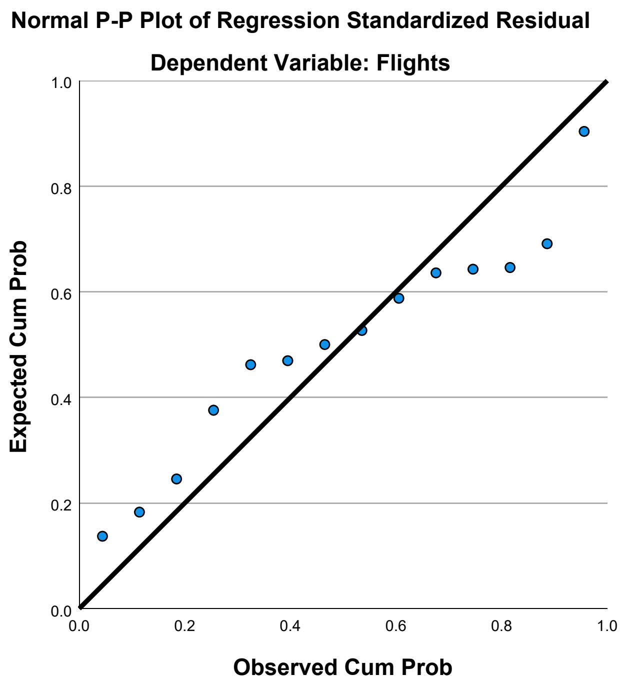
Residuals Statistics[a]

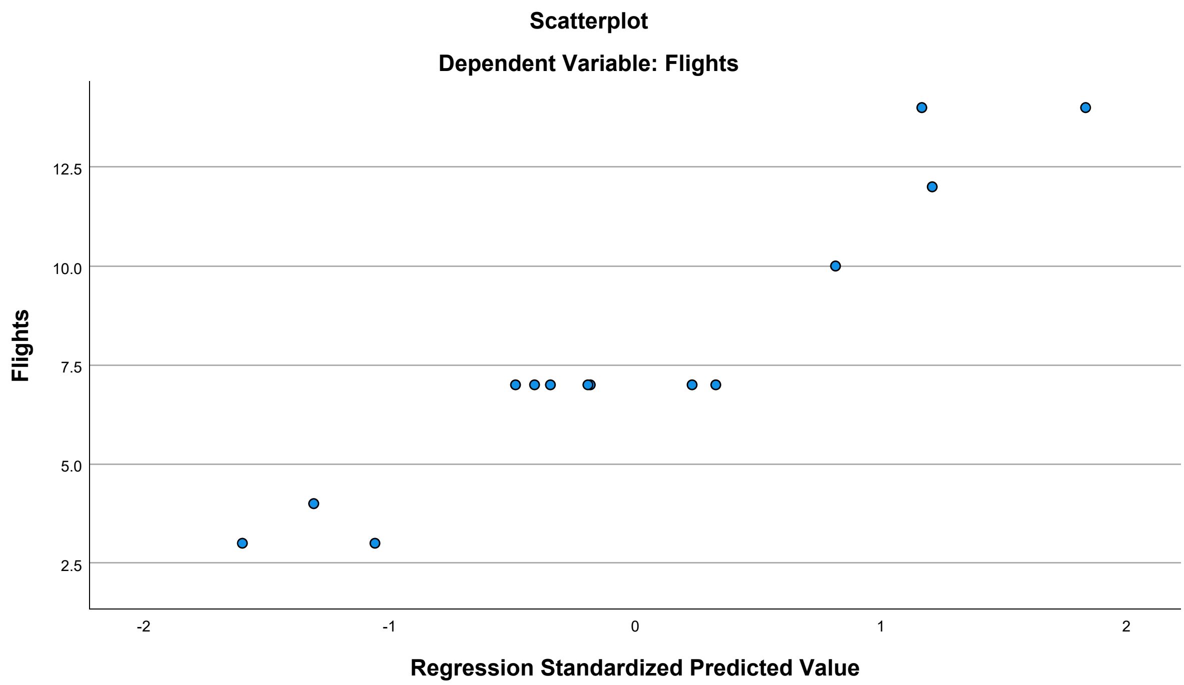
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.37	14.00	7.79	3.389	14
Residual	-1.897	2.260	.000	1.076	14
Std. Predicted Value	-1.599	1.834	.000	1.000	14
Std. Residual	-1.094	1.303	.000	.620	14

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean =9.81E-16
Std. Dev. =0.620
N = 14
Frequency
0
2
4
6
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.79	3.556	14
Congestion	4.79	.802	14
GJFK	.07	.267	14
PartnerConcentration	1.5689131429	3.1369778542	14
Seasonality	.61913016955	.17771337825	14
Distance	4.41279	.670404	14
Ethnicity	.14456014	.130557165	14
Urban	17.64	2.763	14

Correlations

		Flights	Congestion	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.684	.503	-.063
	Congestion	.684	1.000	.436	-.300
	GJFK	.503	.436	1.000	.125
	PartnerConcentration	-.063	-.300	.125	1.000
	Seasonality	-.418	-.170	-.193	-.130
	Distance	.044	-.186	-.334	.004
	Ethnicity	.351	.628	.181	-.204
	Urban	.830	.553	.454	-.007
Sig. (1-tailed)	Flights	.	.003	.033	.415
	Congestion	.003	.	.060	.149
	GJFK	.033	.060	.	.335
	PartnerConcentration	.415	.149	.335	.
	Seasonality	.068	.281	.254	.329
	Distance	.441	.263	.121	.495
	Ethnicity	.109	.008	.267	.242
	Urban	.000	.020	.052	.491
N	Flights	14	14	14	14
	Congestion	14	14	14	14
	GJFK	14	14	14	14
	PartnerConcentration	14	14	14	14
	Seasonality	14	14	14	14
	Distance	14	14	14	14
	Ethnicity	14	14	14	14
	Urban	14	14	14	14

Correlations

		Seasonality	Distance	Ethnicity	Urban
Pearson Correlation	Flights	-.418	.044	.351	.830
	Congestion	-.170	-.186	.628	.553
	GJFK	-.193	-.334	.181	.454
	PartnerConcentration	-.130	.004	-.204	-.007
	Seasonality	1.000	.180	-.053	-.502
	Distance	.180	1.000	-.375	-.171
	Ethnicity	-.053	-.375	1.000	.233
	Urban	-.502	-.171	.233	1.000
Sig. (1-tailed)	Flights	.068	.441	.109	<.001
	Congestion	.281	.263	.008	.020
	GJFK	.254	.121	.267	.052
	PartnerConcentration	.329	.495	.242	.491
	Seasonality	.	.269	.429	.034
	Distance	.269	.	.093	.280
	Ethnicity	.429	.093	.	.211
	Urban	.034	.280	.211	.
N	Flights	14	14	14	14
	Congestion	14	14	14	14
	GJFK	14	14	14	14
	PartnerConcentration	14	14	14	14
	Seasonality	14	14	14	14
	Distance	14	14	14	14
	Ethnicity	14	14	14	14
	Urban	14	14	14	14

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, Ethnicity, Seasonality, GJFK, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.921[a]	.849	.672	2.035	.849	4.812

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	7	6	.037

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, Ethnicity, Seasonality, GJFK, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	139.507	7	19.930	4.812	.037[b]
	Residual	24.850	6	4.142		
	Total	164.357	13			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, Ethnicity, Seasonality, GJFK, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-17.401	7.419		-2.346	.057
	Congestion	.934	1.218	.211	.767	.472
	GJFK	2.750	2.706	.207	1.016	.349
	PartnerConcentration	-.003	.201	-.003	-.016	.988
	Seasonality	-1.965	3.783	-.098	-.519	.622
	Distance	1.754	.988	.331	1.775	.126
	Ethnicity	4.417	6.200	.162	.712	.503
	Urban	.757	.296	.588	2.562	.043

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.334	2.993
	GJFK	.609	1.641
	PartnerConcentration	.800	1.250
	Seasonality	.705	1.418
	Distance	.726	1.378
	Ethnicity	.486	2.057
	Urban	.478	2.093

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GJFK
1	1	5.827	1.000	.00	.00	.00
	2	.953	2.473	.00	.00	.47
	3	.807	2.687	.00	.00	.09
	4	.322	4.251	.00	.00	.07
	5	.067	9.325	.00	.01	.06
	6	.013	21.131	.00	.02	.19
	7	.006	29.990	.02	.95	.07
	8	.004	37.407	.98	.03	.04

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Seasonality	Distance	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00
	2	.09	.00	.00	.00	.00
	3	.57	.00	.00	.03	.00
	4	.17	.01	.00	.47	.00
	5	.01	.53	.00	.02	.03
	6	.01	.15	.80	.16	.19
	7	.11	.02	.03	.31	.37
	8	.04	.29	.16	.00	.41

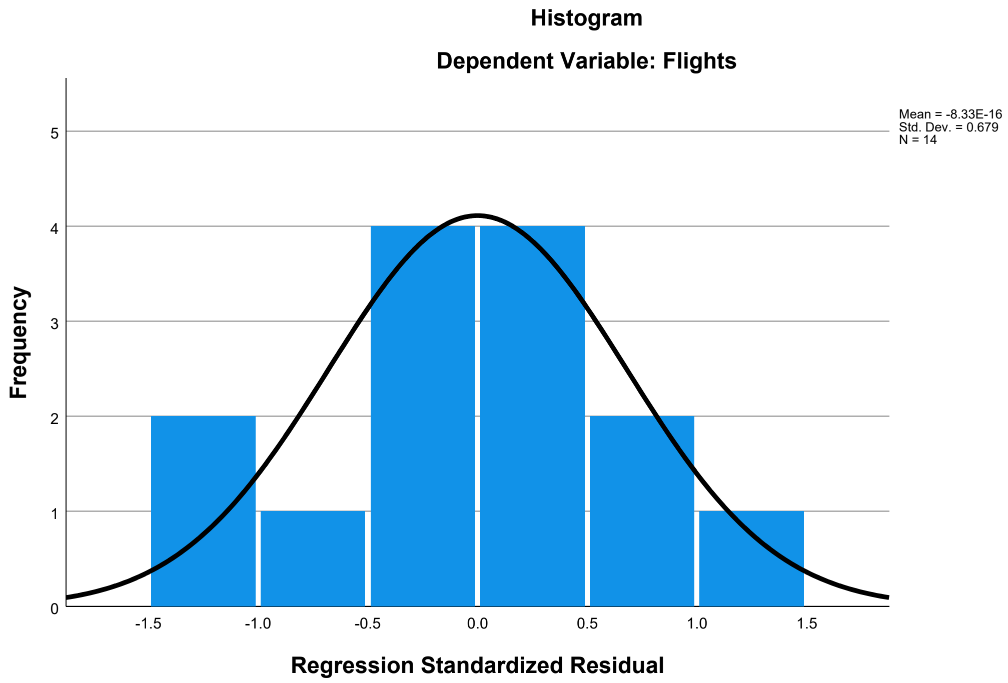
a. Dependent Variable: Flights

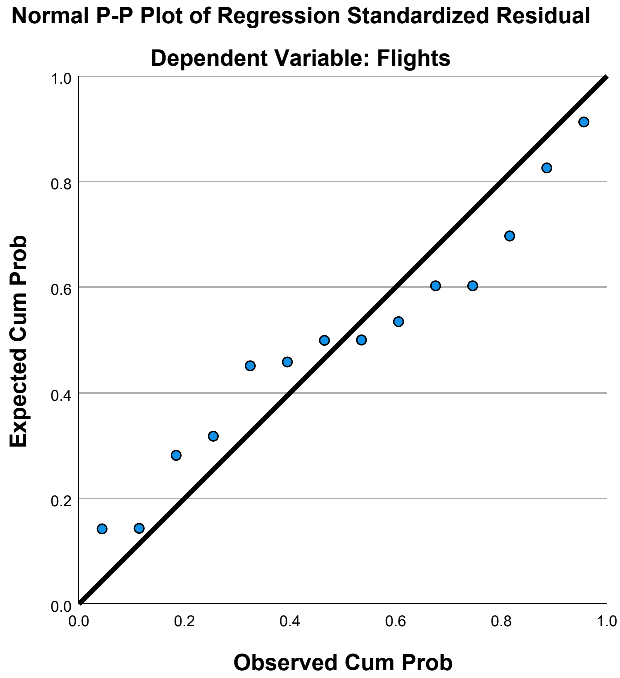
Residuals Statistics[a]

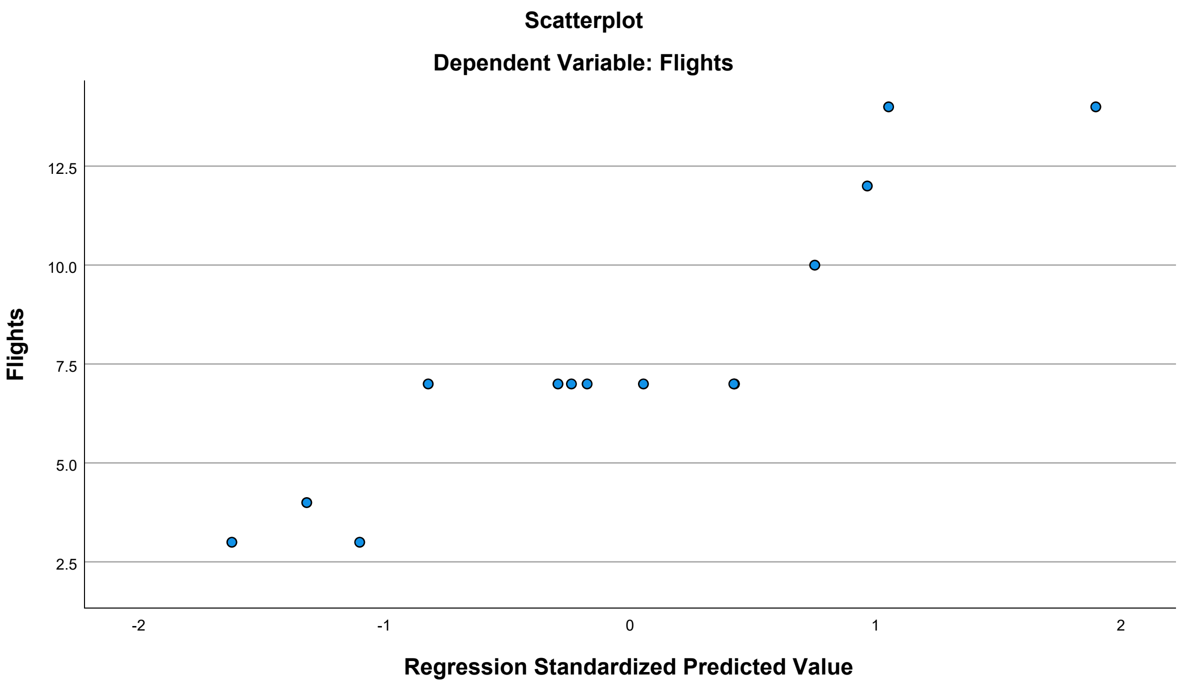
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.47	14.00	7.79	3.276	14
Residual	-2.179	2.764	.000	1.383	14
Std. Predicted Value	-1.622	1.897	.000	1.000	14
Std. Residual	-1.071	1.358	.000	.679	14

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
2.5
5.0
7.5
10.0
12.5
-2
-1
0
1
2

Regression

```
[DataSet16] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\Airlines
\2017 - EK.sav
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Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.43	4.090	14
HomeConcentration	3.19263200	1.342209202	14
Congestion	4.71	.914	14
GLHR	.00	.000	14
GJFK	.14	.363	14
Seasonality	.52380952381	.21290765681	14
Distance	7.07979	1.241948	14
Language	.05391800	.058488699	14
Ethnicity	.23378714	.645465096	14
Urban	19.07	3.198	14

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.044	.282	.
	HomeConcentration	.044	1.000	.100	.
	Congestion	.282	.100	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.681	-.416	.596	.
	Seasonality	.017	-.451	-.457	.
	Distance	-.082	.890	-.102	.
	Language	.051	-.378	.717	.
	Ethnicity	.021	-.678	.424	.
	Urban	.433	-.255	.376	.
Sig. (1-tailed)	Flights	.	.440	.164	.000
	HomeConcentration	.440	.	.367	.000
	Congestion	.164	.367	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.004	.069	.012	.000
	Seasonality	.477	.053	.050	.000
	Distance	.391	.000	.364	.000
	Language	.432	.091	.002	.000
	Ethnicity	.472	.004	.065	.000
	Urban	.061	.189	.093	.000

Correlations

		GJFK	Seasonality	Distance	Language
Pearson Correlation	Flights	.681	.017	-.082	.051
	HomeConcentration	-.416	-.451	.890	-.378
	Congestion	.596	-.457	-.102	.717
	GLHR	.	.	.	.
	GJFK	1.000	-.047	-.565	.615
	Seasonality	-.047	1.000	-.505	-.056
	Distance	-.565	-.505	1.000	-.566
	Language	.615	-.056	-.566	1.000
	Ethnicity	.712	-.022	-.719	.695
	Urban	.454	.101	-.364	.560
Sig. (1-tailed)	Flights	.004	.477	.391	.432
	HomeConcentration	.069	.053	.000	.091
	Congestion	.012	.050	.364	.002
	GLHR	.000	.000	.000	.000
	GJFK	.	.436	.018	.010
	Seasonality	.436	.	.033	.425
	Distance	.018	.033	.	.017
	Language	.010	.425	.017	.
	Ethnicity	.002	.471	.002	.003
	Urban	.051	.366	.101	.019

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.021	.433
	HomeConcentration	-.678	-.255
	Congestion	.424	.376
	GLHR	.	.
	GJFK	.712	.454
	Seasonality	-.022	.101
	Distance	-.719	-.364
	Language	.695	.560
	Ethnicity	1.000	.314
	Urban	.314	1.000
Sig. (1-tailed)	Flights	.472	.061
	HomeConcentration	.004	.189
	Congestion	.065	.093
	GLHR	.000	.000
	GJFK	.002	.051
	Seasonality	.471	.366
	Distance	.002	.101
	Language	.003	.019
	Ethnicity	.	.137
	Urban	.137	.

Correlations

		Flights	HomeConcentration	Congestion	GLHR
N	Flights	14	14	14	14
	HomeConcentration	14	14	14	14
	Congestion	14	14	14	14
	GLHR	14	14	14	14
	GJFK	14	14	14	14
	Seasonality	14	14	14	14
	Distance	14	14	14	14
	Language	14	14	14	14
	Ethnicity	14	14	14	14
	Urban	14	14	14	14

Correlations

		GJFK	Seasonality	Distance	Language
N	Flights	14	14	14	14
	HomeConcentration	14	14	14	14
	Congestion	14	14	14	14
	GLHR	14	14	14	14
	GJFK	14	14	14	14
	Seasonality	14	14	14	14
	Distance	14	14	14	14
	Language	14	14	14	14
	Ethnicity	14	14	14	14
	Urban	14	14	14	14

Correlations

		Ethnicity	Urban
N	Flights	14	14
	HomeConcentration	14	14
	Congestion	14	14
	GLHR	14	14
	GJFK	14	14
	Seasonality	14	14
	Distance	14	14
	Language	14	14
	Ethnicity	14	14
	Urban	14	14

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, Ethnicity, Congestion, GJFK, HomeConcentration, Language, Distance[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.996[a]	.993	.981	.567	.993	83.914

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	8	5	<.001

a. Predictors: (Constant), Urban, Seasonality, Ethnicity, Congestion, GJFK, HomeConcentration, Language, Distance

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	215.821	8	26.978	83.914	<.001[b]
	Residual	1.607	5	.321		
	Total	217.429	13			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, Ethnicity, Congestion, GJFK, HomeConcentration, Language, Distance

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-1.070	3.509		-.305	.773
	HomeConcentration	.254	.321	.083	.791	.465
	Congestion	-.208	.394	-.046	-.527	.620
	GJFK	15.007	.803	1.333	18.688	<.001
	Seasonality	1.002	1.244	.052	.805	.457
	Distance	.151	.420	.046	.358	.735
	Language	-28.609	6.427	-.409	-4.452	.007
	Ethnicity	-3.981	.558	-.628	-7.130	<.001
	Urban	.388	.064	.304	6.058	.002

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.133	7.528
	Congestion	.191	5.242
	GJFK	.291	3.439
	Seasonality	.353	2.836
	Distance	.091	11.013
	Language	.175	5.713
	Ethnicity	.190	5.253
	Urban	.589	1.699

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	6.590	1.000	.00	.00	.00
	2	1.716	1.960	.00	.00	.00
	3	.283	4.823	.00	.00	.00
	4	.219	5.483	.00	.01	.00
	5	.152	6.590	.00	.01	.00
	6	.024	16.636	.00	.29	.00
	7	.010	25.128	.02	.27	.20
	8	.004	38.486	.04	.05	.66
	9	.001	75.833	.94	.36	.13

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	Seasonality	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.05	.00	.00	.01	.04	.00
	3	.51	.01	.00	.03	.13	.00
	4	.03	.08	.00	.18	.03	.00
	5	.03	.09	.00	.14	.32	.00
	6	.00	.29	.00	.02	.16	.24
	7	.00	.00	.01	.00	.19	.57
	8	.37	.03	.19	.62	.06	.16
	9	.00	.52	.80	.00	.07	.02

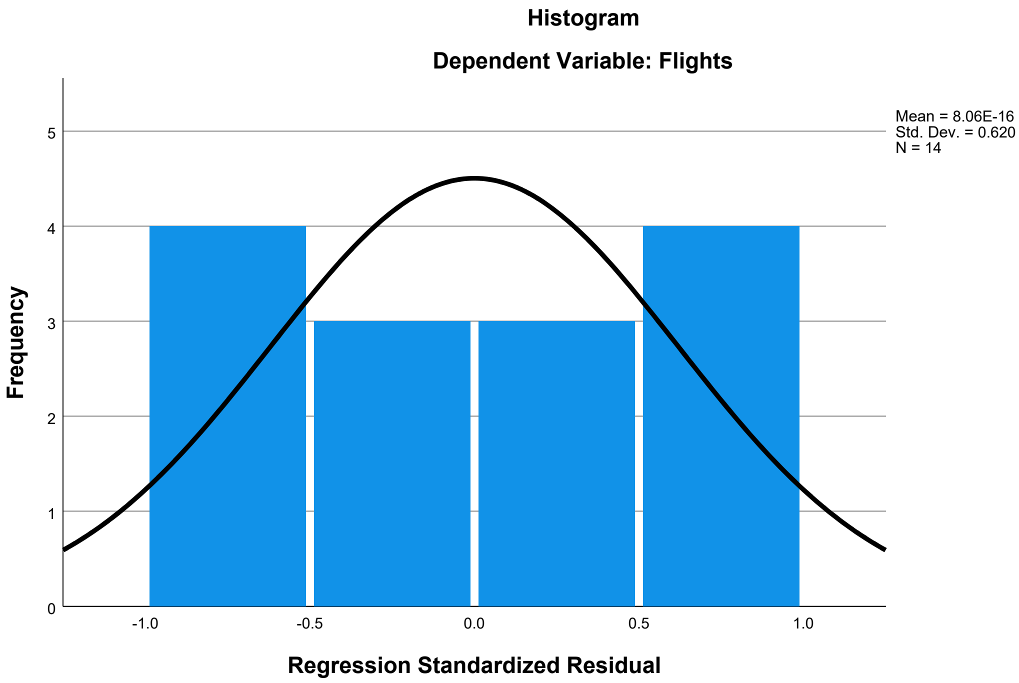
a. Dependent Variable: Flights

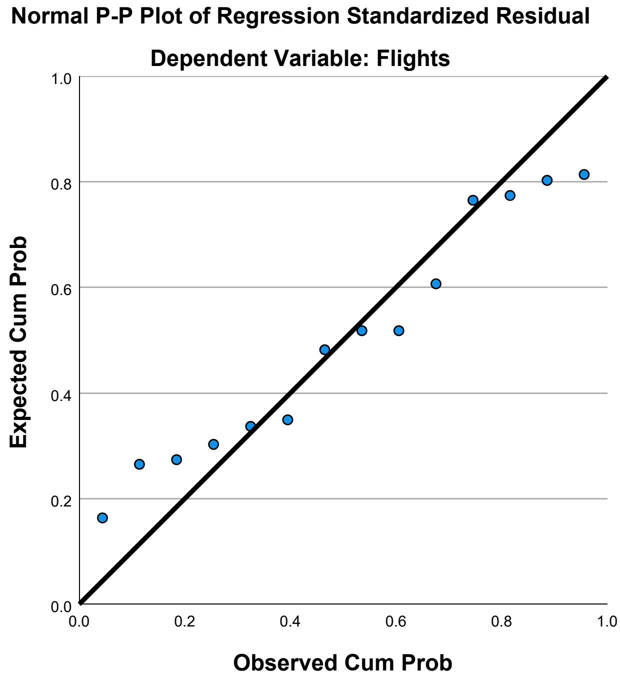
Residuals Statistics[a]

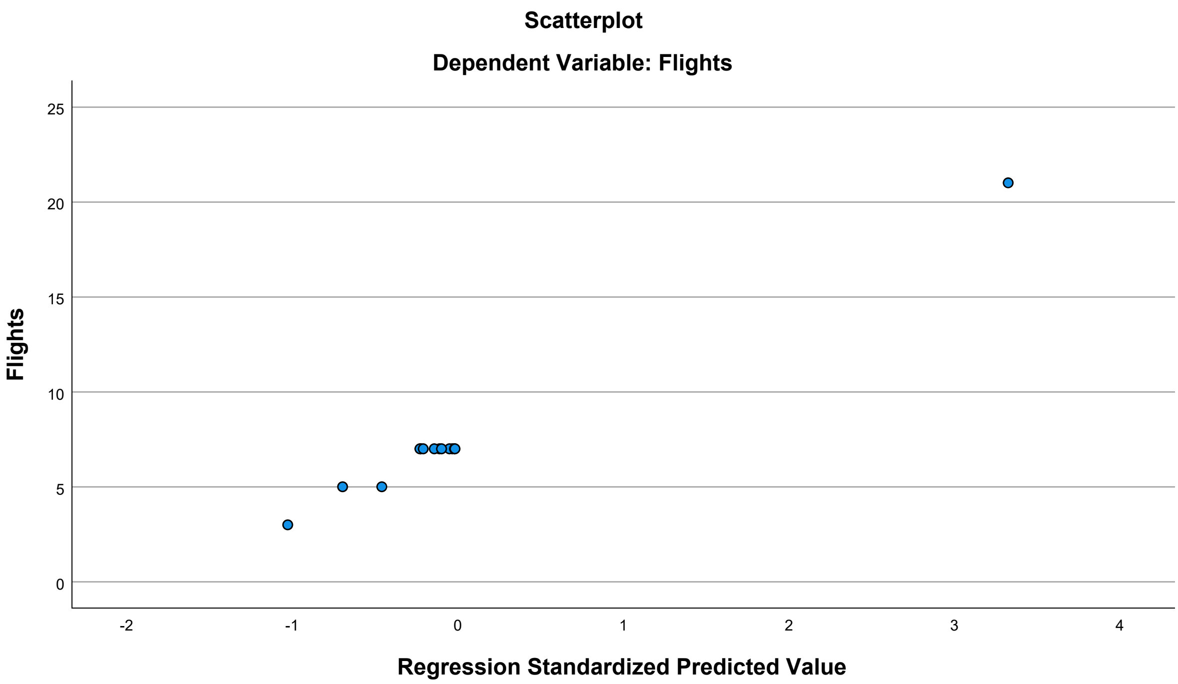
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.24	20.97	7.43	4.075	14
Residual	-.556	.506	.000	.352	14
Std. Predicted Value	-1.028	3.325	.000	1.000	14
Std. Residual	-.981	.892	.000	.620	14

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.43	4.090	14
HomeConcentration	3.19263200	1.342209202	14
Congestion	4.71	.914	14
GLHR	.00	.000	14
GJFK	.14	.363	14
Seasonality	.52380952381	.21290765681	14
Language	.05391800	.058488699	14
Ethnicity	.23378714	.645465096	14
Urban	19.07	3.198	14

Correlations

		Flights	HomeConcentration	Congestion	GLHR
Pearson Correlation	Flights	1.000	.044	.282	.
	HomeConcentration	.044	1.000	.100	.
	Congestion	.282	.100	1.000	.
	GLHR	.	.	.	1.000
	GJFK	.681	-.416	.596	.
	Seasonality	.017	-.451	-.457	.
	Language	.051	-.378	.717	.
	Ethnicity	.021	-.678	.424	.
	Urban	.433	-.255	.376	.
Sig. (1-tailed)	Flights	.	.440	.164	.000
	HomeConcentration	.440	.	.367	.000
	Congestion	.164	.367	.	.000
	GLHR	.000	.000	.000	.
	GJFK	.004	.069	.012	.000
	Seasonality	.477	.053	.050	.000
	Language	.432	.091	.002	.000
	Ethnicity	.472	.004	.065	.000
	Urban	.061	.189	.093	.000
N	Flights	14	14	14	14
	HomeConcentration	14	14	14	14
	Congestion	14	14	14	14
	GLHR	14	14	14	14
	GJFK	14	14	14	14
	Seasonality	14	14	14	14
	Language	14	14	14	14
	Ethnicity	14	14	14	14
	Urban	14	14	14	14

Correlations

		GJFK	Seasonality	Language	Ethnicity
Pearson Correlation	Flights	.681	.017	.051	.021
	HomeConcentration	-.416	-.451	-.378	-.678
	Congestion	.596	-.457	.717	.424
	GLHR	.	.	.	.
	GJFK	1.000	-.047	.615	.712
	Seasonality	-.047	1.000	-.056	-.022
	Language	.615	-.056	1.000	.695
	Ethnicity	.712	-.022	.695	1.000
	Urban	.454	.101	.560	.314
Sig. (1-tailed)	Flights	.004	.477	.432	.472
	HomeConcentration	.069	.053	.091	.004
	Congestion	.012	.050	.002	.065
	GLHR	.000	.000	.000	.000
	GJFK	.	.436	.010	.002
	Seasonality	.436	.	.425	.471
	Language	.010	.425	.	.003
	Ethnicity	.002	.471	.003	.
	Urban	.051	.366	.019	.137
N	Flights	14	14	14	14
	HomeConcentration	14	14	14	14
	Congestion	14	14	14	14
	GLHR	14	14	14	14
	GJFK	14	14	14	14
	Seasonality	14	14	14	14
	Language	14	14	14	14
	Ethnicity	14	14	14	14
	Urban	14	14	14	14

Correlations

		Urban
Pearson Correlation	Flights	.433
	HomeConcentration	-.255
	Congestion	.376
	GLHR	.
	GJFK	.454
	Seasonality	.101
	Language	.560
	Ethnicity	.314
	Urban	1.000
Sig. (1-tailed)	Flights	.061
	HomeConcentration	.189
	Congestion	.093
	GLHR	.000
	GJFK	.051
	Seasonality	.366
	Language	.019
	Ethnicity	.137
	Urban	.
N	Flights	14
	HomeConcentration	14
	Congestion	14
	GLHR	14
	GJFK	14
	Seasonality	14
	Language	14
	Ethnicity	14
	Urban	14

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, Ethnicity, Congestion, GJFK, HomeConcentration, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.996[a]	.992	.984	.524	.992	112.182

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	7	6	<.001

a. Predictors: (Constant), Urban, Seasonality, Ethnicity, Congestion, GJFK, HomeConcentration, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	215.780	7	30.826	112.182	<.001[b]
	Residual	1.649	6	.275		
	Total	217.429	13			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, Ethnicity, Congestion, GJFK, HomeConcentration, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.113	2.103		-.054	.959
	HomeConcentration	.334	.213	.110	1.571	.167
	Congestion	-.210	.364	-.047	-.576	.586
	GJFK	14.926	.712	1.325	20.966	<.001
	Seasonality	.760	.966	.040	.787	.461
	Language	-29.359	5.617	-.420	-5.227	.002
	Ethnicity	-4.001	.514	-.631	-7.786	<.001
	Urban	.391	.059	.305	6.625	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.259	3.864
	Congestion	.191	5.241
	GJFK	.316	3.162
	Seasonality	.499	2.003
	Language	.196	5.106
	Ethnicity	.192	5.204
	Urban	.595	1.682

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Congestion
1	1	5.713	1.000	.00	.00	.00
	2	1.610	1.883	.00	.00	.00
	3	.282	4.498	.00	.01	.00
	4	.219	5.105	.00	.01	.00
	5	.139	6.411	.00	.04	.00
	6	.023	15.608	.01	.49	.00
	7	.010	23.749	.05	.44	.27
	8	.003	44.795	.94	.00	.72

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	Seasonality	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00
	2	.05	.00	.01	.04	.00
	3	.56	.01	.03	.14	.00
	4	.04	.11	.21	.04	.00
	5	.03	.12	.18	.33	.00
	6	.01	.42	.03	.14	.28
	7	.00	.00	.01	.18	.49
	8	.30	.33	.54	.14	.22

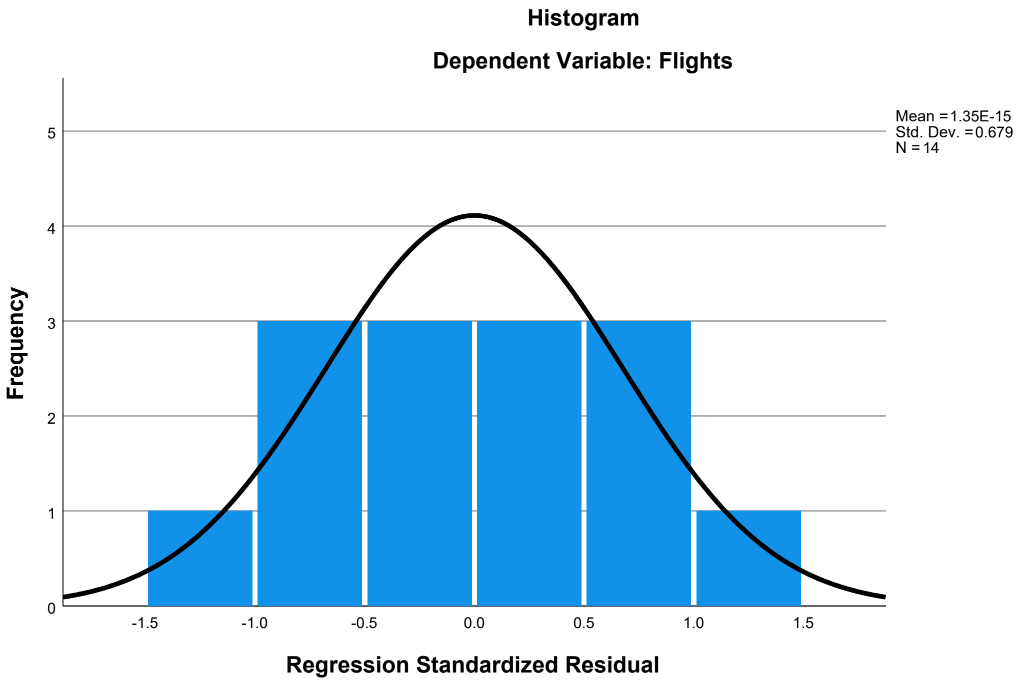
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.25	20.97	7.43	4.074	14
Residual	-.585	.610	.000	.356	14
Std. Predicted Value	-1.026	3.325	.000	1.000	14
Std. Residual	-1.116	1.163	.000	.679	14

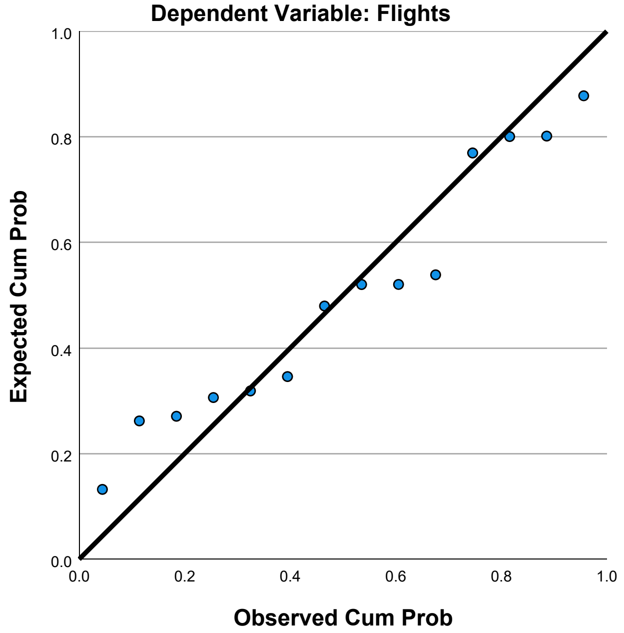
a. Dependent Variable: Flights

Charts



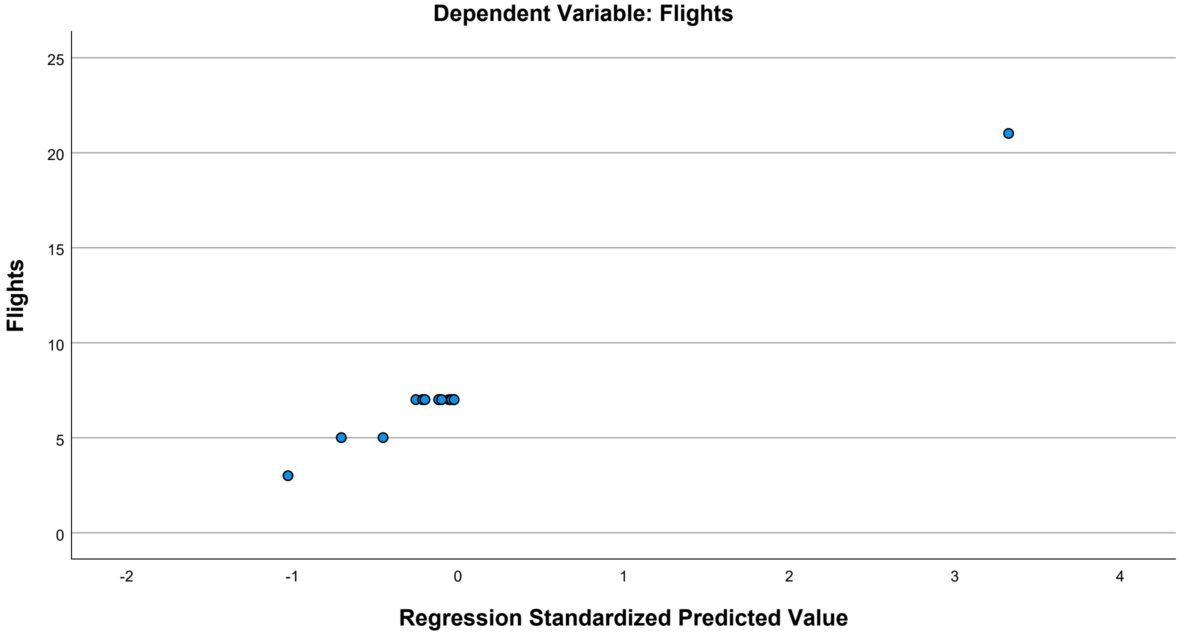
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.43	4.090	14
HomeConcentration	3.19263200	1.342209202	14
GLHR	.00	.000	14
GJFK	.14	.363	14
Seasonality	.52380952381	.21290765681	14
Language	.05391800	.058488699	14
Ethnicity	.23378714	.645465096	14
Urban	19.07	3.198	14

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.044	.	.681
	HomeConcentration	.044	1.000	.	-.416
	GLHR	.	.	1.000	.
	GJFK	.681	-.416	.	1.000
	Seasonality	.017	-.451	.	-.047
	Language	.051	-.378	.	.615
	Ethnicity	.021	-.678	.	.712
	Urban	.433	-.255	.	.454
Sig. (1-tailed)	Flights	.	.440	.000	.004
	HomeConcentration	.440	.	.000	.069
	GLHR	.000	.000	.	.000
	GJFK	.004	.069	.000	.
	Seasonality	.477	.053	.000	.436
	Language	.432	.091	.000	.010
	Ethnicity	.472	.004	.000	.002
	Urban	.061	.189	.000	.051
N	Flights	14	14	14	14
	HomeConcentration	14	14	14	14
	GLHR	14	14	14	14
	GJFK	14	14	14	14
	Seasonality	14	14	14	14
	Language	14	14	14	14
	Ethnicity	14	14	14	14
	Urban	14	14	14	14

Correlations

		Seasonality	Language	Ethnicity	Urban
Pearson Correlation	Flights	.017	.051	.021	.433
	HomeConcentration	-.451	-.378	-.678	-.255
	GLHR	.	.	.	.
	GJFK	-.047	.615	.712	.454
	Seasonality	1.000	-.056	-.022	.101
	Language	-.056	1.000	.695	.560
	Ethnicity	-.022	.695	1.000	.314
	Urban	.101	.560	.314	1.000
Sig. (1-tailed)	Flights	.477	.432	.472	.061
	HomeConcentration	.053	.091	.004	.189
	GLHR	.000	.000	.000	.000
	GJFK	.436	.010	.002	.051
	Seasonality	.	.425	.471	.366
	Language	.425	.	.003	.019
	Ethnicity	.471	.003	.	.137
	Urban	.366	.019	.137	.
N	Flights	14	14	14	14
	HomeConcentration	14	14	14	14
	GLHR	14	14	14	14
	GJFK	14	14	14	14
	Seasonality	14	14	14	14
	Language	14	14	14	14
	Ethnicity	14	14	14	14
	Urban	14	14	14	14

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, Ethnicity, GJFK, Language, HomeConcentr...[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.996[a]	.992	.985	.499	.992	144.639

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	6	7	<.001

a. Predictors: (Constant), Urban, Seasonality, Ethnicity, GJFK, Language, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	215.689	6	35.948	144.639	<.001[b]
	Residual	1.740	7	.249		
	Total	217.429	13			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, Ethnicity, GJFK, Language, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.966	1.420		-.680	.518
	HomeConcentration	.286	.186	.094	1.538	.168
	GJFK	14.720	.586	1.307	25.124	<.001
	Seasonality	.982	.843	.051	1.164	.282
	Language	-31.558	3.916	-.451	-8.059	<.001
	Ethnicity	-3.976	.487	-.627	-8.165	<.001
	Urban	.393	.056	.307	7.024	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.306	3.264
	GJFK	.422	2.368
	Seasonality	.593	1.686
	Language	.364	2.744
	Ethnicity	.194	5.168
	Urban	.597	1.674

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	4.755	1.000	.00	.00	.01
	2	1.586	1.731	.00	.00	.07
	3	.281	4.112	.00	.01	.77
	4	.215	4.703	.00	.02	.03
	5	.134	5.960	.00	.07	.04
	6	.023	14.354	.02	.48	.01
	7	.006	28.370	.98	.41	.08

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Language	Ethnicity	Urban
1	1	.00	.01	.00	.00
	2	.00	.01	.04	.00
	3	.01	.05	.14	.00
	4	.12	.43	.05	.00
	5	.16	.27	.33	.00
	6	.52	.05	.12	.34
	7	.19	.18	.33	.66

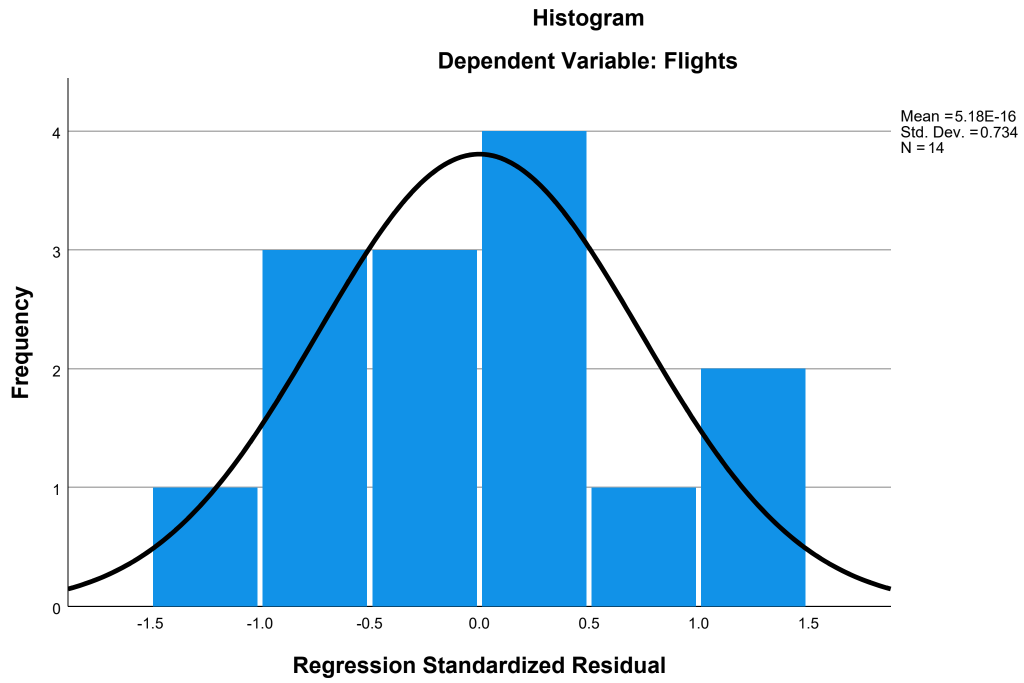
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.26	20.97	7.43	4.073	14
Residual	-.692	.567	.000	.366	14
Std. Predicted Value	-1.024	3.325	.000	1.000	14
Std. Residual	-1.388	1.137	.000	.734	14

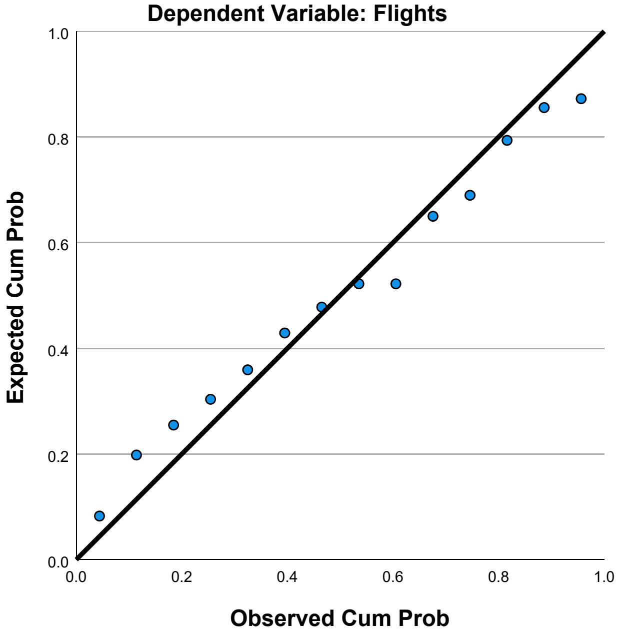
a. Dependent Variable: Flights

Charts



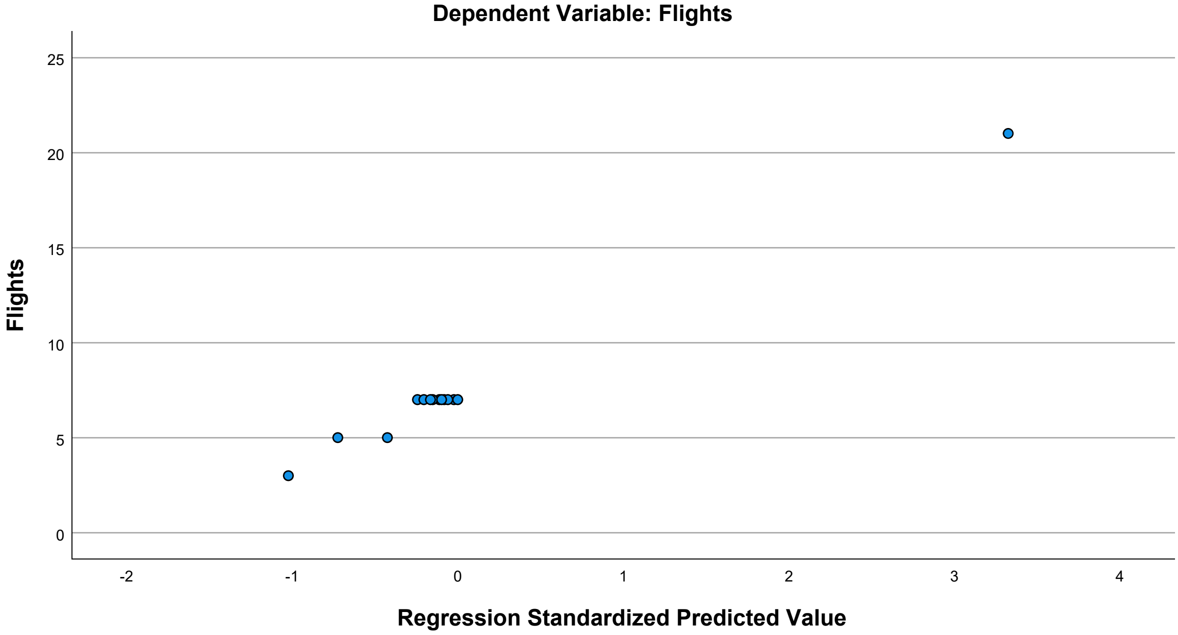
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.43	4.090	14
HomeConcentration	3.19263200	1.342209202	14
GLHR	.00	.000	14
GJFK	.14	.363	14
Seasonality	.52380952381	.21290765681	14
Language	.05391800	.058488699	14
Urban	19.07	3.198	14

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.044	.	.681
	HomeConcentration	.044	1.000	.	-.416
	GLHR	.	.	1.000	.
	GJFK	.681	-.416	.	1.000
	Seasonality	.017	-.451	.	-.047
	Language	.051	-.378	.	.615
	Urban	.433	-.255	.	.454
Sig. (1-tailed)	Flights	.	.440	.000	.004
	HomeConcentration	.440	.	.000	.069
	GLHR	.000	.000	.	.000
	GJFK	.004	.069	.000	.
	Seasonality	.477	.053	.000	.436
	Language	.432	.091	.000	.010
	Urban	.061	.189	.000	.051
N	Flights	14	14	14	14
	HomeConcentration	14	14	14	14
	GLHR	14	14	14	14
	GJFK	14	14	14	14
	Seasonality	14	14	14	14
	Language	14	14	14	14
	Urban	14	14	14	14

Correlations

		Seasonality	Language	Urban
Pearson Correlation	Flights	.017	.051	.433
	HomeConcentration	-.451	-.378	-.255
	GLHR	.	.	.
	GJFK	-.047	.615	.454
	Seasonality	1.000	-.056	.101
	Language	-.056	1.000	.560
	Urban	.101	.560	1.000
Sig. (1-tailed)	Flights	.477	.432	.061
	HomeConcentration	.053	.091	.189
	GLHR	.000	.000	.000
	GJFK	.436	.010	.051
	Seasonality	.	.425	.366
	Language	.425	.	.019
	Urban	.366	.019	.
N	Flights	14	14	14
	HomeConcentration	14	14	14
	GLHR	14	14	14
	GJFK	14	14	14
	Seasonality	14	14	14
	Language	14	14	14
	Urban	14	14	14

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Seasonality, GJFK, HomeConcentration, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.957[a]	.916	.863	1.513	.916	17.403

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	5	8	<.001

a. Predictors: (Constant), Urban, Seasonality, GJFK, HomeConcentration, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	199.122	5	39.824	17.403	<.001[b]
	Residual	18.307	8	2.288		
	Total	217.429	13			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Seasonality, GJFK, HomeConcentration, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-7.716	3.503		-2.203	.059
	HomeConcentration	1.321	.413	.434	3.196	.013
	GJFK	12.459	1.567	1.106	7.953	<.001
	Seasonality	3.567	2.372	.186	1.504	.171
	Language	-47.684	10.260	-.682	-4.648	.002
	Urban	.516	.163	.404	3.160	.013

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.572	1.749
	GJFK	.544	1.839
	Seasonality	.690	1.448
	Language	.489	2.046
	Urban	.644	1.552

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	4.489	1.000	.00	.00	.01
	2	1.050	2.068	.00	.01	.27
	3	.238	4.344	.00	.01	.60
	4	.187	4.901	.00	.19	.02
	5	.028	12.709	.08	.68	.09
	6	.008	23.085	.92	.11	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Seasonality	Language	Urban
1	1	.00	.01	.00
	2	.00	.04	.00
	3	.01	.69	.00
	4	.27	.00	.00
	5	.67	.20	.22
	6	.05	.05	.78

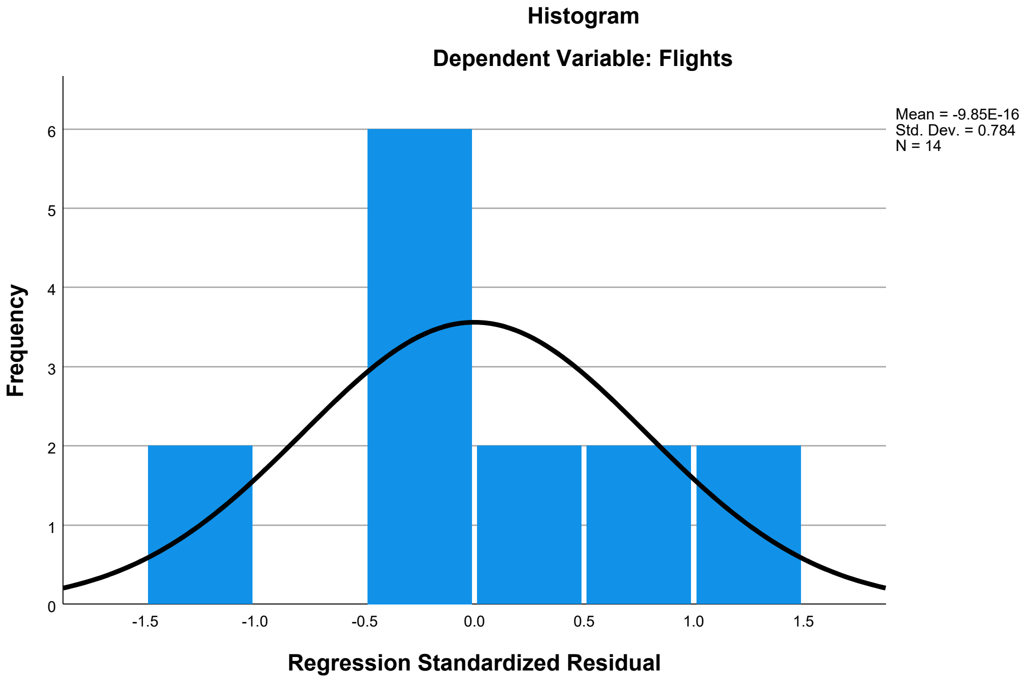
a. Dependent Variable: Flights

Residuals Statistics[a]

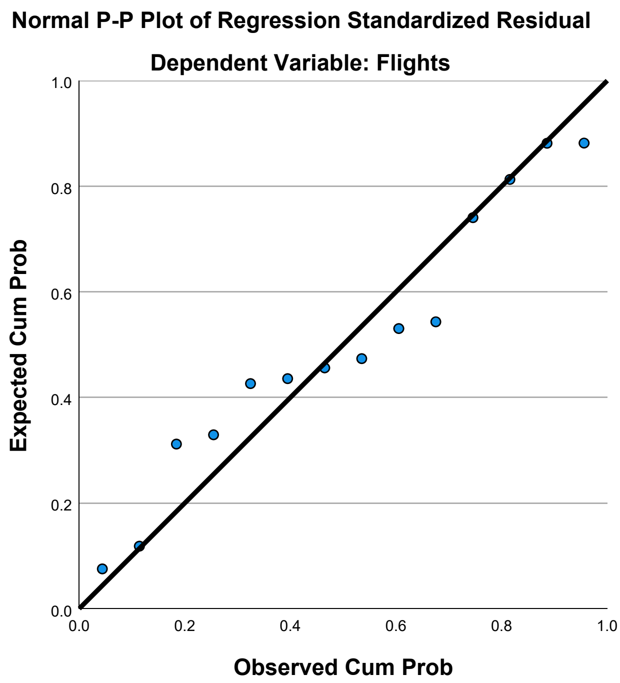
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.66	19.21	7.43	3.914	14
Residual	-2.175	1.790	.000	1.187	14
Std. Predicted Value	-1.475	3.010	.000	1.000	14
Std. Residual	-1.438	1.183	.000	.784	14

a. Dependent Variable: Flights

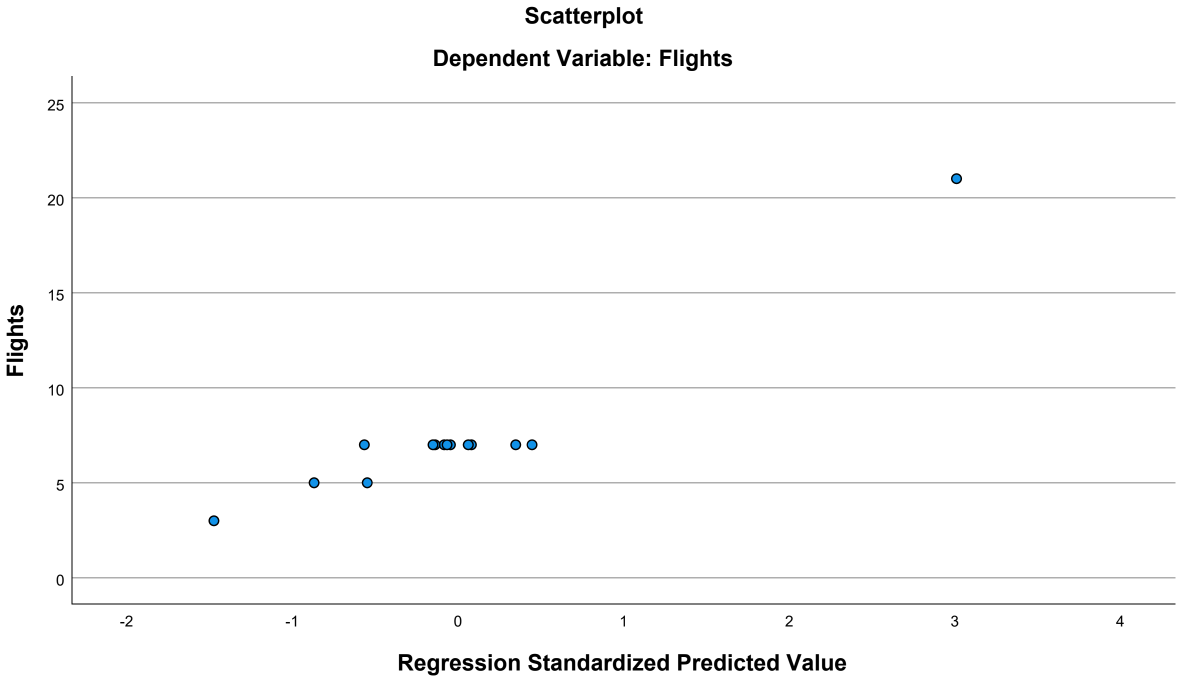
Charts



Histogram
Dependent Variable: Flights
Mean = -9.85E-16
Std. Dev. = 0.784
N = 14
Frequency
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
25
20
15
10
5
0
-2
-1
0
1
2
3
4

Regression

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[DataSet9] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\UK\1997 S
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.42	7.840	88
HomeConcentration	2.5459300000	2.5289751161	88
GLHR	.53	.502	88
GJFK	.13	.333	88
PartnerConcentration	.05218954545	.12044370860	88
Distance	3.99262	.686655	88
Language	5.81000027	3.621997217	88
Ethnicity	.78832275	.718964212	88
Urban	18.09	4.665	88

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.249	.272	.293
	HomeConcentration	.249	1.000	-.215	-.238
	GLHR	.272	-.215	1.000	.009
	GJFK	.293	-.238	.009	1.000
	PartnerConcentration	.032	-.096	.406	-.070
	Distance	-.054	.116	.055	-.326
	Language	.339	.106	.006	.732
	Ethnicity	.173	-.002	.240	.131
	Urban	.367	-.003	.500	.222
Sig. (1-tailed)	Flights	.	.010	.005	.003
	HomeConcentration	.010	.	.022	.013
	GLHR	.005	.022	.	.468
	GJFK	.003	.013	.468	.
	PartnerConcentration	.382	.188	.000	.257
	Distance	.307	.142	.304	.001
	Language	.001	.162	.477	.000
	Ethnicity	.053	.494	.012	.111
	Urban	.000	.491	.000	.019
N	Flights	88	88	88	88
	HomeConcentration	88	88	88	88

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
Pearson Correlation	Flights	.032	-.054	.339	.173
	HomeConcentration	-.096	.116	.106	-.002
	GLHR	.406	.055	.006	.240
	GJFK	-.070	-.326	.732	.131
	PartnerConcentration	1.000	-.090	-.132	.130
	Distance	-.090	1.000	-.388	-.277
	Language	-.132	-.388	1.000	.439
	Ethnicity	.130	-.277	.439	1.000
	Urban	.032	.065	.343	.174
Sig. (1-tailed)	Flights	.382	.307	<.001	.053
	HomeConcentration	.188	.142	.162	.494
	GLHR	.000	.304	.477	.012
	GJFK	.257	.001	.000	.111
	PartnerConcentration	.	.201	.110	.114
	Distance	.201	.	.000	.005
	Language	.110	.000	.	.000
	Ethnicity	.114	.005	.000	.
	Urban	.385	.274	.001	.052
N	Flights	88	88	88	88
	HomeConcentration	88	88	88	88

Correlations

		Urban
Pearson Correlation	Flights	.367
	HomeConcentration	-.003
	GLHR	.500
	GJFK	.222
	PartnerConcentration	.032
	Distance	.065
	Language	.343
	Ethnicity	.174
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.491
	GLHR	.000
	GJFK	.019
	PartnerConcentration	.385
	Distance	.274
	Language	.001
	Ethnicity	.052
	Urban	.
N	Flights	88
	HomeConcentration	88

Correlations

		Flights	HomeConcentration	GLHR	GJFK
	GLHR	88	88	88	88
	GJFK	88	88	88	88
	PartnerConcentration	88	88	88	88
	Distance	88	88	88	88
	Language	88	88	88	88
	Ethnicity	88	88	88	88
	Urban	88	88	88	88

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
	GLHR	88	88	88	88
	GJFK	88	88	88	88
	PartnerConcentration	88	88	88	88
	Distance	88	88	88	88
	Language	88	88	88	88
	Ethnicity	88	88	88	88
	Urban	88	88	88	88

Correlations

		Urban
	GLHR	88
	GJFK	88
	PartnerConcentration	88
	Distance	88
	Language	88
	Ethnicity	88
	Urban	88

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, PartnerConcentration, Distance, Ethnicity, GJFK, GLHR, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.580[a]	.336	.269	6.703	.336	5.002

Model Summary[b]

	Change Statistics		
Model	df1	df2	Sig. F Change
1	8	79	<.001

a. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, Distance, Ethnicity, GJFK, GLHR, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1797.847	8	224.731	5.002	<.001[b]
	Residual	3549.596	79	44.932		
	Total	5347.443	87			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, Distance, Ethnicity, GJFK, GLHR, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.535	5.682		-.094	.925
	HomeConcentration	1.300	.344	.419	3.784	<.001
	GLHR	4.334	1.977	.277	2.192	.031
	GJFK	9.888	3.900	.419	2.536	.013
	PartnerConcentration	-2.808	6.853	-.043	-.410	.683
	Distance	-.242	1.213	-.021	-.199	.842
	Language	-.255	.419	-.118	-.610	.543
	Ethnicity	.817	1.270	.075	.643	.522
	Urban	.279	.202	.166	1.381	.171

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.684	1.462
	GLHR	.525	1.906
	GJFK	.307	3.258
	PartnerConcentration	.758	1.319
	Distance	.744	1.344
	Language	.225	4.449
	Ethnicity	.619	1.616
	Urban	.581	1.720

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	5.893	1.000	.00	.01	.00
	2	1.090	2.325	.00	.01	.01
	3	.906	2.551	.00	.11	.02
	4	.431	3.697	.00	.25	.14
	5	.375	3.964	.00	.01	.03
	6	.213	5.259	.01	.37	.50
	7	.056	10.257	.00	.21	.01
	8	.027	14.820	.03	.01	.26
	9	.010	24.682	.95	.02	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.01	.00
	2	.13	.16	.00	.01	.00	.00
	3	.05	.28	.00	.00	.00	.00
	4	.04	.40	.00	.00	.03	.00
	5	.02	.00	.00	.00	.55	.00
	6	.02	.07	.01	.00	.01	.00
	7	.69	.03	.03	.68	.33	.03
	8	.04	.01	.08	.23	.05	.95
	9	.01	.05	.87	.08	.01	.02

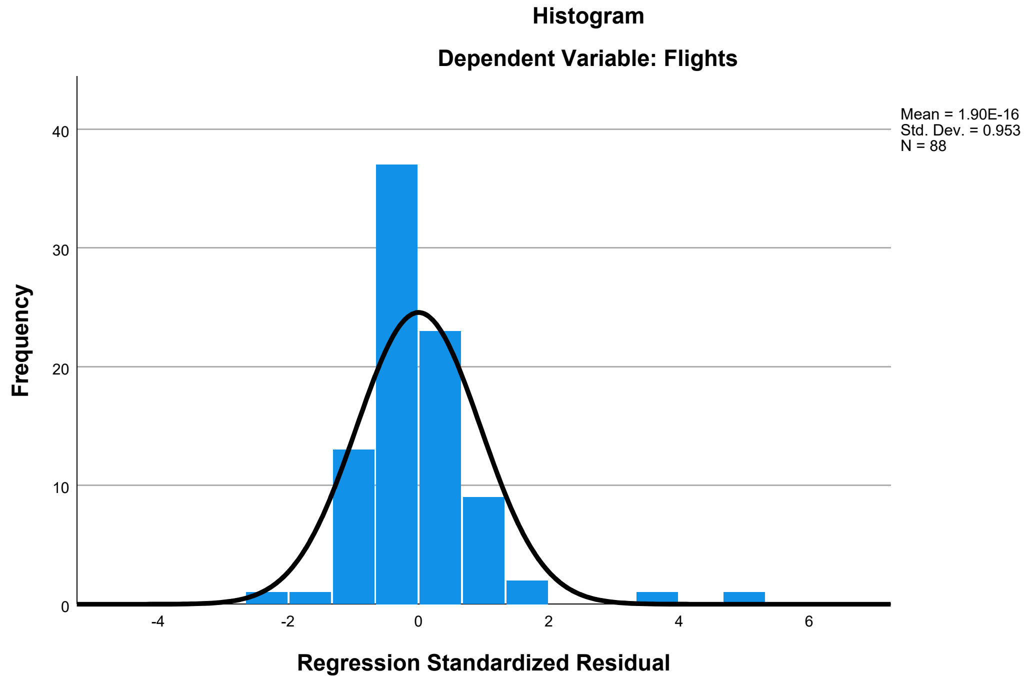
a. Dependent Variable: Flights

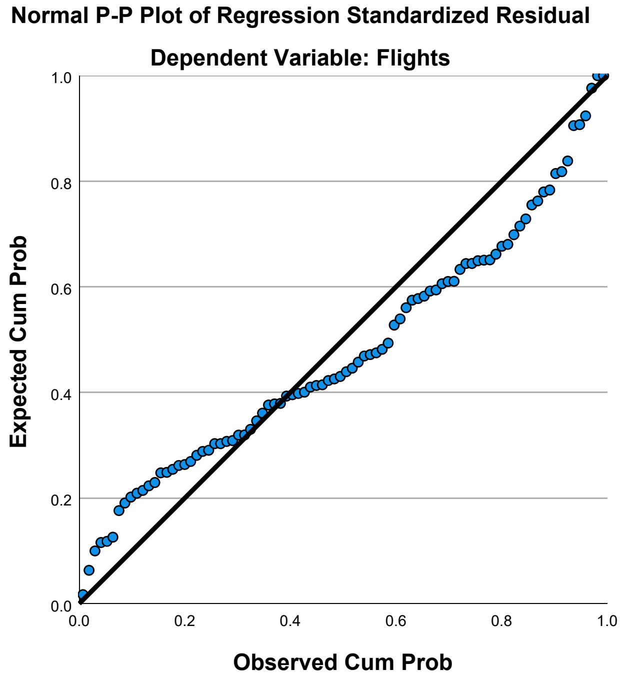
Residuals Statistics[a]

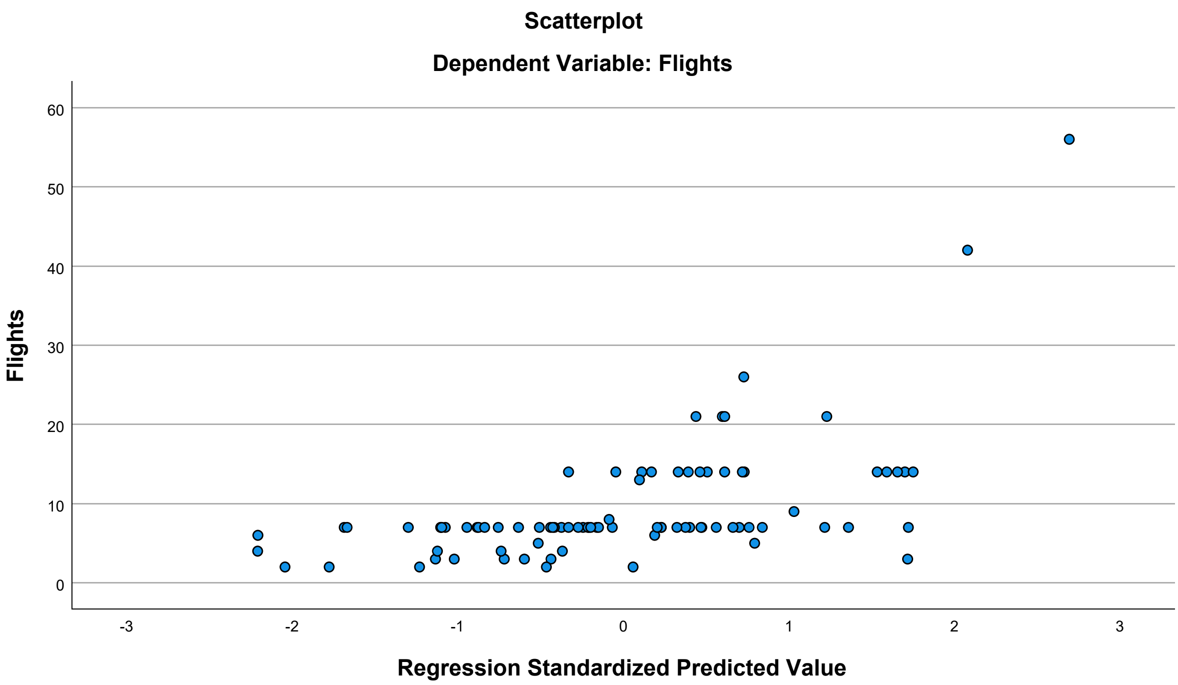
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.62	21.67	9.42	4.546	88
Residual	-14.227	34.334	.000	6.387	88
Std. Predicted Value	-2.210	2.694	.000	1.000	88
Std. Residual	-2.122	5.122	.000	.953	88

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 1.90E-16
Std. Dev. = 0.953
N = 88
Frequency
40
30
20
10
0
-4
-2
0
2
4
6
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-3
-2
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

```
[DataSet10] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\UK\2002
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.69	8.478	97
HomeConcentration	2.7058366082	2.7907401496	97
GLHR	.46	.501	97
GJFK	.08	.277	97
PartnerConcentration	1.0007869588	1.6796025044	97
Distance	3.95427	.705587	97
Language	5.81409006	3.322942797	97
Ethnicity	.82010597	.703842631	97
Urban	17.34	4.637	97

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.321	.412	.291
	HomeConcentration	.321	1.000	-.153	-.199
	GLHR	.412	-.153	1.000	.172
	GJFK	.291	-.199	.172	1.000
	PartnerConcentration	.244	-.047	.252	.007
	Distance	-.020	.083	.005	-.226
	Language	.278	.084	.053	.632
	Ethnicity	.071	-.114	-.015	.128
	Urban	.489	.028	.640	.303
Sig. (1-tailed)	Flights	.	<.001	<.001	.002
	HomeConcentration	.001	.	.067	.026
	GLHR	.000	.067	.	.046
	GJFK	.002	.026	.046	.
	PartnerConcentration	.008	.323	.006	.473
	Distance	.423	.210	.480	.013
	Language	.003	.208	.303	.000
	Ethnicity	.243	.133	.440	.106
	Urban	.000	.393	.000	.001
N	Flights	97	97	97	97
	HomeConcentration	97	97	97	97

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
Pearson Correlation	Flights	.244	-.020	.278	.071
	HomeConcentration	-.047	.083	.084	-.114
	GLHR	.252	.005	.053	-.015
	GJFK	.007	-.226	.632	.128
	PartnerConcentration	1.000	.112	.063	-.082
	Distance	.112	1.000	-.367	-.277
	Language	.063	-.367	1.000	.488
	Ethnicity	-.082	-.277	.488	1.000
	Urban	.236	.143	.256	.038
Sig. (1-tailed)	Flights	.008	.423	.003	.243
	HomeConcentration	.323	.210	.208	.133
	GLHR	.006	.480	.303	.440
	GJFK	.473	.013	.000	.106
	PartnerConcentration	.	.137	.271	.213
	Distance	.137	.	.000	.003
	Language	.271	.000	.	.000
	Ethnicity	.213	.003	.000	.
	Urban	.010	.081	.006	.356
N	Flights	97	97	97	97
	HomeConcentration	97	97	97	97

Correlations

		Urban
Pearson Correlation	Flights	.489
	HomeConcentration	.028
	GLHR	.640
	GJFK	.303
	PartnerConcentration	.236
	Distance	.143
	Language	.256
	Ethnicity	.038
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.393
	GLHR	.000
	GJFK	.001
	PartnerConcentration	.010
	Distance	.081
	Language	.006
	Ethnicity	.356
	Urban	.
N	Flights	97
	HomeConcentration	97

Correlations

		Flights	HomeConcentration	GLHR	GJFK
	GLHR	97	97	97	97
	GJFK	97	97	97	97
	PartnerConcentration	97	97	97	97
	Distance	97	97	97	97
	Language	97	97	97	97
	Ethnicity	97	97	97	97
	Urban	97	97	97	97

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
	GLHR	97	97	97	97
	GJFK	97	97	97	97
	PartnerConcentration	97	97	97	97
	Distance	97	97	97	97
	Language	97	97	97	97
	Ethnicity	97	97	97	97
	Urban	97	97	97	97

Correlations

		Urban
	GLHR	97
	GJFK	97
	PartnerConcentration	97
	Distance	97
	Language	97
	Ethnicity	97
	Urban	97

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, Ethnicity, PartnerConcentration, Distance, GJFK, GLHR, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.684[a]	.468	.420	6.459	.468	9.678

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	88	<.001

a. Predictors: (Constant), Urban, HomeConcentration, Ethnicity, PartnerConcentration, Distance, GJFK, GLHR, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3229.806	8	403.726	9.678	<.001[b]
	Residual	3670.915	88	41.715		
	Total	6900.722	96			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, Ethnicity, PartnerConcentration, Distance, GJFK, GLHR, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.767	4.937		-.358	.721
	HomeConcentration	1.401	.270	.461	5.190	<.001
	GLHR	4.419	1.819	.261	2.429	.017
	GJFK	10.163	3.581	.331	2.838	.006
	PartnerConcentration	.884	.419	.175	2.107	.038
	Distance	-.501	1.077	-.042	-.466	.643
	Language	-.341	.348	-.134	-.981	.329
	Ethnicity	1.759	1.185	.146	1.485	.141
	Urban	.370	.208	.202	1.778	.079

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.766	1.306
	GLHR	.523	1.914
	GJFK	.443	2.256
	PartnerConcentration	.876	1.142
	Distance	.753	1.328
	Language	.326	3.069
	Ethnicity	.625	1.600
	Urban	.467	2.142

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	5.908	1.000	.00	.01	.00
	2	1.030	2.395	.00	.06	.00
	3	.789	2.736	.00	.05	.05
	4	.484	3.492	.00	.26	.15
	5	.448	3.633	.00	.10	.17
	6	.238	4.979	.01	.32	.20
	7	.068	9.304	.00	.19	.00
	8	.024	15.803	.06	.01	.41
	9	.011	23.218	.93	.01	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.01	.00	.00	.00	.00
	2	.29	.01	.00	.00	.00	.00
	3	.00	.51	.00	.00	.03	.00
	4	.09	.21	.00	.00	.07	.00
	5	.02	.20	.00	.01	.23	.00
	6	.00	.01	.02	.00	.18	.01
	7	.55	.04	.01	.82	.48	.00
	8	.02	.00	.11	.02	.00	.99
	9	.02	.02	.85	.14	.00	.00

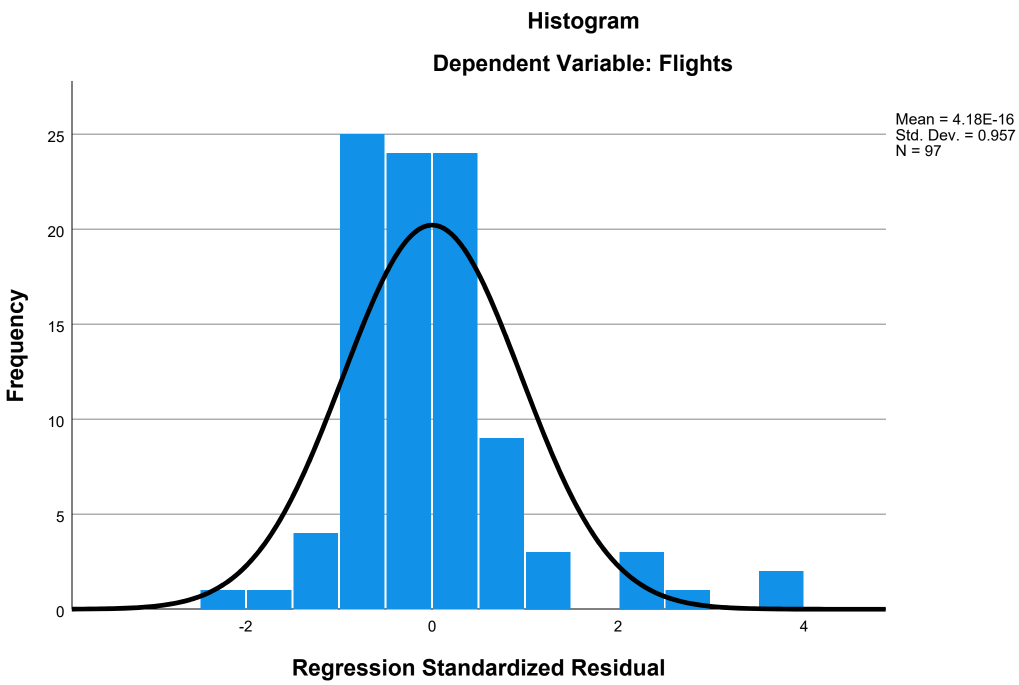
a. Dependent Variable: Flights

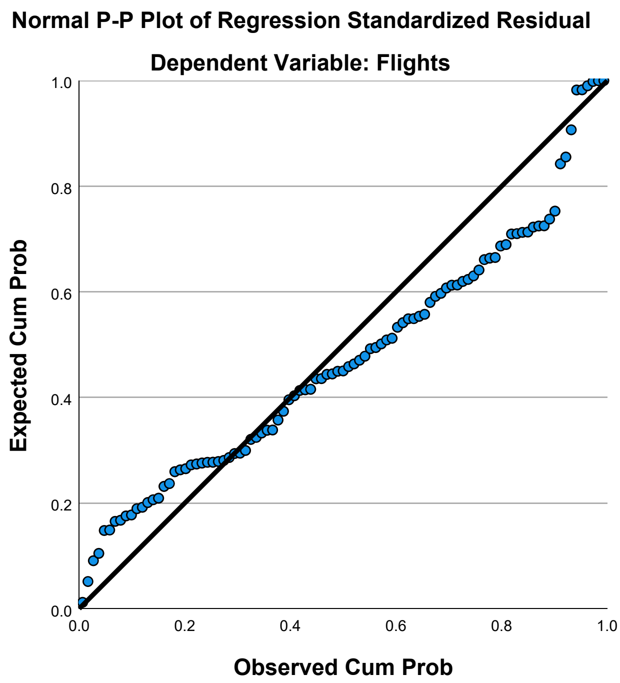
Residuals Statistics[a]

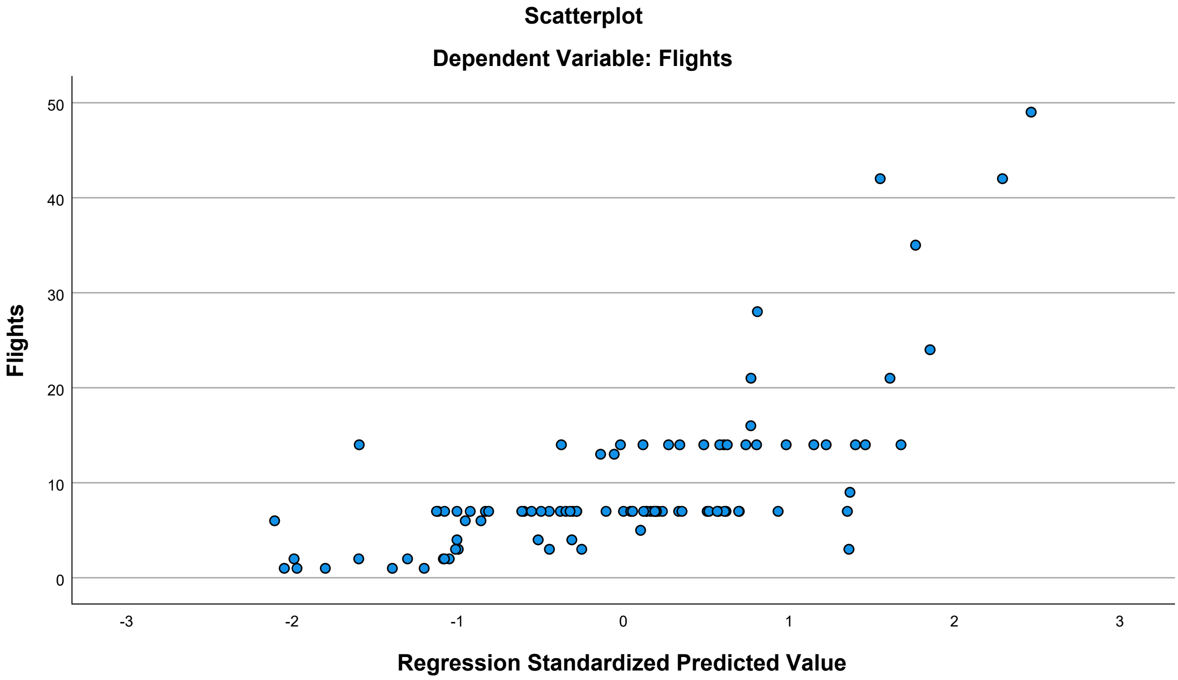
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-2.53	23.98	9.69	5.800	97
Residual	-14.594	25.020	.000	6.184	97
Std. Predicted Value	-2.108	2.463	.000	1.000	97
Std. Residual	-2.260	3.874	.000	.957	97

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 4.18E-16
Std. Dev. = 0.957
N = 97
Frequency
25
20
15
10
5
0
-2
0
2
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-3
-2
-1
0
1
2
3

Regression

[DataSet11] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\UK\2007 Summer.sav

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.36	7.971	162
HomeConcentration	1.7038357037	2.6155497802	162
GLHR	.30	.458	162
GJFK	.07	.263	162
PartnerConcentration	.46451165432	1.3650154409	162
Distance	3.89715	.681863	162
Language	5.25451493	3.506820946	162
Ethnicity	.96811499	.907833319	162
Urban	14.61	5.937	162

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.452	.563	.299
	HomeConcentration	.452	1.000	.188	-.114
	GLHR	.563	.188	1.000	.075
	GJFK	.299	-.114	.075	1.000
	PartnerConcentration	.362	.117	.318	.007
	Distance	.006	.082	.156	-.202
	Language	.325	.105	.084	.609
	Ethnicity	-.057	-.176	-.064	.047
	Urban	.562	.256	.545	.313
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.008	.075
	GLHR	.000	.008	.	.173
	GJFK	.000	.075	.173	.
	PartnerConcentration	.000	.069	.000	.462
	Distance	.469	.151	.023	.005
	Language	.000	.091	.145	.000
	Ethnicity	.237	.013	.208	.276
	Urban	.000	.000	.000	.000
N	Flights	162	162	162	162
	HomeConcentration	162	162	162	162

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
Pearson Correlation	Flights	.362	.006	.325	-.057
	HomeConcentration	.117	.082	.105	-.176
	GLHR	.318	.156	.084	-.064
	GJFK	.007	-.202	.609	.047
	PartnerConcentration	1.000	.147	.053	-.097
	Distance	.147	1.000	-.332	-.257
	Language	.053	-.332	1.000	.545
	Ethnicity	-.097	-.257	.545	1.000
	Urban	.257	.056	.487	.199
Sig. (1-tailed)	Flights	<.001	.469	<.001	.237
	HomeConcentration	.069	.151	.091	.013
	GLHR	.000	.023	.145	.208
	GJFK	.462	.005	.000	.276
	PartnerConcentration	.	.031	.251	.111
	Distance	.031	.	.000	.000
	Language	.251	.000	.	.000
	Ethnicity	.111	.000	.000	.
	Urban	.000	.240	.000	.006
N	Flights	162	162	162	162
	HomeConcentration	162	162	162	162

Correlations

		Urban
Pearson Correlation	Flights	.562
	HomeConcentration	.256
	GLHR	.545
	GJFK	.313
	PartnerConcentration	.257
	Distance	.056
	Language	.487
	Ethnicity	.199
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.000
	GLHR	.000
	GJFK	.000
	PartnerConcentration	.000
	Distance	.240
	Language	.000
	Ethnicity	.006
	Urban	.
N	Flights	162
	HomeConcentration	162

Correlations

		Flights	HomeConcentration	GLHR	GJFK
	GLHR	162	162	162	162
	GJFK	162	162	162	162
	PartnerConcentration	162	162	162	162
	Distance	162	162	162	162
	Language	162	162	162	162
	Ethnicity	162	162	162	162
	Urban	162	162	162	162

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
	GLHR	162	162	162	162
	GJFK	162	162	162	162
	PartnerConcentration	162	162	162	162
	Distance	162	162	162	162
	Language	162	162	162	162
	Ethnicity	162	162	162	162
	Urban	162	162	162	162

Correlations

		Urban
	GLHR	162
	GJFK	162
	PartnerConcentration	162
	Distance	162
	Language	162
	Ethnicity	162
	Urban	162

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, HomeConcentration, PartnerConcentration, Ethnicity, GJFK, GLHR, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.764[a]	.584	.563	5.272	.584	26.882

Model Summary[b]

	Change Statistics		
Model	df1	df2	Sig. F Change
1	8	153	<.001

a. Predictors: (Constant), Urban, Distance, HomeConcentration, PartnerConcentration, Ethnicity, GJFK, GLHR, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5976.969	8	747.121	26.882	<.001[b]
	Residual	4252.266	153	27.793		
	Total	10229.235	161			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, HomeConcentration, PartnerConcentration, Ethnicity, GJFK, GLHR, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.411	2.924		.825	.411
	HomeConcentration	1.070	.187	.351	5.728	<.001
	GLHR	5.895	1.145	.339	5.147	<.001
	GJFK	7.213	2.429	.238	2.970	.003
	PartnerConcentration	1.013	.329	.173	3.082	.002
	Distance	-.747	.676	-.064	-1.105	.271
	Language	.036	.235	.016	.153	.879
	Ethnicity	-.230	.679	-.026	-.339	.735
	Urban	.227	.102	.169	2.224	.028

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.724	1.382
	GLHR	.627	1.594
	GJFK	.424	2.358
	PartnerConcentration	.858	1.165
	Distance	.812	1.232
	Language	.253	3.948
	Ethnicity	.455	2.200
	Urban	.470	2.127

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	5.357	1.000	.00	.01	.01
	2	1.115	2.192	.00	.06	.04
	3	.918	2.415	.00	.02	.04
	4	.647	2.878	.00	.41	.01
	5	.506	3.253	.00	.13	.55
	6	.329	4.034	.01	.11	.06
	7	.066	9.031	.01	.25	.04
	8	.050	10.313	.02	.01	.24
	9	.011	21.772	.96	.00	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.01	.00	.00	.00	.00
	2	.12	.19	.00	.01	.01	.00
	3	.17	.27	.00	.00	.02	.00
	4	.06	.21	.00	.00	.06	.00
	5	.01	.29	.00	.00	.00	.00
	6	.01	.00	.02	.01	.23	.00
	7	.55	.02	.03	.48	.58	.19
	8	.07	.00	.01	.40	.09	.80
	9	.01	.01	.94	.09	.00	.00

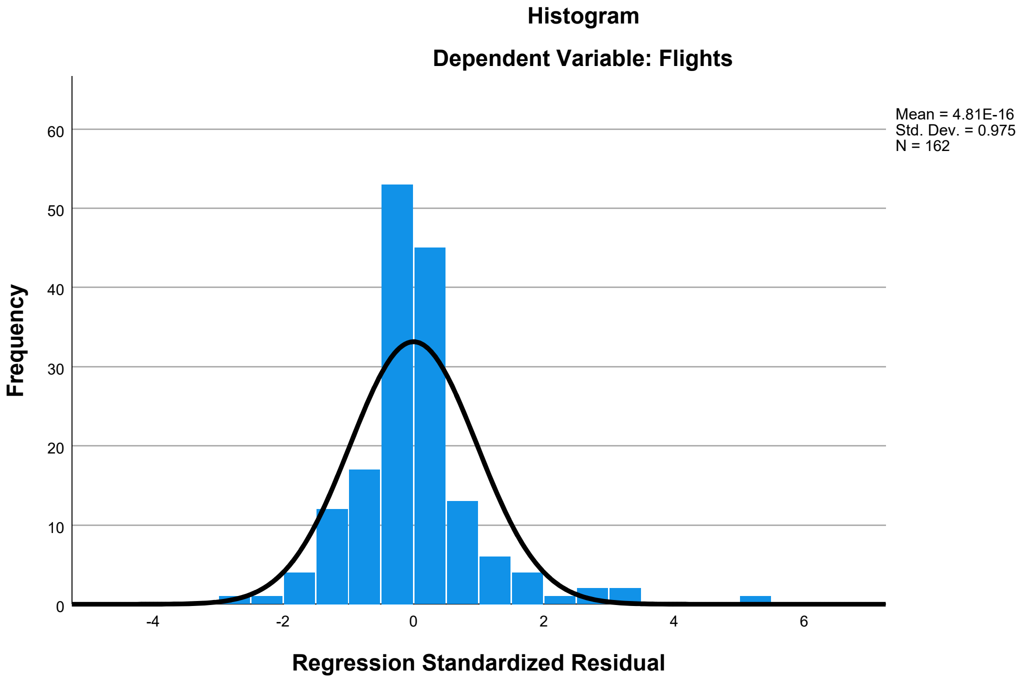
a. Dependent Variable: Flights

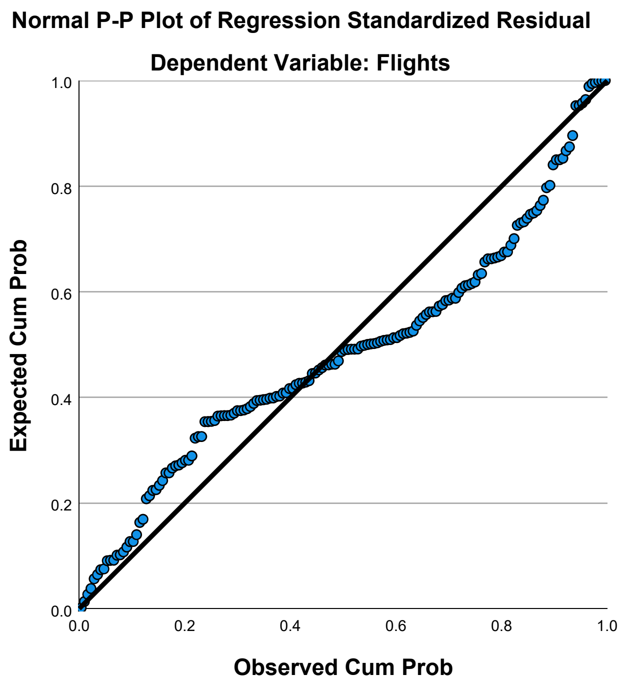
Residuals Statistics[a]

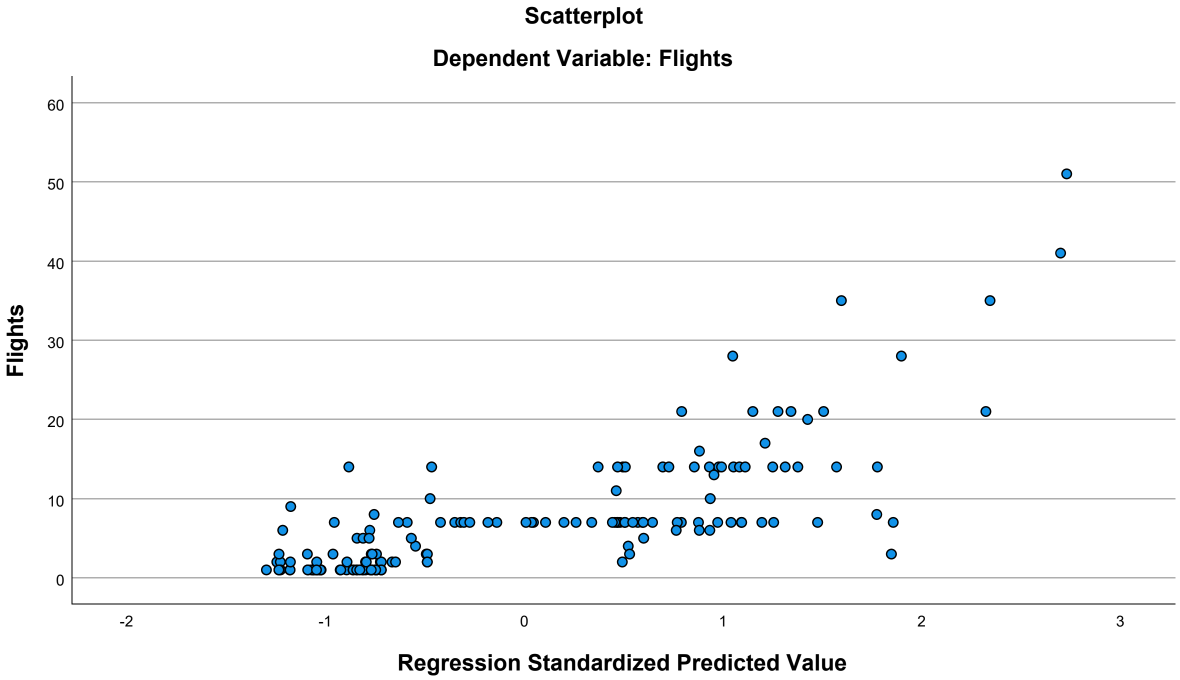
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.55	23.99	7.36	6.093	162
Residual	-15.614	27.012	.000	5.139	162
Std. Predicted Value	-1.298	2.729	.000	1.000	162
Std. Residual	-2.962	5.124	.000	.975	162

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 4.81E-16
Std. Dev. = 0.975
N = 162
Frequency
60
50
40
30
20
10
0
-4
-2
0
2
4
6
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

```
[DataSet12] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\UK\2012 Summer.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.71	8.977	107
HomeConcentration	2.2854912897	2.4688063505	107
GLHR	.56	.499	107
GJFK	.07	.248	107
PartnerConcentration	.66360117757	1.5595338034	107
Distance	4.04868	.702609	107
Language	4.82153723	3.346384202	107
Ethnicity	.73008140	.730525694	107
Urban	17.23	5.020	107

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.456	.500	.330
	HomeConcentration	.456	1.000	.355	-.128
	GLHR	.500	.355	1.000	.082
	GJFK	.330	-.128	.082	1.000
	PartnerConcentration	.295	.199	.378	.014
	Distance	-.089	.034	.153	-.238
	Language	.456	.172	.193	.637
	Ethnicity	.134	-.095	.029	.142
	Urban	.594	.369	.656	.283
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.000	.094
	GLHR	.000	.000	.	.201
	GJFK	.000	.094	.201	.
	PartnerConcentration	.001	.020	.000	.441
	Distance	.182	.362	.058	.007
	Language	.000	.038	.023	.000
	Ethnicity	.085	.165	.385	.073
	Urban	.000	.000	.000	.002
N	Flights	107	107	107	107
	HomeConcentration	107	107	107	107

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
Pearson Correlation	Flights	.295	-.089	.456	.134
	HomeConcentration	.199	.034	.172	-.095
	GLHR	.378	.153	.193	.029
	GJFK	.014	-.238	.637	.142
	PartnerConcentration	1.000	.122	.061	-.051
	Distance	.122	1.000	-.338	-.254
	Language	.061	-.338	1.000	.594
	Ethnicity	-.051	-.254	.594	1.000
	Urban	.271	-.033	.542	.261
Sig. (1-tailed)	Flights	.001	.182	<.001	.085
	HomeConcentration	.020	.362	.038	.165
	GLHR	.000	.058	.023	.385
	GJFK	.441	.007	.000	.073
	PartnerConcentration	.	.105	.267	.302
	Distance	.105	.	.000	.004
	Language	.267	.000	.	.000
	Ethnicity	.302	.004	.000	.
	Urban	.002	.368	.000	.003
N	Flights	107	107	107	107
	HomeConcentration	107	107	107	107

Correlations

		Urban
Pearson Correlation	Flights	.594
	HomeConcentration	.369
	GLHR	.656
	GJFK	.283
	PartnerConcentration	.271
	Distance	-.033
	Language	.542
	Ethnicity	.261
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.000
	GLHR	.000
	GJFK	.002
	PartnerConcentration	.002
	Distance	.368
	Language	.000
	Ethnicity	.003
	Urban	.
N	Flights	107
	HomeConcentration	107

Correlations

		Flights	HomeConcentration	GLHR	GJFK
	GLHR	107	107	107	107
	GJFK	107	107	107	107
	PartnerConcentration	107	107	107	107
	Distance	107	107	107	107
	Language	107	107	107	107
	Ethnicity	107	107	107	107
	Urban	107	107	107	107

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
	GLHR	107	107	107	107
	GJFK	107	107	107	107
	PartnerConcentration	107	107	107	107
	Distance	107	107	107	107
	Language	107	107	107	107
	Ethnicity	107	107	107	107
	Urban	107	107	107	107

Correlations

		Urban
	GLHR	107
	GJFK	107
	PartnerConcentration	107
	Distance	107
	Language	107
	Ethnicity	107
	Urban	107

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, GJFK, Ethnicity, HomeConcentration, GLHR, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.714[a]	.510	.470	6.537	.510	12.738

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	98	<.001

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, GJFK, Ethnicity, HomeConcentration, GLHR, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4354.404	8	544.300	12.738	<.001[b]
	Residual	4187.615	98	42.731		
	Total	8542.019	106			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, GJFK, Ethnicity, HomeConcentration, GLHR, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-1.012	4.859		-.208	.835
	HomeConcentration	1.147	.321	.315	3.574	<.001
	GLHR	3.164	1.841	.176	1.719	.089
	GJFK	8.757	4.035	.242	2.170	.032
	PartnerConcentration	.603	.443	.105	1.362	.176
	Distance	-.644	.993	-.050	-.649	.518
	Language	.132	.410	.049	.322	.748
	Ethnicity	.338	1.291	.028	.262	.794
	Urban	.411	.205	.230	2.002	.048

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.643	1.556
	GLHR	.479	2.090
	GJFK	.401	2.493
	PartnerConcentration	.844	1.185
	Distance	.829	1.207
	Language	.214	4.681
	Ethnicity	.453	2.205
	Urban	.380	2.633

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	5.877	1.000	.00	.01	.00
	2	1.103	2.308	.00	.03	.01
	3	.816	2.684	.00	.00	.01
	4	.496	3.441	.00	.23	.01
	5	.351	4.094	.01	.35	.01
	6	.262	4.733	.00	.07	.59
	7	.059	9.958	.00	.30	.00
	8	.025	15.414	.00	.00	.26
	9	.010	23.887	.98	.00	.10

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.01	.00	.00	.00	.00
	2	.20	.09	.00	.01	.01	.00
	3	.09	.53	.00	.00	.02	.00
	4	.06	.24	.00	.00	.17	.00
	5	.01	.00	.01	.01	.12	.00
	6	.01	.13	.01	.00	.02	.00
	7	.61	.00	.02	.68	.63	.02
	8	.03	.00	.15	.28	.02	.84
	9	.00	.01	.81	.01	.00	.14

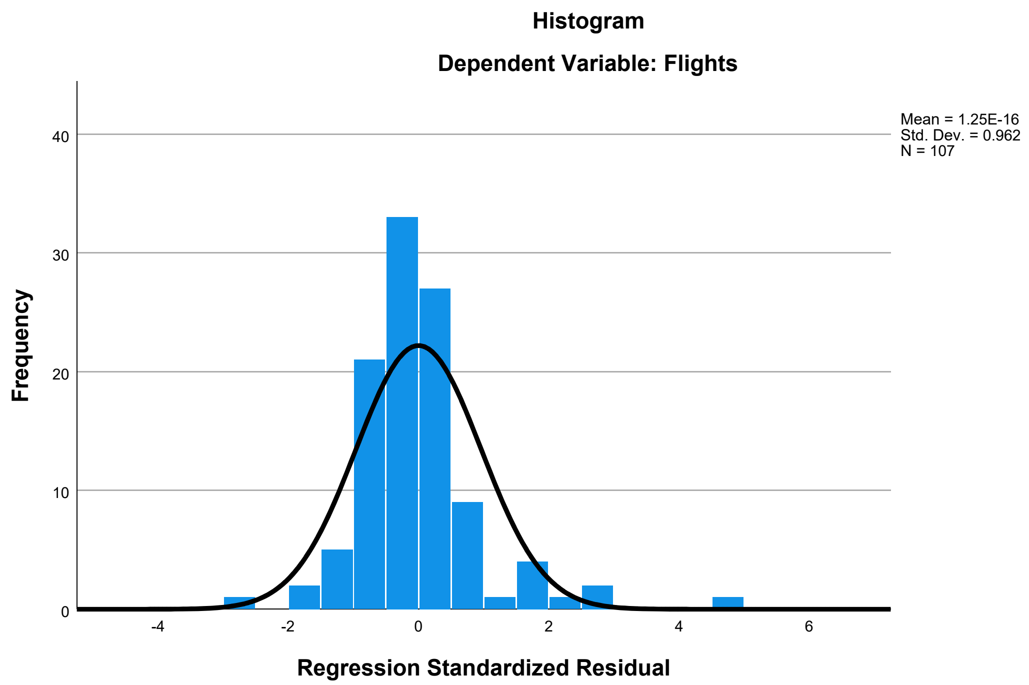
a. Dependent Variable: Flights

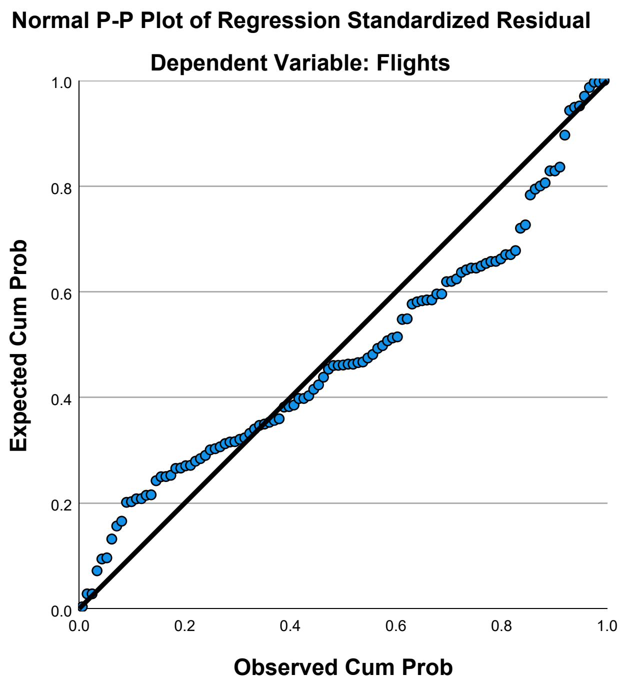
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-1.88	26.10	9.71	6.409	107
Residual	-17.639	29.896	.000	6.285	107
Std. Predicted Value	-1.809	2.558	.000	1.000	107
Std. Residual	-2.698	4.573	.000	.962	107

a. Dependent Variable: Flights

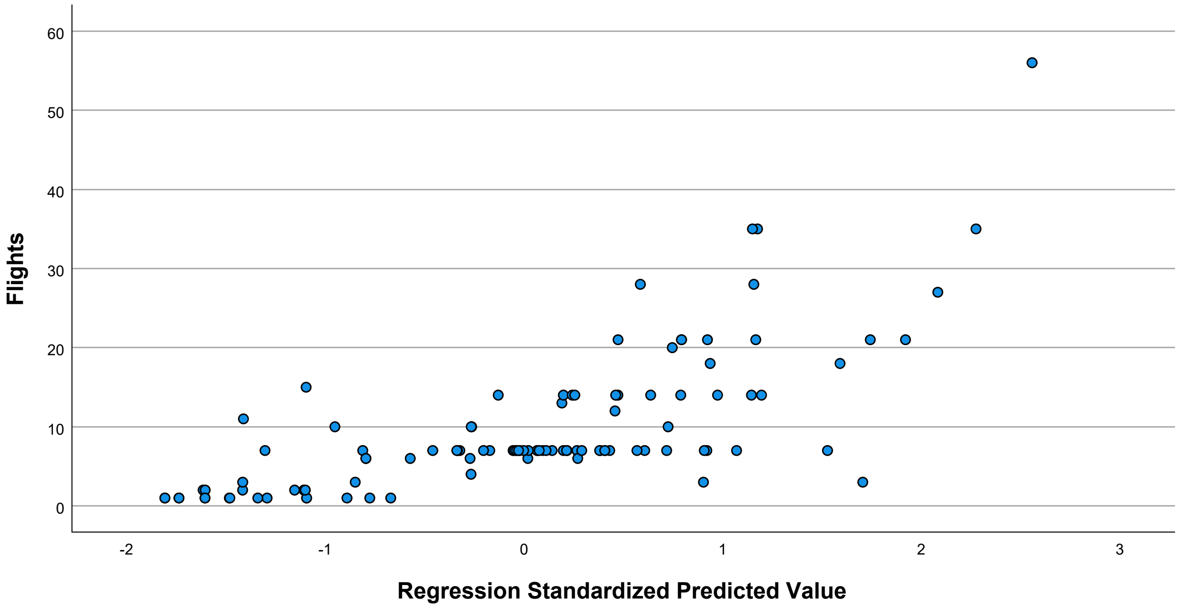
Charts


Histogram
Dependent Variable: Flights
Mean = 1.25E-16
Std. Dev. = 0.962
N = 107
Frequency
40
30
20
10
0
-4
-2
0
2
4
6
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob

Scatterplot

Dependent Variable: Flights



Regression

[DataSet13] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\UK\2017 Summer.sav

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.62	7.834	143
HomeConcentration	2.1400116224	2.3705049101	143
GLHR	.45	.500	143
GJFK	.09	.288	143
PartnerConcentration	.87961530070	2.1227519058	143
Distance	4.06331	.765856	143
Language	4.79951013	3.825664627	143
Ethnicity	.59807797	.668260370	143
Urban	16.59	4.846	143

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.417	.510	.271
	HomeConcentration	.417	1.000	.547	-.089
	GLHR	.510	.547	1.000	-.093
	GJFK	.271	-.089	-.093	1.000
	PartnerConcentration	.193	.100	.269	.028
	Distance	-.066	.070	.175	-.289
	Language	.347	.106	-.001	.667
	Ethnicity	.113	.046	-.032	.095
	Urban	.526	.356	.536	.268
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.000	.146
	GLHR	.000	.000	.	.134
	GJFK	.001	.146	.134	.
	PartnerConcentration	.010	.118	.001	.372
	Distance	.218	.203	.018	.000
	Language	.000	.104	.497	.000
	Ethnicity	.089	.295	.352	.129
	Urban	.000	.000	.000	.001
N	Flights	143	143	143	143
	HomeConcentration	143	143	143	143

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
Pearson Correlation	Flights	.193	-.066	.347	.113
	HomeConcentration	.100	.070	.106	.046
	GLHR	.269	.175	-.001	-.032
	GJFK	.028	-.289	.667	.095
	PartnerConcentration	1.000	.070	.122	-.037
	Distance	.070	1.000	-.383	-.213
	Language	.122	-.383	1.000	.472
	Ethnicity	-.037	-.213	.472	1.000
	Urban	.198	.004	.505	.358
Sig. (1-tailed)	Flights	.010	.218	<.001	.089
	HomeConcentration	.118	.203	.104	.295
	GLHR	.001	.018	.497	.352
	GJFK	.372	.000	.000	.129
	PartnerConcentration	.	.203	.073	.328
	Distance	.203	.	.000	.005
	Language	.073	.000	.	.000
	Ethnicity	.328	.005	.000	.
	Urban	.009	.482	.000	.000
N	Flights	143	143	143	143
	HomeConcentration	143	143	143	143

Correlations

		Urban
Pearson Correlation	Flights	.526
	HomeConcentration	.356
	GLHR	.536
	GJFK	.268
	PartnerConcentration	.198
	Distance	.004
	Language	.505
	Ethnicity	.358
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.000
	GLHR	.000
	GJFK	.001
	PartnerConcentration	.009
	Distance	.482
	Language	.000
	Ethnicity	.000
	Urban	.
N	Flights	143
	HomeConcentration	143

Correlations

		Flights	HomeConcentration	GLHR	GJFK
	GLHR	143	143	143	143
	GJFK	143	143	143	143
	PartnerConcentration	143	143	143	143
	Distance	143	143	143	143
	Language	143	143	143	143
	Ethnicity	143	143	143	143
	Urban	143	143	143	143

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
	GLHR	143	143	143	143
	GJFK	143	143	143	143
	PartnerConcentration	143	143	143	143
	Distance	143	143	143	143
	Language	143	143	143	143
	Ethnicity	143	143	143	143
	Urban	143	143	143	143

Correlations

	Urban
GLHR	143
GJFK	143
PartnerConcentration	143
Distance	143
Language	143
Ethnicity	143
Urban	143

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, HomeConcentration, GJFK, Ethnicity, GLHR, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.658[a]	.433	.399	6.074	.433	12.778

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	134	<.001

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, HomeConcentration, GJFK, Ethnicity, GLHR, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3771.618	8	471.452	12.778	<.001[b]
	Residual	4943.991	134	36.895		
	Total	8715.608	142			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, HomeConcentration, GJFK, Ethnicity, GLHR, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.812	3.530		.230	.818
	HomeConcentration	.590	.265	.179	2.231	.027
	GLHR	5.115	1.514	.326	3.378	<.001
	GJFK	5.193	2.602	.191	1.996	.048
	PartnerConcentration	.134	.255	.036	.526	.600
	Distance	-.552	.749	-.054	-.736	.463
	Language	.184	.246	.090	.749	.455
	Ethnicity	-.279	.959	-.024	-.291	.772
	Urban	.311	.163	.192	1.910	.058

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.661	1.513
	GLHR	.454	2.203
	GJFK	.461	2.169
	PartnerConcentration	.884	1.131
	Distance	.789	1.267
	Language	.293	3.409
	Ethnicity	.633	1.580
	Urban	.418	2.392

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	GLHR
1	1	5.660	1.000	.00	.01	.00
	2	1.151	2.217	.00	.03	.03
	3	.826	2.618	.00	.00	.00
	4	.572	3.146	.00	.14	.07
	5	.413	3.703	.01	.15	.02
	6	.238	4.876	.00	.59	.55
	7	.101	7.472	.00	.08	.01
	8	.026	14.766	.02	.00	.29
	9	.013	21.184	.96	.00	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions					
		GJFK	PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.01	.00	.00	.01	.00
	2	.21	.03	.00	.01	.01	.00
	3	.04	.69	.00	.00	.04	.00
	4	.12	.17	.00	.00	.18	.00
	5	.00	.01	.02	.01	.28	.00
	6	.01	.05	.00	.01	.04	.00
	7	.62	.04	.01	.72	.40	.00
	8	.00	.00	.14	.20	.04	.95
	9	.00	.01	.83	.05	.00	.04

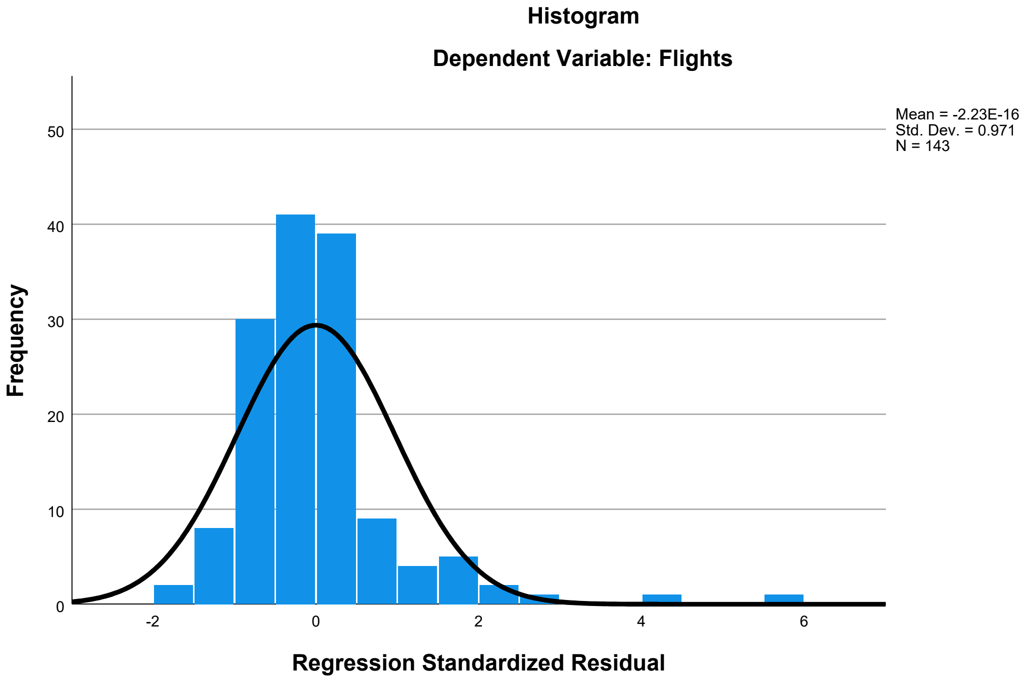
a. Dependent Variable: Flights

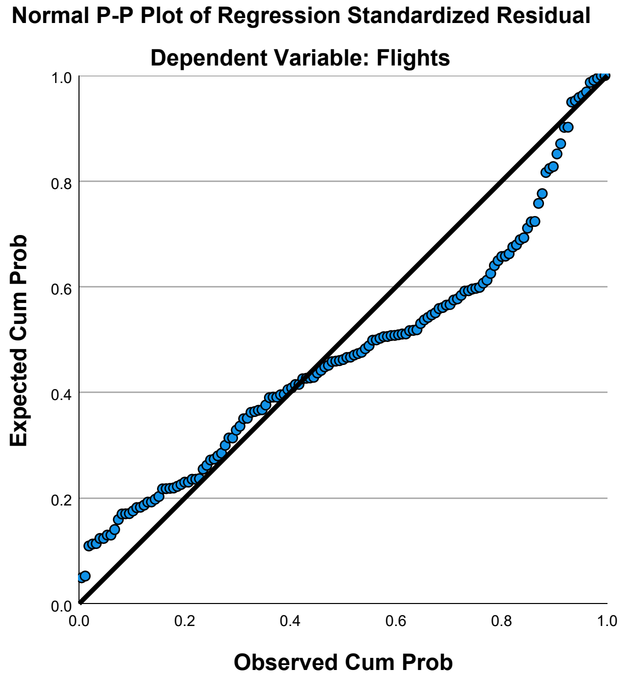
Residuals Statistics[a]

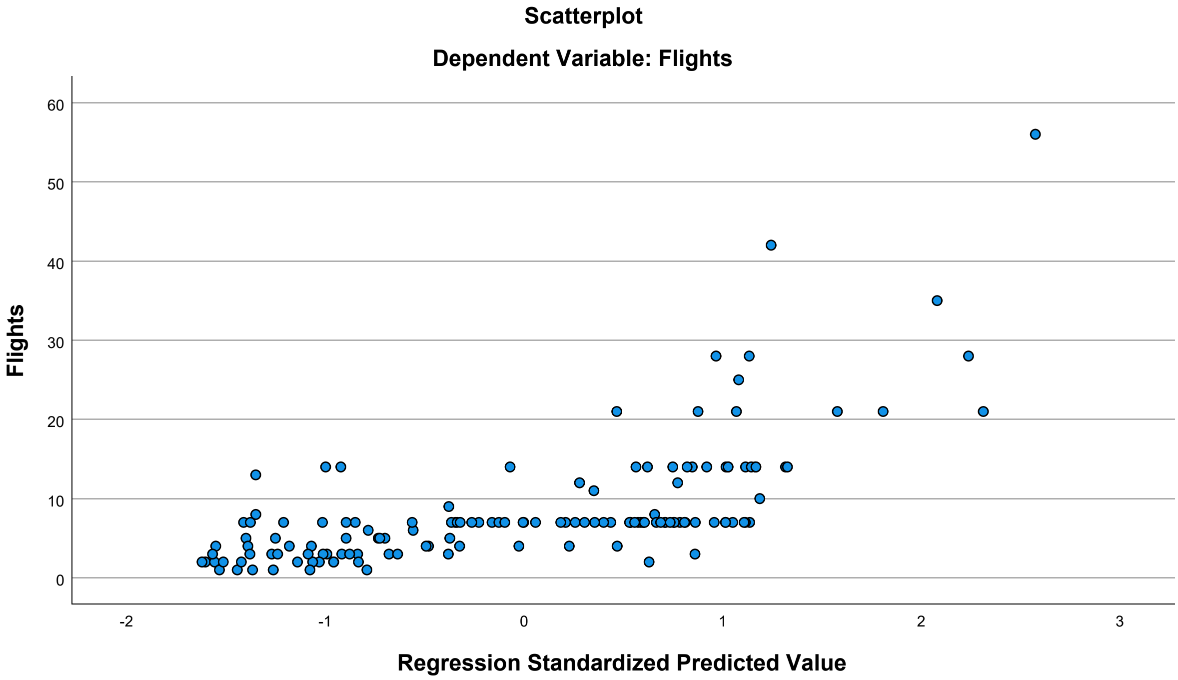
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.26	21.89	8.62	5.154	143
Residual	-10.056	34.110	.000	5.901	143
Std. Predicted Value	-1.622	2.574	.000	1.000	143
Std. Residual	-1.656	5.616	.000	.971	143

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -2.23E-16
Std. Dev. = 0.971
N = 143
Frequency
50
40
30
20
10
0
-2
0
2
4
6
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.39	6.319	79
HomeConcentration	2.6834774684	2.5865822961	79
GLHR	.52	.503	79
GJFK	.13	.335	79
PartnerConcentration	.02496734177	.08729340065	79
Distance	4.02743	.691692	79
Language	5.76380565	3.622051593	79
Ethnicity	.76863506	.703007488	79
Urban	18.16	4.741	79

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.166	.274	.376
	HomeConcentration	.166	1.000	-.207	-.251
	GLHR	.274	-.207	1.000	.062
	GJFK	.376	-.251	.062	1.000
	PartnerConcentration	.096	.073	.276	.035
	Distance	-.147	.102	.043	-.342
	Language	.374	.121	.044	.743
	Ethnicity	.139	.018	.235	.142
	Urban	.373	.012	.566	.253
Sig. (1-tailed)	Flights	.	.072	.007	<.001
	HomeConcentration	.072	.	.034	.013
	GLHR	.007	.034	.	.294
	GJFK	.000	.013	.294	.
	PartnerConcentration	.199	.261	.007	.381
	Distance	.098	.185	.353	.001
	Language	.000	.144	.349	.000
	Ethnicity	.111	.437	.018	.106
	Urban	.000	.458	.000	.012
N	Flights	79	79	79	79
	HomeConcentration	79	79	79	79
	GLHR	79	79	79	79
	GJFK	79	79	79	79
	PartnerConcentration	79	79	79	79
	Distance	79	79	79	79
	Language	79	79	79	79
	Ethnicity	79	79	79	79
	Urban	79	79	79	79

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
Pearson Correlation	Flights	.096	-.147	.374	.139
	HomeConcentration	.073	.102	.121	.018
	GLHR	.276	.043	.044	.235
	GJFK	.035	-.342	.743	.142
	PartnerConcentration	1.000	.080	.093	-.030
	Distance	.080	1.000	-.404	-.289
	Language	.093	-.404	1.000	.448
	Ethnicity	-.030	-.289	.448	1.000
	Urban	.254	.023	.373	.245
Sig. (1-tailed)	Flights	.199	.098	<.001	.111
	HomeConcentration	.261	.185	.144	.437
	GLHR	.007	.353	.349	.018
	GJFK	.381	.001	.000	.106
	PartnerConcentration	.	.241	.208	.395
	Distance	.241	.	.000	.005
	Language	.208	.000	.	.000
	Ethnicity	.395	.005	.000	.
	Urban	.012	.420	.000	.015
N	Flights	79	79	79	79
	HomeConcentration	79	79	79	79
	GLHR	79	79	79	79
	GJFK	79	79	79	79
	PartnerConcentration	79	79	79	79
	Distance	79	79	79	79
	Language	79	79	79	79
	Ethnicity	79	79	79	79
	Urban	79	79	79	79

Correlations

		Urban
Pearson Correlation	Flights	.373
	HomeConcentration	.012
	GLHR	.566
	GJFK	.253
	PartnerConcentration	.254
	Distance	.023
	Language	.373
	Ethnicity	.245
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.458
	GLHR	.000
	GJFK	.012
	PartnerConcentration	.012
	Distance	.420
	Language	.000
	Ethnicity	.015
	Urban	.
N	Flights	79
	HomeConcentration	79
	GLHR	79
	GJFK	79
	PartnerConcentration	79
	Distance	79
	Language	79
	Ethnicity	79
	Urban	79

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, Distance, PartnerConcentration, Ethnicity, GJFK, GLHR, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.574[a]	.330	.253	5.462	.330	4.303

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	70	<.001

a. Predictors: (Constant), Urban, HomeConcentration, Distance, PartnerConcentration, Ethnicity, GJFK, GLHR, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1026.841	8	128.355	4.303	<.001[b]
	Residual	2087.994	70	29.828		
	Total	3114.835	78			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, Distance, PartnerConcentration, Ethnicity, GJFK, GLHR, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.661	4.861		.753	.454
	HomeConcentration	.880	.298	.360	2.955	.004
	GLHR	3.062	1.663	.244	1.842	.070
	GJFK	8.983	3.516	.476	2.555	.013
	PartnerConcentration	-2.777	7.605	-.038	-.365	.716
	Distance	-.769	1.028	-.084	-.748	.457
	Language	-.221	.374	-.127	-.591	.556
	Ethnicity	-.023	1.131	-.003	-.020	.984
	Urban	.226	.180	.169	1.258	.213

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.644	1.552
	GLHR	.547	1.828
	GJFK	.276	3.619
	PartnerConcentration	.868	1.152
	Distance	.756	1.323
	Language	.209	4.795
	Ethnicity	.605	1.654
	Urban	.527	1.896

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	5.837	1.000	.00	.00	.00
	2	1.028	2.383	.00	.04	.00
	3	.921	2.518	.00	.01	.01
	4	.554	3.247	.00	.21	.21
	5	.363	4.011	.00	.01	.01
	6	.212	5.248	.01	.45	.45
	7	.051	10.724	.00	.25	.00
	8	.025	15.166	.03	.01	.30
	9	.010	24.399	.96	.02	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.01	.00
	2	.16	.05	.00	.00	.00	.00
	3	.01	.72	.00	.00	.01	.00
	4	.02	.06	.00	.00	.03	.00
	5	.02	.04	.01	.00	.53	.00
	6	.02	.10	.01	.00	.04	.00
	7	.72	.02	.03	.70	.35	.03
	8	.04	.00	.08	.22	.03	.95
	9	.00	.01	.86	.07	.01	.02

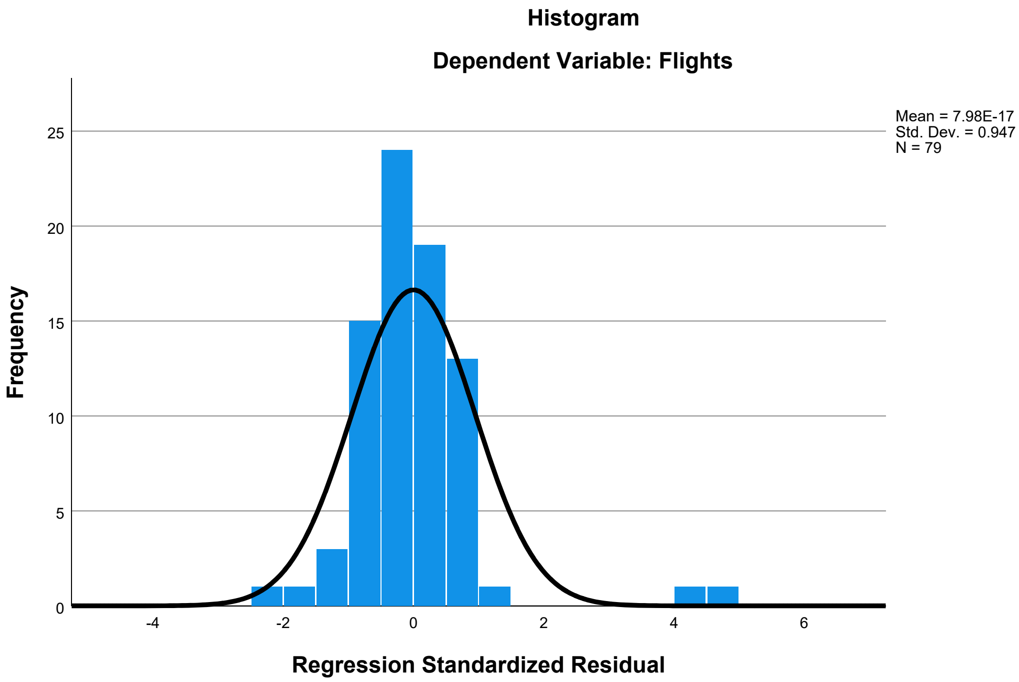
a. Dependent Variable: Flights

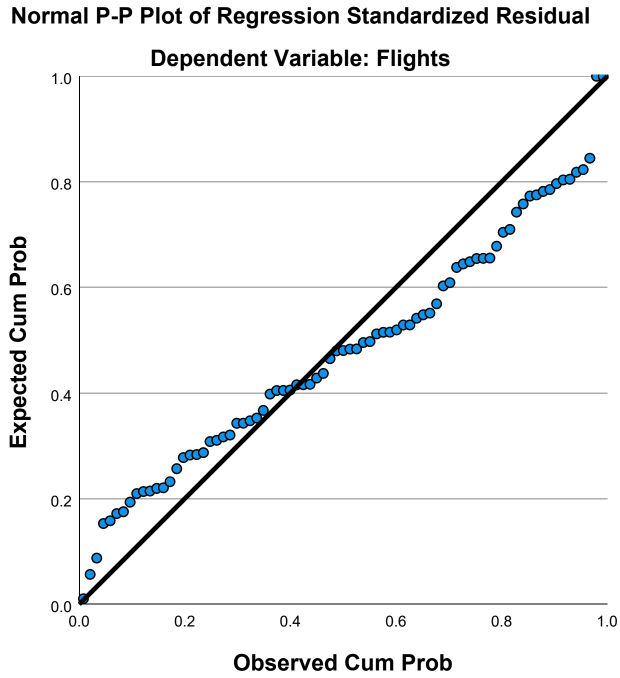
Residuals Statistics[a]

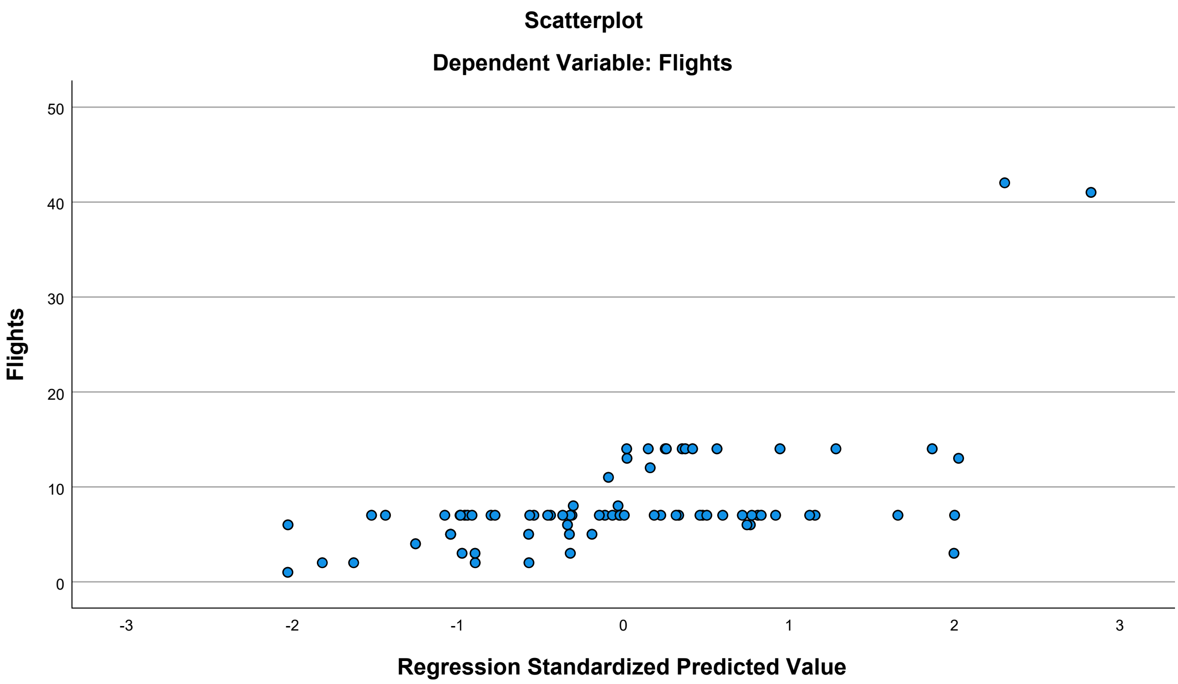
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.03	18.64	8.39	3.628	79
Residual	-12.638	25.249	.000	5.174	79
Std. Predicted Value	-2.028	2.825	.000	1.000	79
Std. Residual	-2.314	4.623	.000	.947	79

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-3
-2
-1
0
1
2
3

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	8.39	6.319	79
HomeConcentration	2.6834774684	2.5865822961	79
GLHR	.52	.503	79
GJFK	.13	.335	79
PartnerConcentration	.02496734177	.08729340065	79
Distance	4.02743	.691692	79
Ethnicity	.76863506	.703007488	79
Urban	18.16	4.741	79

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.166	.274	.376
	HomeConcentration	.166	1.000	-.207	-.251
	GLHR	.274	-.207	1.000	.062
	GJFK	.376	-.251	.062	1.000
	PartnerConcentration	.096	.073	.276	.035
	Distance	-.147	.102	.043	-.342
	Ethnicity	.139	.018	.235	.142
	Urban	.373	.012	.566	.253
Sig. (1-tailed)	Flights	.	.072	.007	<.001
	HomeConcentration	.072	.	.034	.013
	GLHR	.007	.034	.	.294
	GJFK	.000	.013	.294	.
	PartnerConcentration	.199	.261	.007	.381
	Distance	.098	.185	.353	.001
	Ethnicity	.111	.437	.018	.106
	Urban	.000	.458	.000	.012
N	Flights	79	79	79	79
	HomeConcentration	79	79	79	79
	GLHR	79	79	79	79
	GJFK	79	79	79	79
	PartnerConcentration	79	79	79	79
	Distance	79	79	79	79
	Ethnicity	79	79	79	79
	Urban	79	79	79	79

Correlations

		PartnerConcentration	Distance	Ethnicity	Urban
Pearson Correlation	Flights	.096	-.147	.139	.373
	HomeConcentration	.073	.102	.018	.012
	GLHR	.276	.043	.235	.566
	GJFK	.035	-.342	.142	.253
	PartnerConcentration	1.000	.080	-.030	.254
	Distance	.080	1.000	-.289	.023
	Ethnicity	-.030	-.289	1.000	.245
	Urban	.254	.023	.245	1.000
Sig. (1-tailed)	Flights	.199	.098	.111	<.001
	HomeConcentration	.261	.185	.437	.458
	GLHR	.007	.353	.018	.000
	GJFK	.381	.001	.106	.012
	PartnerConcentration	.	.241	.395	.012
	Distance	.241	.	.005	.420
	Ethnicity	.395	.005	.	.015
	Urban	.012	.420	.015	.
N	Flights	79	79	79	79
	HomeConcentration	79	79	79	79
	GLHR	79	79	79	79
	GJFK	79	79	79	79
	PartnerConcentration	79	79	79	79
	Distance	79	79	79	79
	Ethnicity	79	79	79	79
	Urban	79	79	79	79

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, Distance, PartnerConcentration, Ethnicity, GJFK, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.571[a]	.326	.260	5.436	.326	4.913

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	7	71	<.001

a. Predictors: (Constant), Urban, HomeConcentration, Distance, PartnerConcentration, Ethnicity, GJFK, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1016.407	7	145.201	4.913	<.001[b]
	Residual	2098.429	71	29.555		
	Total	3114.835	78			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, Distance, PartnerConcentration, Ethnicity, GJFK, GLHR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.020	4.717		.640	.524
	HomeConcentration	.797	.262	.326	3.047	.003
	GLHR	3.265	1.620	.260	2.016	.048
	GJFK	7.336	2.135	.388	3.436	<.001
	PartnerConcentration	-3.295	7.519	-.046	-.438	.663
	Distance	-.639	1.000	-.070	-.639	.525
	Ethnicity	-.365	.968	-.041	-.377	.707
	Urban	.195	.171	.146	1.140	.258

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.827	1.210
	GLHR	.571	1.750
	GJFK	.742	1.347
	PartnerConcentration	.879	1.137
	Distance	.792	1.262
	Ethnicity	.819	1.221
	Urban	.576	1.737

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	5.010	1.000	.00	.01	.01
	2	.946	2.302	.00	.08	.00
	3	.917	2.337	.00	.00	.01
	4	.522	3.098	.00	.27	.21
	5	.354	3.761	.00	.03	.03
	6	.212	4.862	.01	.58	.47
	7	.029	13.167	.02	.03	.24
	8	.010	22.030	.97	.00	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Ethnicity	Urban
1	1	.00	.00	.00	.01	.00
	2	.53	.00	.00	.00	.00
	3	.01	.79	.00	.01	.00
	4	.18	.04	.00	.04	.00
	5	.00	.05	.01	.76	.00
	6	.07	.10	.01	.05	.00
	7	.15	.01	.15	.03	.93
	8	.05	.01	.83	.08	.07

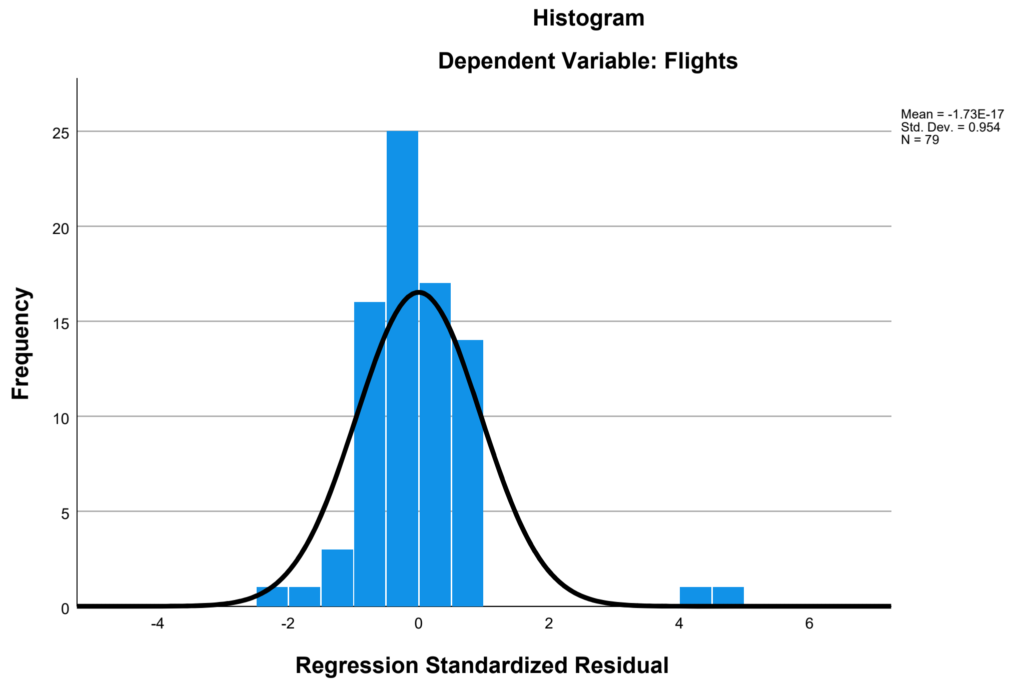
a. Dependent Variable: Flights

Residuals Statistics[a]

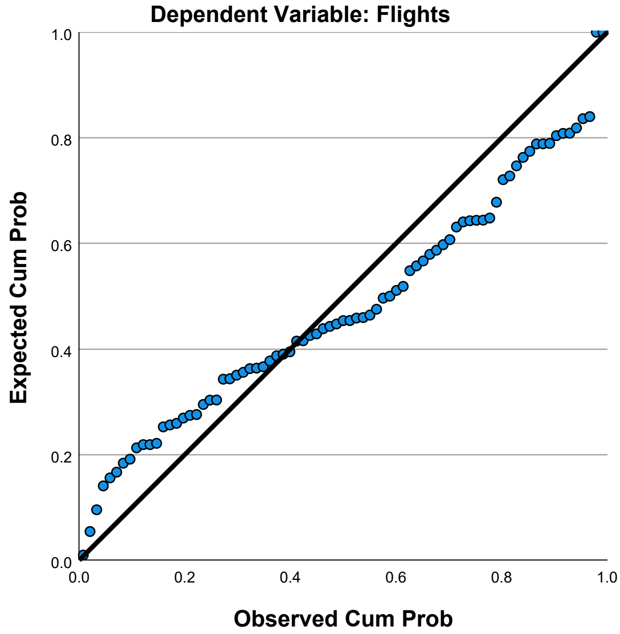
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.05	18.43	8.39	3.610	79
Residual	-12.708	25.283	.000	5.187	79
Std. Predicted Value	-2.034	2.781	.000	1.000	79
Std. Residual	-2.338	4.651	.000	.954	79

a. Dependent Variable: Flights

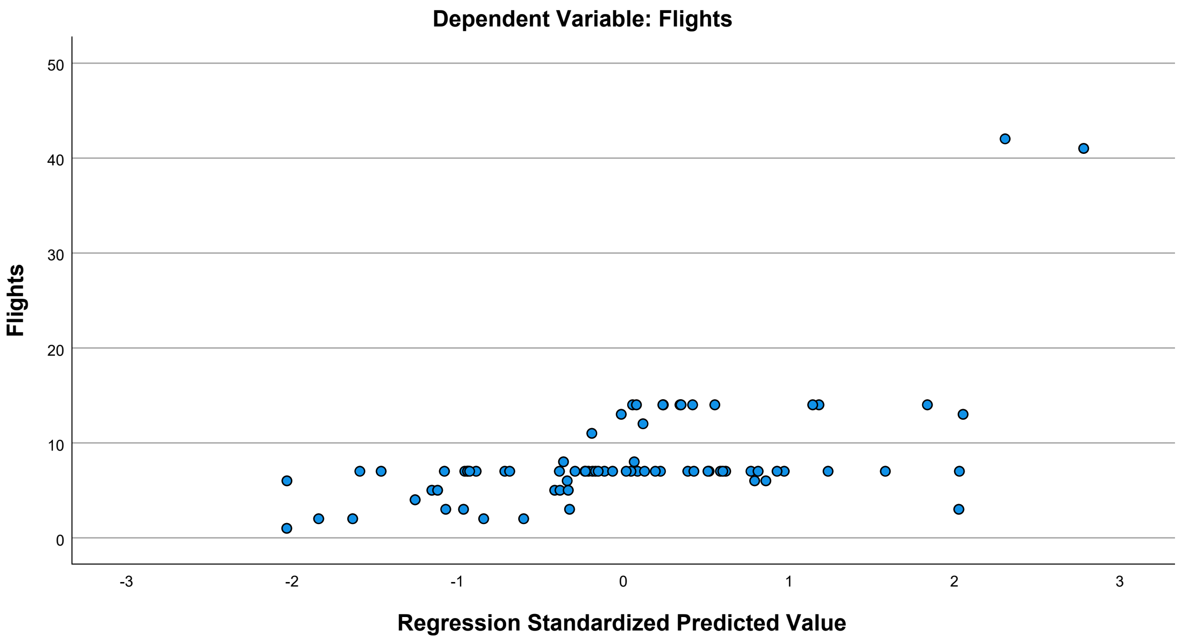
Charts



Normal P-P Plot of Regression Standardized Residual



Scatterplot



Regression

```
[DataSet15] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\UK\2002 Winter.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.64	6.240	80
HomeConcentration	2.9456448875	2.7978678483	80
GLHR	.54	.502	80
GJFK	.10	.302	80
PartnerConcentration	1.1696949125	1.7917443307	80
Distance	4.02549	.711547	80
Language	5.89132212	3.262331776	80
Ethnicity	.77717196	.630440832	80
Urban	18.59	3.828	80

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.255	.378	.275
	HomeConcentration	.255	1.000	-.239	-.249
	GLHR	.378	-.239	1.000	.142
	GJFK	.275	-.249	.142	1.000
	PartnerConcentration	.191	-.095	.169	-.024
	Distance	-.065	.056	-.005	-.283
	Language	.289	-.025	.120	.709
	Ethnicity	.071	-.142	.100	.182
	Urban	.454	-.164	.657	.299
Sig. (1-tailed)	Flights	.	.011	<.001	.007
	HomeConcentration	.011	.	.016	.013
	GLHR	.000	.016	.	.104
	GJFK	.007	.013	.104	.
	PartnerConcentration	.044	.200	.067	.415
	Distance	.284	.310	.481	.005
	Language	.005	.412	.145	.000
	Ethnicity	.266	.104	.188	.053
	Urban	.000	.072	.000	.004
N	Flights	80	80	80	80
	HomeConcentration	80	80	80	80

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
Pearson Correlation	Flights	.191	-.065	.289	.071
	HomeConcentration	-.095	.056	-.025	-.142
	GLHR	.169	-.005	.120	.100
	GJFK	-.024	-.283	.709	.182
	PartnerConcentration	1.000	.105	.089	-.048
	Distance	.105	1.000	-.454	-.330
	Language	.089	-.454	1.000	.524
	Ethnicity	-.048	-.330	.524	1.000
	Urban	.143	.024	.311	.127
Sig. (1-tailed)	Flights	.044	.284	.005	.266
	HomeConcentration	.200	.310	.412	.104
	GLHR	.067	.481	.145	.188
	GJFK	.415	.005	.000	.053
	PartnerConcentration	.	.178	.215	.337
	Distance	.178	.	.000	.001
	Language	.215	.000	.	.000
	Ethnicity	.337	.001	.000	.
	Urban	.103	.416	.002	.131
N	Flights	80	80	80	80
	HomeConcentration	80	80	80	80

Correlations

		Urban
Pearson Correlation	Flights	.454
	HomeConcentration	-.164
	GLHR	.657
	GJFK	.299
	PartnerConcentration	.143
	Distance	.024
	Language	.311
	Ethnicity	.127
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.072
	GLHR	.000
	GJFK	.004
	PartnerConcentration	.103
	Distance	.416
	Language	.002
	Ethnicity	.131
	Urban	.
N	Flights	80
	HomeConcentration	80

Correlations

		Flights	HomeConcentration	GLHR	GJFK
	GLHR	80	80	80	80
	GJFK	80	80	80	80
	PartnerConcentration	80	80	80	80
	Distance	80	80	80	80
	Language	80	80	80	80
	Ethnicity	80	80	80	80
	Urban	80	80	80	80

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
	GLHR	80	80	80	80
	GJFK	80	80	80	80
	PartnerConcentration	80	80	80	80
	Distance	80	80	80	80
	Language	80	80	80	80
	Ethnicity	80	80	80	80
	Urban	80	80	80	80

Correlations

		Urban
	GLHR	80
	GJFK	80
	PartnerConcentration	80
	Distance	80
	Language	80
	Ethnicity	80
	Urban	80

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, HomeConcentration, Ethnicity, GJFK, GLHR, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.662[a]	.438	.375	4.935	.438	6.913

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	71	<.001

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, HomeConcentration, Ethnicity, GJFK, GLHR, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1347.075	8	168.384	6.913	<.001[b]
	Residual	1729.412	71	24.358		
	Total	3076.487	79			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, HomeConcentration, Ethnicity, GJFK, GLHR, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-1.975	4.905		-.403	.688
	HomeConcentration	1.065	.228	.478	4.662	<.001
	GLHR	2.877	1.521	.231	1.891	.063
	GJFK	7.512	3.102	.363	2.422	.018
	PartnerConcentration	.665	.332	.191	2.001	.049
	Distance	-.518	.916	-.059	-.566	.573
	Language	-.313	.348	-.164	-.898	.372
	Ethnicity	.879	1.169	.089	.752	.454
	Urban	.465	.208	.285	2.235	.029

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.755	1.325
	GLHR	.529	1.890
	GJFK	.352	2.845
	PartnerConcentration	.869	1.151
	Distance	.725	1.379
	Language	.239	4.190
	Ethnicity	.568	1.760
	Urban	.486	2.059

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	6.098	1.000	.00	.00	.00
	2	1.049	2.411	.00	.05	.00
	3	.714	2.923	.00	.09	.02
	4	.478	3.571	.00	.18	.20
	5	.373	4.043	.00	.06	.13
	6	.211	5.375	.01	.42	.24
	7	.052	10.836	.00	.18	.00
	8	.016	19.529	.00	.01	.34
	9	.009	26.678	.99	.00	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.01	.00	.00	.00	.00
	2	.21	.01	.00	.00	.00	.00
	3	.00	.60	.00	.00	.01	.00
	4	.07	.22	.00	.00	.03	.00
	5	.05	.04	.00	.00	.36	.00
	6	.00	.03	.03	.00	.08	.01
	7	.63	.07	.03	.71	.51	.00
	8	.01	.02	.35	.18	.01	.81
	9	.03	.02	.59	.09	.00	.18

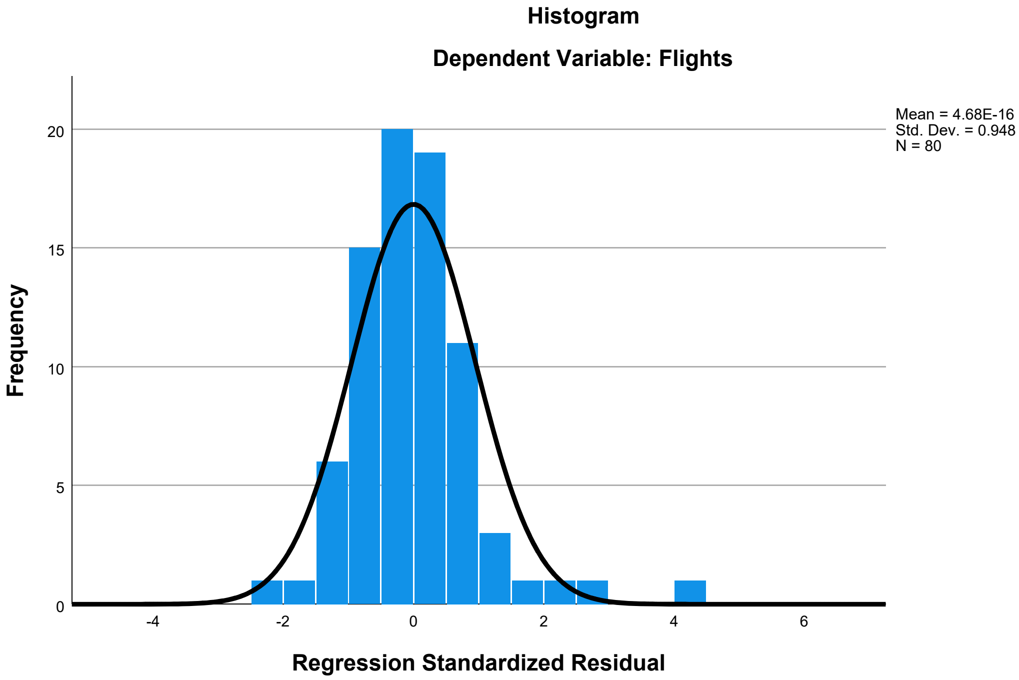
a. Dependent Variable: Flights

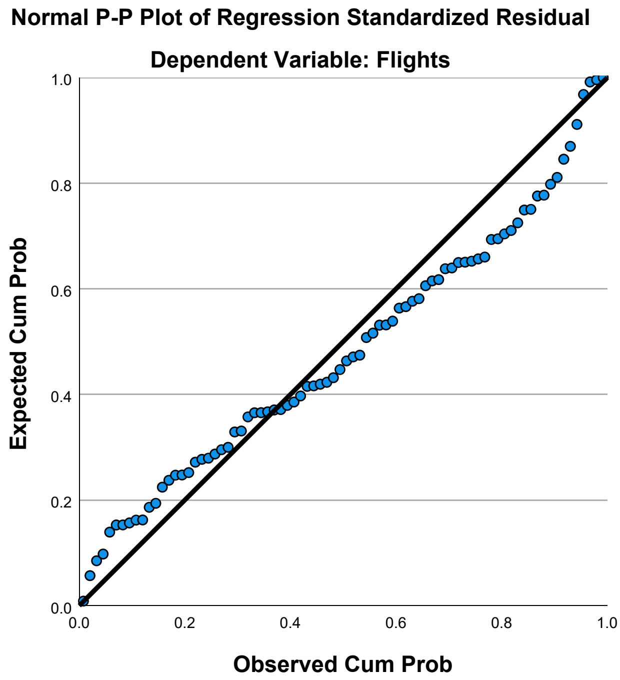
Residuals Statistics[a]

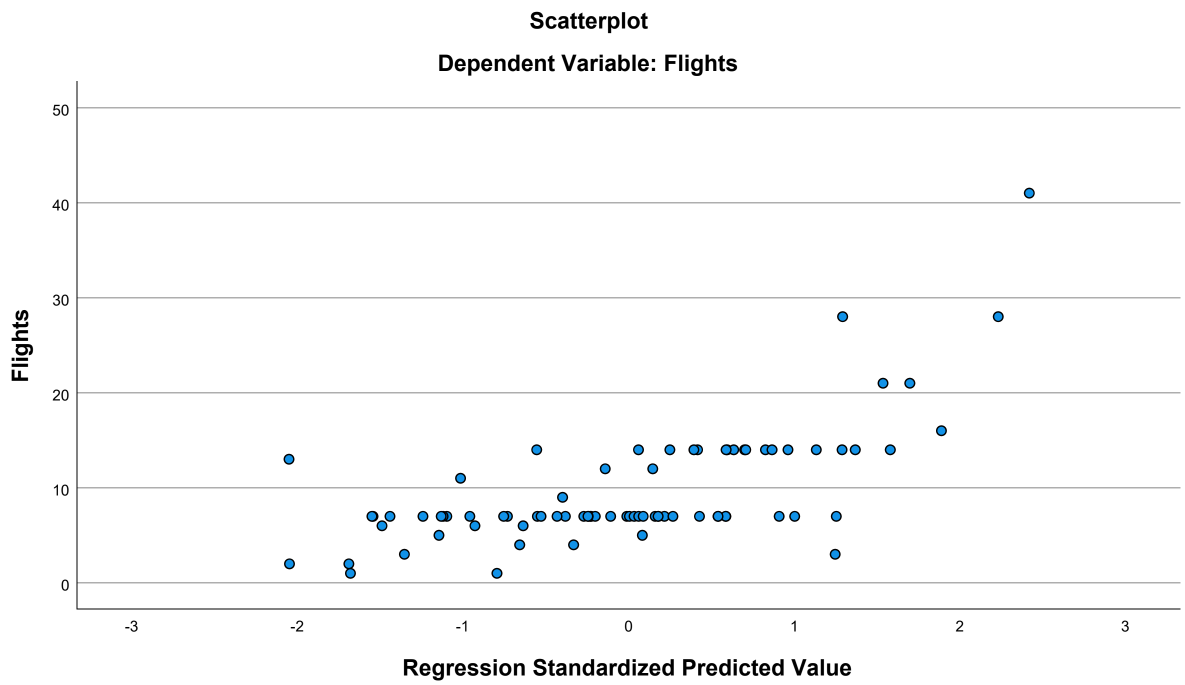
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.17	19.63	9.64	4.129	80
Residual	-11.787	21.370	.000	4.679	80
Std. Predicted Value	-2.052	2.420	.000	1.000	80
Std. Residual	-2.388	4.330	.000	.948	80

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 4.68E-16
Std. Dev. = 0.948
N = 80
Frequency
0
5
10
15
20
-4
-2
0
2
4
6
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.64	6.240	80
HomeConcentration	2.9456448875	2.7978678483	80
GLHR	.54	.502	80
GJFK	.10	.302	80
PartnerConcentration	1.1696949125	1.7917443307	80
Distance	4.02549	.711547	80
Ethnicity	.77717196	.630440832	80
Urban	18.59	3.828	80

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.255	.378	.275
	HomeConcentration	.255	1.000	-.239	-.249
	GLHR	.378	-.239	1.000	.142
	GJFK	.275	-.249	.142	1.000
	PartnerConcentration	.191	-.095	.169	-.024
	Distance	-.065	.056	-.005	-.283
	Ethnicity	.071	-.142	.100	.182
	Urban	.454	-.164	.657	.299
Sig. (1-tailed)	Flights	.	.011	<.001	.007
	HomeConcentration	.011	.	.016	.013
	GLHR	.000	.016	.	.104
	GJFK	.007	.013	.104	.
	PartnerConcentration	.044	.200	.067	.415
	Distance	.284	.310	.481	.005
	Ethnicity	.266	.104	.188	.053
	Urban	.000	.072	.000	.004
N	Flights	80	80	80	80
	HomeConcentration	80	80	80	80
	GLHR	80	80	80	80
	GJFK	80	80	80	80
	PartnerConcentration	80	80	80	80
	Distance	80	80	80	80
	Ethnicity	80	80	80	80
	Urban	80	80	80	80

Correlations

		PartnerConcentration	Distance	Ethnicity	Urban
Pearson Correlation	Flights	.191	-.065	.071	.454
	HomeConcentration	-.095	.056	-.142	-.164
	GLHR	.169	-.005	.100	.657
	GJFK	-.024	-.283	.182	.299
	PartnerConcentration	1.000	.105	-.048	.143
	Distance	.105	1.000	-.330	.024
	Ethnicity	-.048	-.330	1.000	.127
	Urban	.143	.024	.127	1.000
Sig. (1-tailed)	Flights	.044	.284	.266	<.001
	HomeConcentration	.200	.310	.104	.072
	GLHR	.067	.481	.188	.000
	GJFK	.415	.005	.053	.004
	PartnerConcentration	.	.178	.337	.103
	Distance	.178	.	.001	.416
	Ethnicity	.337	.001	.	.131
	Urban	.103	.416	.131	.
N	Flights	80	80	80	80
	HomeConcentration	80	80	80	80
	GLHR	80	80	80	80
	GJFK	80	80	80	80
	PartnerConcentration	80	80	80	80
	Distance	80	80	80	80
	Ethnicity	80	80	80	80
	Urban	80	80	80	80

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, HomeConcentration, Ethnicity, GJFK, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.657[a]	.431	.376	4.929	.431	7.806

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	7	72	<.001

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, HomeConcentration, Ethnicity, GJFK, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1327.412	7	189.630	7.806	<.001[b]
	Residual	1749.075	72	24.293		
	Total	3076.487	79			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, HomeConcentration, Ethnicity, GJFK, GLHR

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-3.231	4.696		-.688	.494
	HomeConcentration	.988	.211	.443	4.673	<.001
	GLHR	3.043	1.508	.245	2.018	.047
	GJFK	5.451	2.085	.264	2.614	.011
	PartnerConcentration	.577	.317	.166	1.819	.073
	Distance	-.248	.864	-.028	-.287	.775
	Ethnicity	.268	.949	.027	.282	.778
	Urban	.425	.203	.260	2.092	.040

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.879	1.138
	GLHR	.537	1.862
	GJFK	.776	1.289
	PartnerConcentration	.951	1.051
	Distance	.813	1.230
	Ethnicity	.860	1.163
	Urban	.510	1.962

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions GLHR
1	1	5.243	1.000	.00	.01	.01
	2	.989	2.303	.00	.07	.00
	3	.705	2.728	.00	.09	.01
	4	.467	3.351	.00	.24	.18
	5	.360	3.814	.00	.04	.19
	6	.209	5.009	.01	.53	.22
	7	.019	16.718	.00	.01	.27
	8	.009	23.929	.99	.01	.12

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	Variance Proportions PartnerConcentration	Variance Proportions Distance	Variance Proportions Ethnicity	Variance Proportions Urban
1	1	.00	.01	.00	.01	.00
	2	.54	.01	.00	.01	.00
	3	.01	.70	.00	.02	.00
	4	.26	.19	.00	.06	.00
	5	.03	.06	.00	.59	.00
	6	.01	.04	.03	.17	.01
	7	.15	.00	.51	.07	.63
	8	.00	.00	.46	.08	.36

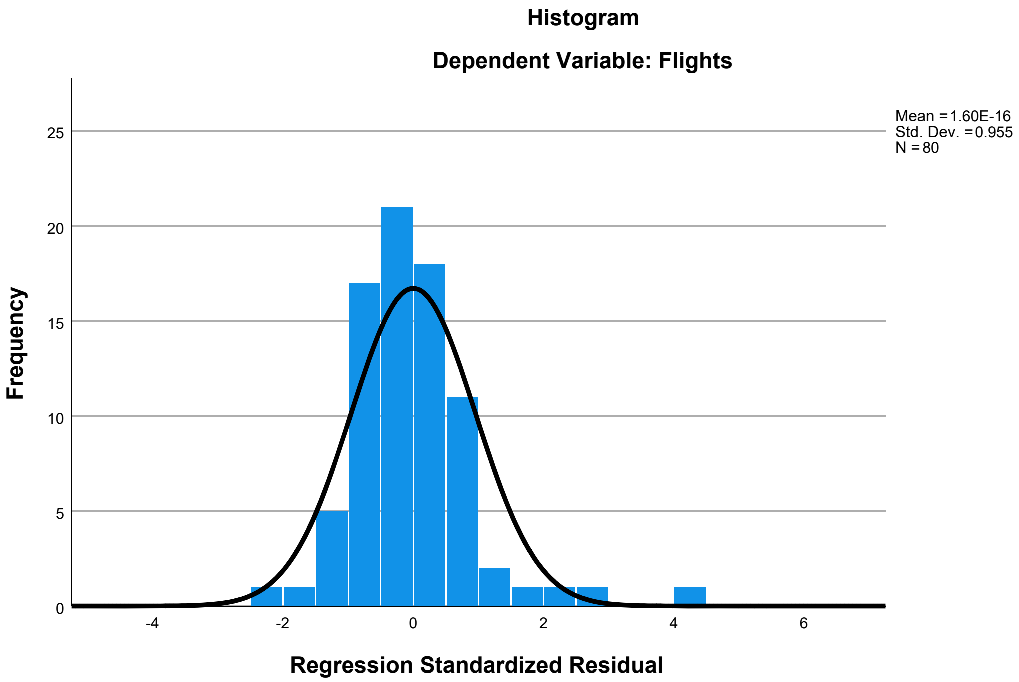
a. Dependent Variable: Flights

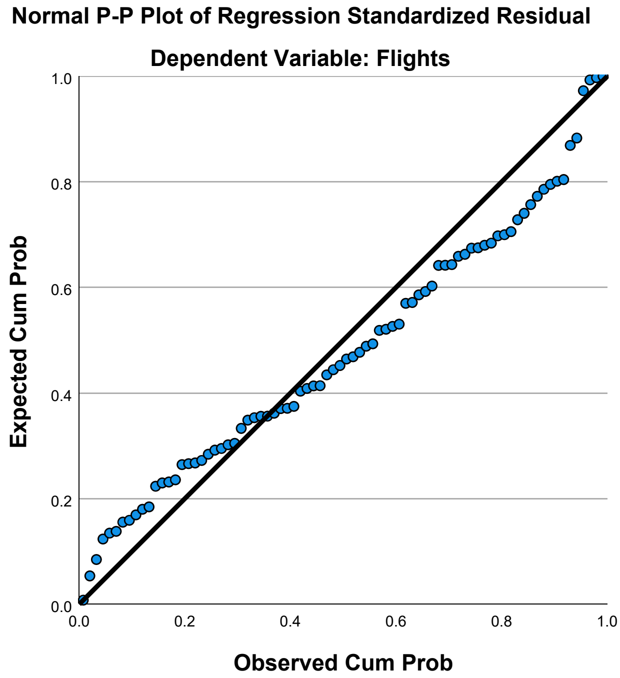
Residuals Statistics[a]

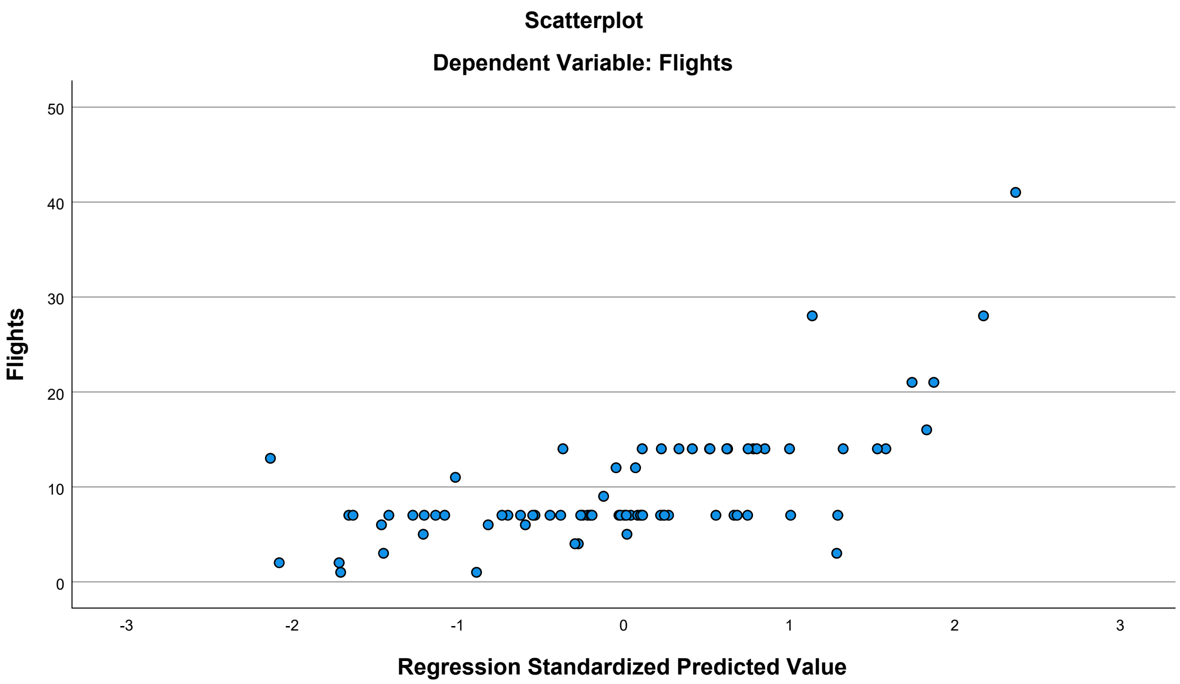
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.89	19.34	9.64	4.099	80
Residual	-11.912	21.659	.000	4.705	80
Std. Predicted Value	-2.134	2.367	.000	1.000	80
Std. Residual	-2.417	4.394	.000	.955	80

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-3
-2
-1
0
1
2
3

Regression

```
[DataSet16] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\UK\2007
Winter.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.07	8.235	99
HomeConcentration	2.6362464646	2.9178291630	99
GLHR	.45	.500	99
GJFK	.11	.316	99
PartnerConcentration	.74284749495	1.6847695584	99
Distance	3.99797	.685168	99
Language	5.79189365	3.540913028	99
Ethnicity	.83273802	.739768165	99
Urban	16.76	5.241	99

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.278	.438	.291
	HomeConcentration	.278	1.000	-.009	-.234
	GLHR	.438	-.009	1.000	.000
	GJFK	.291	-.234	.000	1.000
	PartnerConcentration	.281	.002	.236	-.042
	Distance	-.069	.020	.155	-.299
	Language	.310	-.014	-.028	.702
	Ethnicity	.022	-.188	.019	.138
	Urban	.498	.078	.505	.343
Sig. (1-tailed)	Flights	.	.003	<.001	.002
	HomeConcentration	.003	.	.464	.010
	GLHR	.000	.464	.	.500
	GJFK	.002	.010	.500	.
	PartnerConcentration	.002	.493	.009	.342
	Distance	.247	.421	.063	.001
	Language	.001	.446	.393	.000
	Ethnicity	.413	.032	.425	.087
	Urban	.000	.222	.000	.000
N	Flights	99	99	99	99
	HomeConcentration	99	99	99	99

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
Pearson Correlation	Flights	.281	-.069	.310	.022
	HomeConcentration	.002	.020	-.014	-.188
	GLHR	.236	.155	-.028	.019
	GJFK	-.042	-.299	.702	.138
	PartnerConcentration	1.000	.151	.014	-.067
	Distance	.151	1.000	-.458	-.303
	Language	.014	-.458	1.000	.483
	Ethnicity	-.067	-.303	.483	1.000
	Urban	.211	-.017	.438	.194
Sig. (1-tailed)	Flights	.002	.247	<.001	.413
	HomeConcentration	.493	.421	.446	.032
	GLHR	.009	.063	.393	.425
	GJFK	.342	.001	.000	.087
	PartnerConcentration	.	.068	.444	.255
	Distance	.068	.	.000	.001
	Language	.444	.000	.	.000
	Ethnicity	.255	.001	.000	.
	Urban	.018	.435	.000	.027
N	Flights	99	99	99	99
	HomeConcentration	99	99	99	99

Correlations

		Urban
Pearson Correlation	Flights	.498
	HomeConcentration	.078
	GLHR	.505
	GJFK	.343
	PartnerConcentration	.211
	Distance	-.017
	Language	.438
	Ethnicity	.194
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.222
	GLHR	.000
	GJFK	.000
	PartnerConcentration	.018
	Distance	.435
	Language	.000
	Ethnicity	.027
	Urban	.
N	Flights	99
	HomeConcentration	99

Correlations

		Flights	HomeConcentration	GLHR	GJFK
	GLHR	99	99	99	99
	GJFK	99	99	99	99
	PartnerConcentration	99	99	99	99
	Distance	99	99	99	99
	Language	99	99	99	99
	Ethnicity	99	99	99	99
	Urban	99	99	99	99

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
	GLHR	99	99	99	99
	GJFK	99	99	99	99
	PartnerConcentration	99	99	99	99
	Distance	99	99	99	99
	Language	99	99	99	99
	Ethnicity	99	99	99	99
	Urban	99	99	99	99

Correlations

	Urban
GLHR	99
GJFK	99
PartnerConcentration	99
Distance	99
Language	99
Ethnicity	99
Urban	99

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, HomeConcentration, PartnerConcentration, Ethnicity, GJFK, GLHR, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.681[a]	.464	.417	6.290	.464	9.747

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	90	<.001

a. Predictors: (Constant), Urban, Distance, HomeConcentration, PartnerConcentration, Ethnicity, GJFK, GLHR, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3085.406	8	385.676	9.747	<.001[b]
	Residual	3561.099	90	39.568		
	Total	6646.505	98			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, HomeConcentration, PartnerConcentration, Ethnicity, GJFK, GLHR, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.917	5.113		.179	.858
	HomeConcentration	.948	.248	.336	3.827	<.001
	GLHR	5.380	1.575	.327	3.415	<.001
	GJFK	7.529	3.329	.289	2.262	.026
	PartnerConcentration	.931	.400	.190	2.328	.022
	Distance	-.680	1.087	-.057	-.626	.533
	Language	.065	.355	.028	.184	.855
	Ethnicity	-.098	1.122	-.009	-.087	.931
	Urban	.245	.170	.156	1.437	.154

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.773	1.294
	GLHR	.650	1.539
	GJFK	.365	2.739
	PartnerConcentration	.890	1.124
	Distance	.729	1.373
	Language	.256	3.912
	Ethnicity	.586	1.708
	Urban	.506	1.975

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	5.747	1.000	.00	.01	.01
	2	1.102	2.284	.00	.04	.01
	3	.812	2.660	.00	.08	.02
	4	.518	3.331	.00	.35	.13
	5	.458	3.542	.00	.01	.39
	6	.256	4.739	.01	.31	.14
	7	.063	9.569	.00	.21	.00
	8	.035	12.808	.02	.00	.30
	9	.009	25.090	.96	.00	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.01	.00	.00	.01	.00
	2	.17	.08	.00	.01	.01	.00
	3	.03	.62	.00	.00	.01	.00
	4	.07	.07	.00	.00	.11	.00
	5	.04	.16	.00	.00	.16	.00
	6	.00	.01	.02	.00	.22	.00
	7	.67	.03	.02	.66	.48	.03
	8	.00	.00	.03	.20	.01	.96
	9	.01	.02	.92	.13	.01	.00

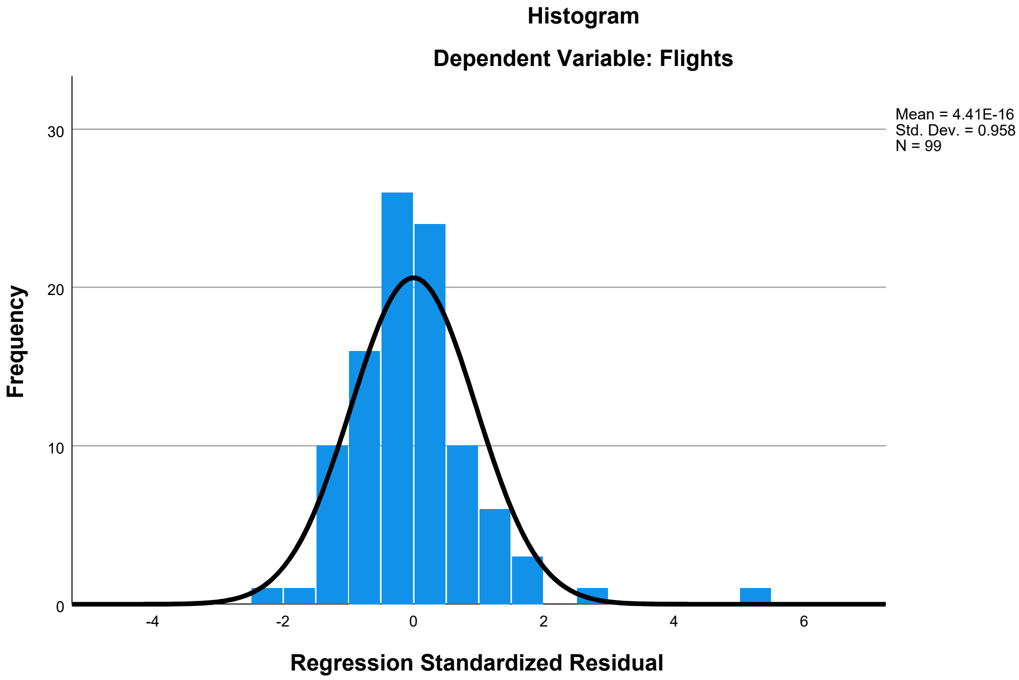
a. Dependent Variable: Flights

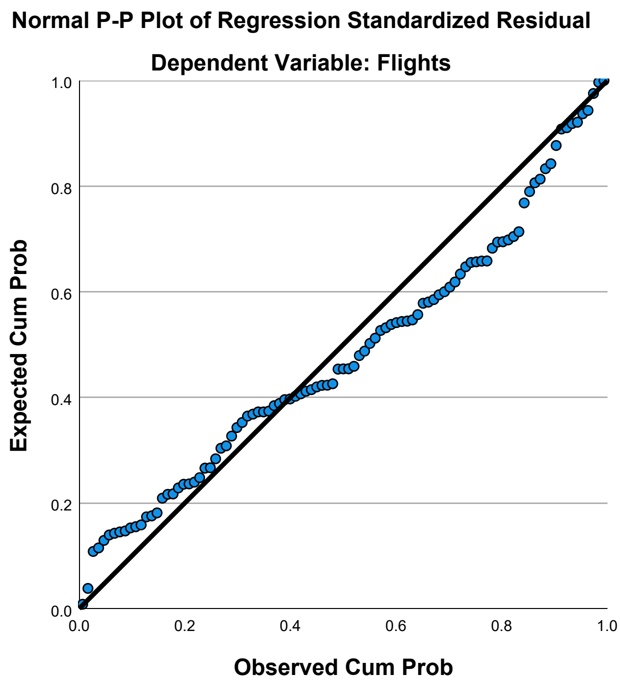
Residuals Statistics[a]

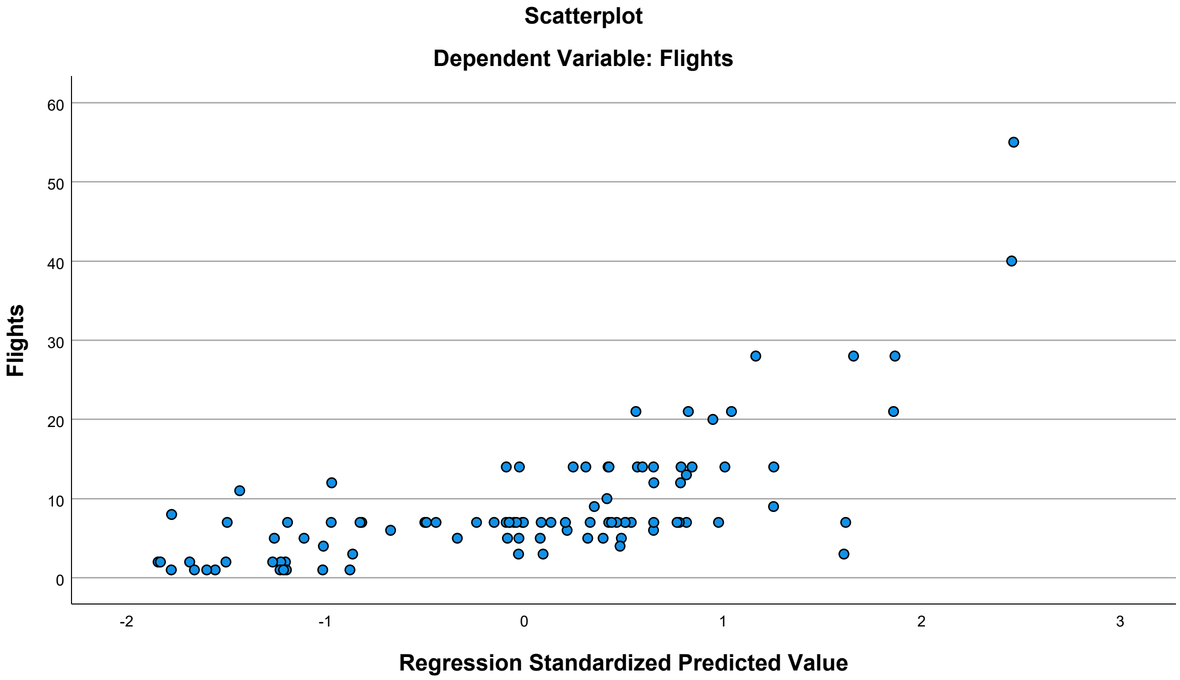
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-1.27	22.89	9.07	5.611	99
Residual	-15.098	32.108	.000	6.028	99
Std. Predicted Value	-1.843	2.463	.000	1.000	99
Std. Residual	-2.400	5.104	.000	.958	99

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 4.41E-16
Std. Dev. = 0.958
N = 99
Frequency
30
20
10
0
-4
-2
0
2
4
6
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

```
[DataSet17] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\UK\2012
Winter.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.77	7.313	81
HomeConcentration	2.9058210864	2.4649574496	81
GLHR	.69	.465	81
GJFK	.09	.283	81
PartnerConcentration	.86249202469	1.7441672482	81
Distance	4.08974	.740595	81
Language	5.37389254	3.331229536	81
Ethnicity	.74957119	.668538567	81
Urban	18.96	3.512	81

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.262	.453	.324
	HomeConcentration	.262	1.000	.117	-.227
	GLHR	.453	.117	1.000	.015
	GJFK	.324	-.227	.015	1.000
	PartnerConcentration	.206	.116	.332	-.020
	Distance	-.137	.017	.159	-.280
	Language	.355	.026	.013	.693
	Ethnicity	.085	-.154	-.005	.171
	Urban	.576	.157	.552	.318
Sig. (1-tailed)	Flights	.	.009	<.001	.002
	HomeConcentration	.009	.	.148	.021
	GLHR	.000	.148	.	.446
	GJFK	.002	.021	.446	.
	PartnerConcentration	.033	.151	.001	.429
	Distance	.111	.439	.078	.006
	Language	.001	.409	.453	.000
	Ethnicity	.226	.086	.482	.063
	Urban	.000	.080	.000	.002
N	Flights	81	81	81	81
	HomeConcentration	81	81	81	81

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
Pearson Correlation	Flights	.206	-.137	.355	.085
	HomeConcentration	.116	.017	.026	-.154
	GLHR	.332	.159	.013	-.005
	GJFK	-.020	-.280	.693	.171
	PartnerConcentration	1.000	.129	.000	-.074
	Distance	.129	1.000	-.423	-.287
	Language	.000	-.423	1.000	.549
	Ethnicity	-.074	-.287	.549	1.000
	Urban	.225	-.086	.479	.173
Sig. (1-tailed)	Flights	.033	.111	<.001	.226
	HomeConcentration	.151	.439	.409	.086
	GLHR	.001	.078	.453	.482
	GJFK	.429	.006	.000	.063
	PartnerConcentration	.	.126	.500	.256
	Distance	.126	.	.000	.005
	Language	.500	.000	.	.000
	Ethnicity	.256	.005	.000	.
	Urban	.022	.223	.000	.062
N	Flights	81	81	81	81
	HomeConcentration	81	81	81	81

Correlations

		Urban
Pearson Correlation	Flights	.576
	HomeConcentration	.157
	GLHR	.552
	GJFK	.318
	PartnerConcentration	.225
	Distance	-.086
	Language	.479
	Ethnicity	.173
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.080
	GLHR	.000
	GJFK	.002
	PartnerConcentration	.022
	Distance	.223
	Language	.000
	Ethnicity	.062
	Urban	.
N	Flights	81
	HomeConcentration	81

Correlations

		Flights	HomeConcentration	GLHR	GJFK
	GLHR	81	81	81	81
	GJFK	81	81	81	81
	PartnerConcentration	81	81	81	81
	Distance	81	81	81	81
	Language	81	81	81	81
	Ethnicity	81	81	81	81
	Urban	81	81	81	81

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
	GLHR	81	81	81	81
	GJFK	81	81	81	81
	PartnerConcentration	81	81	81	81
	Distance	81	81	81	81
	Language	81	81	81	81
	Ethnicity	81	81	81	81
	Urban	81	81	81	81

Correlations

		Urban
	GLHR	81
	GJFK	81
	PartnerConcentration	81
	Distance	81
	Language	81
	Ethnicity	81
	Urban	81

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, HomeConcentration, PartnerConcentration, Ethnicity, GJFK, GLHR, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.675[a]	.456	.395	5.686	.456	7.542

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	72	<.001

a. Predictors: (Constant), Urban, Distance, HomeConcentration, PartnerConcentration, Ethnicity, GJFK, GLHR, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1950.727	8	243.841	7.542	<.001[b]
	Residual	2327.817	72	32.331		
	Total	4278.543	80			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, HomeConcentration, PartnerConcentration, Ethnicity, GJFK, GLHR, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.969	5.756		-.690	.493
	HomeConcentration	.752	.298	.254	2.527	.014
	GLHR	3.861	1.818	.245	2.123	.037
	GJFK	7.604	3.734	.294	2.036	.045
	PartnerConcentration	.186	.391	.044	.477	.635
	Distance	-.955	.970	-.097	-.985	.328
	Language	-.154	.412	-.070	-.373	.710
	Ethnicity	.371	1.321	.034	.281	.780
	Urban	.660	.268	.317	2.463	.016

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.751	1.332
	GLHR	.566	1.768
	GJFK	.363	2.758
	PartnerConcentration	.869	1.150
	Distance	.784	1.276
	Language	.214	4.665
	Ethnicity	.519	1.928
	Urban	.456	2.191

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	6.137	1.000	.00	.01	.00
	2	1.110	2.351	.00	.02	.00
	3	.751	2.859	.00	.01	.00
	4	.423	3.810	.00	.20	.00
	5	.308	4.461	.00	.41	.16
	6	.189	5.691	.01	.09	.49
	7	.057	10.378	.00	.25	.00
	8	.016	19.382	.04	.00	.13
	9	.008	28.592	.95	.00	.21

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.01	.00	.00	.00	.00
	2	.19	.07	.00	.00	.01	.00
	3	.05	.69	.00	.00	.02	.00
	4	.09	.08	.00	.00	.30	.00
	5	.00	.08	.01	.01	.06	.00
	6	.00	.06	.02	.00	.05	.00
	7	.64	.00	.03	.63	.52	.01
	8	.03	.00	.55	.34	.02	.43
	9	.00	.01	.38	.01	.03	.56

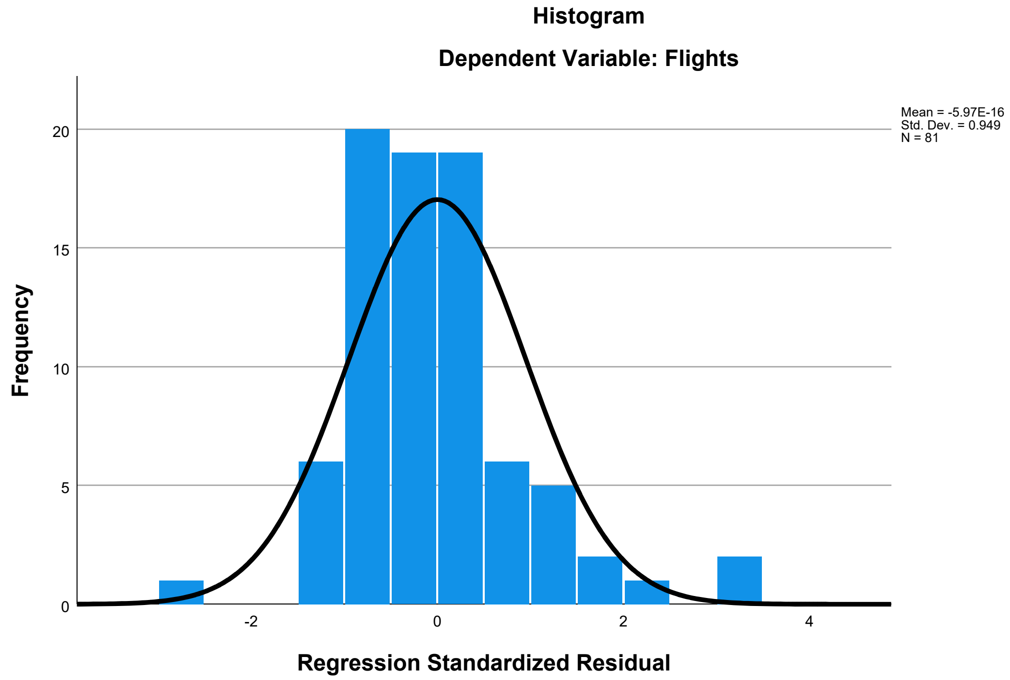
a. Dependent Variable: Flights

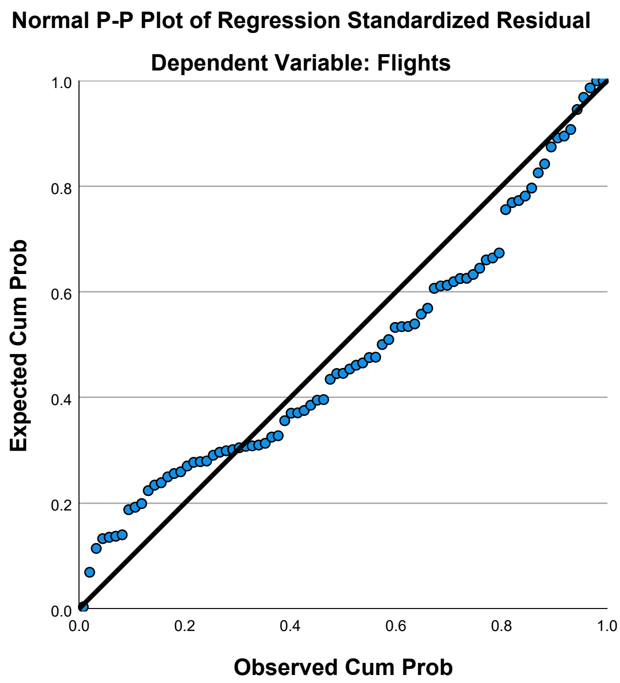
Residuals Statistics[a]

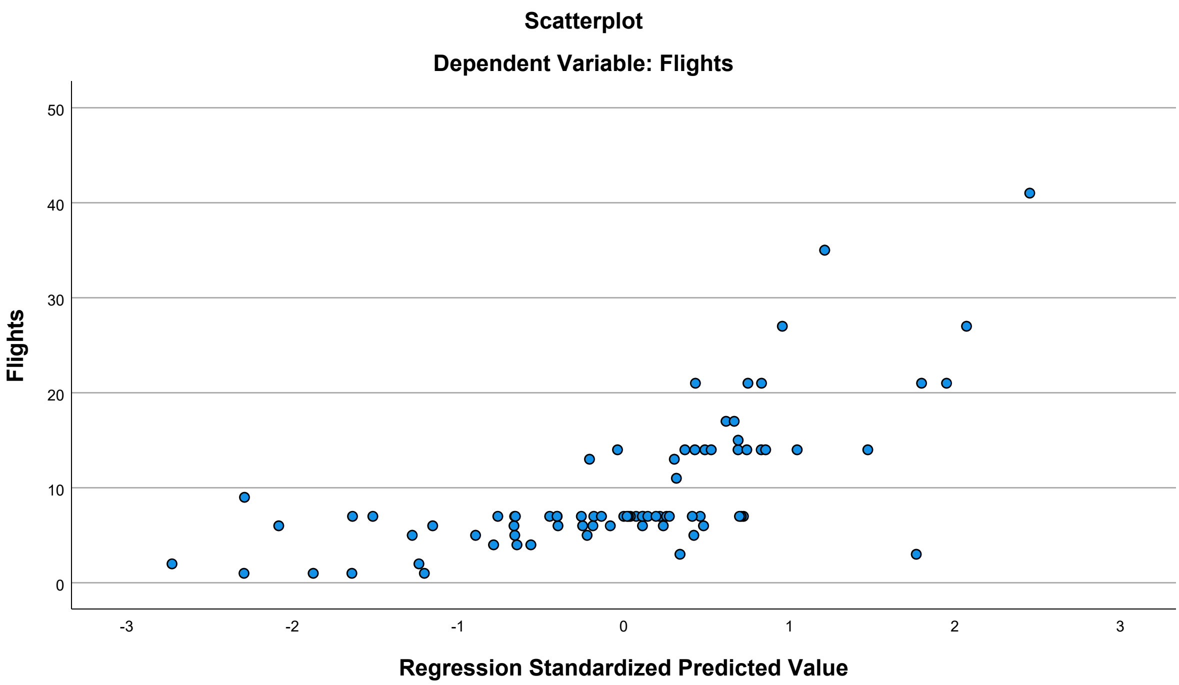
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-3.70	21.88	9.77	4.938	81
Residual	-15.492	19.239	.000	5.394	81
Std. Predicted Value	-2.728	2.453	.000	1.000	81
Std. Residual	-2.725	3.384	.000	.949	81

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -5.97E-16
Std. Dev. = 0.949
N = 81
Frequency
20
15
10
5
0
-2
0
2
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.77	7.313	81
HomeConcentration	2.9058210864	2.4649574496	81
GLHR	.69	.465	81
GJFK	.09	.283	81
PartnerConcentration	.86249202469	1.7441672482	81
Distance	4.08974	.740595	81
Ethnicity	.74957119	.668538567	81
Urban	18.96	3.512	81

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.262	.453	.324
	HomeConcentration	.262	1.000	.117	-.227
	GLHR	.453	.117	1.000	.015
	GJFK	.324	-.227	.015	1.000
	PartnerConcentration	.206	.116	.332	-.020
	Distance	-.137	.017	.159	-.280
	Ethnicity	.085	-.154	-.005	.171
	Urban	.576	.157	.552	.318
Sig. (1-tailed)	Flights	.	.009	<.001	.002
	HomeConcentration	.009	.	.148	.021
	GLHR	.000	.148	.	.446
	GJFK	.002	.021	.446	.
	PartnerConcentration	.033	.151	.001	.429
	Distance	.111	.439	.078	.006
	Ethnicity	.226	.086	.482	.063
	Urban	.000	.080	.000	.002
N	Flights	81	81	81	81
	HomeConcentration	81	81	81	81
	GLHR	81	81	81	81
	GJFK	81	81	81	81
	PartnerConcentration	81	81	81	81
	Distance	81	81	81	81
	Ethnicity	81	81	81	81
	Urban	81	81	81	81

Correlations

		PartnerConcentration	Distance	Ethnicity	Urban
Pearson Correlation	Flights	.206	-.137	.085	.576
	HomeConcentration	.116	.017	-.154	.157
	GLHR	.332	.159	-.005	.552
	GJFK	-.020	-.280	.171	.318
	PartnerConcentration	1.000	.129	-.074	.225
	Distance	.129	1.000	-.287	-.086
	Ethnicity	-.074	-.287	1.000	.173
	Urban	.225	-.086	.173	1.000
Sig. (1-tailed)	Flights	.033	.111	.226	<.001
	HomeConcentration	.151	.439	.086	.080
	GLHR	.001	.078	.482	.000
	GJFK	.429	.006	.063	.002
	PartnerConcentration	.	.126	.256	.022
	Distance	.126	.	.005	.223
	Ethnicity	.256	.005	.	.062
	Urban	.022	.223	.062	.
N	Flights	81	81	81	81
	HomeConcentration	81	81	81	81
	GLHR	81	81	81	81
	GJFK	81	81	81	81
	PartnerConcentration	81	81	81	81
	Distance	81	81	81	81
	Ethnicity	81	81	81	81
	Urban	81	81	81	81

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, HomeConcentration, PartnerConcentration, Ethnicity, GJFK, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.674[a]	.455	.403	5.652	.455	8.702

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	7	73	<.001

a. Predictors: (Constant), Urban, Distance, HomeConcentration, PartnerConcentration, Ethnicity, GJFK, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1946.223	7	278.032	8.702	<.001[b]
	Residual	2332.320	73	31.950		
	Total	4278.543	80			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, HomeConcentration, PartnerConcentration, Ethnicity, GJFK, GLHR

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-4.023	5.720		-.703	.484
	HomeConcentration	.713	.277	.240	2.574	.012
	GLHR	4.035	1.747	.256	2.310	.024
	GJFK	6.606	2.591	.255	2.550	.013
	PartnerConcentration	.179	.388	.043	.462	.645
	Distance	-.879	.942	-.089	-.932	.354
	Ethnicity	.060	1.019	.006	.059	.953
	Urban	.620	.244	.298	2.543	.013

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.856	1.168
	GLHR	.606	1.651
	GJFK	.744	1.343
	PartnerConcentration	.871	1.148
	Distance	.820	1.220
	Ethnicity	.860	1.163
	Urban	.545	1.833

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	GLHR
1	1	5.328	1.000	.00	.01	.01
	2	.996	2.312	.00	.03	.00
	3	.750	2.666	.00	.01	.00
	4	.422	3.554	.00	.25	.00
	5	.286	4.319	.00	.52	.18
	6	.189	5.303	.01	.10	.53
	7	.022	15.653	.01	.08	.09
	8	.008	26.499	.98	.00	.19

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions				
		GJFK	PartnerConcentration	Distance	Ethnicity	Urban
1	1	.00	.01	.00	.01	.00
	2	.53	.06	.00	.02	.00
	3	.09	.71	.00	.03	.00
	4	.15	.07	.00	.50	.00
	5	.02	.08	.01	.22	.00
	6	.00	.06	.03	.08	.00
	7	.20	.00	.50	.12	.43
	8	.01	.01	.47	.01	.56

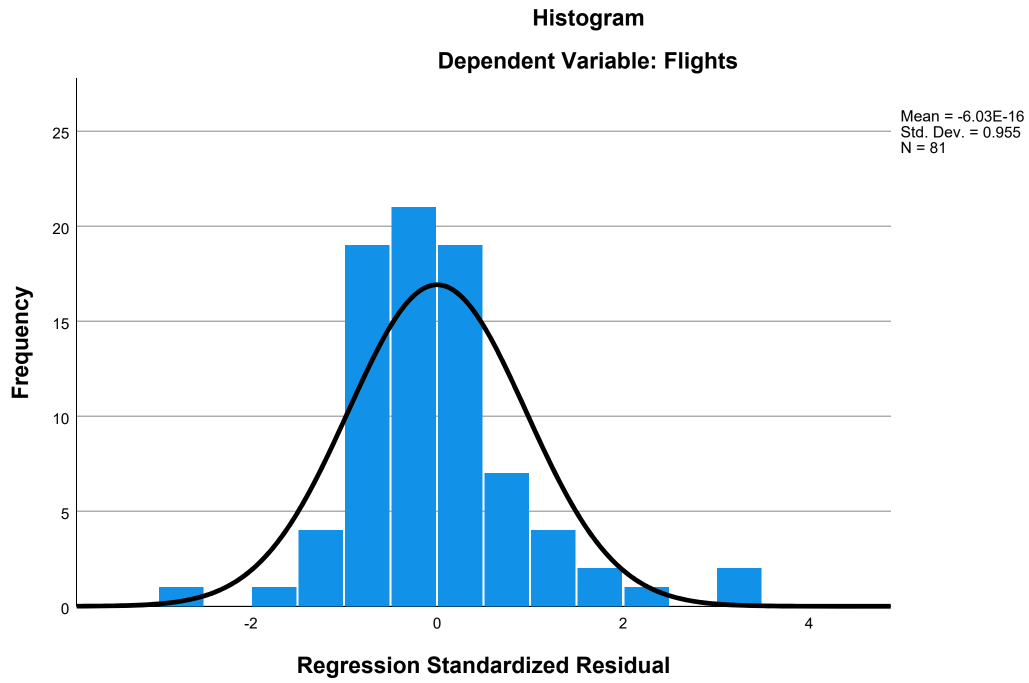
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-3.49	21.75	9.77	4.932	81
Residual	-15.534	19.287	.000	5.399	81
Std. Predicted Value	-2.687	2.429	.000	1.000	81
Std. Residual	-2.748	3.412	.000	.955	81

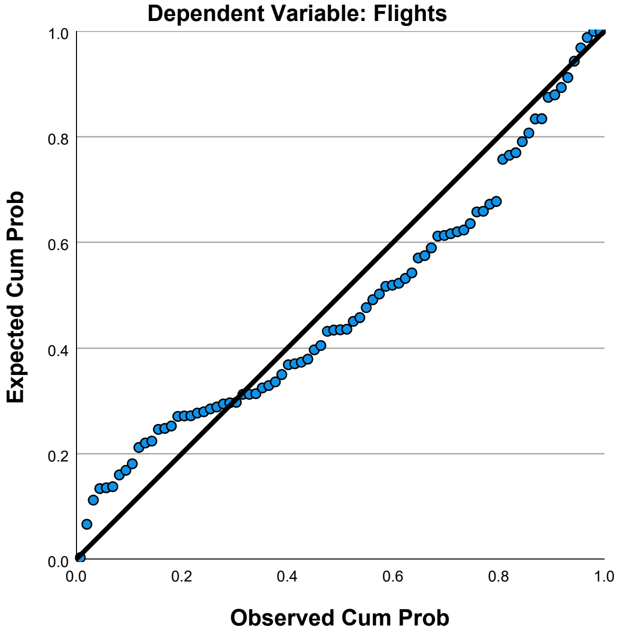
a. Dependent Variable: Flights

Charts



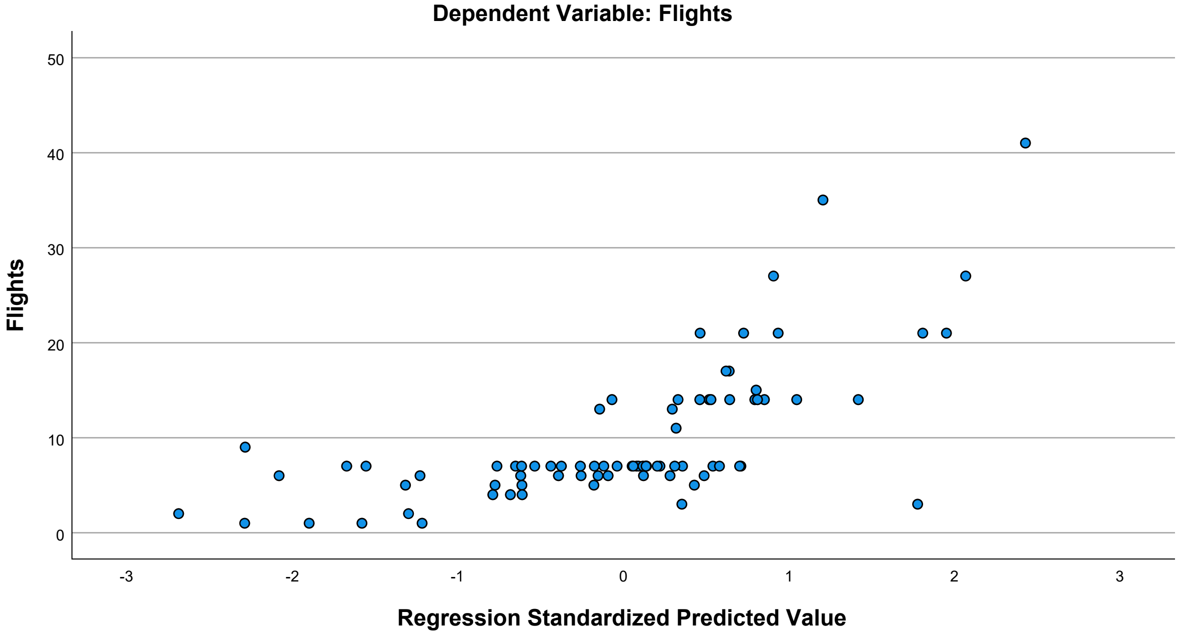
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

```
[DataSet18] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\UK\2017
Winter.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.35	7.560	92
HomeConcentration	2.7661807826	2.5151425952	92
GLHR	.70	.463	92
GJFK	.09	.283	92
PartnerConcentration	1.3555587174	2.6102665131	92
Distance	4.14172	.774311	92
Language	5.04735997	3.552614866	92
Ethnicity	.63850434	.622006890	92
Urban	18.74	3.486	92

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.389	.439	.314
	HomeConcentration	.389	1.000	.444	-.131
	GLHR	.439	.444	1.000	-.131
	GJFK	.314	-.131	-.131	1.000
	PartnerConcentration	.077	-.015	.147	.002
	Distance	-.101	.075	.086	-.287
	Language	.379	-.021	-.065	.680
	Ethnicity	.134	-.102	-.128	.169
	Urban	.533	.142	.366	.335
Sig. (1-tailed)	Flights	.	<.001	<.001	.001
	HomeConcentration	.000	.	.000	.107
	GLHR	.000	.000	.	.106
	GJFK	.001	.107	.106	.
	PartnerConcentration	.232	.444	.081	.494
	Distance	.169	.239	.209	.003
	Language	.000	.421	.268	.000
	Ethnicity	.102	.166	.113	.054
	Urban	.000	.088	.000	.001
N	Flights	92	92	92	92
	HomeConcentration	92	92	92	92

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
Pearson Correlation	Flights	.077	-.101	.379	.134
	HomeConcentration	-.015	.075	-.021	-.102
	GLHR	.147	.086	-.065	-.128
	GJFK	.002	-.287	.680	.169
	PartnerConcentration	1.000	.031	.144	-.071
	Distance	.031	1.000	-.390	-.281
	Language	.144	-.390	1.000	.553
	Ethnicity	-.071	-.281	.553	1.000
	Urban	.053	-.095	.555	.305
Sig. (1-tailed)	Flights	.232	.169	<.001	.102
	HomeConcentration	.444	.239	.421	.166
	GLHR	.081	.209	.268	.113
	GJFK	.494	.003	.000	.054
	PartnerConcentration	.	.385	.086	.250
	Distance	.385	.	.000	.003
	Language	.086	.000	.	.000
	Ethnicity	.250	.003	.000	.
	Urban	.309	.184	.000	.002
N	Flights	92	92	92	92
	HomeConcentration	92	92	92	92

Correlations

		Urban
Pearson Correlation	Flights	.533
	HomeConcentration	.142
	GLHR	.366
	GJFK	.335
	PartnerConcentration	.053
	Distance	-.095
	Language	.555
	Ethnicity	.305
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.088
	GLHR	.000
	GJFK	.001
	PartnerConcentration	.309
	Distance	.184
	Language	.000
	Ethnicity	.002
	Urban	.
N	Flights	92
	HomeConcentration	92

Correlations

		Flights	HomeConcentration	GLHR	GJFK
	GLHR	92	92	92	92
	GJFK	92	92	92	92
	PartnerConcentration	92	92	92	92
	Distance	92	92	92	92
	Language	92	92	92	92
	Ethnicity	92	92	92	92
	Urban	92	92	92	92

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
	GLHR	92	92	92	92
	GJFK	92	92	92	92
	PartnerConcentration	92	92	92	92
	Distance	92	92	92	92
	Language	92	92	92	92
	Ethnicity	92	92	92	92
	Urban	92	92	92	92

Correlations

	Urban
GLHR	92
GJFK	92
PartnerConcentration	92
Distance	92
Language	92
Ethnicity	92
Urban	92

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, HomeConcentration, Ethnicity, GJFK, GLHR, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.686[a]	.471	.420	5.757	.471	9.239

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	83	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, Ethnicity, GJFK, GLHR, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2449.773	8	306.222	9.239	<.001[b]
	Residual	2751.097	83	33.146		
	Total	5200.870	91			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, Ethnicity, GJFK, GLHR, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-7.911	4.937		-1.602	.113
	HomeConcentration	.830	.275	.276	3.016	.003
	GLHR	4.128	1.688	.253	2.446	.017
	GJFK	6.575	3.247	.246	2.025	.046
	PartnerConcentration	.075	.250	.026	.299	.766
	Distance	-.170	.867	-.017	-.196	.845
	Language	.101	.353	.047	.285	.776
	Ethnicity	.470	1.306	.039	.359	.720
	Urban	.604	.244	.278	2.479	.015

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.761	1.315
	GLHR	.597	1.674
	GJFK	.430	2.324
	PartnerConcentration	.855	1.169
	Distance	.809	1.236
	Language	.232	4.311
	Ethnicity	.552	1.812
	Urban	.506	1.978

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	GLHR
1	1	6.035	1.000	.00	.01	.00
	2	1.122	2.319	.00	.03	.01
	3	.766	2.807	.00	.02	.00
	4	.509	3.442	.00	.14	.03
	5	.291	4.554	.01	.51	.00
	6	.177	5.847	.00	.25	.74
	7	.074	9.023	.00	.05	.00
	8	.017	19.060	.06	.01	.14
	9	.009	25.363	.93	.00	.09

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions					
		GJFK	PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.01	.00	.00	.00	.00
	2	.23	.01	.00	.01	.01	.00
	3	.00	.78	.00	.00	.02	.00
	4	.16	.02	.00	.00	.26	.00
	5	.00	.04	.02	.01	.13	.00
	6	.00	.01	.01	.00	.04	.00
	7	.60	.10	.02	.67	.54	.00
	8	.01	.03	.68	.29	.00	.45
	9	.00	.01	.27	.03	.00	.54

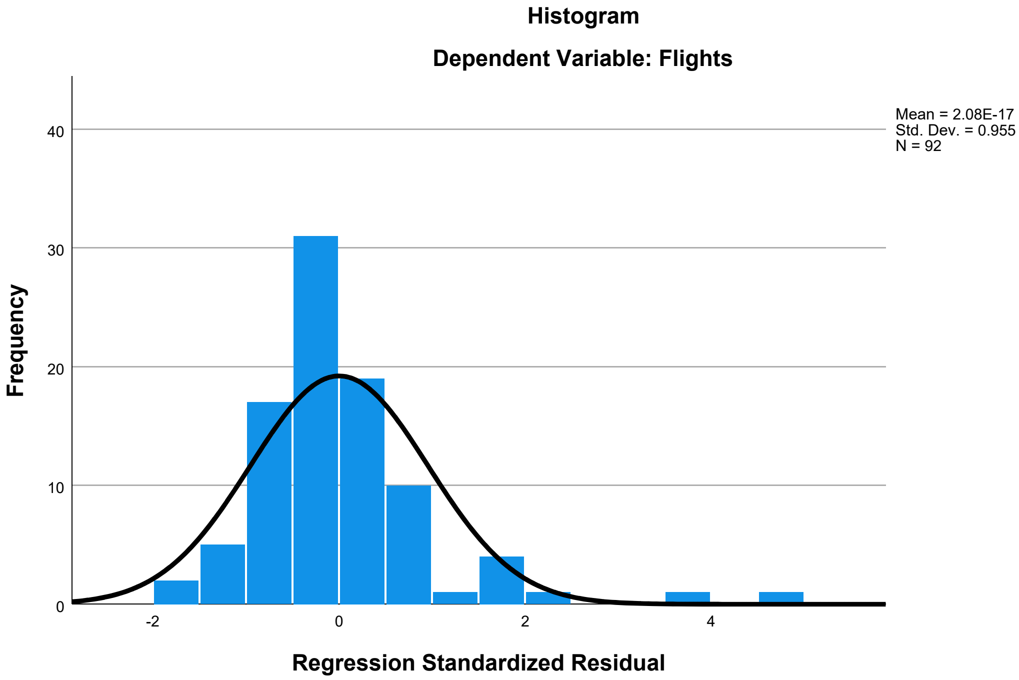
a. Dependent Variable: Flights

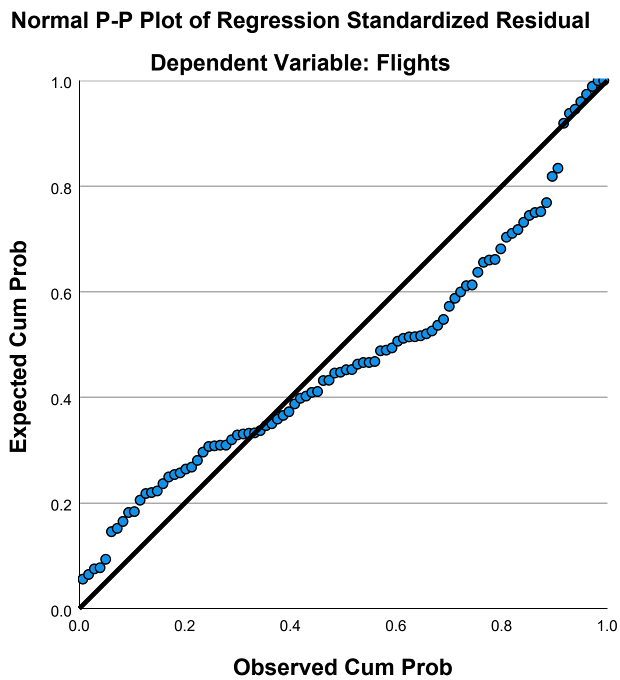
Residuals Statistics[a]

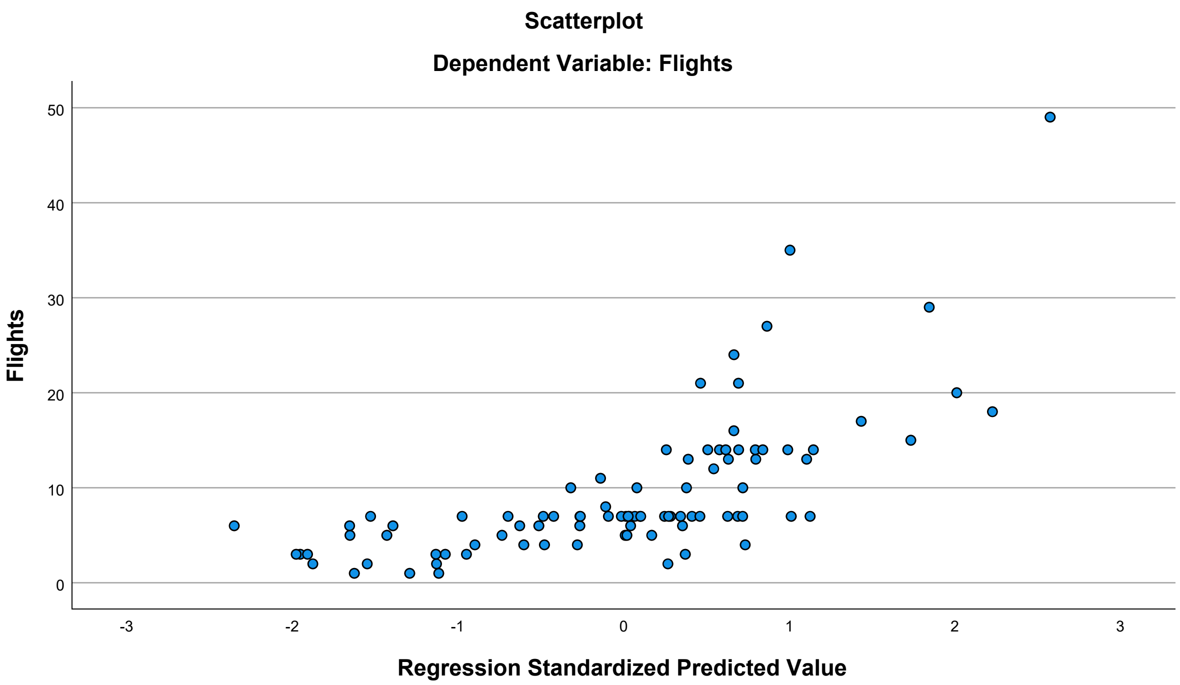
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-2.86	22.71	9.35	5.189	92
Residual	-9.156	26.289	.000	5.498	92
Std. Predicted Value	-2.352	2.576	.000	1.000	92
Std. Residual	-1.590	4.566	.000	.955	92

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 2.08E-17
Std. Dev. = 0.955
N = 92
Frequency
40
30
20
10
0
-2
0
2
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
50
40
30
20
10
0
-3
-2
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

```
[DataSet1] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\UK\2017 -
 Summer - UK Airlines.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	7.97	7.934	77
HomeConcentration	1.8005040260	2.2704044675	77
GLHR	.44	.500	77
GJFK	.08	.270	77
PartnerConcentration	.87257012987	2.2751746213	77
Distance	4.26296	.745212	77
Language	4.26426258	3.599891878	77
Ethnicity	.40943188	.411675393	77
Urban	15.65	5.517	77

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.379	.474	.444
	HomeConcentration	.379	1.000	.783	-.082
	GLHR	.474	.783	1.000	-.063
	GJFK	.444	-.082	-.063	1.000
	PartnerConcentration	.119	.056	.185	.062
	Distance	-.101	.147	.116	-.333
	Language	.421	.033	.134	.697
	Ethnicity	.368	.267	.344	.403
	Urban	.524	.460	.644	.337
Sig. (1-tailed)	Flights	.	<.001	<.001	<.001
	HomeConcentration	.000	.	.000	.238
	GLHR	.000	.000	.	.292
	GJFK	.000	.238	.292	.
	PartnerConcentration	.152	.315	.053	.296
	Distance	.192	.101	.157	.002
	Language	.000	.387	.123	.000
	Ethnicity	.000	.009	.001	.000
	Urban	.000	.000	.000	.001
N	Flights	77	77	77	77
	HomeConcentration	77	77	77	77

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
Pearson Correlation	Flights	.119	-.101	.421	.368
	HomeConcentration	.056	.147	.033	.267
	GLHR	.185	.116	.134	.344
	GJFK	.062	-.333	.697	.403
	PartnerConcentration	1.000	-.049	.253	.194
	Distance	-.049	1.000	-.430	-.252
	Language	.253	-.430	1.000	.616
	Ethnicity	.194	-.252	.616	1.000
	Urban	.196	-.057	.581	.584
Sig. (1-tailed)	Flights	.152	.192	<.001	<.001
	HomeConcentration	.315	.101	.387	.009
	GLHR	.053	.157	.123	.001
	GJFK	.296	.002	.000	.000
	PartnerConcentration	.	.335	.013	.045
	Distance	.335	.	.000	.014
	Language	.013	.000	.	.000
	Ethnicity	.045	.014	.000	.
	Urban	.043	.312	.000	.000
N	Flights	77	77	77	77
	HomeConcentration	77	77	77	77

Correlations

		Urban
Pearson Correlation	Flights	.524
	HomeConcentration	.460
	GLHR	.644
	GJFK	.337
	PartnerConcentration	.196
	Distance	-.057
	Language	.581
	Ethnicity	.584
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.000
	GLHR	.000
	GJFK	.001
	PartnerConcentration	.043
	Distance	.312
	Language	.000
	Ethnicity	.000
	Urban	.
N	Flights	77
	HomeConcentration	77

Correlations

		Flights	HomeConcentration	GLHR	GJFK
	GLHR	77	77	77	77
	GJFK	77	77	77	77
	PartnerConcentration	77	77	77	77
	Distance	77	77	77	77
	Language	77	77	77	77
	Ethnicity	77	77	77	77
	Urban	77	77	77	77

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
	GLHR	77	77	77	77
	GJFK	77	77	77	77
	PartnerConcentration	77	77	77	77
	Distance	77	77	77	77
	Language	77	77	77	77
	Ethnicity	77	77	77	77
	Urban	77	77	77	77

Correlations

		Urban
	GLHR	77
	GJFK	77
	PartnerConcentration	77
	Distance	77
	Language	77
	Ethnicity	77
	Urban	77

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, PartnerConcentration, GJFK, HomeConcentration, Ethnicity, Language, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.675[a]	.456	.392	6.188	.456	7.119

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	68	<.001

a. Predictors: (Constant), Urban, Distance, PartnerConcentration, GJFK, HomeConcentration, Ethnicity, Language, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2180.527	8	272.566	7.119	<.001[b]
	Residual	2603.421	68	38.286		
	Total	4783.948	76			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, PartnerConcentration, GJFK, HomeConcentration, Ethnicity, Language, GLHR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.803	5.214		.346	.731
	HomeConcentration	.250	.514	.072	.486	.628
	GLHR	6.250	2.828	.394	2.210	.030
	GJFK	12.833	3.800	.436	3.377	.001
	PartnerConcentration	-.015	.333	-.004	-.046	.963
	Distance	-.036	1.101	-.003	-.033	.974
	Language	.060	.380	.027	.157	.876
	Ethnicity	-.665	2.380	-.035	-.279	.781
	Urban	.137	.231	.095	.594	.555

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.370	2.702
	GLHR	.252	3.967
	GJFK	.479	2.087
	PartnerConcentration	.876	1.141
	Distance	.748	1.336
	Language	.269	3.714
	Ethnicity	.525	1.905
	Urban	.310	3.227

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	5.794	1.000	.00	.00	.00
	2	1.214	2.185	.00	.03	.01
	3	.813	2.669	.00	.00	.00
	4	.621	3.054	.01	.09	.04
	5	.284	4.517	.00	.04	.00
	6	.131	6.658	.00	.45	.37
	7	.107	7.371	.00	.36	.22
	8	.026	14.914	.04	.02	.34
	9	.011	23.459	.95	.00	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.01	.00	.00	.01	.00
	2	.20	.00	.00	.01	.01	.00
	3	.01	.87	.00	.00	.00	.00
	4	.06	.00	.01	.00	.01	.00
	5	.32	.03	.00	.01	.60	.00
	6	.08	.06	.01	.15	.20	.01
	7	.32	.00	.01	.51	.16	.00
	8	.00	.01	.06	.22	.02	.98
	9	.00	.00	.92	.10	.00	.00

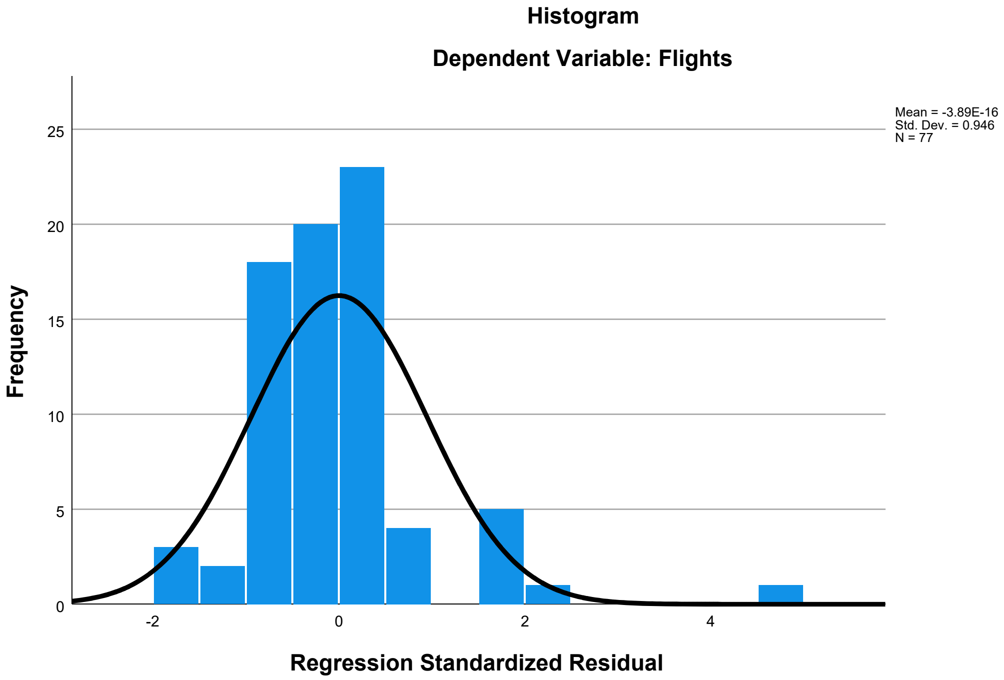
a. Dependent Variable: Flights

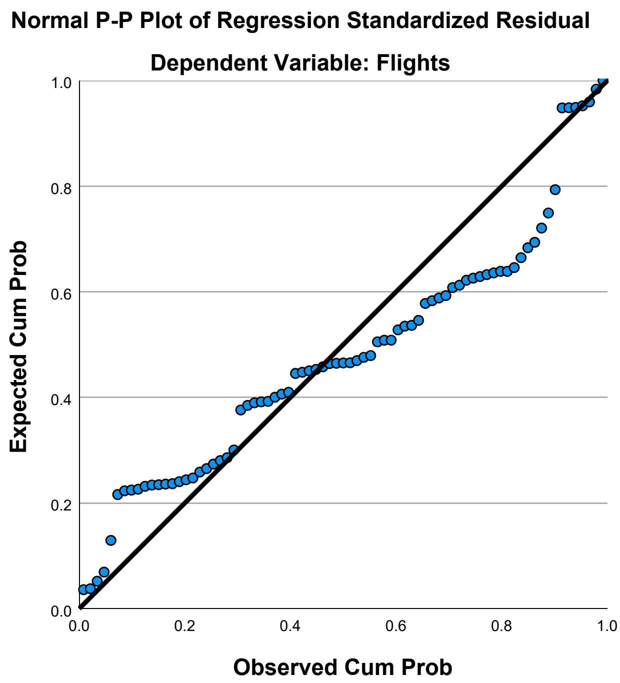
Residuals Statistics[a]

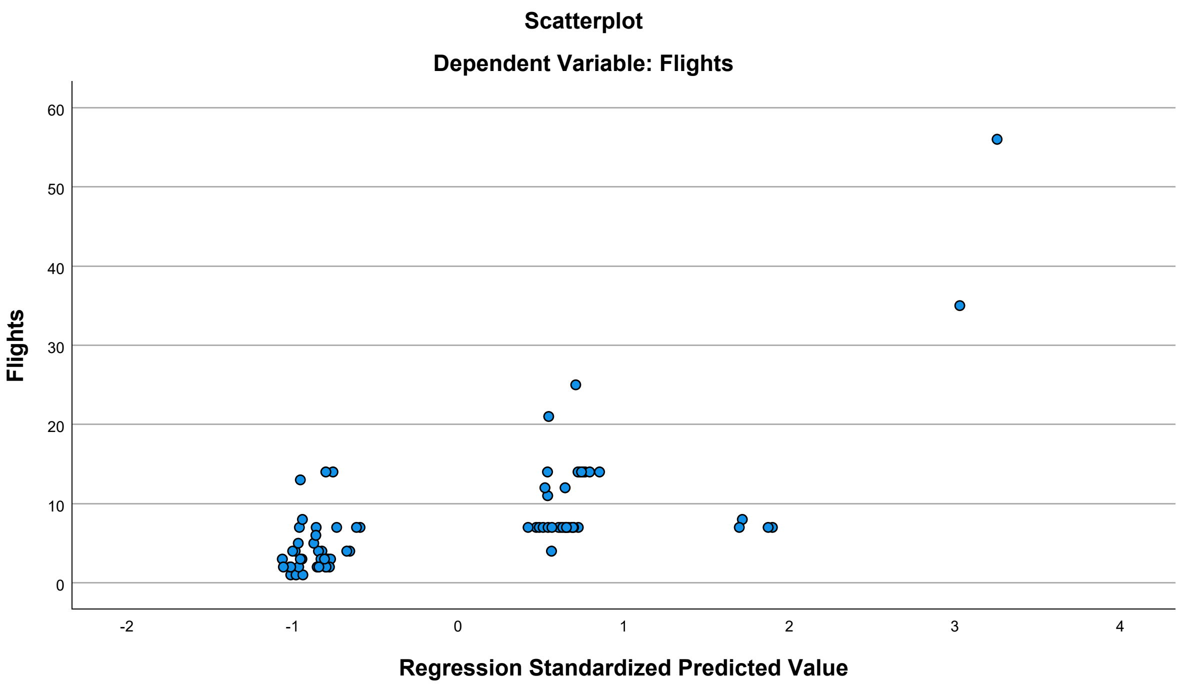
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.29	25.41	7.97	5.356	77
Residual	-11.140	30.588	.000	5.853	77
Std. Predicted Value	-1.062	3.256	.000	1.000	77
Std. Residual	-1.800	4.943	.000	.946	77

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -3.89E-16
Std. Dev. = 0.946
N = 77
Frequency
25
20
15
10
5
0
-2
0
2
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
60
50
40
30
20
10
0
-2
-1
0
1
2
3
4
Regression Standardized Predicted Value

Regression

```
[DataSet2] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\UK\2017 -
 Summer - US Airlines.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	12.97	8.321	34
HomeConcentration	3.9222747647	2.5075409359	34
GLHR	.65	.485	34
GJFK	.18	.387	34
PartnerConcentration	1.3395078824	2.2784236062	34
Distance	3.89897	.695019	34
Language	6.66763821	3.606790195	34
Ethnicity	.46624138	.277857743	34
Urban	18.59	3.154	34

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.203	.485	-.008
	HomeConcentration	.203	1.000	.110	-.354
	GLHR	.485	.110	1.000	-.304
	GJFK	-.008	-.354	-.304	1.000
	PartnerConcentration	.305	.089	.440	-.080
	Distance	.030	.091	.571	-.388
	Language	.121	-.248	-.395	.804
	Ethnicity	.339	-.057	.367	.209
	Urban	.713	-.136	.496	.186
Sig. (1-tailed)	Flights	.	.124	.002	.483
	HomeConcentration	.124	.	.268	.020
	GLHR	.002	.268	.	.040
	GJFK	.483	.020	.040	.
	PartnerConcentration	.040	.308	.005	.326
	Distance	.434	.304	.000	.012
	Language	.247	.079	.010	.000
	Ethnicity	.025	.374	.016	.118
	Urban	.000	.221	.001	.147
N	Flights	34	34	34	34
	HomeConcentration	34	34	34	34

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
Pearson Correlation	Flights	.305	.030	.121	.339
	HomeConcentration	.089	.091	-.248	-.057
	GLHR	.440	.571	-.395	.367
	GJFK	-.080	-.388	.804	.209
	PartnerConcentration	1.000	.235	-.227	-.002
	Distance	.235	1.000	-.481	.066
	Language	-.227	-.481	1.000	.386
	Ethnicity	-.002	.066	.386	1.000
	Urban	.207	.177	.287	.432
Sig. (1-tailed)	Flights	.040	.434	.247	.025
	HomeConcentration	.308	.304	.079	.374
	GLHR	.005	.000	.010	.016
	GJFK	.326	.012	.000	.118
	PartnerConcentration	.	.090	.098	.495
	Distance	.090	.	.002	.354
	Language	.098	.002	.	.012
	Ethnicity	.495	.354	.012	.
	Urban	.120	.159	.050	.005
N	Flights	34	34	34	34
	HomeConcentration	34	34	34	34

Correlations

		Urban
Pearson Correlation	Flights	.713
	HomeConcentration	-.136
	GLHR	.496
	GJFK	.186
	PartnerConcentration	.207
	Distance	.177
	Language	.287
	Ethnicity	.432
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.221
	GLHR	.001
	GJFK	.147
	PartnerConcentration	.120
	Distance	.159
	Language	.050
	Ethnicity	.005
	Urban	.
N	Flights	34
	HomeConcentration	34

Correlations

		Flights	HomeConcentration	GLHR	GJFK
	GLHR	34	34	34	34
	GJFK	34	34	34	34
	PartnerConcentration	34	34	34	34
	Distance	34	34	34	34
	Language	34	34	34	34
	Ethnicity	34	34	34	34
	Urban	34	34	34	34

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
	GLHR	34	34	34	34
	GJFK	34	34	34	34
	PartnerConcentration	34	34	34	34
	Distance	34	34	34	34
	Language	34	34	34	34
	Ethnicity	34	34	34	34
	Urban	34	34	34	34

Correlations

		Urban
	GLHR	34
	GJFK	34
	PartnerConcentration	34
	Distance	34
	Language	34
	Ethnicity	34
	Urban	34

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, Distance, PartnerConcentration, Ethnicity, GJFK, GLHR, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.821[a]	.674	.570	5.459	.674	6.459

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	25	<.001

a. Predictors: (Constant), Urban, HomeConcentration, Distance, PartnerConcentration, Ethnicity, GJFK, GLHR, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1539.960	8	192.495	6.459	<.001[b]
	Residual	745.010	25	29.800		
	Total	2284.971	33			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, Distance, PartnerConcentration, Ethnicity, GJFK, GLHR, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-13.550	9.314		-1.455	.158
	HomeConcentration	.843	.413	.254	2.038	.052
	GLHR	4.123	3.927	.240	1.050	.304
	GJFK	-3.227	4.580	-.150	-.704	.488
	PartnerConcentration	.436	.482	.119	.904	.375
	Distance	-3.351	1.779	-.280	-1.884	.071
	Language	.249	.670	.108	.372	.713
	Ethnicity	-.258	4.968	-.009	-.052	.959
	Urban	1.725	.452	.654	3.814	<.001

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.840	1.190
	GLHR	.249	4.017
	GJFK	.287	3.479
	PartnerConcentration	.748	1.337
	Distance	.591	1.693
	Language	.154	6.475
	Ethnicity	.474	2.110
	Urban	.444	2.252

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	6.554	1.000	.00	.00	.00
	2	1.160	2.377	.00	.01	.01
	3	.649	3.179	.00	.03	.00
	4	.305	4.636	.00	.31	.09
	5	.154	6.515	.01	.47	.01
	6	.126	7.213	.00	.11	.24
	7	.035	13.658	.01	.00	.24
	8	.011	24.285	.05	.00	.13
	9	.006	32.264	.93	.06	.29

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.11	.07	.00	.00	.00	.00
	3	.06	.59	.00	.00	.00	.00
	4	.00	.08	.00	.00	.09	.00
	5	.02	.00	.02	.00	.21	.01
	6	.33	.25	.00	.03	.23	.00
	7	.34	.00	.11	.42	.37	.02
	8	.12	.00	.48	.52	.09	.48
	9	.01	.00	.39	.02	.01	.49

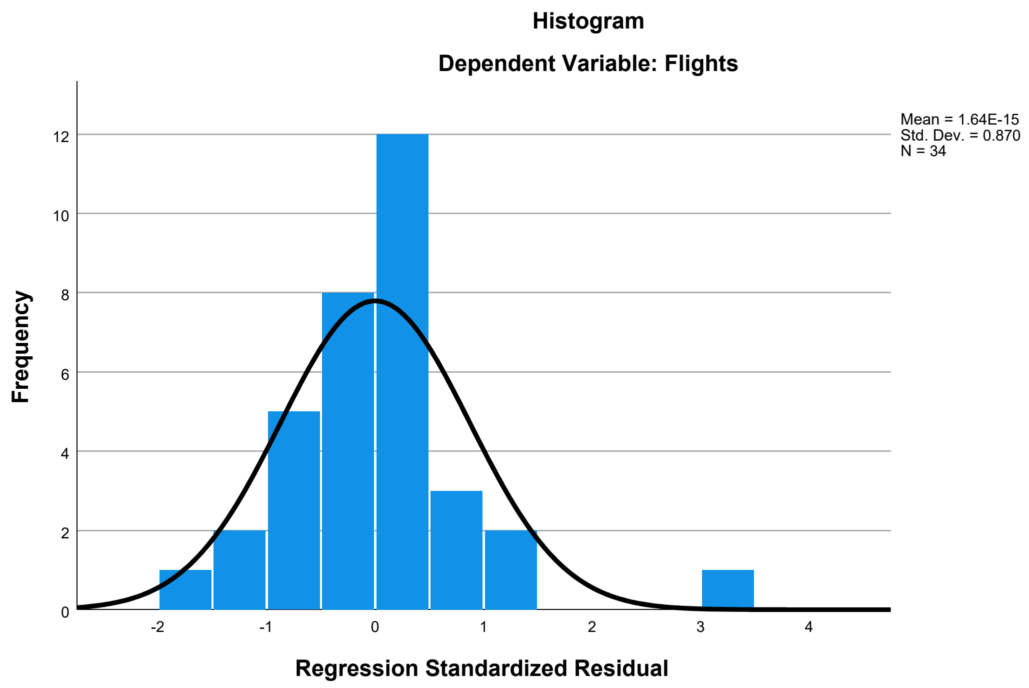
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.41	25.44	12.97	6.831	34
Residual	-9.182	16.561	.000	4.751	34
Std. Predicted Value	-1.693	1.825	.000	1.000	34
Std. Residual	-1.682	3.034	.000	.870	34

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 1.64E-15
Std. Dev. = 0.870
N = 34
Frequency
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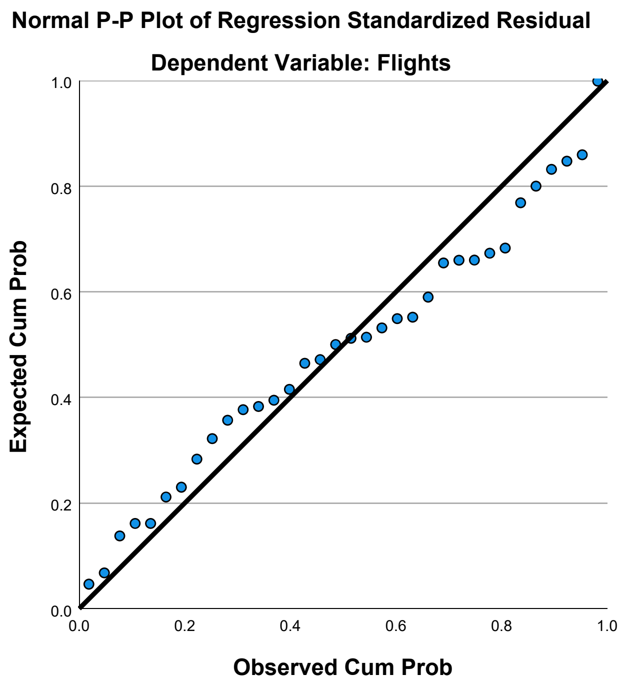
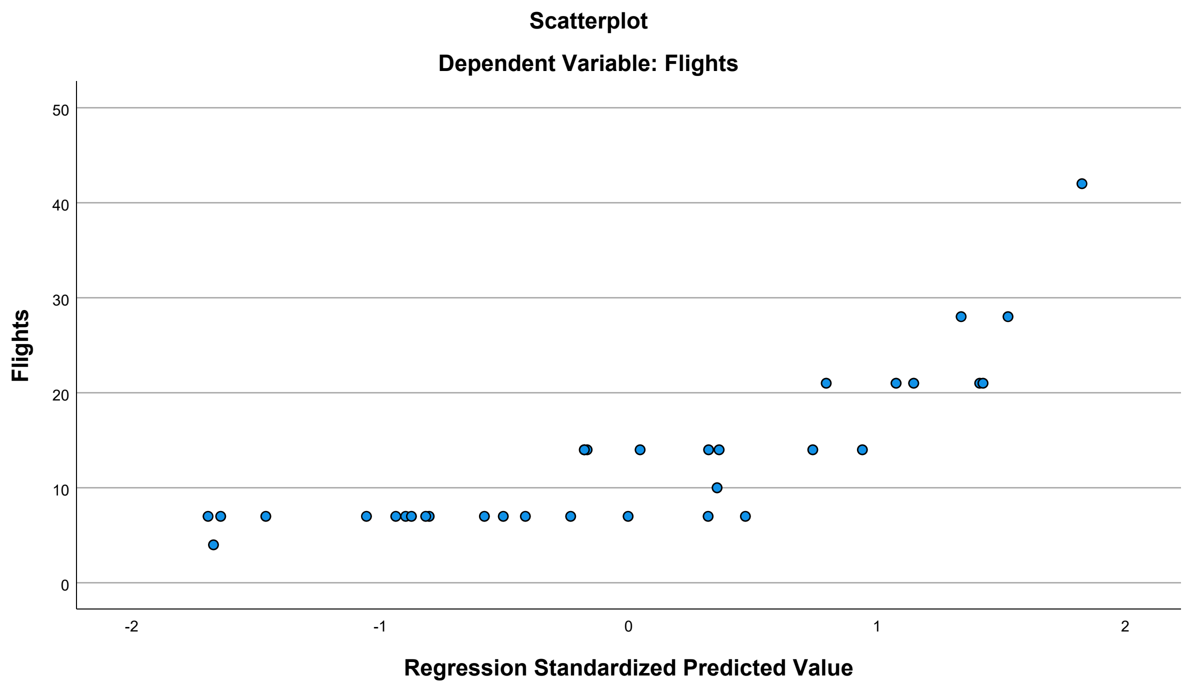
2
4
6
8
10
12
-2
-1
0
1
2
3
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	12.97	8.321	34
HomeConcentration	3.9222747647	2.5075409359	34
GLHR	.65	.485	34
GJFK	.18	.387	34
PartnerConcentration	1.3395078824	2.2784236062	34
Distance	3.89897	.695019	34
Ethnicity	.46624138	.277857743	34
Urban	18.59	3.154	34

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.203	.485	-.008
	HomeConcentration	.203	1.000	.110	-.354
	GLHR	.485	.110	1.000	-.304
	GJFK	-.008	-.354	-.304	1.000
	PartnerConcentration	.305	.089	.440	-.080
	Distance	.030	.091	.571	-.388
	Ethnicity	.339	-.057	.367	.209
	Urban	.713	-.136	.496	.186
Sig. (1-tailed)	Flights	.	.124	.002	.483
	HomeConcentration	.124	.	.268	.020
	GLHR	.002	.268	.	.040
	GJFK	.483	.020	.040	.
	PartnerConcentration	.040	.308	.005	.326
	Distance	.434	.304	.000	.012
	Ethnicity	.025	.374	.016	.118
	Urban	.000	.221	.001	.147
N	Flights	34	34	34	34
	HomeConcentration	34	34	34	34
	GLHR	34	34	34	34
	GJFK	34	34	34	34
	PartnerConcentration	34	34	34	34
	Distance	34	34	34	34
	Ethnicity	34	34	34	34
	Urban	34	34	34	34

Correlations

		PartnerConcentration	Distance	Ethnicity	Urban
Pearson Correlation	Flights	.305	.030	.339	.713
	HomeConcentration	.089	.091	-.057	-.136
	GLHR	.440	.571	.367	.496
	GJFK	-.080	-.388	.209	.186
	PartnerConcentration	1.000	.235	-.002	.207
	Distance	.235	1.000	.066	.177
	Ethnicity	-.002	.066	1.000	.432
	Urban	.207	.177	.432	1.000
Sig. (1-tailed)	Flights	.040	.434	.025	<.001
	HomeConcentration	.308	.304	.374	.221
	GLHR	.005	.000	.016	.001
	GJFK	.326	.012	.118	.147
	PartnerConcentration	.	.090	.495	.120
	Distance	.090	.	.354	.159
	Ethnicity	.495	.354	.	.005
	Urban	.120	.159	.005	.
N	Flights	34	34	34	34
	HomeConcentration	34	34	34	34
	GLHR	34	34	34	34
	GJFK	34	34	34	34
	PartnerConcentration	34	34	34	34
	Distance	34	34	34	34
	Ethnicity	34	34	34	34
	Urban	34	34	34	34

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, Distance, PartnerConcentration, Ethnicity, GJFK, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.820[a]	.672	.584	5.368	.672	7.615

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	7	26	<.001

a. Predictors: (Constant), Urban, HomeConcentration, Distance, PartnerConcentration, Ethnicity, GJFK, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1535.844	7	219.406	7.615	<.001[b]
	Residual	749.126	26	28.813		
	Total	2284.971	33			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, Distance, PartnerConcentration, Ethnicity, GJFK, GLHR

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-13.211	9.114		-1.450	.159
	HomeConcentration	.864	.403	.260	2.145	.041
	GLHR	3.327	3.235	.194	1.028	.313
	GJFK	-1.994	3.106	-.093	-.642	.526
	PartnerConcentration	.421	.472	.115	.890	.381
	Distance	-3.481	1.716	-.291	-2.029	.053
	Ethnicity	.755	4.083	.025	.185	.855
	Urban	1.810	.383	.686	4.729	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.856	1.168
	GLHR	.355	2.820
	GJFK	.604	1.655
	PartnerConcentration	.753	1.327
	Distance	.614	1.628
	Ethnicity	.678	1.474
	Urban	.599	1.669

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	5.781	1.000	.00	.01	.00
	2	.983	2.425	.00	.01	.01
	3	.647	2.990	.00	.03	.00
	4	.301	4.383	.00	.34	.12
	5	.154	6.124	.01	.44	.00
	6	.110	7.253	.00	.11	.55
	7	.018	18.100	.00	.00	.00
	8	.006	30.148	.98	.06	.31

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Ethnicity	Urban
1	1	.00	.01	.00	.00	.00
	2	.38	.07	.00	.00	.00
	3	.09	.62	.00	.00	.00
	4	.02	.06	.00	.13	.00
	5	.03	.01	.02	.33	.01
	6	.35	.23	.00	.48	.00
	7	.12	.00	.49	.05	.48
	8	.00	.00	.49	.00	.51

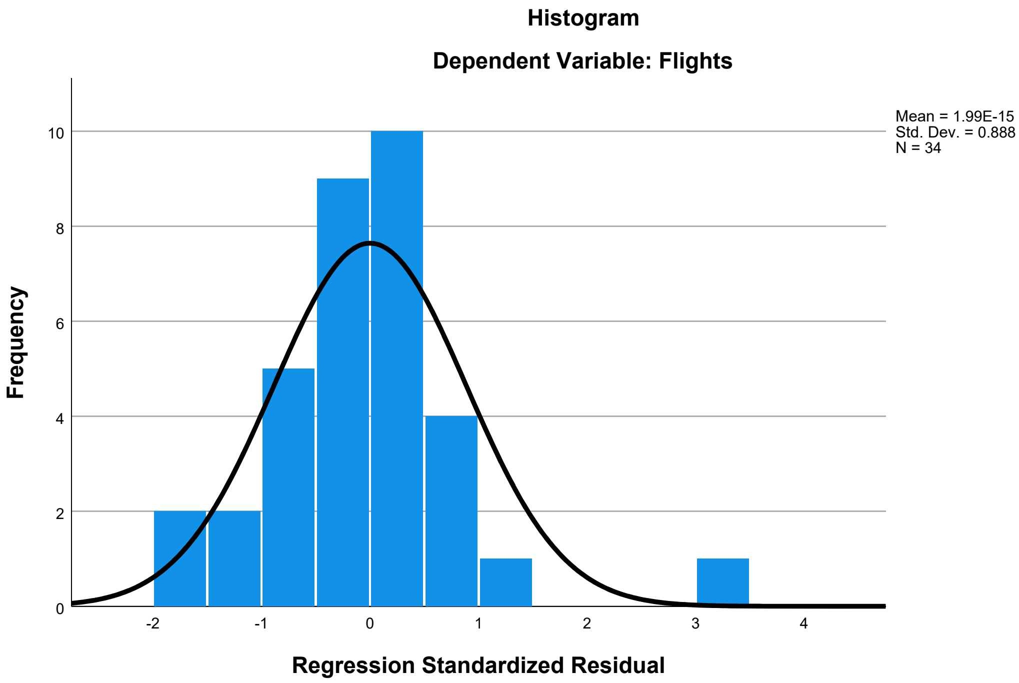
a. Dependent Variable: Flights

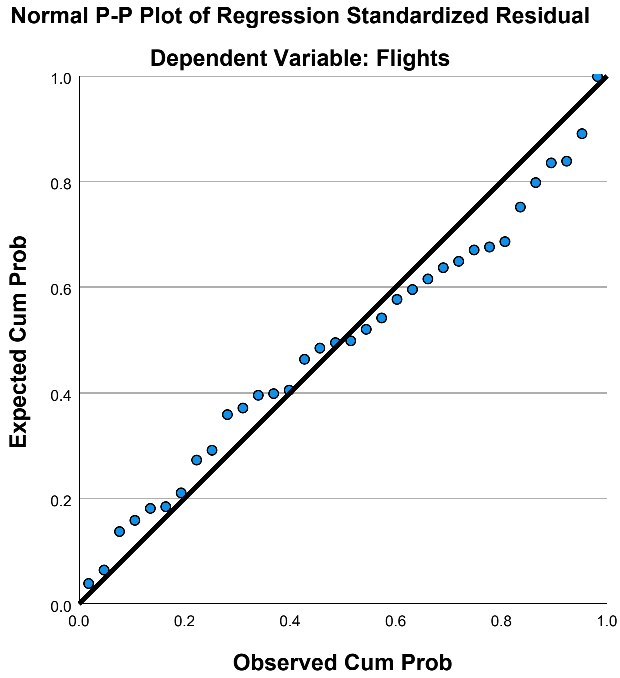
Residuals Statistics[a]

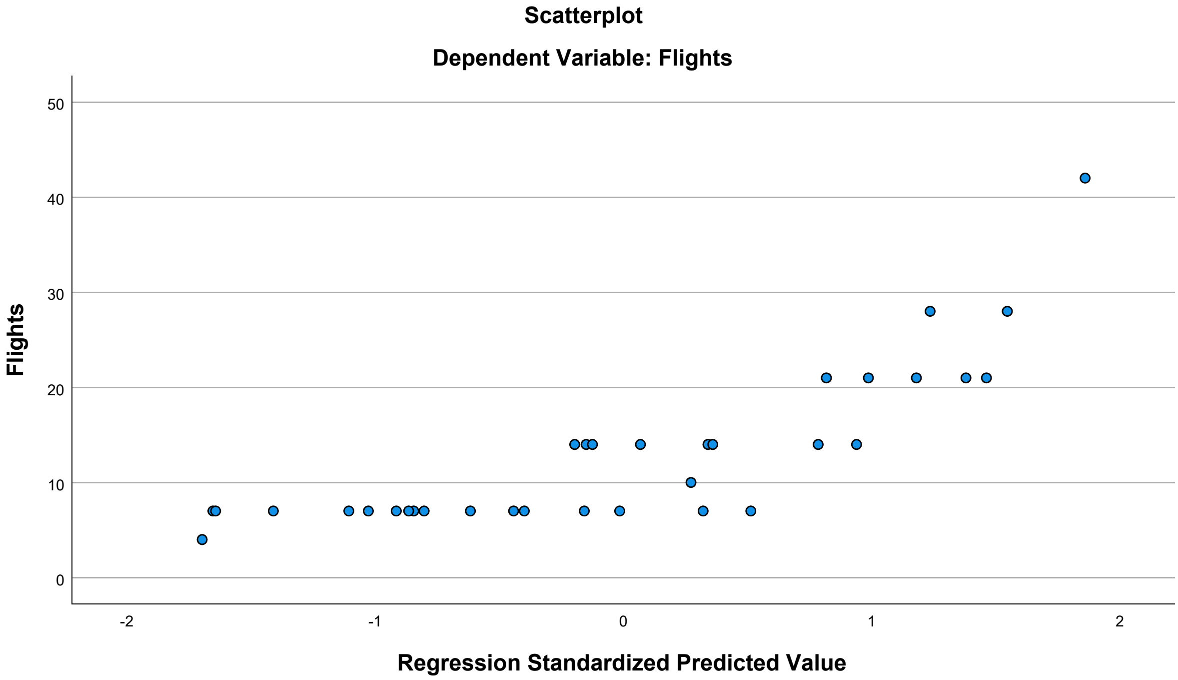
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.40	25.66	12.97	6.822	34
Residual	-9.473	16.342	.000	4.765	34
Std. Predicted Value	-1.697	1.860	.000	1.000	34
Std. Residual	-1.765	3.045	.000	.888	34

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-2
-1
0
1
2

Regression

```
[DataSet3] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\UK\2017 -
 Summer - CAN Airlines.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	5.75	4.904	28
HomeConcentration	1.2111967857	1.2142567685	28
GLHR	.25	.441	28
PartnerConcentration	.000100	.0000000	28
Distance	3.68879	.719488	28
Language	3.69989375	3.951791132	28
Ethnicity	1.28085679	1.077753667	28
Urban	16.36	3.822	28

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.299	.510	.
	HomeConcentration	.299	1.000	.209	.
	GLHR	.510	.209	1.000	.
	PartnerConcentration	.	.	.	1.000
	Distance	-.165	.038	-.169	.
	Language	.205	.399	-.268	.
	Ethnicity	.228	.373	-.292	.
	Urban	.325	.408	.033	.
Sig. (1-tailed)	Flights	.	.061	.003	.000
	HomeConcentration	.061	.	.143	.000
	GLHR	.003	.143	.	.000
	PartnerConcentration	.000	.000	.000	.
	Distance	.200	.424	.195	.000
	Language	.148	.018	.084	.000
	Ethnicity	.122	.025	.066	.000
	Urban	.046	.016	.434	.000
N	Flights	28	28	28	28
	HomeConcentration	28	28	28	28
	GLHR	28	28	28	28
	PartnerConcentration	28	28	28	28
	Distance	28	28	28	28
	Language	28	28	28	28

Correlations

		Distance	Language	Ethnicity	Urban
Pearson Correlation	Flights	-.165	.205	.228	.325
	HomeConcentration	.038	.399	.373	.408
	GLHR	-.169	-.268	-.292	.033
	PartnerConcentration	.	.	.	.
	Distance	1.000	-.239	-.013	.402
	Language	-.239	1.000	.937	.353
	Ethnicity	-.013	.937	1.000	.462
	Urban	.402	.353	.462	1.000
Sig. (1-tailed)	Flights	.200	.148	.122	.046
	HomeConcentration	.424	.018	.025	.016
	GLHR	.195	.084	.066	.434
	PartnerConcentration	.000	.000	.000	.000
	Distance	.	.110	.475	.017
	Language	.110	.	.000	.033
	Ethnicity	.475	.000	.	.007
	Urban	.017	.033	.007	.
N	Flights	28	28	28	28
	HomeConcentration	28	28	28	28
	GLHR	28	28	28	28
	PartnerConcentration	28	28	28	28
	Distance	28	28	28	28
	Language	28	28	28	28

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
	Ethnicity	28	28	28	28
	Urban	28	28	28	28

Correlations

		Distance	Language	Ethnicity	Urban
	Ethnicity	28	28	28	28
	Urban	28	28	28	28

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, GLHR, Distance, HomeConcentration, Ethnicity, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.682[a]	.465	.312	4.067	.465	3.043

Model Summary[b]

	Change Statistics		
Model	df1	df2	Sig. F Change
1	6	21	.027

a. Predictors: (Constant), Urban, GLHR, Distance, HomeConcentration, Ethnicity, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	301.947	6	50.325	3.043	.027[b]
	Residual	347.303	21	16.538		
	Total	649.250	27			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, GLHR, Distance, HomeConcentration, Ethnicity, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.968	5.736		.692	.497
	HomeConcentration	.096	.802	.024	.120	.905
	GLHR	5.811	2.165	.523	2.684	.014
	Distance	-1.928	1.694	-.283	-1.138	.268
	Language	-.562	.792	-.453	-.709	.486
	Ethnicity	3.051	2.701	.671	1.130	.271
	Urban	.336	.281	.262	1.195	.245

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.645	1.550
	GLHR	.672	1.488
	Distance	.413	2.424
	Language	.063	15.975
	Ethnicity	.072	13.830
	Urban	.531	1.882

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions GLHR
1	1	5.196	1.000	.00	.01	.00
	2	.996	2.284	.00	.00	.32
	3	.482	3.284	.01	.17	.15
	4	.266	4.423	.00	.71	.33
	5	.034	12.423	.15	.00	.02
	6	.020	16.324	.07	.04	.04
	7	.007	27.311	.77	.07	.13

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions: Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00
	2	.00	.01	.00	.00
	3	.01	.01	.00	.00
	4	.00	.02	.01	.00
	5	.02	.25	.33	.03
	6	.10	.03	.11	.95
	7	.87	.69	.55	.02

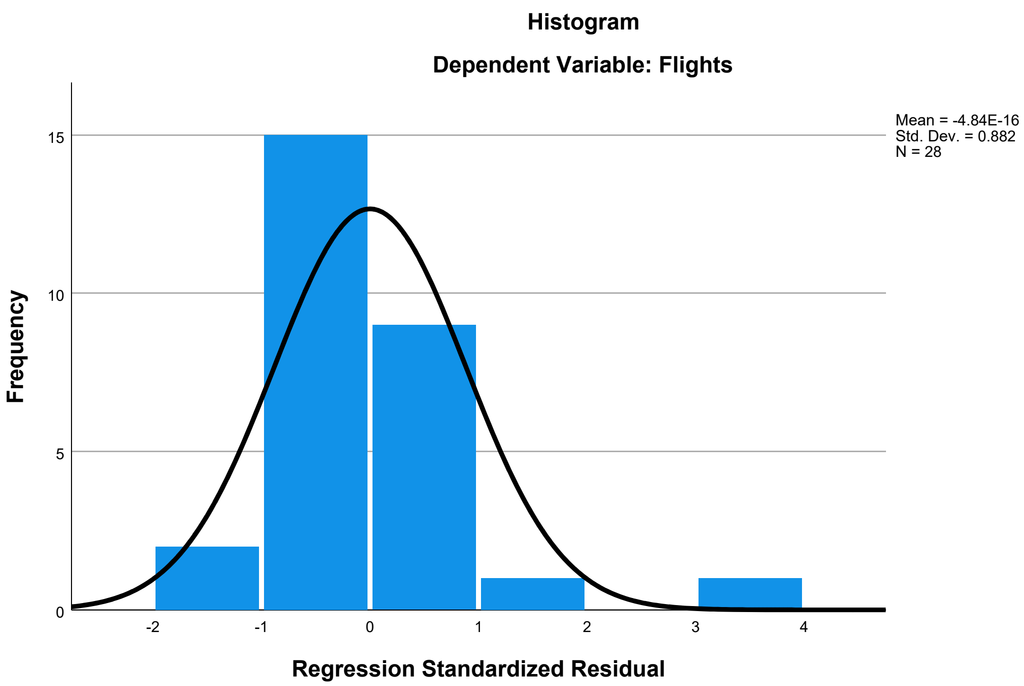
a. Dependent Variable: Flights

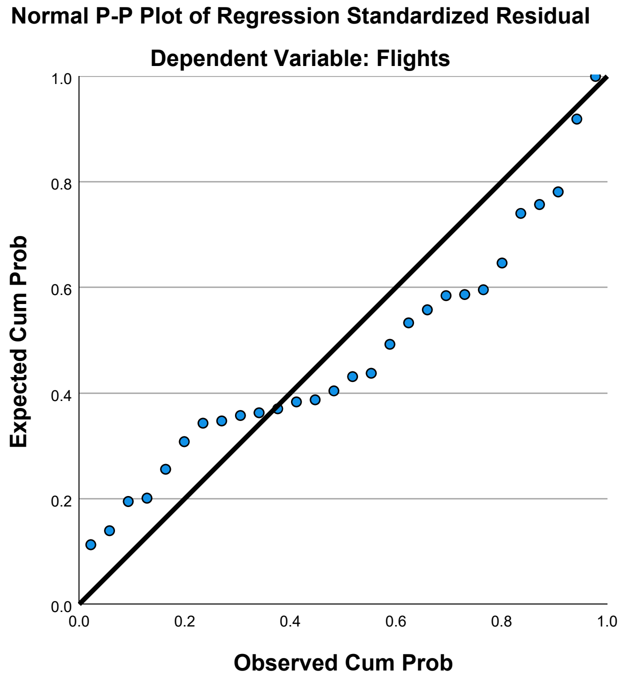
Residuals Statistics[a]

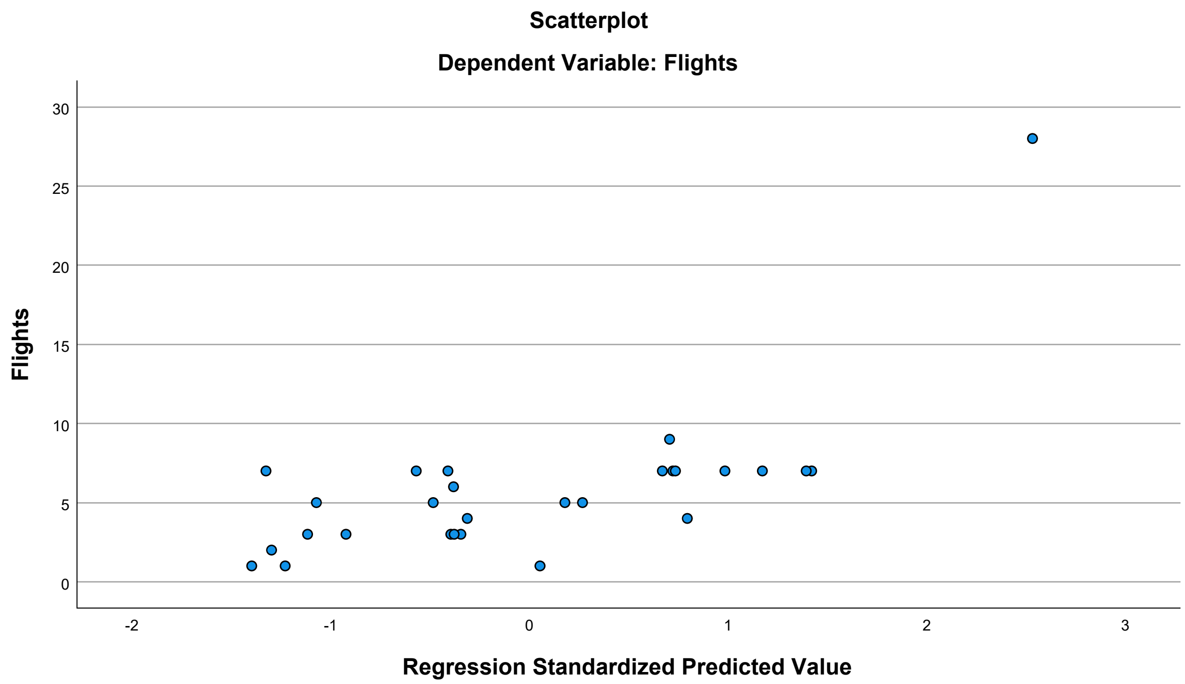
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.08	14.22	5.75	3.344	28
Residual	-4.930	13.781	.000	3.587	28
Std. Predicted Value	-1.397	2.533	.000	1.000	28
Std. Residual	-1.212	3.389	.000	.882	28

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	5.75	4.904	28
HomeConcentration	1.2111967857	1.2142567685	28
GLHR	.25	.441	28
PartnerConcentration	.000100	.0000000	28
Distance	3.68879	.719488	28
Ethnicity	1.28085679	1.077753667	28
Urban	16.36	3.822	28

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.299	.510	.
	HomeConcentration	.299	1.000	.209	.
	GLHR	.510	.209	1.000	.
	PartnerConcentration	.	.	.	1.000
	Distance	-.165	.038	-.169	.
	Ethnicity	.228	.373	-.292	.
	Urban	.325	.408	.033	.
Sig. (1-tailed)	Flights	.	.061	.003	.000
	HomeConcentration	.061	.	.143	.000
	GLHR	.003	.143	.	.000
	PartnerConcentration	.000	.000	.000	.
	Distance	.200	.424	.195	.000
	Ethnicity	.122	.025	.066	.000
	Urban	.046	.016	.434	.000
N	Flights	28	28	28	28
	HomeConcentration	28	28	28	28
	GLHR	28	28	28	28
	PartnerConcentration	28	28	28	28
	Distance	28	28	28	28
	Ethnicity	28	28	28	28
	Urban	28	28	28	28

Correlations

		Distance	Ethnicity	Urban
Pearson Correlation	Flights	-.165	.228	.325
	HomeConcentration	.038	.373	.408
	GLHR	-.169	-.292	.033
	PartnerConcentration	.	.	.
	Distance	1.000	-.013	.402
	Ethnicity	-.013	1.000	.462
	Urban	.402	.462	1.000
Sig. (1-tailed)	Flights	.200	.122	.046
	HomeConcentration	.424	.025	.016
	GLHR	.195	.066	.434
	PartnerConcentration	.000	.000	.000
	Distance	.	.475	.017
	Ethnicity	.475	.	.007
	Urban	.017	.007	.
N	Flights	28	28	28
	HomeConcentration	28	28	28
	GLHR	28	28	28
	PartnerConcentration	28	28	28
	Distance	28	28	28
	Ethnicity	28	28	28
	Urban	28	28	28

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, GLHR, Distance, HomeConcentration, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.672[a]	.452	.328	4.021	.452	3.633

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	5	22	.015

a. Predictors: (Constant), Urban, GLHR, Distance, HomeConcentration, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	293.624	5	58.725	3.633	.015[b]
	Residual	355.626	22	16.165		
	Total	649.250	27			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, GLHR, Distance, HomeConcentration, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.589	4.601		.345	.733
	HomeConcentration	-.074	.757	-.018	-.098	.923
	GLHR	6.202	2.070	.558	2.996	.007
	Distance	-1.149	1.275	-.169	-.901	.377
	Ethnicity	1.265	.967	.278	1.309	.204
	Urban	.325	.277	.253	1.172	.254

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.709	1.410
	GLHR	.719	1.392
	Distance	.711	1.406
	Ethnicity	.552	1.812
	Urban	.533	1.877

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	4.550	1.000	.00	.01	.01
	2	.813	2.366	.00	.00	.54
	3	.408	3.341	.01	.52	.00
	4	.194	4.843	.00	.43	.32
	5	.021	14.728	.49	.04	.00
	6	.015	17.378	.49	.00	.13

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Distance	Ethnicity	Urban
1	1	.00	.01	.00
	2	.00	.05	.00
	3	.01	.05	.00
	4	.01	.65	.00
	5	.00	.09	.77
	6	.98	.16	.22

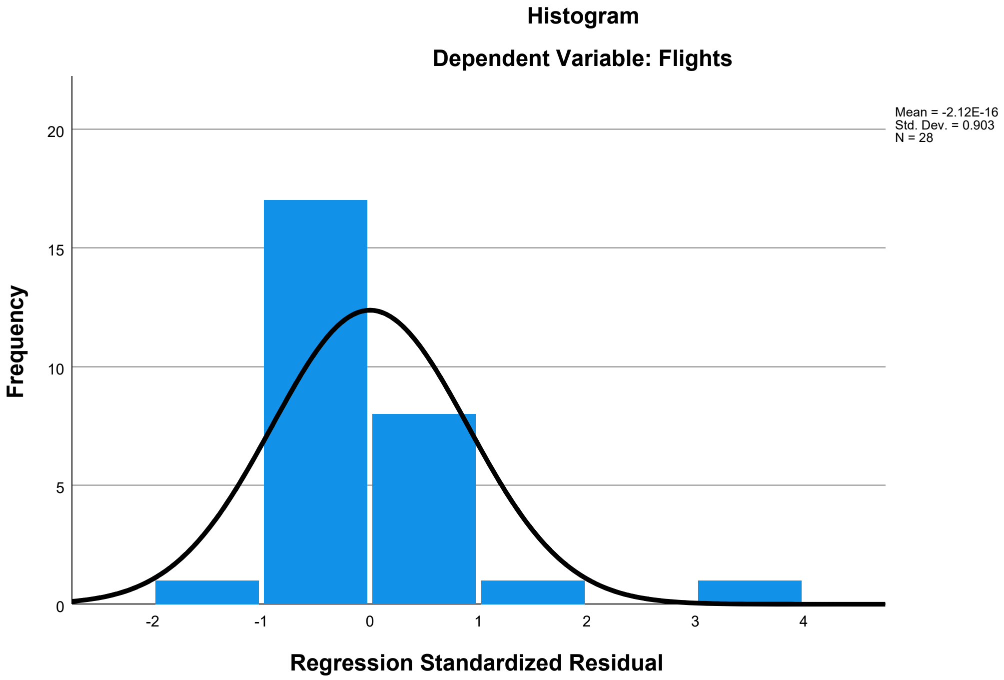
a. Dependent Variable: Flights

Residuals Statistics[a]

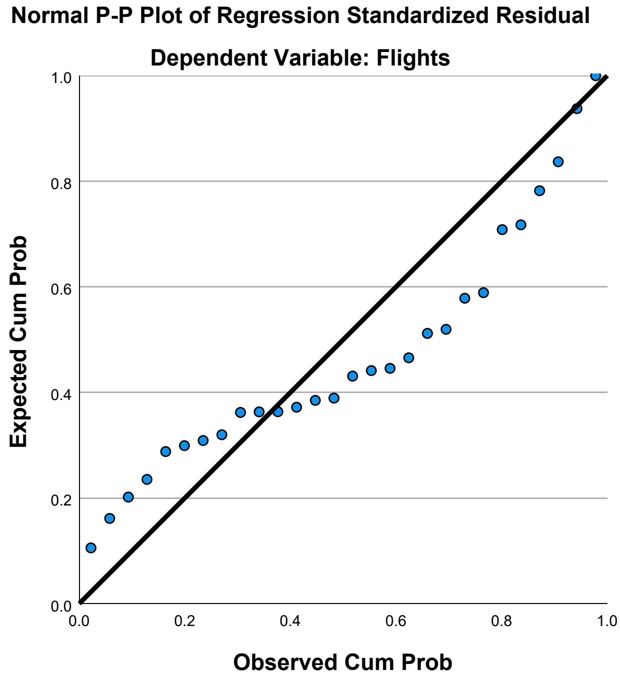
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.84	14.18	5.75	3.298	28
Residual	-5.031	13.820	.000	3.629	28
Std. Predicted Value	-1.489	2.556	.000	1.000	28
Std. Residual	-1.251	3.437	.000	.903	28

a. Dependent Variable: Flights

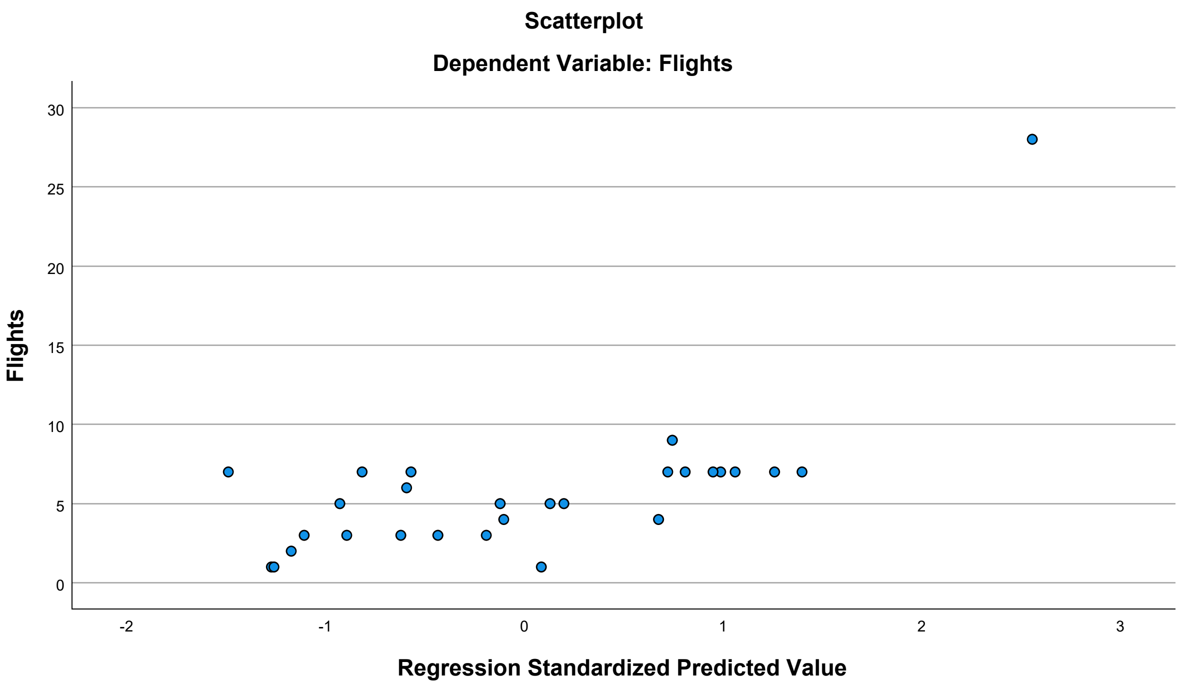
Charts



Histogram
Dependent Variable: Flights
Mean = -2.12E-16
Std. Dev. = 0.903
N = 28
Frequency
20
15
10
5
0
-2
-1
0
1
2
3
4
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
30
25
20
15
10
5
0
-2
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

```
[DataSet4] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\UK\2017 -
 Winter - UK Airlines.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.47	7.838	47
HomeConcentration	2.7498927660	2.3697107446	47
GLHR	.70	.462	47
GJFK	.09	.282	47
PartnerConcentration	1.4254492340	2.9318293465	47
Distance	4.34289	.754258	47
Language	4.75030691	3.441403335	47
Ethnicity	.52724068	.450282763	47
Urban	18.66	3.772	47

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.356	.405	.532
	HomeConcentration	.356	1.000	.655	-.142
	GLHR	.405	.655	1.000	-.135
	GJFK	.532	-.142	-.135	1.000
	PartnerConcentration	.020	-.124	.078	-.013
	Distance	-.281	.068	-.046	-.363
	Language	.484	-.098	.080	.724
	Ethnicity	.297	.103	.187	.308
	Urban	.488	.186	.464	.436
Sig. (1-tailed)	Flights	.	.007	.002	<.001
	HomeConcentration	.007	.	.000	.171
	GLHR	.002	.000	.	.183
	GJFK	.000	.171	.183	.
	PartnerConcentration	.447	.203	.302	.465
	Distance	.028	.324	.378	.006
	Language	.000	.256	.296	.000
	Ethnicity	.021	.246	.105	.018
	Urban	.000	.105	.001	.001
N	Flights	47	47	47	47
	HomeConcentration	47	47	47	47

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
Pearson Correlation	Flights	.020	-.281	.484	.297
	HomeConcentration	-.124	.068	-.098	.103
	GLHR	.078	-.046	.080	.187
	GJFK	-.013	-.363	.724	.308
	PartnerConcentration	1.000	-.120	.291	.128
	Distance	-.120	1.000	-.518	-.426
	Language	.291	-.518	1.000	.642
	Ethnicity	.128	-.426	.642	1.000
	Urban	.017	-.356	.617	.458
Sig. (1-tailed)	Flights	.447	.028	<.001	.021
	HomeConcentration	.203	.324	.256	.246
	GLHR	.302	.378	.296	.105
	GJFK	.465	.006	.000	.018
	PartnerConcentration	.	.210	.024	.196
	Distance	.210	.	.000	.001
	Language	.024	.000	.	.000
	Ethnicity	.196	.001	.000	.
	Urban	.454	.007	.000	.001
N	Flights	47	47	47	47
	HomeConcentration	47	47	47	47

Correlations

		Urban
Pearson Correlation	Flights	.488
	HomeConcentration	.186
	GLHR	.464
	GJFK	.436
	PartnerConcentration	.017
	Distance	-.356
	Language	.617
	Ethnicity	.458
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.105
	GLHR	.001
	GJFK	.001
	PartnerConcentration	.454
	Distance	.007
	Language	.000
	Ethnicity	.001
	Urban	.
N	Flights	47
	HomeConcentration	47

Correlations

		Flights	HomeConcentration	GLHR	GJFK
	GLHR	47	47	47	47
	GJFK	47	47	47	47
	PartnerConcentration	47	47	47	47
	Distance	47	47	47	47
	Language	47	47	47	47
	Ethnicity	47	47	47	47
	Urban	47	47	47	47

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
	GLHR	47	47	47	47
	GJFK	47	47	47	47
	PartnerConcentration	47	47	47	47
	Distance	47	47	47	47
	Language	47	47	47	47
	Ethnicity	47	47	47	47
	Urban	47	47	47	47

Correlations

		Urban
	GLHR	47
	GJFK	47
	PartnerConcentration	47
	Distance	47
	Language	47
	Ethnicity	47
	Urban	47

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, HomeConcentration, Distance, GJFK, Ethnicity, GLHR, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.740[a]	.547	.452	5.803	.547	5.740

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	38	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, GJFK, Ethnicity, GLHR, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1546.205	8	193.276	5.740	<.001[b]
	Residual	1279.497	38	33.671		
	Total	2825.702	46			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, GJFK, Ethnicity, GLHR, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.866	8.574		.451	.655
	HomeConcentration	.798	.507	.241	1.573	.124
	GLHR	5.269	3.020	.311	1.745	.089
	GJFK	15.047	5.168	.542	2.912	.006
	PartnerConcentration	.026	.346	.010	.076	.940
	Distance	-.594	1.344	-.057	-.442	.661
	Language	.155	.591	.068	.262	.795
	Ethnicity	-.473	2.718	-.027	-.174	.863
	Urban	.026	.359	.012	.072	.943

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.506	1.975
	GLHR	.376	2.662
	GJFK	.345	2.902
	PartnerConcentration	.712	1.405
	Distance	.712	1.404
	Language	.177	5.656
	Ethnicity	.489	2.046
	Urban	.399	2.504

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	6.196	1.000	.00	.00	.00
	2	1.148	2.323	.00	.02	.01
	3	.816	2.756	.00	.02	.00
	4	.342	4.259	.00	.21	.04
	5	.308	4.484	.00	.05	.01
	6	.116	7.311	.00	.54	.54
	7	.053	10.860	.00	.14	.13
	8	.016	19.473	.01	.02	.17
	9	.006	31.435	.98	.01	.10

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.18	.00	.00	.01	.00	.00
	3	.02	.61	.00	.00	.00	.00
	4	.01	.04	.01	.00	.02	.00
	5	.17	.07	.00	.00	.44	.00
	6	.01	.07	.01	.02	.06	.00
	7	.60	.12	.02	.71	.47	.00
	8	.00	.07	.41	.26	.00	.52
	9	.01	.02	.55	.00	.01	.47

a. Dependent Variable: Flights

Residuals Statistics[a]

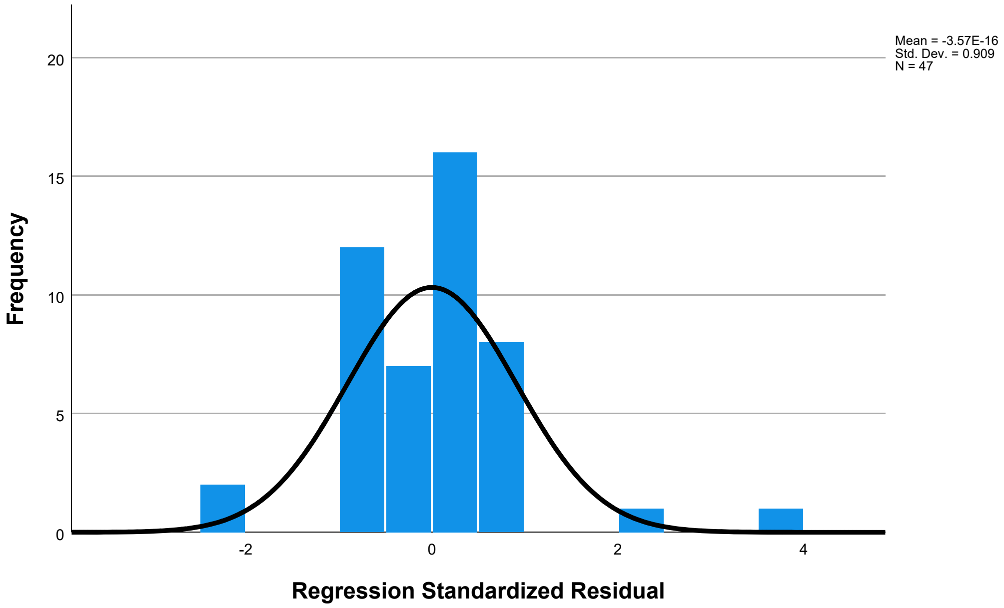
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.37	28.33	9.47	5.798	47
Residual	-12.794	20.672	.000	5.274	47
Std. Predicted Value	-1.397	3.253	.000	1.000	47
Std. Residual	-2.205	3.563	.000	.909	47

a. Dependent Variable: Flights

Charts

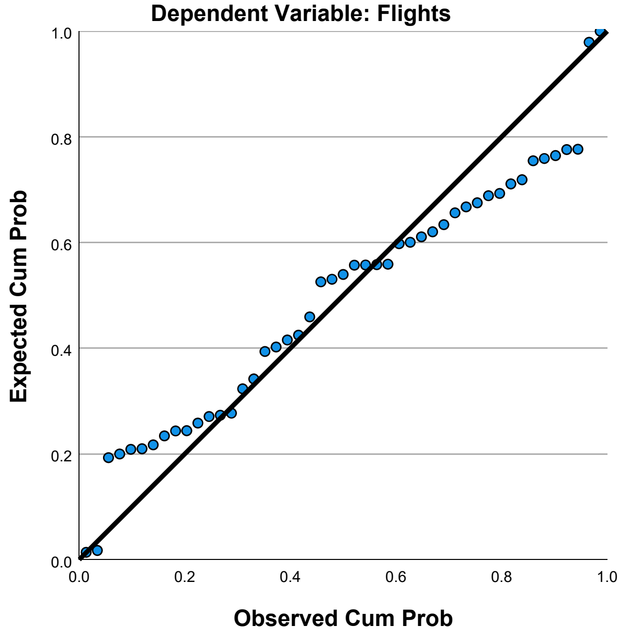
Histogram

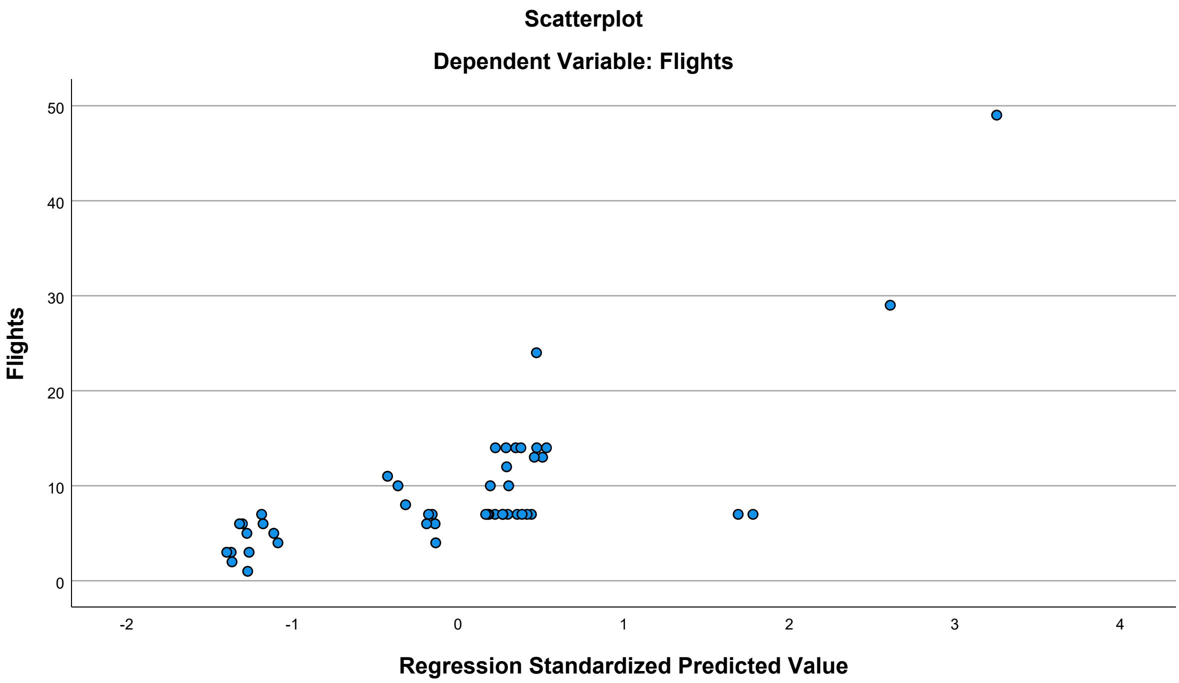
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights





Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.47	7.838	47
HomeConcentration	2.7498927660	2.3697107446	47
GLHR	.70	.462	47
GJFK	.09	.282	47
PartnerConcentration	1.4254492340	2.9318293465	47
Distance	4.34289	.754258	47
Ethnicity	.52724068	.450282763	47
Urban	18.66	3.772	47

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.356	.405	.532
	HomeConcentration	.356	1.000	.655	-.142
	GLHR	.405	.655	1.000	-.135
	GJFK	.532	-.142	-.135	1.000
	PartnerConcentration	.020	-.124	.078	-.013
	Distance	-.281	.068	-.046	-.363
	Ethnicity	.297	.103	.187	.308
	Urban	.488	.186	.464	.436
Sig. (1-tailed)	Flights	.	.007	.002	<.001
	HomeConcentration	.007	.	.000	.171
	GLHR	.002	.000	.	.183
	GJFK	.000	.171	.183	.
	PartnerConcentration	.447	.203	.302	.465
	Distance	.028	.324	.378	.006
	Ethnicity	.021	.246	.105	.018
	Urban	.000	.105	.001	.001
N	Flights	47	47	47	47
	HomeConcentration	47	47	47	47
	GLHR	47	47	47	47
	GJFK	47	47	47	47
	PartnerConcentration	47	47	47	47
	Distance	47	47	47	47
	Ethnicity	47	47	47	47
	Urban	47	47	47	47

Correlations

		PartnerConcentration	Distance	Ethnicity	Urban
Pearson Correlation	Flights	.020	-.281	.297	.488
	HomeConcentration	-.124	.068	.103	.186
	GLHR	.078	-.046	.187	.464
	GJFK	-.013	-.363	.308	.436
	PartnerConcentration	1.000	-.120	.128	.017
	Distance	-.120	1.000	-.426	-.356
	Ethnicity	.128	-.426	1.000	.458
	Urban	.017	-.356	.458	1.000
Sig. (1-tailed)	Flights	.447	.028	.021	<.001
	HomeConcentration	.203	.324	.246	.105
	GLHR	.302	.378	.105	.001
	GJFK	.465	.006	.018	.001
	PartnerConcentration	.	.210	.196	.454
	Distance	.210	.	.001	.007
	Ethnicity	.196	.001	.	.001
	Urban	.454	.007	.001	.
N	Flights	47	47	47	47
	HomeConcentration	47	47	47	47
	GLHR	47	47	47	47
	GJFK	47	47	47	47
	PartnerConcentration	47	47	47	47
	Distance	47	47	47	47
	Ethnicity	47	47	47	47
	Urban	47	47	47	47

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, HomeConcentration, Distance, GJFK, Ethnicity, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.739[a]	.546	.465	5.733	.546	6.711

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	7	39	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, GJFK, Ethnicity, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1543.898	7	220.557	6.711	<.001[b]
	Residual	1281.804	39	32.867		
	Total	2825.702	46			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, GJFK, Ethnicity, GLHR

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.953	8.465		.467	.643
	HomeConcentration	.782	.498	.236	1.572	.124
	GLHR	5.269	2.983	.311	1.766	.085
	GJFK	15.959	3.773	.574	4.230	<.001
	PartnerConcentration	.068	.303	.026	.226	.823
	Distance	-.655	1.307	-.063	-.501	.619
	Ethnicity	-.087	2.257	-.005	-.039	.969
	Urban	.059	.332	.028	.178	.860

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.514	1.946
	GLHR	.376	2.662
	GJFK	.631	1.585
	PartnerConcentration	.908	1.101
	Distance	.735	1.361
	Ethnicity	.692	1.445
	Urban	.456	2.191

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	5.410	1.000	.00	.01	.00
	2	.998	2.329	.00	.01	.00
	3	.811	2.582	.00	.02	.00
	4	.342	3.980	.00	.21	.04
	5	.300	4.245	.00	.05	.01
	6	.113	6.918	.00	.62	.59
	7	.020	16.476	.00	.07	.25
	8	.006	29.357	.99	.01	.10

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Ethnicity	Urban
1	1	.00	.01	.00	.01	.00
	2	.48	.00	.00	.01	.00
	3	.01	.81	.00	.00	.00
	4	.03	.05	.01	.03	.00
	5	.21	.06	.00	.73	.00
	6	.00	.05	.01	.02	.00
	7	.25	.00	.39	.19	.48
	8	.02	.02	.59	.01	.51

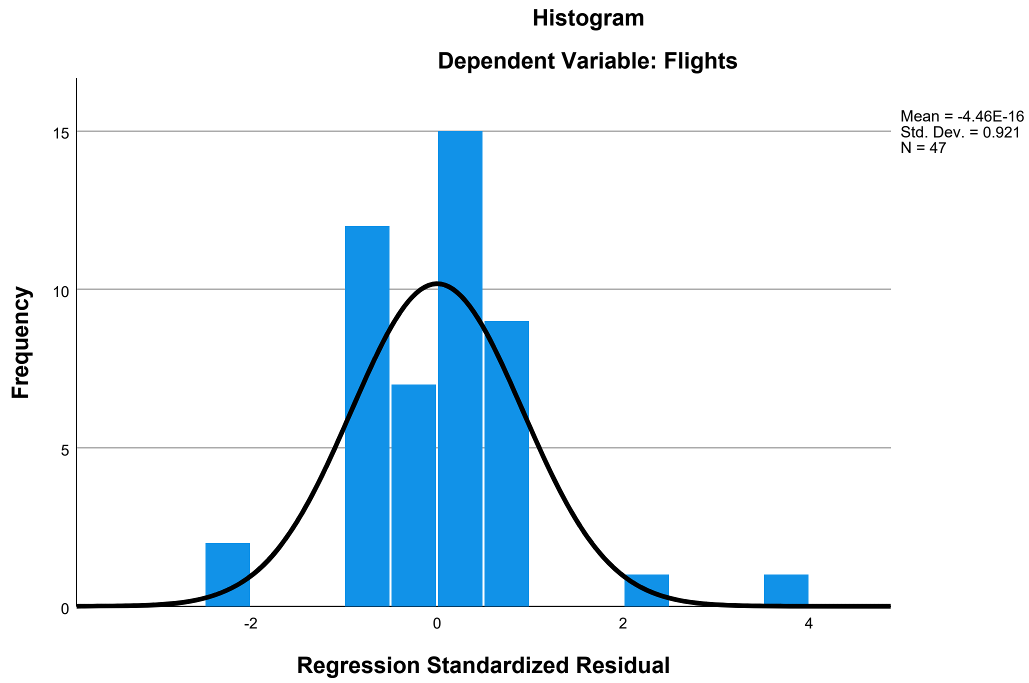
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.39	28.27	9.47	5.793	47
Residual	-12.799	20.734	.000	5.279	47
Std. Predicted Value	-1.395	3.245	.000	1.000	47
Std. Residual	-2.232	3.617	.000	.921	47

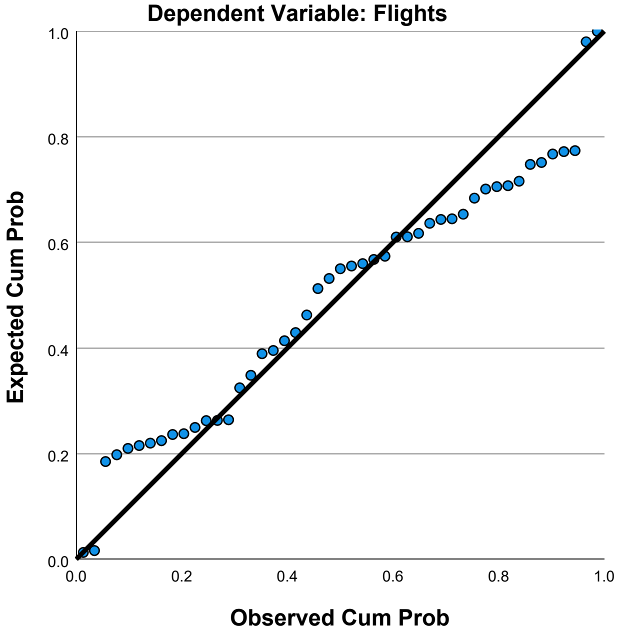
a. Dependent Variable: Flights

Charts



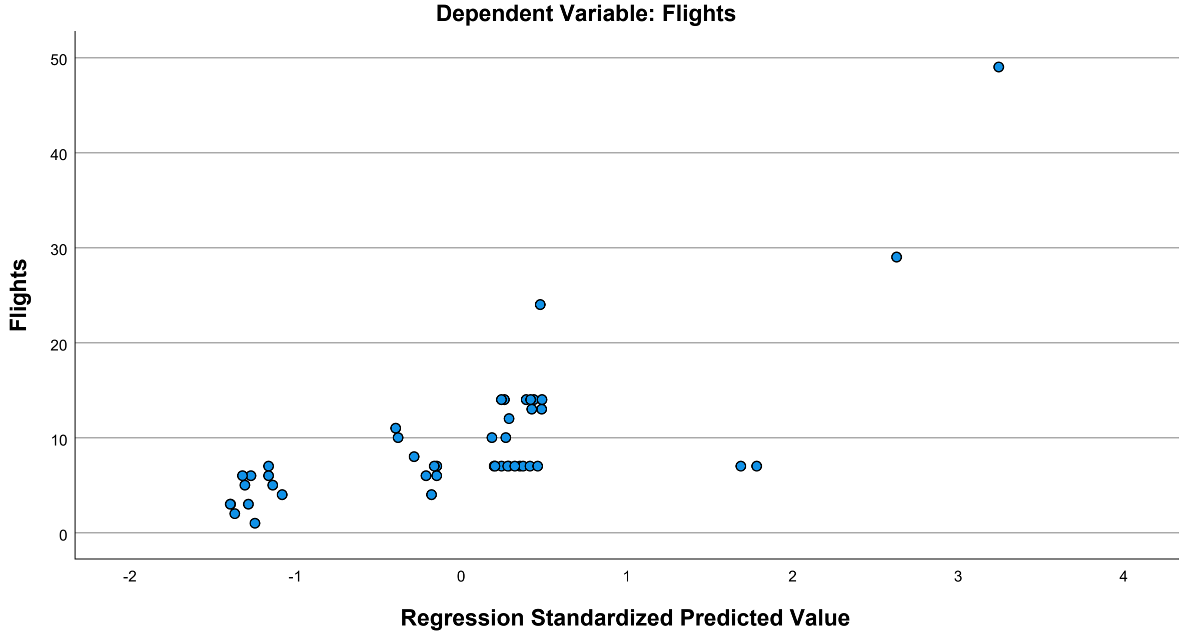
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.47	7.838	47
GLHR	.70	.462	47
GJFK	.09	.282	47
PartnerConcentration	1.4254492340	2.9318293465	47
Distance	4.34289	.754258	47
Ethnicity	.52724068	.450282763	47
Urban	18.66	3.772	47

Correlations

		Flights	GLHR	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.405	.532	.020
	GLHR	.405	1.000	-.135	.078
	GJFK	.532	-.135	1.000	-.013
	PartnerConcentration	.020	.078	-.013	1.000
	Distance	-.281	-.046	-.363	-.120
	Ethnicity	.297	.187	.308	.128
	Urban	.488	.464	.436	.017
Sig. (1-tailed)	Flights	.	.002	<.001	.447
	GLHR	.002	.	.183	.302
	GJFK	.000	.183	.	.465
	PartnerConcentration	.447	.302	.465	.
	Distance	.028	.378	.006	.210
	Ethnicity	.021	.105	.018	.196
	Urban	.000	.001	.001	.454
N	Flights	47	47	47	47
	GLHR	47	47	47	47
	GJFK	47	47	47	47
	PartnerConcentration	47	47	47	47
	Distance	47	47	47	47
	Ethnicity	47	47	47	47
	Urban	47	47	47	47

Correlations

		Distance	Ethnicity	Urban
Pearson Correlation	Flights	-.281	.297	.488
	GLHR	-.046	.187	.464
	GJFK	-.363	.308	.436
	PartnerConcentration	-.120	.128	.017
	Distance	1.000	-.426	-.356
	Ethnicity	-.426	1.000	.458
	Urban	-.356	.458	1.000
Sig. (1-tailed)	Flights	.028	.021	<.001
	GLHR	.378	.105	.001
	GJFK	.006	.018	.001
	PartnerConcentration	.210	.196	.454
	Distance	.	.001	.007
	Ethnicity	.001	.	.001
	Urban	.007	.001	.
N	Flights	47	47	47
	GLHR	47	47	47
	GJFK	47	47	47
	PartnerConcentration	47	47	47
	Distance	47	47	47
	Ethnicity	47	47	47
	Urban	47	47	47

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, GLHR, Ethnicity, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.719[a]	.518	.445	5.837	.518	7.154

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	6	40	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, GLHR, Ethnicity, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1462.686	6	243.781	7.154	<.001[b]
	Residual	1363.016	40	34.075		
	Total	2825.702	46			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, GLHR, Ethnicity, GJFK

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.029	8.591		.585	.562
	GLHR	8.275	2.332	.488	3.549	.001
	GJFK	16.200	3.839	.583	4.220	<.001
	PartnerConcentration	-.047	.299	-.018	-.158	.876
	Distance	-.497	1.327	-.048	-.375	.710
	Ethnicity	.287	2.285	.016	.126	.901
	Urban	-.036	.332	-.017	-.109	.914

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	GLHR	.638	1.568
	GJFK	.632	1.583
	PartnerConcentration	.965	1.037
	Distance	.739	1.353
	Ethnicity	.700	1.429
	Urban	.472	2.118

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	GLHR	GJFK
1	1	4.751	1.000	.00	.01	.00
	2	.954	2.231	.00	.01	.52
	3	.751	2.515	.00	.01	.02
	4	.308	3.928	.00	.01	.10
	5	.208	4.774	.00	.67	.07
	6	.021	14.964	.00	.20	.26
	7	.006	27.396	.99	.10	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions			
		PartnerConcentration	Distance	Ethnicity	Urban
1	1	.01	.00	.01	.00
	2	.05	.00	.01	.00
	3	.91	.00	.00	.00
	4	.02	.01	.69	.00
	5	.00	.01	.11	.00
	6	.00	.36	.18	.50
	7	.02	.62	.01	.50

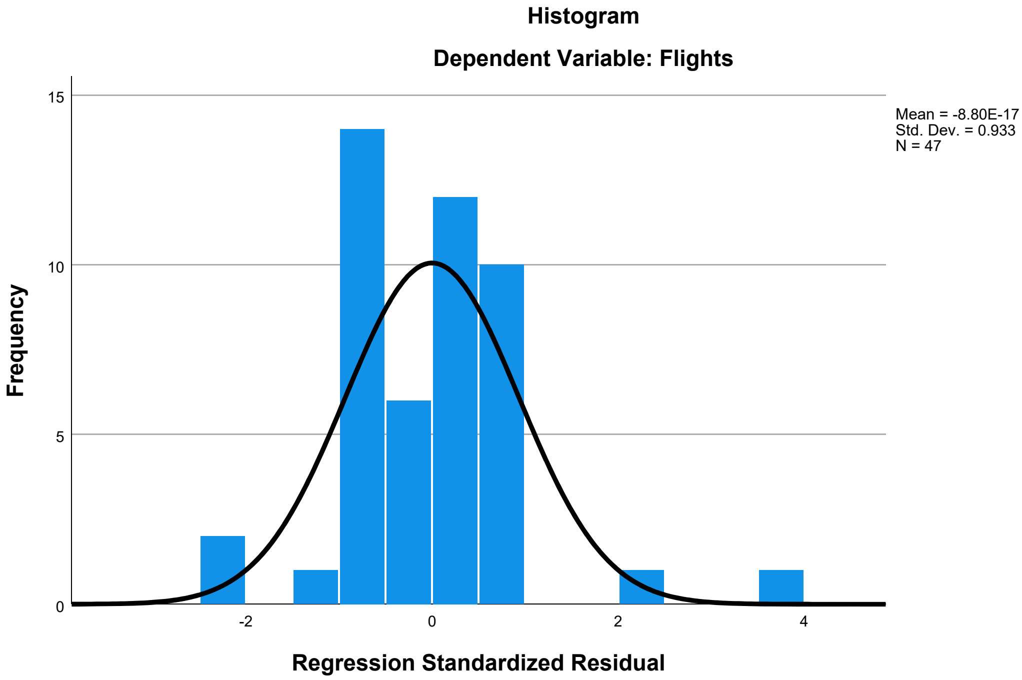
a. Dependent Variable: Flights

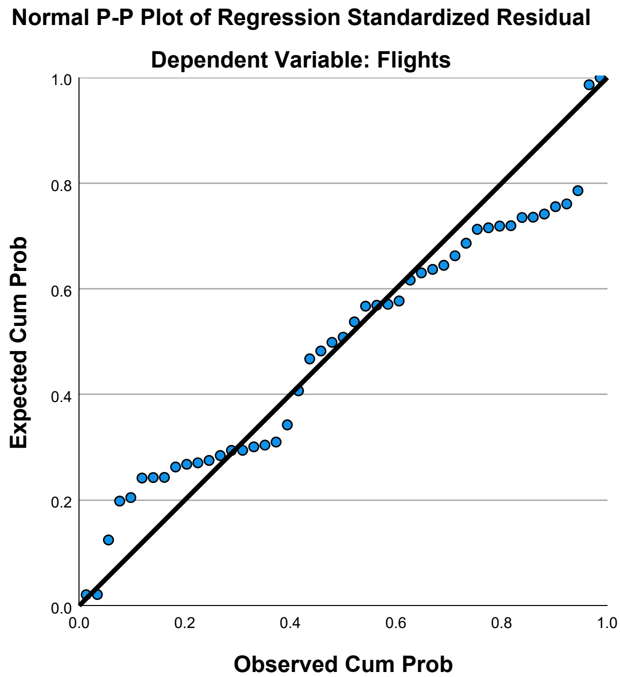
Residuals Statistics[a]

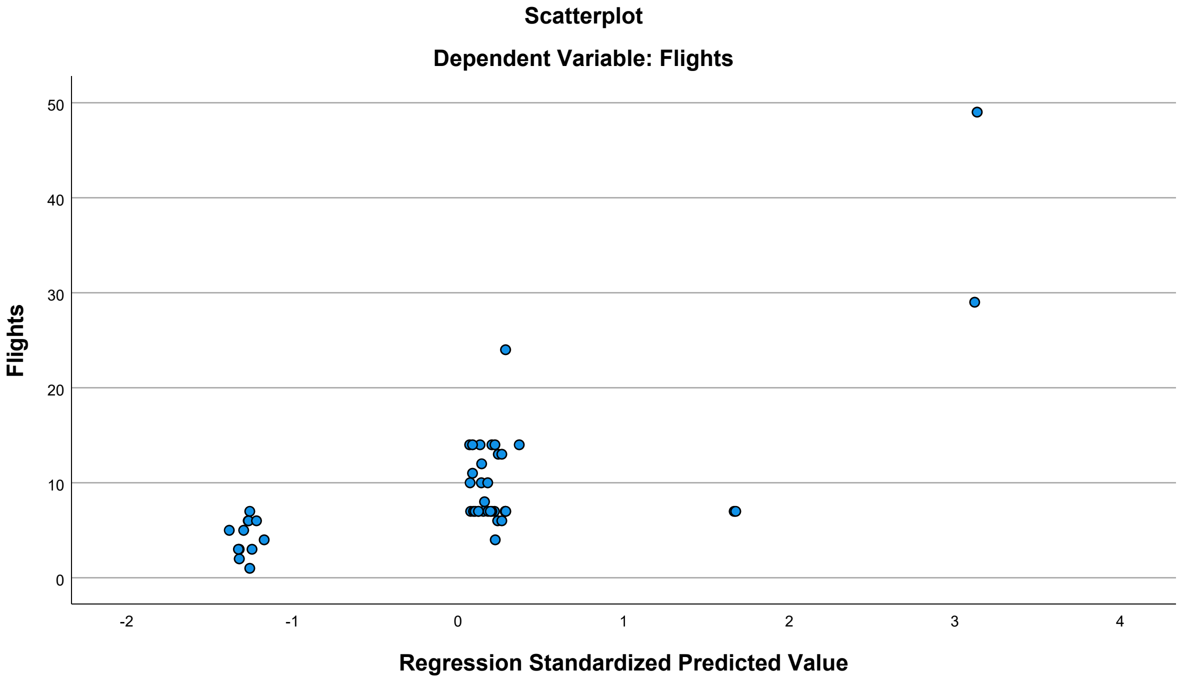
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.68	27.15	9.47	5.639	47
Residual	-11.924	21.854	.000	5.443	47
Std. Predicted Value	-1.382	3.135	.000	1.000	47
Std. Residual	-2.043	3.744	.000	.933	47

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -8.80E-17
Std. Dev. = 0.933
N = 47
Frequency
15
10
5
0
-2
0
2
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
50
40
30
20
10
0
-2
-1
0
1
2
3
4
Regression Standardized Predicted Value

Regression

```
[DataSet5] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\UK\2017 - Winter - US Airlines.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	11.63	7.344	27
HomeConcentration	4.0487541481	2.7213335091	27
GLHR	.81	.396	27
GJFK	.11	.320	27
PartnerConcentration	1.6657321481	2.4589636637	27
Distance	4.01900	.717540	27
Language	6.00151767	3.229587473	27
Ethnicity	.52466774	.277519496	27
Urban	19.48	2.737	27

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.181	.412	.116
	HomeConcentration	.181	1.000	-.011	-.227
	GLHR	.412	-.011	1.000	-.135
	GJFK	.116	-.227	-.135	1.000
	PartnerConcentration	.144	.052	.327	.037
	Distance	.023	.007	.487	-.304
	Language	.250	-.090	-.182	.762
	Ethnicity	.209	-.097	.220	.587
	Urban	.700	-.171	.334	.332
Sig. (1-tailed)	Flights	.	.184	.016	.282
	HomeConcentration	.184	.	.477	.127
	GLHR	.016	.477	.	.251
	GJFK	.282	.127	.251	.
	PartnerConcentration	.236	.399	.048	.427
	Distance	.455	.486	.005	.062
	Language	.104	.328	.182	.000
	Ethnicity	.148	.316	.135	.001
	Urban	.000	.197	.044	.046
N	Flights	27	27	27	27
	HomeConcentration	27	27	27	27

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
Pearson Correlation	Flights	.144	.023	.250	.209
	HomeConcentration	.052	.007	-.090	-.097
	GLHR	.327	.487	-.182	.220
	GJFK	.037	-.304	.762	.587
	PartnerConcentration	1.000	.151	-.148	-.152
	Distance	.151	1.000	-.404	-.064
	Language	-.148	-.404	1.000	.757
	Ethnicity	-.152	-.064	.757	1.000
	Urban	.053	.093	.506	.361
Sig. (1-tailed)	Flights	.236	.455	.104	.148
	HomeConcentration	.399	.486	.328	.316
	GLHR	.048	.005	.182	.135
	GJFK	.427	.062	.000	.001
	PartnerConcentration	.	.226	.231	.224
	Distance	.226	.	.018	.376
	Language	.231	.018	.	.000
	Ethnicity	.224	.376	.000	.
	Urban	.396	.322	.004	.032
N	Flights	27	27	27	27
	HomeConcentration	27	27	27	27

Correlations

		Urban
Pearson Correlation	Flights	.700
	HomeConcentration	-.171
	GLHR	.334
	GJFK	.332
	PartnerConcentration	.053
	Distance	.093
	Language	.506
	Ethnicity	.361
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.197
	GLHR	.044
	GJFK	.046
	PartnerConcentration	.396
	Distance	.322
	Language	.004
	Ethnicity	.032
	Urban	.
N	Flights	27
	HomeConcentration	27

Correlations

		Flights	HomeConcentration	GLHR	GJFK
	GLHR	27	27	27	27
	GJFK	27	27	27	27
	PartnerConcentration	27	27	27	27
	Distance	27	27	27	27
	Language	27	27	27	27
	Ethnicity	27	27	27	27
	Urban	27	27	27	27

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
	GLHR	27	27	27	27
	GJFK	27	27	27	27
	PartnerConcentration	27	27	27	27
	Distance	27	27	27	27
	Language	27	27	27	27
	Ethnicity	27	27	27	27
	Urban	27	27	27	27

Correlations

		Urban
	GLHR	27
	GJFK	27
	PartnerConcentration	27
	Distance	27
	Language	27
	Ethnicity	27
	Urban	27

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, HomeConcentration, Ethnicity, GLHR, GJFK, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.809[a]	.655	.501	5.185	.655	4.269

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	8	18	.005

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, Ethnicity, GLHR, GJFK, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	918.336	8	114.792	4.269	.005[b]
	Residual	483.960	18	26.887		
	Total	1402.296	26			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, Ethnicity, GLHR, GJFK, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-24.477	9.971		-2.455	.025
	HomeConcentration	.848	.400	.314	2.121	.048
	GLHR	3.302	4.478	.178	.737	.470
	GJFK	.781	5.329	.034	.147	.885
	PartnerConcentration	.102	.484	.034	.210	.836
	Distance	-2.643	1.886	-.258	-1.402	.178
	Language	-.716	1.008	-.315	-.710	.487
	Ethnicity	2.905	8.490	.110	.342	.736
	Urban	2.214	.611	.825	3.623	.002

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.874	1.144
	GLHR	.329	3.038
	GJFK	.355	2.817
	PartnerConcentration	.731	1.369
	Distance	.565	1.771
	Language	.097	10.257
	Ethnicity	.186	5.369
	Urban	.370	2.704

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	6.744	1.000	.00	.00	.00
	2	1.078	2.501	.00	.02	.00
	3	.653	3.213	.00	.01	.00
	4	.272	4.983	.00	.70	.04
	5	.115	7.650	.01	.17	.21
	6	.092	8.572	.00	.03	.06
	7	.033	14.314	.00	.00	.28
	8	.009	28.088	.52	.00	.00
	9	.004	39.279	.46	.07	.41

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00	.00
	2	.20	.03	.00	.00	.00	.00
	3	.03	.63	.00	.00	.00	.00
	4	.03	.01	.00	.00	.00	.00
	5	.02	.02	.01	.01	.05	.01
	6	.64	.24	.02	.06	.13	.00
	7	.03	.04	.11	.16	.32	.02
	8	.02	.00	.82	.25	.14	.01
	9	.02	.03	.04	.51	.36	.96

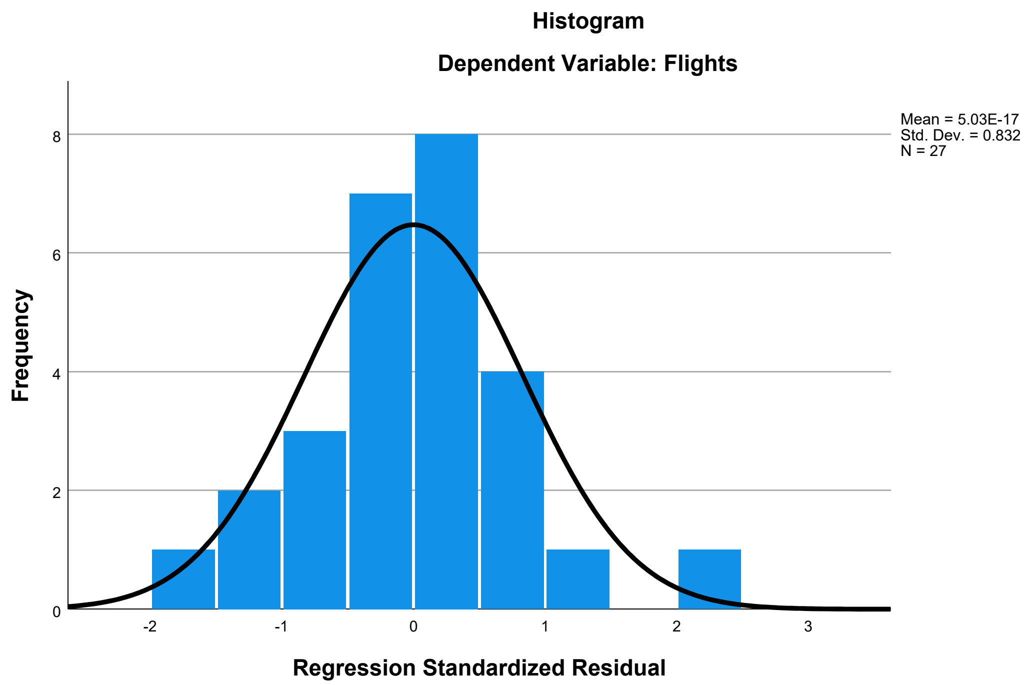
a. Dependent Variable: Flights

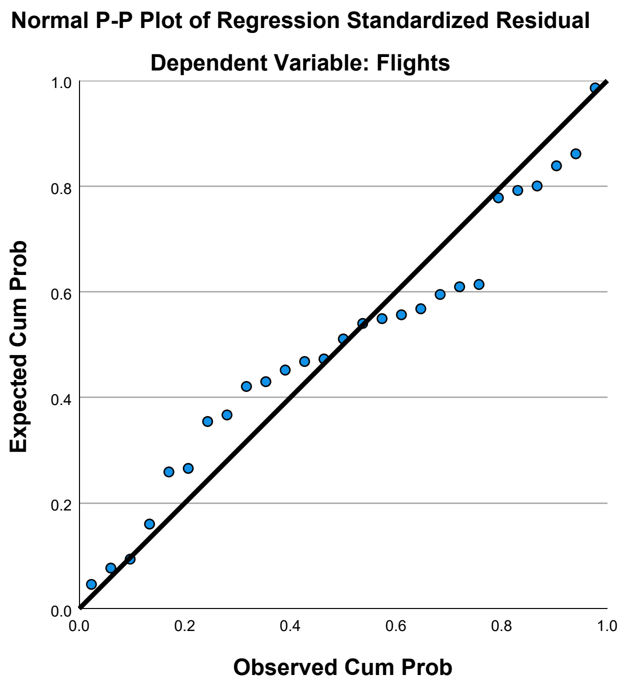
Residuals Statistics[a]

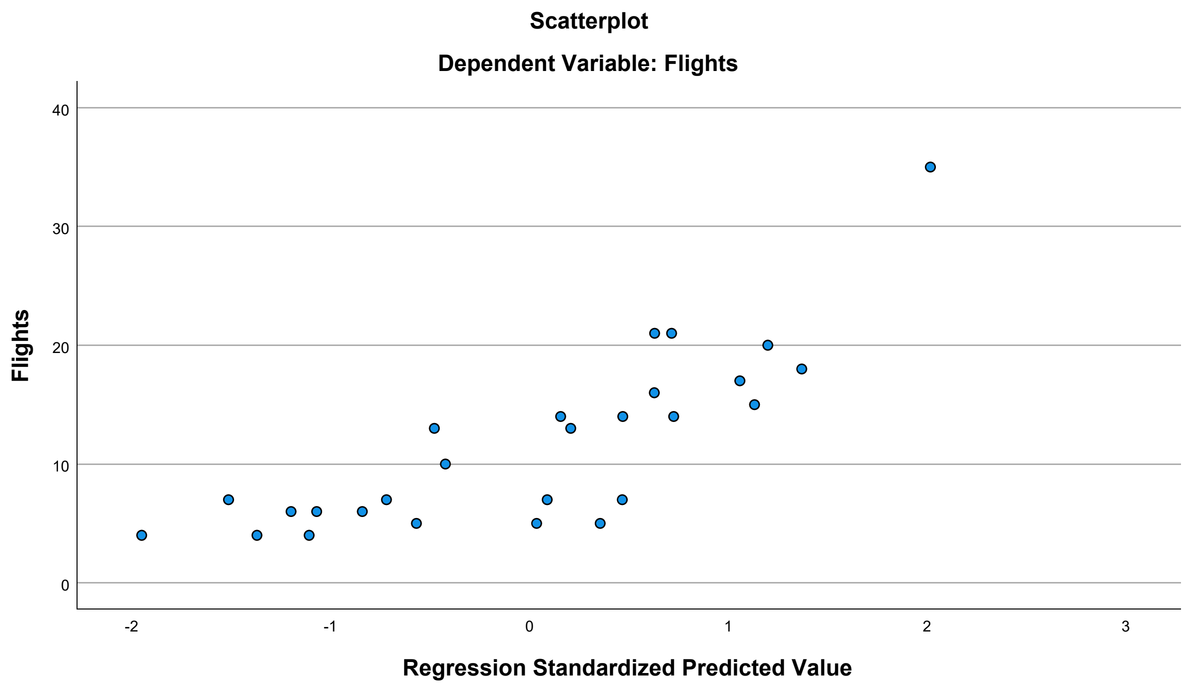
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.03	23.61	11.63	5.943	27
Residual	-8.741	11.386	.000	4.314	27
Std. Predicted Value	-1.951	2.017	.000	1.000	27
Std. Residual	-1.686	2.196	.000	.832	27

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 5.03E-17
Std. Dev. = 0.832
N = 27
Frequency
0
2
4
6
8
-2
-1
0
1
2
3
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	11.63	7.344	27
HomeConcentration	4.0487541481	2.7213335091	27
GLHR	.81	.396	27
GJFK	.11	.320	27
PartnerConcentration	1.6657321481	2.4589636637	27
Distance	4.01900	.717540	27
Ethnicity	.52466774	.277519496	27
Urban	19.48	2.737	27

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.181	.412	.116
	HomeConcentration	.181	1.000	-.011	-.227
	GLHR	.412	-.011	1.000	-.135
	GJFK	.116	-.227	-.135	1.000
	PartnerConcentration	.144	.052	.327	.037
	Distance	.023	.007	.487	-.304
	Ethnicity	.209	-.097	.220	.587
	Urban	.700	-.171	.334	.332
Sig. (1-tailed)	Flights	.	.184	.016	.282
	HomeConcentration	.184	.	.477	.127
	GLHR	.016	.477	.	.251
	GJFK	.282	.127	.251	.
	PartnerConcentration	.236	.399	.048	.427
	Distance	.455	.486	.005	.062
	Ethnicity	.148	.316	.135	.001
	Urban	.000	.197	.044	.046
N	Flights	27	27	27	27
	HomeConcentration	27	27	27	27
	GLHR	27	27	27	27
	GJFK	27	27	27	27
	PartnerConcentration	27	27	27	27
	Distance	27	27	27	27
	Ethnicity	27	27	27	27
	Urban	27	27	27	27

Correlations

		PartnerConcentration	Distance	Ethnicity	Urban
Pearson Correlation	Flights	.144	.023	.209	.700
	HomeConcentration	.052	.007	-.097	-.171
	GLHR	.327	.487	.220	.334
	GJFK	.037	-.304	.587	.332
	PartnerConcentration	1.000	.151	-.152	.053
	Distance	.151	1.000	-.064	.093
	Ethnicity	-.152	-.064	1.000	.361
	Urban	.053	.093	.361	1.000
Sig. (1-tailed)	Flights	.236	.455	.148	<.001
	HomeConcentration	.399	.486	.316	.197
	GLHR	.048	.005	.135	.044
	GJFK	.427	.062	.001	.046
	PartnerConcentration	.	.226	.224	.396
	Distance	.226	.	.376	.322
	Ethnicity	.224	.376	.	.032
	Urban	.396	.322	.032	.
N	Flights	27	27	27	27
	HomeConcentration	27	27	27	27
	GLHR	27	27	27	27
	GJFK	27	27	27	27
	PartnerConcentration	27	27	27	27
	Distance	27	27	27	27
	Ethnicity	27	27	27	27
	Urban	27	27	27	27

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, HomeConcentration, Ethnicity, GLHR, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.803[a]	.645	.514	5.117	.645	4.936

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	7	19	.003

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, Ethnicity, GLHR, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	904.774	7	129.253	4.936	.003[b]
	Residual	497.522	19	26.185		
	Total	1402.296	26			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, Ethnicity, GLHR, GJFK

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-23.777	9.792		-2.428	.025
	HomeConcentration	.784	.385	.291	2.040	.056
	GLHR	5.154	3.592	.278	1.435	.168
	GJFK	-.876	4.728	-.038	-.185	.855
	PartnerConcentration	.066	.475	.022	.140	.890
	Distance	-2.051	1.669	-.200	-1.229	.234
	Ethnicity	-1.786	5.263	-.068	-.339	.738
	Urban	1.909	.430	.712	4.441	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.920	1.088
	GLHR	.498	2.008
	GJFK	.439	2.277
	PartnerConcentration	.739	1.354
	Distance	.702	1.424
	Ethnicity	.472	2.119
	Urban	.727	1.375

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

				Variance Proportions		
Model	Dimension	Eigenvalue	Condition Index	(Constant)	HomeConcentration	GLHR
1	1	5.909	1.000	.00	.01	.00
	2	.980	2.456	.00	.02	.00
	3	.639	3.040	.00	.01	.00
	4	.270	4.675	.00	.75	.06
	5	.112	7.263	.02	.12	.24
	6	.066	9.462	.00	.05	.50
	7	.017	18.581	.02	.00	.03
	8	.006	30.790	.97	.04	.17

Collinearity Diagnostics[a]

		Variance Proportions				
Model	Dimension	GJFK	PartnerConcentration	Distance	Ethnicity	Urban
1	1	.00	.01	.00	.00	.00
	2	.33	.01	.00	.01	.00
	3	.01	.68	.00	.01	.00
	4	.05	.01	.00	.01	.00
	5	.01	.00	.02	.20	.02
	6	.49	.29	.00	.76	.00
	7	.08	.00	.73	.01	.29
	8	.02	.01	.24	.00	.69

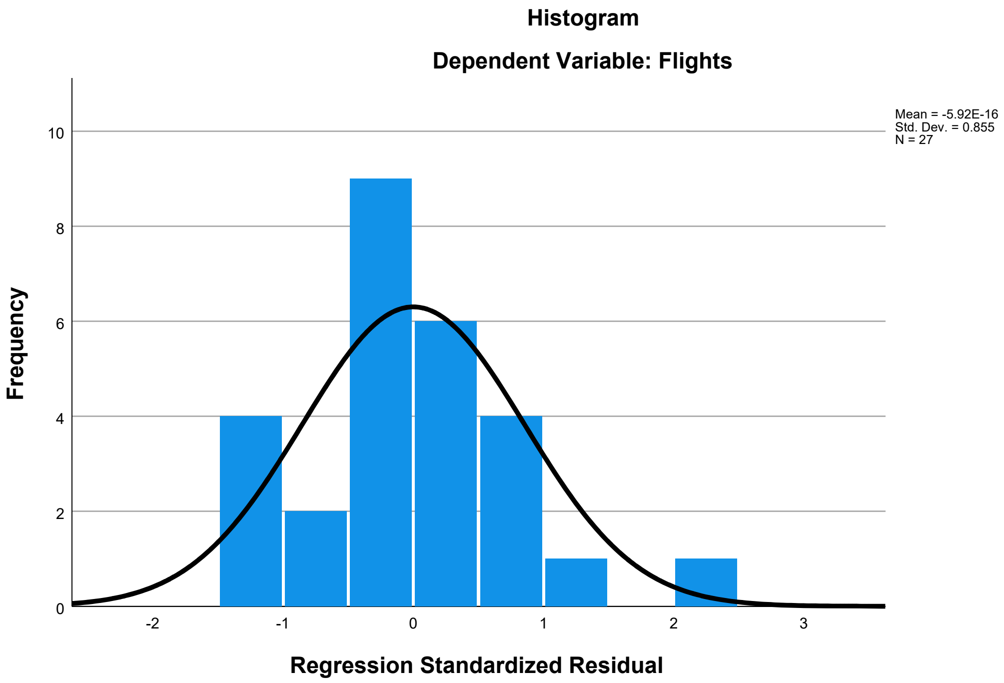
a. Dependent Variable: Flights

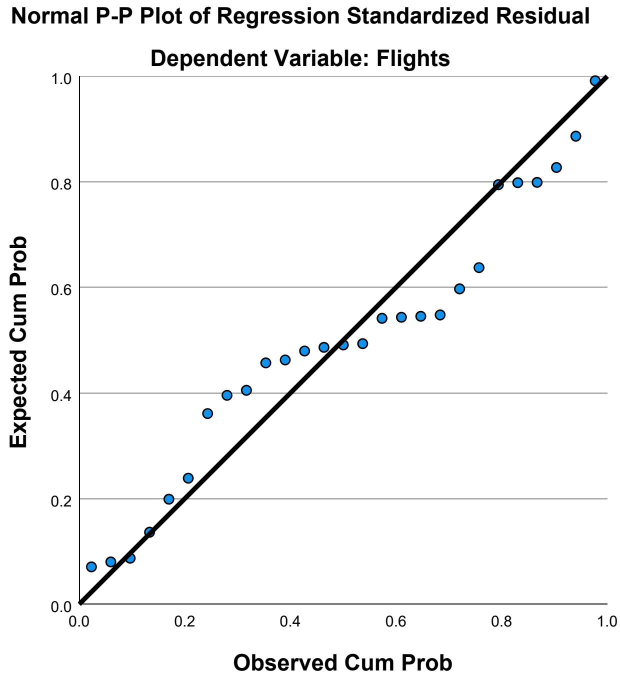
Residuals Statistics[a]

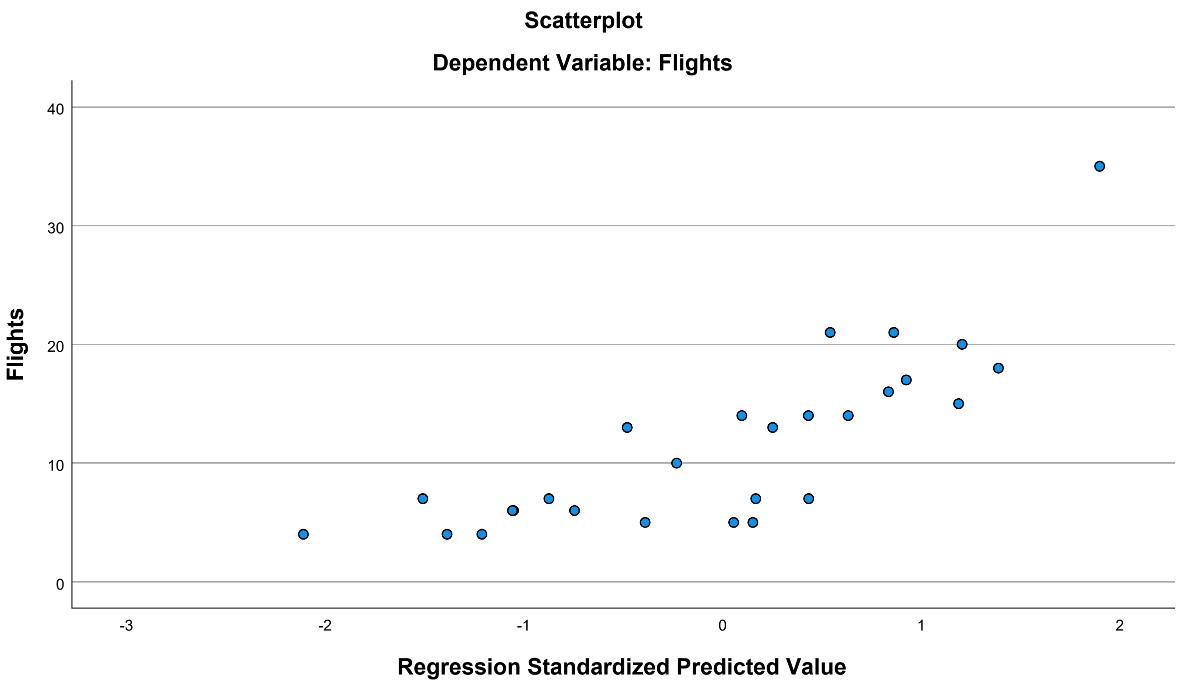
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.83	22.83	11.63	5.899	27
Residual	-7.525	12.174	.000	4.374	27
Std. Predicted Value	-2.111	1.898	.000	1.000	27
Std. Residual	-1.471	2.379	.000	.855	27

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
-3
-2
-1
0
1
2

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	11.63	7.344	27
HomeConcentration	4.0487541481	2.7213335091	27
GLHR	.81	.396	27
GJFK	.11	.320	27
PartnerConcentration	1.6657321481	2.4589636637	27
Distance	4.01900	.717540	27
Urban	19.48	2.737	27

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.181	.412	.116
	HomeConcentration	.181	1.000	-.011	-.227
	GLHR	.412	-.011	1.000	-.135
	GJFK	.116	-.227	-.135	1.000
	PartnerConcentration	.144	.052	.327	.037
	Distance	.023	.007	.487	-.304
	Urban	.700	-.171	.334	.332
Sig. (1-tailed)	Flights	.	.184	.016	.282
	HomeConcentration	.184	.	.477	.127
	GLHR	.016	.477	.	.251
	GJFK	.282	.127	.251	.
	PartnerConcentration	.236	.399	.048	.427
	Distance	.455	.486	.005	.062
	Urban	.000	.197	.044	.046
N	Flights	27	27	27	27
	HomeConcentration	27	27	27	27
	GLHR	27	27	27	27
	GJFK	27	27	27	27
	PartnerConcentration	27	27	27	27
	Distance	27	27	27	27
	Urban	27	27	27	27

Correlations

		PartnerConcentration	Distance	Urban
Pearson Correlation	Flights	.144	.023	.700
	HomeConcentration	.052	.007	-.171
	GLHR	.327	.487	.334
	GJFK	.037	-.304	.332
	PartnerConcentration	1.000	.151	.053
	Distance	.151	1.000	.093
	Urban	.053	.093	1.000
Sig. (1-tailed)	Flights	.236	.455	<.001
	HomeConcentration	.399	.486	.197
	GLHR	.048	.005	.044
	GJFK	.427	.062	.046
	PartnerConcentration	.	.226	.396
	Distance	.226	.	.322
	Urban	.396	.322	.
N	Flights	27	27	27
	HomeConcentration	27	27	27
	GLHR	27	27	27
	GJFK	27	27	27
	PartnerConcentration	27	27	27
	Distance	27	27	27
	Urban	27	27	27

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, HomeConcentration, GJFK, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.802[a]	.643	.536	5.003	.643	6.005

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	20	.001

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, GJFK, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	901.758	6	150.293	6.005	.001[b]
	Residual	500.538	20	25.027		
	Total	1402.296	26			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, GJFK, GLHR

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-24.149	9.513		-2.538	.020
	HomeConcentration	.770	.374	.285	2.061	.053
	GLHR	4.643	3.190	.250	1.456	.161
	GJFK	-1.885	3.596	-.082	-.524	.606
	PartnerConcentration	.129	.427	.043	.303	.765
	Distance	-2.036	1.631	-.199	-1.248	.226
	Urban	1.902	.420	.709	4.531	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.931	1.074
	GLHR	.604	1.656
	GJFK	.726	1.378
	PartnerConcentration	.872	1.147
	Distance	.703	1.423
	Urban	.729	1.371

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	5.091	1.000	.00	.01	.00
	2	.919	2.354	.00	.01	.00
	3	.605	2.900	.00	.02	.00
	4	.264	4.390	.00	.77	.07
	5	.098	7.221	.02	.15	.72
	6	.017	17.183	.02	.00	.02
	7	.006	28.515	.97	.04	.18

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Urban
1	1	.00	.01	.00	.00
	2	.66	.00	.00	.00
	3	.00	.86	.00	.00
	4	.04	.03	.00	.00
	5	.08	.09	.01	.01
	6	.20	.01	.74	.28
	7	.02	.00	.24	.71

a. Dependent Variable: Flights

Residuals Statistics[a]

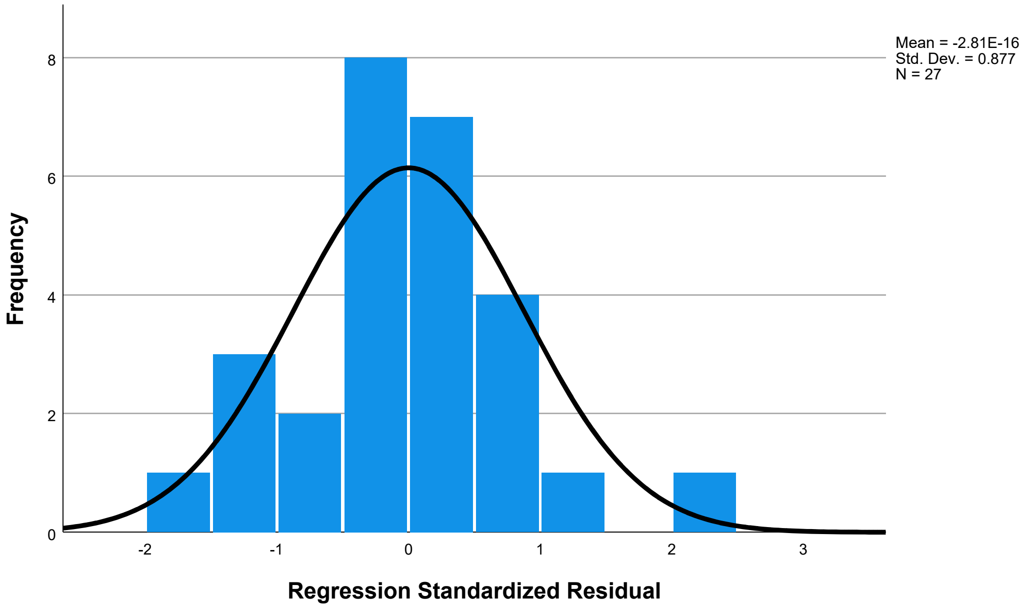
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.47	22.50	11.63	5.889	27
Residual	-7.686	12.498	.000	4.388	27
Std. Predicted Value	-2.054	1.846	.000	1.000	27
Std. Residual	-1.536	2.498	.000	.877	27

a. Dependent Variable: Flights

Charts

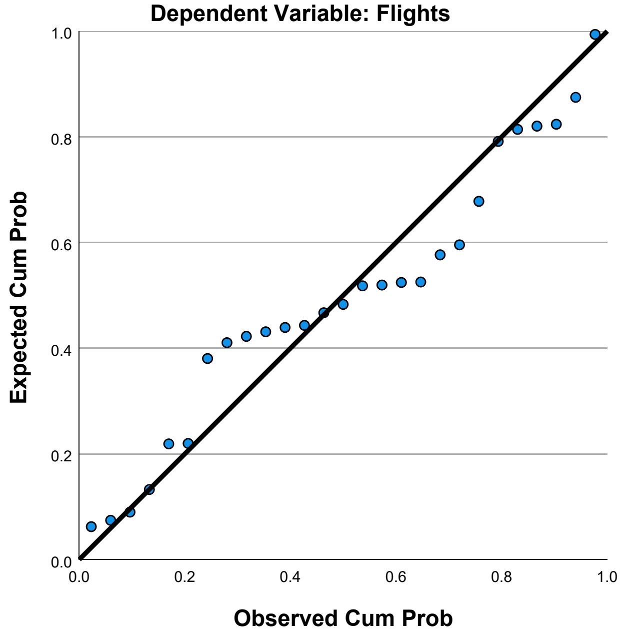
Histogram

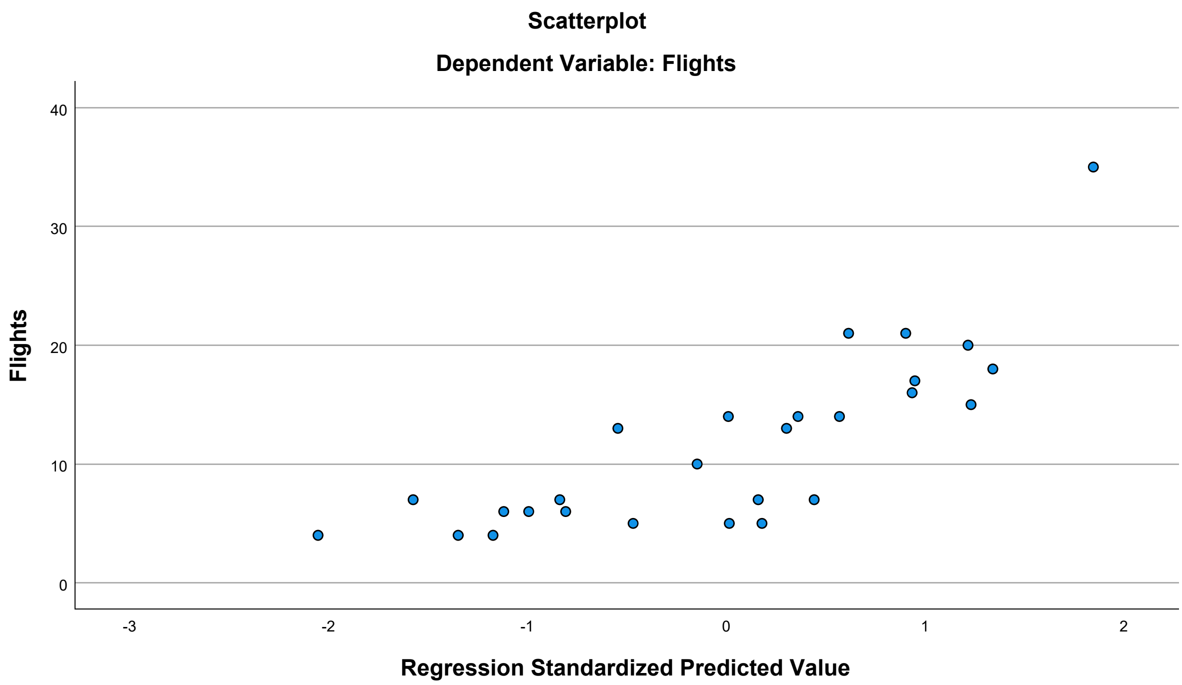
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights





Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	11.63	7.344	27
HomeConcentration	4.0487541481	2.7213335091	27
GLHR	.81	.396	27
PartnerConcentration	1.6657321481	2.4589636637	27
Distance	4.01900	.717540	27
Urban	19.48	2.737	27

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.181	.412	.144
	HomeConcentration	.181	1.000	-.011	.052
	GLHR	.412	-.011	1.000	.327
	PartnerConcentration	.144	.052	.327	1.000
	Distance	.023	.007	.487	.151
	Urban	.700	-.171	.334	.053
Sig. (1-tailed)	Flights	.	.184	.016	.236
	HomeConcentration	.184	.	.477	.399
	GLHR	.016	.477	.	.048
	PartnerConcentration	.236	.399	.048	.
	Distance	.455	.486	.005	.226
	Urban	.000	.197	.044	.396
N	Flights	27	27	27	27
	HomeConcentration	27	27	27	27
	GLHR	27	27	27	27
	PartnerConcentration	27	27	27	27
	Distance	27	27	27	27
	Urban	27	27	27	27

Correlations

		Distance	Urban
Pearson Correlation	Flights	.023	.700
	HomeConcentration	.007	-.171
	GLHR	.487	.334
	PartnerConcentration	.151	.053
	Distance	1.000	.093
	Urban	.093	1.000
Sig. (1-tailed)	Flights	.455	<.001
	HomeConcentration	.486	.197
	GLHR	.005	.044
	PartnerConcentration	.226	.396
	Distance	.	.322
	Urban	.322	.
N	Flights	27	27
	HomeConcentration	27	27
	GLHR	27	27
	PartnerConcentration	27	27
	Distance	27	27
	Urban	27	27

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, HomeConcentration, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.799[a]	.638	.552	4.916	.638	7.407

Model Summary[b]

	Change Statistics		
Model	df1	df2	Sig. F Change
1	5	21	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	894.885	5	178.977	7.407	<.001[b]
	Residual	507.411	21	24.162		
	Total	1402.296	26			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, GLHR

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-23.969	9.342		-2.566	.018
	HomeConcentration	.807	.360	.299	2.240	.036
	GLHR	4.903	3.096	.264	1.583	.128
	PartnerConcentration	.099	.416	.033	.239	.814
	Distance	-1.806	1.544	-.176	-1.170	.255
	Urban	1.818	.382	.678	4.765	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.966	1.035
	GLHR	.619	1.617
	PartnerConcentration	.888	1.127
	Distance	.757	1.320
	Urban	.852	1.174

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	4.983	1.000	.00	.01	.00
	2	.606	2.867	.00	.02	.00
	3	.276	4.247	.00	.82	.05
	4	.107	6.816	.01	.09	.72
	5	.021	15.237	.00	.01	.05
	6	.006	27.987	.98	.06	.17

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Distance	Urban
1	1	.01	.00	.00
	2	.87	.00	.00
	3	.03	.00	.00
	4	.09	.01	.01
	5	.00	.66	.26
	6	.00	.33	.72

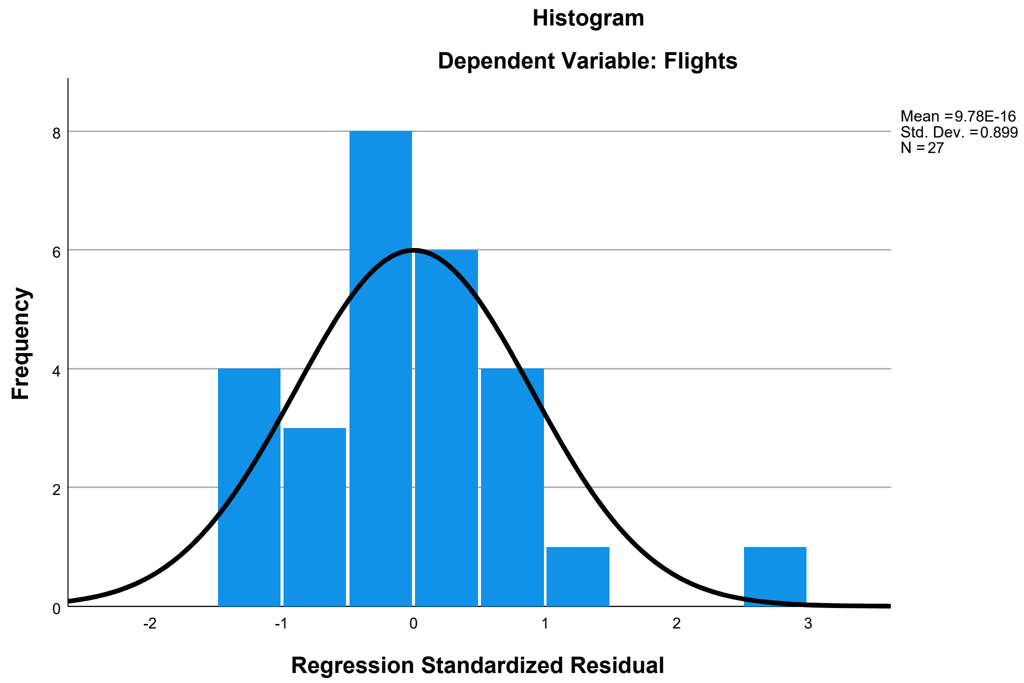
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.02	21.90	11.63	5.867	27
Residual	-7.246	13.103	.000	4.418	27
Std. Predicted Value	-1.979	1.750	.000	1.000	27
Std. Residual	-1.474	2.666	.000	.899	27

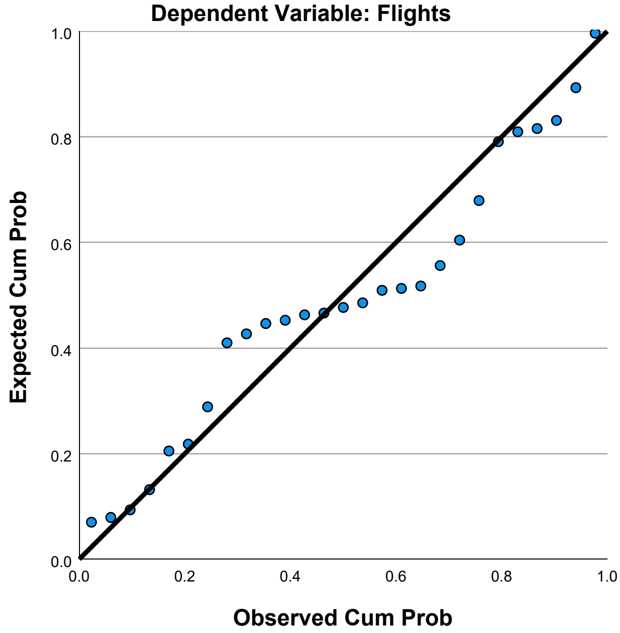
a. Dependent Variable: Flights

Charts



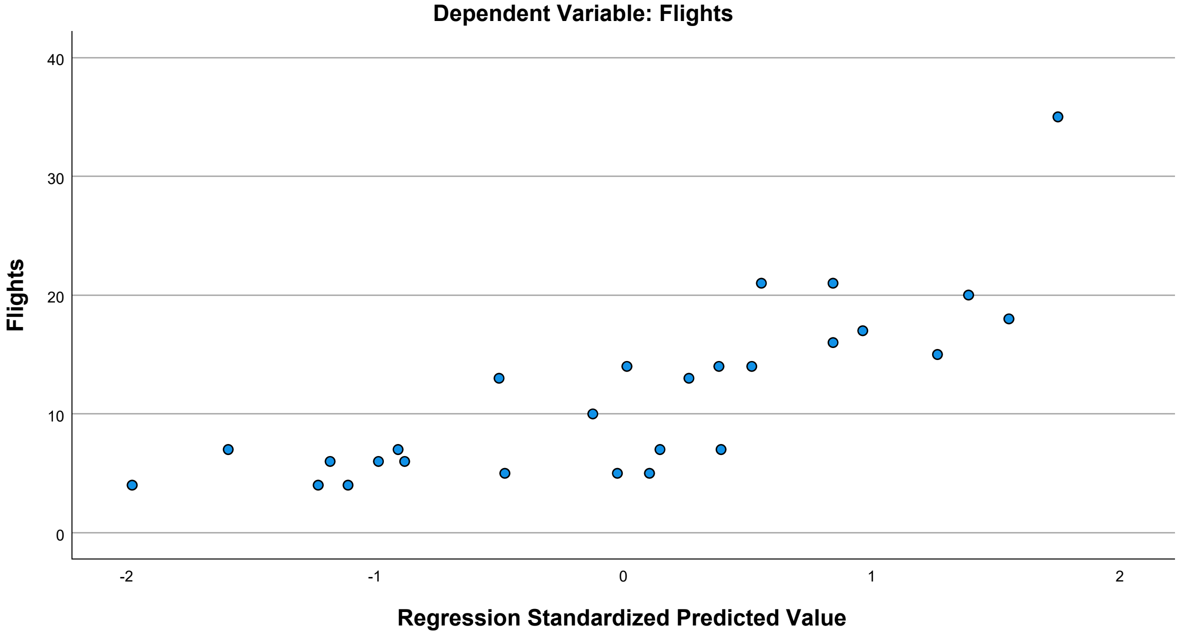
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

```
[DataSet6] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\UK\2017 - Winter - CAN Airlines.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.00	6.540	14
HomeConcentration	1.1296650000	.99559417972	14
GLHR	.50	.519	14
PartnerConcentration	.000100	.0000000	14
Distance	3.67536	.706343	14
Language	3.66905071	4.050881955	14
Ethnicity	1.25095429	1.158272122	14
Urban	17.36	3.433	14

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.755	.431	.
	HomeConcentration	.755	1.000	.535	.
	GLHR	.431	.535	1.000	.
	PartnerConcentration	.	.	.	1.000
	Distance	-.010	.233	-.284	.
	Language	.307	-.079	-.454	.
	Ethnicity	.344	-.035	-.453	.
	Urban	.531	.467	-.238	.
Sig. (1-tailed)	Flights	.	<.001	.062	.000
	HomeConcentration	.001	.	.024	.000
	GLHR	.062	.024	.	.000
	PartnerConcentration	.000	.000	.000	.
	Distance	.486	.211	.162	.000
	Language	.143	.395	.052	.000
	Ethnicity	.114	.452	.052	.000
	Urban	.025	.046	.207	.000
N	Flights	14	14	14	14
	HomeConcentration	14	14	14	14
	GLHR	14	14	14	14
	PartnerConcentration	14	14	14	14
	Distance	14	14	14	14
	Language	14	14	14	14

Correlations

		Distance	Language	Ethnicity	Urban
Pearson Correlation	Flights	-.010	.307	.344	.531
	HomeConcentration	.233	-.079	-.035	.467
	GLHR	-.284	-.454	-.453	-.238
	PartnerConcentration	.	.	.	.
	Distance	1.000	-.201	-.024	.447
	Language	-.201	1.000	.954	.477
	Ethnicity	-.024	.954	1.000	.605
	Urban	.447	.477	.605	1.000
Sig. (1-tailed)	Flights	.486	.143	.114	.025
	HomeConcentration	.211	.395	.452	.046
	GLHR	.162	.052	.052	.207
	PartnerConcentration	.000	.000	.000	.000
	Distance	.	.245	.467	.054
	Language	.245	.	.000	.042
	Ethnicity	.467	.000	.	.011
	Urban	.054	.042	.011	.
N	Flights	14	14	14	14
	HomeConcentration	14	14	14	14
	GLHR	14	14	14	14
	PartnerConcentration	14	14	14	14
	Distance	14	14	14	14
	Language	14	14	14	14

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
	Ethnicity	14	14	14	14
	Urban	14	14	14	14

Correlations

		Distance	Language	Ethnicity	Urban
	Ethnicity	14	14	14	14
	Urban	14	14	14	14

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, GLHR, Distance, Ethnicity, HomeConcentration, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.885[a]	.783	.596	4.155	.783	4.200

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	6	7	.041

a. Predictors: (Constant), Urban, GLHR, Distance, Ethnicity, HomeConcentration, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	435.133	6	72.522	4.200	.041[b]
	Residual	120.867	7	17.267		
	Total	556.000	13			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, GLHR, Distance, Ethnicity, HomeConcentration, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-7.217	14.597		-.494	.636
	HomeConcentration	3.301	2.362	.503	1.398	.205
	GLHR	4.973	4.682	.395	1.062	.323
	Distance	-.346	2.994	-.037	-.116	.911
	Language	.356	1.436	.221	.248	.811
	Ethnicity	1.305	4.915	.231	.266	.798
	Urban	.307	.696	.161	.441	.672

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.240	4.165
	GLHR	.225	4.444
	Distance	.297	3.367
	Language	.039	25.491
	Ethnicity	.041	24.397
	Urban	.232	4.303

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	5.358	1.000	.00	.00	.00
	2	1.119	2.188	.00	.01	.03
	3	.304	4.198	.00	.09	.04
	4	.184	5.391	.00	.26	.26
	5	.024	14.971	.04	.04	.06
	6	.008	26.224	.00	.04	.02
	7	.003	42.616	.96	.56	.58

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions: Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00
	2	.00	.01	.00	.00
	3	.01	.01	.00	.00
	4	.00	.00	.00	.00
	5	.01	.28	.36	.00
	6	.48	.05	.00	.63
	7	.50	.65	.63	.37

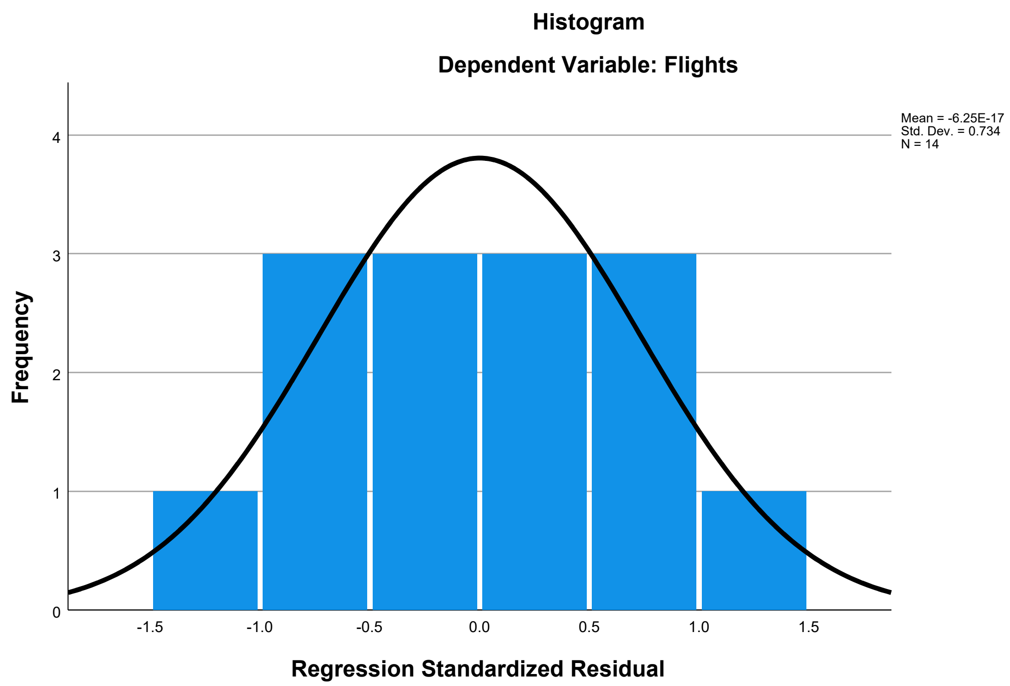
a. Dependent Variable: Flights

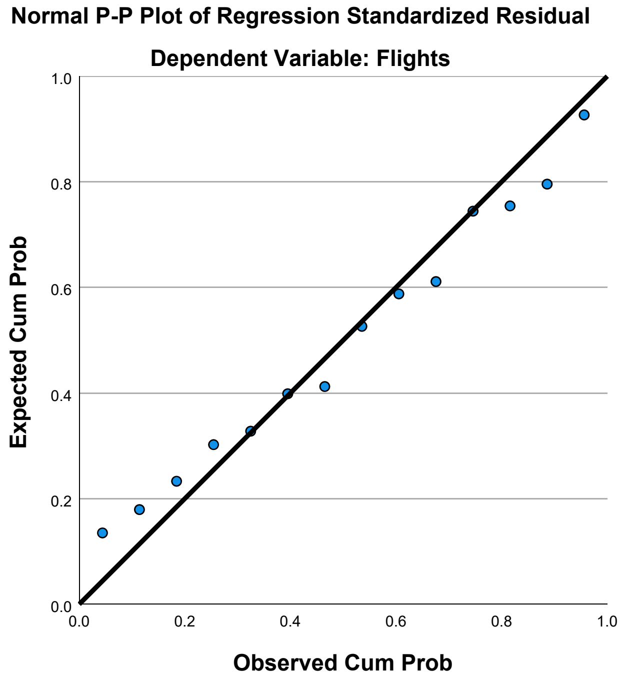
Residuals Statistics[a]

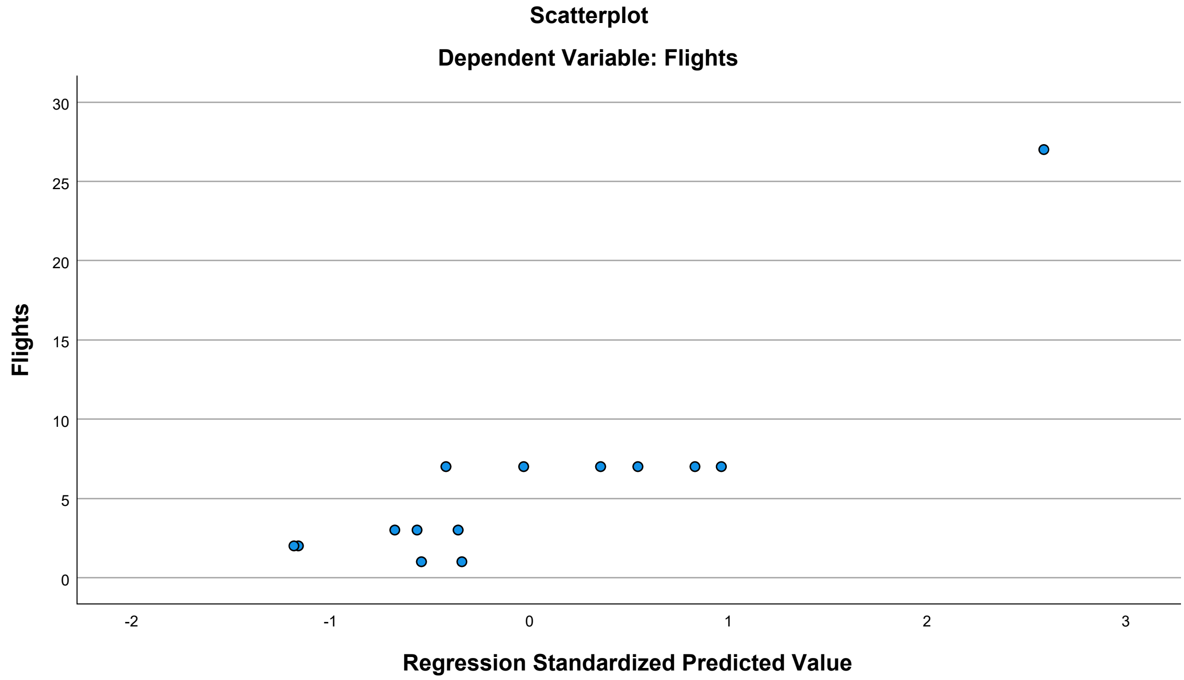
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.86	20.97	6.00	5.785	14
Residual	-4.581	6.031	.000	3.049	14
Std. Predicted Value	-1.186	2.587	.000	1.000	14
Std. Residual	-1.103	1.451	.000	.734	14

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.00	6.540	14
HomeConcentration	1.1296650000	.99559417972	14
GLHR	.50	.519	14
PartnerConcentration	.000100	.0000000	14
Distance	3.67536	.706343	14
Ethnicity	1.25095429	1.158272122	14
Urban	17.36	3.433	14

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.755	.431	.
	HomeConcentration	.755	1.000	.535	.
	GLHR	.431	.535	1.000	.
	PartnerConcentration	.	.	.	1.000
	Distance	-.010	.233	-.284	.
	Ethnicity	.344	-.035	-.453	.
	Urban	.531	.467	-.238	.
Sig. (1-tailed)	Flights	.	<.001	.062	.000
	HomeConcentration	.001	.	.024	.000
	GLHR	.062	.024	.	.000
	PartnerConcentration	.000	.000	.000	.
	Distance	.486	.211	.162	.000
	Ethnicity	.114	.452	.052	.000
	Urban	.025	.046	.207	.000
N	Flights	14	14	14	14
	HomeConcentration	14	14	14	14
	GLHR	14	14	14	14
	PartnerConcentration	14	14	14	14
	Distance	14	14	14	14
	Ethnicity	14	14	14	14
	Urban	14	14	14	14

Correlations

		Distance	Ethnicity	Urban
Pearson Correlation	Flights	-.010	.344	.531
	HomeConcentration	.233	-.035	.467
	GLHR	-.284	-.453	-.238
	PartnerConcentration	.	.	.
	Distance	1.000	-.024	.447
	Ethnicity	-.024	1.000	.605
	Urban	.447	.605	1.000
Sig. (1-tailed)	Flights	.486	.114	.025
	HomeConcentration	.211	.452	.046
	GLHR	.162	.052	.207
	PartnerConcentration	.000	.000	.000
	Distance	.	.467	.054
	Ethnicity	.467	.	.011
	Urban	.054	.011	.
N	Flights	14	14	14
	HomeConcentration	14	14	14
	GLHR	14	14	14
	PartnerConcentration	14	14	14
	Distance	14	14	14
	Ethnicity	14	14	14
	Urban	14	14	14

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, GLHR, Distance, Ethnicity, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.884[a]	.781	.644	3.904	.781	5.696

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	5	8	.016

a. Predictors: (Constant), Urban, GLHR, Distance, Ethnicity, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	434.070	5	86.814	5.696	.016[b]
	Residual	121.930	8	15.241		
	Total	556.000	13			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, GLHR, Distance, Ethnicity, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-4.686	9.810		-.478	.646
	HomeConcentration	3.576	1.961	.544	1.824	.106
	GLHR	4.323	3.648	.343	1.185	.270
	Distance	-.829	2.138	-.090	-.388	.708
	Ethnicity	2.454	1.549	.435	1.584	.152
	Urban	.257	.626	.135	.411	.692

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.308	3.250
	GLHR	.327	3.055
	Distance	.514	1.946
	Ethnicity	.364	2.746
	Urban	.254	3.939

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	GLHR
1	1	4.801	1.000	.00	.00	.00
	2	.770	2.498	.00	.02	.10
	3	.251	4.374	.01	.22	.00
	4	.163	5.430	.00	.22	.40
	5	.010	22.325	.31	.05	.28
	6	.006	28.066	.69	.49	.21

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions		
		Distance	Ethnicity	Urban
1	1	.00	.00	.00
	2	.00	.08	.00
	3	.01	.15	.00
	4	.01	.22	.00
	5	.98	.34	.14
	6	.00	.21	.86

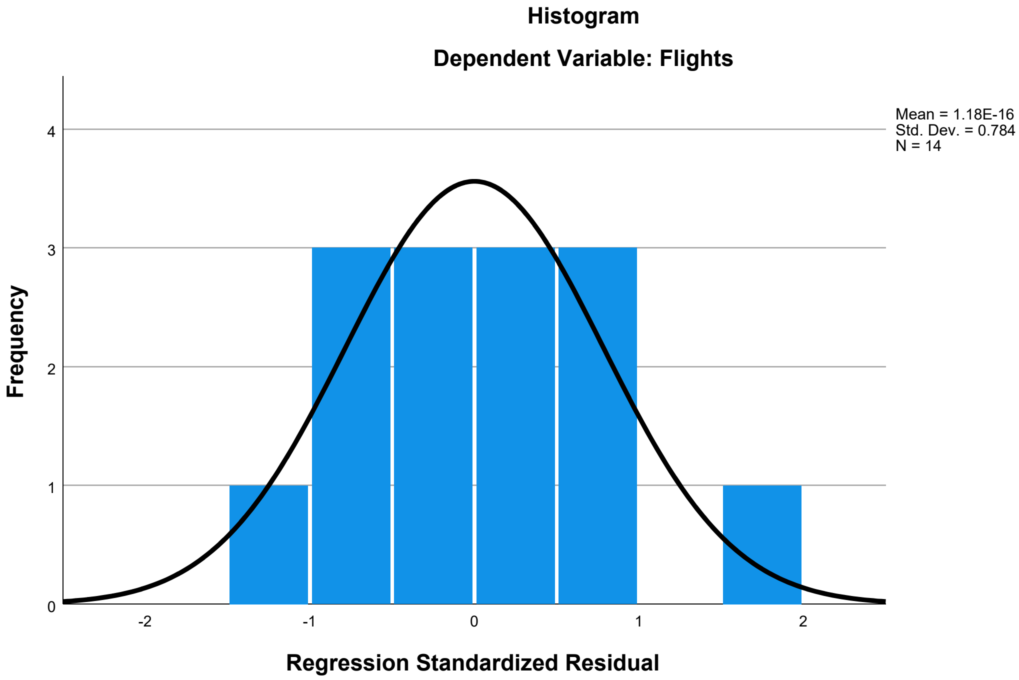
a. Dependent Variable: Flights

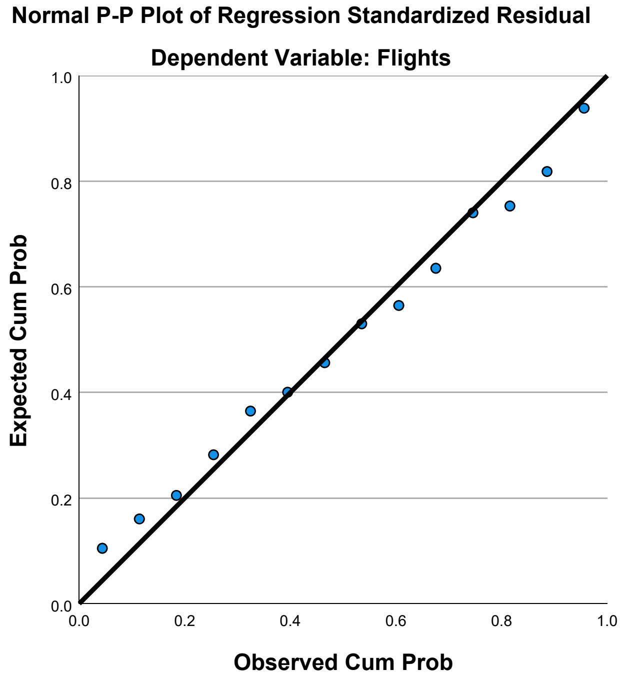
Residuals Statistics[a]

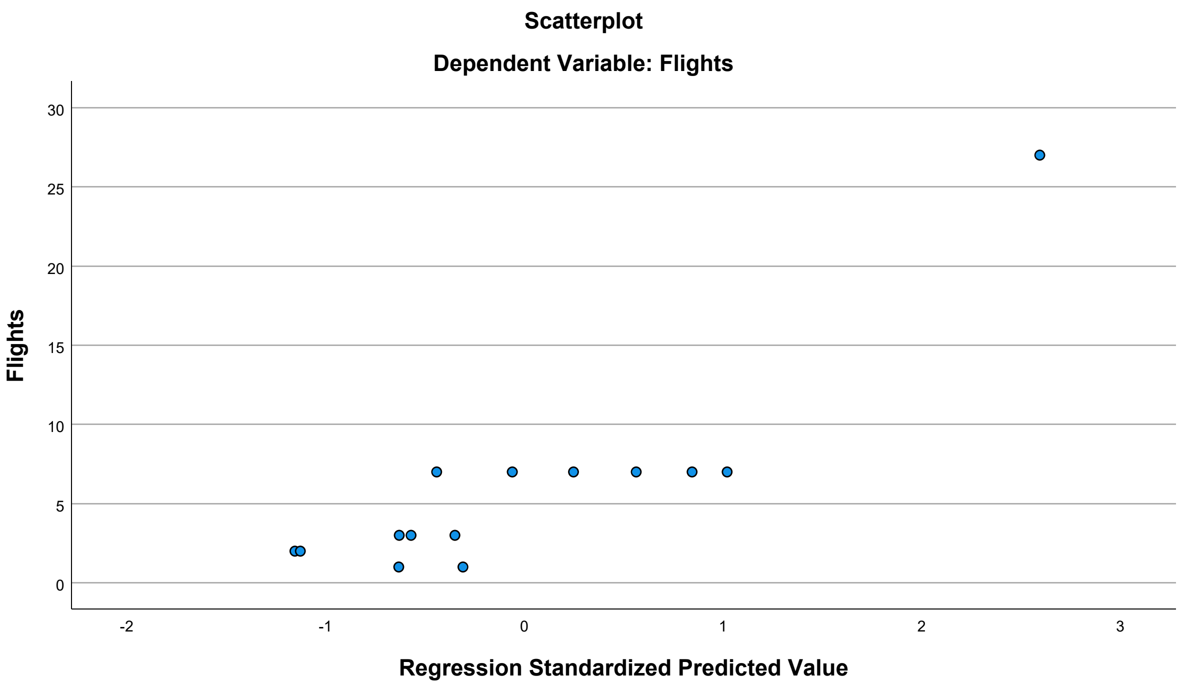
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.67	20.99	6.00	5.778	14
Residual	-4.900	6.010	.000	3.063	14
Std. Predicted Value	-1.154	2.594	.000	1.000	14
Std. Residual	-1.255	1.539	.000	.784	14

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 1.18E-16
Std. Dev. = 0.784
N = 14
Frequency
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.00	6.540	14
HomeConcentration	1.1296650000	.99559417972	14
GLHR	.50	.519	14
PartnerConcentration	.000100	.0000000	14
Ethnicity	1.25095429	1.158272122	14
Urban	17.36	3.433	14

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.755	.431	.
	HomeConcentration	.755	1.000	.535	.
	GLHR	.431	.535	1.000	.
	PartnerConcentration	.	.	.	1.000
	Ethnicity	.344	-.035	-.453	.
	Urban	.531	.467	-.238	.
Sig. (1-tailed)	Flights	.	<.001	.062	.000
	HomeConcentration	.001	.	.024	.000
	GLHR	.062	.024	.	.000
	PartnerConcentration	.000	.000	.000	.
	Ethnicity	.114	.452	.052	.000
	Urban	.025	.046	.207	.000
N	Flights	14	14	14	14
	HomeConcentration	14	14	14	14
	GLHR	14	14	14	14
	PartnerConcentration	14	14	14	14
	Ethnicity	14	14	14	14
	Urban	14	14	14	14

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.344	.531
	HomeConcentration	-.035	.467
	GLHR	-.453	-.238
	PartnerConcentration	.	.
	Ethnicity	1.000	.605
	Urban	.605	1.000
Sig. (1-tailed)	Flights	.114	.025
	HomeConcentration	.452	.046
	GLHR	.052	.207
	PartnerConcentration	.000	.000
	Ethnicity	.	.011
	Urban	.011	.
N	Flights	14	14
	HomeConcentration	14	14
	GLHR	14	14
	PartnerConcentration	14	14
	Ethnicity	14	14
	Urban	14	14

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, GLHR, Ethnicity, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.881[a]	.777	.677	3.715	.777	7.821	4	9	.005

a. Predictors: (Constant), Urban, GLHR, Ethnicity, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	431.778	4	107.944	7.821	.005[b]
	Residual	124.222	9	13.802		
	Total	556.000	13			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, GLHR, Ethnicity, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-6.562	8.122		-.808	.440
	HomeConcentration	3.438	1.835	.523	1.874	.094
	GLHR	4.946	3.117	.392	1.587	.147
	Ethnicity	2.766	1.260	.490	2.195	.056
	Urban	.158	.544	.083	.291	.778

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.318	3.142
	GLHR	.406	2.463
	Ethnicity	.499	2.006
	Urban	.304	3.285

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	3.884	1.000	.00	.01	.01
	2	.760	2.260	.00	.02	.11
	3	.215	4.247	.02	.37	.06
	4	.134	5.383	.01	.08	.52
	5	.006	25.231	.97	.53	.30

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.13	.00
	3	.05	.00
	4	.56	.01
	5	.25	.99

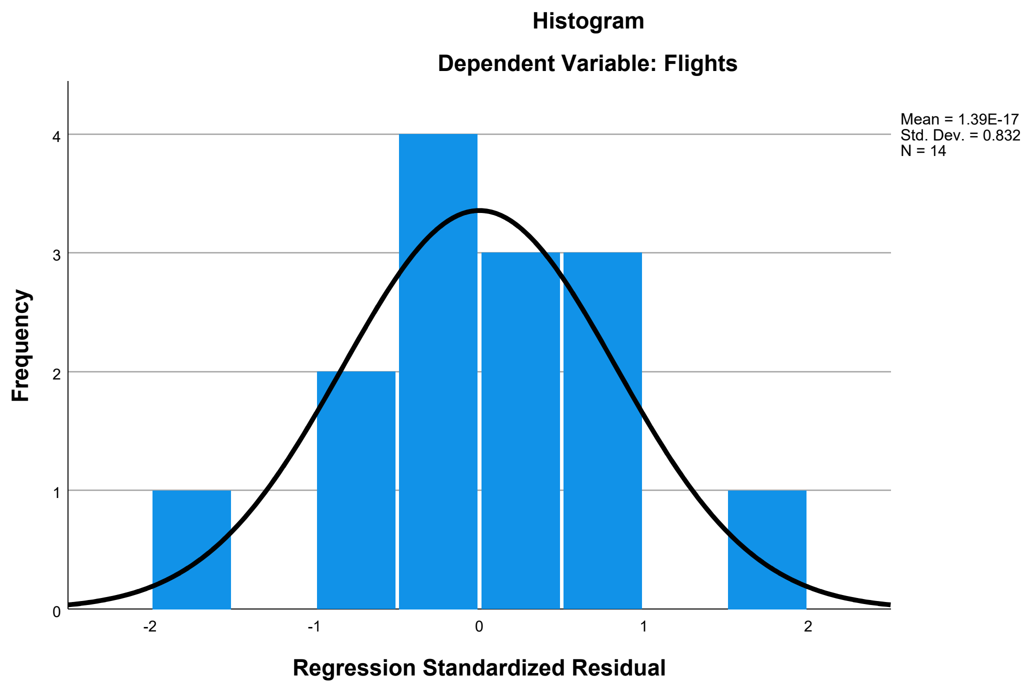
a. Dependent Variable: Flights

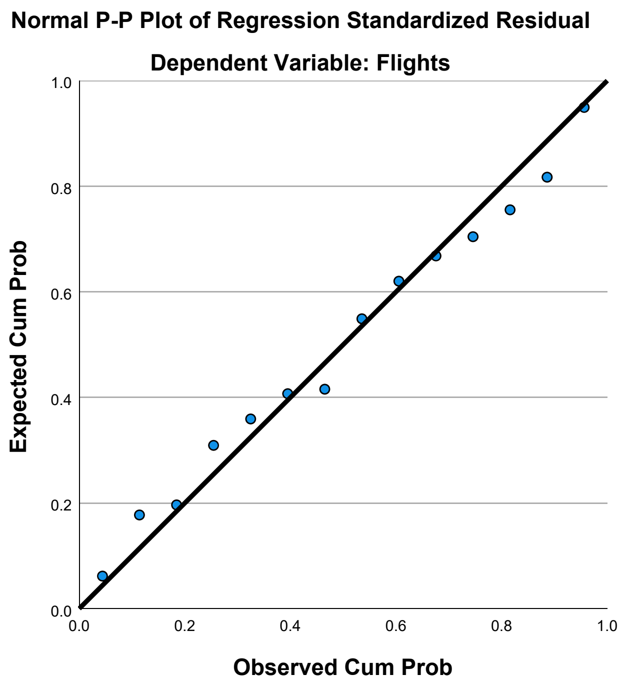
Residuals Statistics[a]

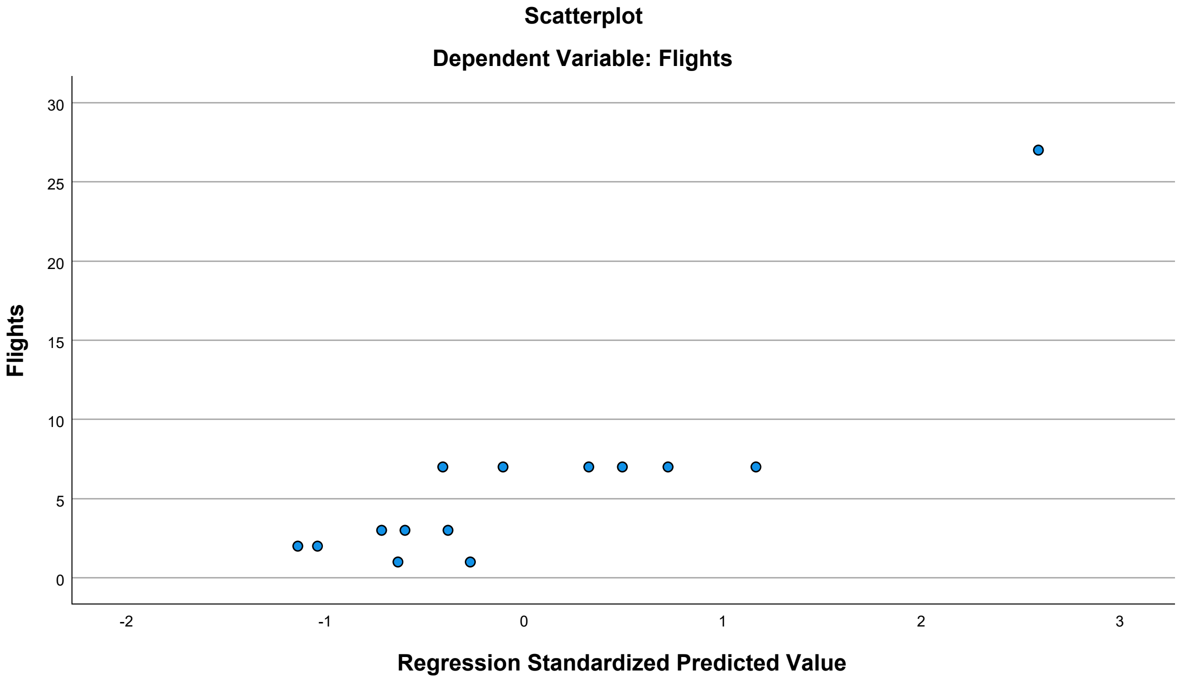
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.57	20.92	6.00	5.763	14
Residual	-5.728	6.077	.000	3.091	14
Std. Predicted Value	-1.140	2.589	.000	1.000	14
Std. Residual	-1.542	1.636	.000	.832	14

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 1.39E-17
Std. Dev. = 0.832
N = 14
Frequency
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.00	6.540	14
HomeConcentration	1.1296650000	.99559417972	14
GLHR	.50	.519	14
PartnerConcentration	.000100	.0000000	14
Ethnicity	1.25095429	1.158272122	14

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.755	.431	.
	HomeConcentration	.755	1.000	.535	.
	GLHR	.431	.535	1.000	.
	PartnerConcentration	.	.	.	1.000
	Ethnicity	.344	-.035	-.453	.
Sig. (1-tailed)	Flights	.	<.001	.062	.000
	HomeConcentration	.001	.	.024	.000
	GLHR	.062	.024	.	.000
	PartnerConcentration	.000	.000	.000	.
	Ethnicity	.114	.452	.052	.000
N	Flights	14	14	14	14
	HomeConcentration	14	14	14	14
	GLHR	14	14	14	14
	PartnerConcentration	14	14	14	14
	Ethnicity	14	14	14	14

Correlations

		Ethnicity
Pearson Correlation	Flights	.344
	HomeConcentration	-.035
	GLHR	-.453
	PartnerConcentration	.
	Ethnicity	1.000
Sig. (1-tailed)	Flights	.114
	HomeConcentration	.452
	GLHR	.052
	PartnerConcentration	.000
	Ethnicity	.
N	Flights	14
	HomeConcentration	14
	GLHR	14
	PartnerConcentration	14
	Ethnicity	14

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Ethnicity, HomeConcentration, GLHR[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.880[a]	.774	.707	3.541	.774	11.447	3	10	.001

a. Predictors: (Constant), Ethnicity, HomeConcentration, GLHR

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	430.611	3	143.537	11.447	.001[b]
	Residual	125.389	10	12.539		
	Total	556.000	13			

a. Dependent Variable: Flights

b. Predictors: (Constant), Ethnicity, HomeConcentration, GLHR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4.294	2.158		-1.990	.075
	HomeConcentration	3.822	1.214	.582	3.148	.010
	GLHR	4.514	2.611	.358	1.729	.115
	Ethnicity	2.974	.989	.527	3.007	.013

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.660	1.514
	GLHR	.526	1.902
	Ethnicity	.735	1.360

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	2.954	1.000	.02	.03	.02
	2	.730	2.012	.01	.02	.13
	3	.207	3.781	.24	.82	.15
	4	.109	5.195	.73	.13	.70

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Ethnicity
1	1	.02
	2	.25
	3	.01
	4	.72

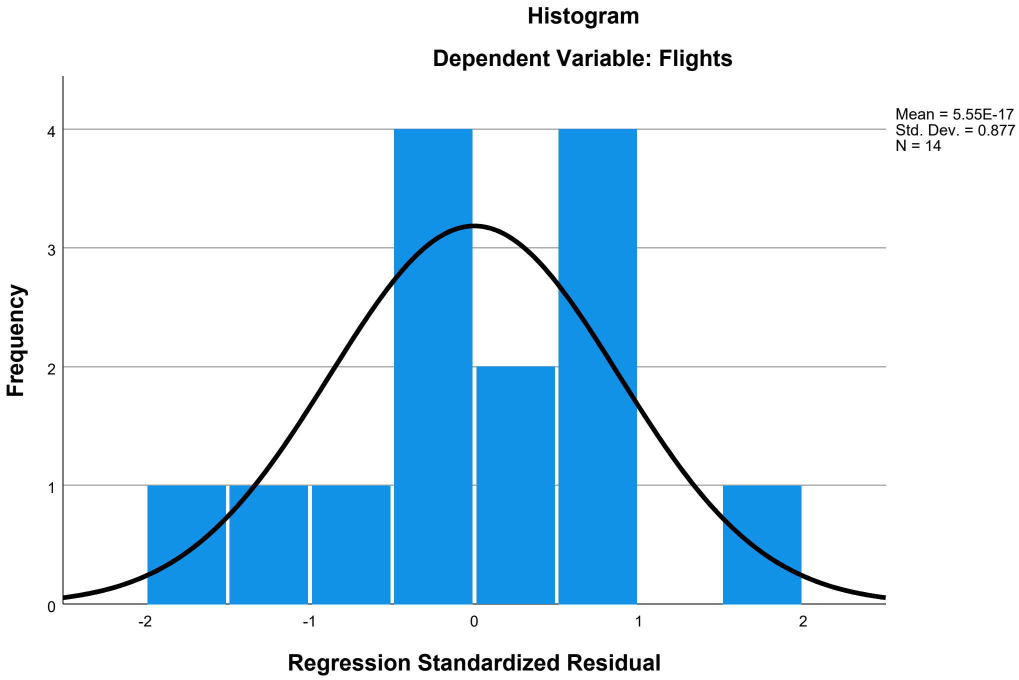
a. Dependent Variable: Flights

Residuals Statistics[a]

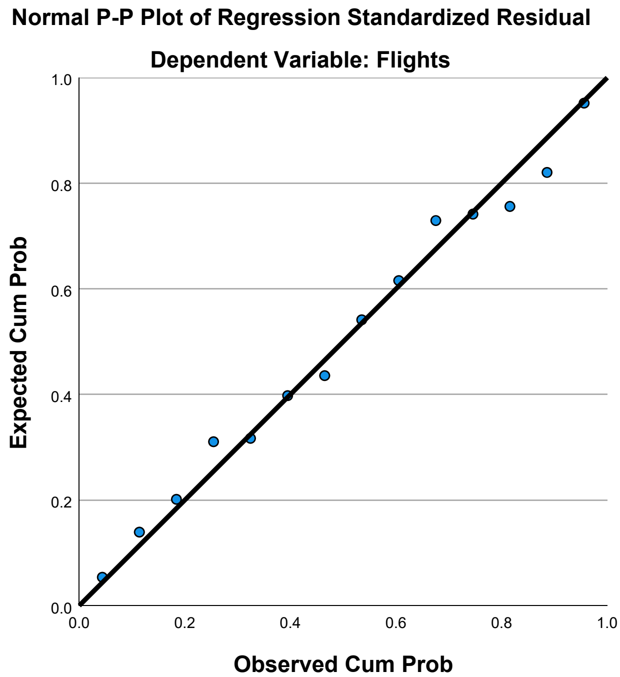
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.46	21.12	6.00	5.755	14
Residual	-5.703	5.877	.000	3.106	14
Std. Predicted Value	-1.122	2.628	.000	1.000	14
Std. Residual	-1.611	1.660	.000	.877	14

a. Dependent Variable: Flights

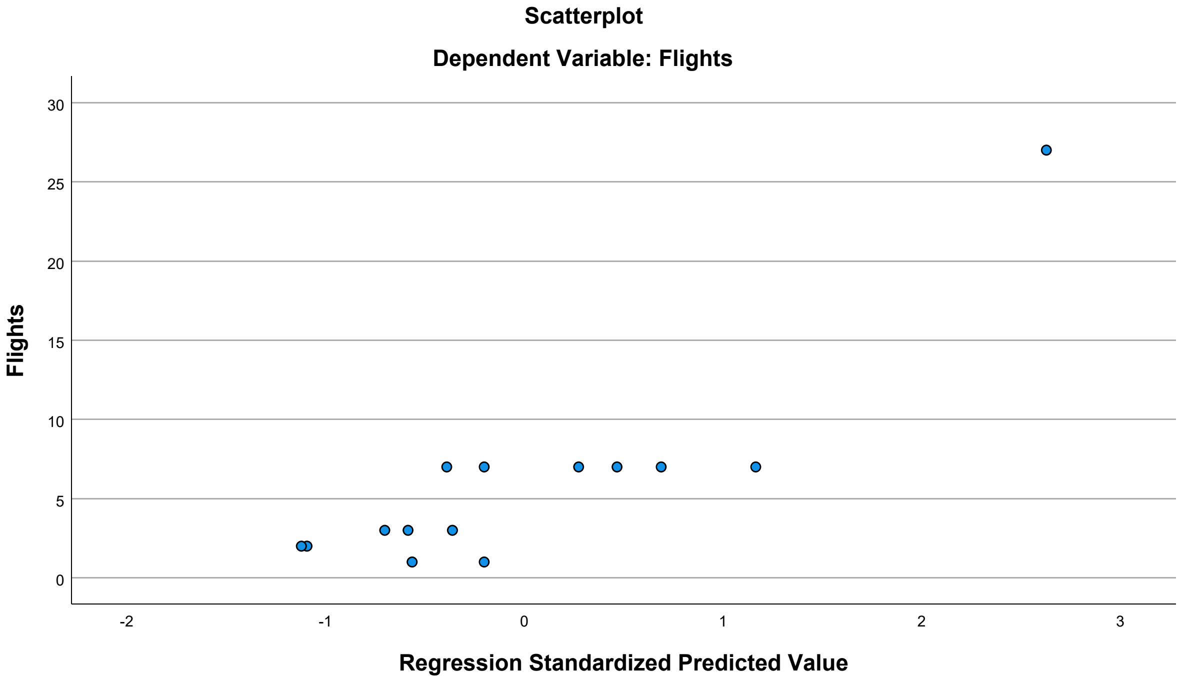
Charts



Histogram
Dependent Variable: Flights
Mean = 5.55E-17
Std. Dev. = 0.877
N = 14
Frequency
4
3
2
1
0
-2
-1
0
1
2
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Scatterplot
Dependent Variable: Flights
Flights
30
25
20
15
10
5
0
-2
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

```
[DataSet8] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\UK\2017 S
ummer US-UK Total 4.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	15.25	21.523	68
Congestion	4.16	.725	68
GJFK	.07	.263	68
GLHR	.40	.493	68
Distance	4.16038	.754811	68
Language	4.65078322	3.570691168	68
Ethnicity	.34197562	.269866495	68
Urban	15.22	4.895	68

Correlations

		Flights	Congestion	GJFK	GLHR	Distance
Pearson Correlation	Flights	1.000	.494	.324	.460	-.068
	Congestion	.494	1.000	.563	.110	.076
	GJFK	.324	.563	1.000	-.113	-.308
	GLHR	.460	.110	-.113	1.000	.295
	Distance	-.068	.076	-.308	.295	1.000
	Language	.335	.441	.651	-.055	-.467
	Ethnicity	.455	.584	.342	.318	-.082
	Urban	.569	.600	.289	.495	-.008
Sig. (1-tailed)	Flights	.	<.001	.004	<.001	.291
	Congestion	.000	.	.000	.186	.268
	GJFK	.004	.000	.	.178	.005
	GLHR	.000	.186	.178	.	.007
	Distance	.291	.268	.005	.007	.
	Language	.003	.000	.000	.328	.000
	Ethnicity	.000	.000	.002	.004	.252
	Urban	.000	.000	.008	.000	.475
N	Flights	68	68	68	68	68
	Congestion	68	68	68	68	68
	GJFK	68	68	68	68	68
	GLHR	68	68	68	68	68
	Distance	68	68	68	68	68
	Language	68	68	68	68	68
	Ethnicity	68	68	68	68	68
	Urban	68	68	68	68	68

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.335	.455	.569
	Congestion	.441	.584	.600
	GJFK	.651	.342	.289
	GLHR	-.055	.318	.495
	Distance	-.467	-.082	-.008
	Language	1.000	.544	.551
	Ethnicity	.544	1.000	.614
	Urban	.551	.614	1.000
Sig. (1-tailed)	Flights	.003	<.001	<.001
	Congestion	.000	.000	.000
	GJFK	.000	.002	.008
	GLHR	.328	.004	.000
	Distance	.000	.252	.475
	Language	.	.000	.000
	Ethnicity	.000	.	.000
	Urban	.000	.000	.
N	Flights	68	68	68
	Congestion	68	68	68
	GJFK	68	68	68
	GLHR	68	68	68
	Distance	68	68	68
	Language	68	68	68
	Ethnicity	68	68	68
	Urban	68	68	68

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, GJFK, GLHR, Ethnicity, Congestion, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.690[a]	.477	.416	16.455	.477	7.804

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	7	60	<.001

a. Predictors: (Constant), Urban, Distance, GJFK, GLHR, Ethnicity, Congestion, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14791.385	7	2113.055	7.804	<.001[b]
	Residual	16245.365	60	270.756		
	Total	31036.750	67			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, GJFK, GLHR, Ethnicity, Congestion, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-19.033	18.200		-1.046	.300
	Congestion	9.756	4.847	.329	2.013	.049
	GJFK	8.056	12.262	.098	.657	.514
	GLHR	18.281	5.795	.419	3.155	.003
	Distance	-5.606	3.387	-.197	-1.655	.103
	Language	-.150	1.095	-.025	-.137	.891
	Ethnicity	.341	11.096	.004	.031	.976
	Urban	.640	.778	.145	.822	.414

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.327	3.057
	GJFK	.389	2.573
	GLHR	.495	2.019
	Distance	.618	1.617
	Language	.265	3.781
	Ethnicity	.451	2.219
	Urban	.278	3.591

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GJFK	GLHR
1	1	6.018	1.000	.00	.00	.00	.00
	2	1.082	2.359	.00	.00	.23	.04
	3	.484	3.526	.00	.00	.04	.41
	4	.246	4.950	.00	.00	.27	.07
	5	.126	6.921	.00	.00	.11	.07
	6	.028	14.709	.03	.01	.00	.19
	7	.011	23.302	.30	.14	.02	.11
	8	.006	30.996	.66	.85	.33	.10

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00
	2	.00	.01	.00	.00
	3	.00	.00	.02	.00
	4	.01	.05	.33	.00
	5	.01	.41	.43	.01
	6	.07	.26	.04	.66
	7	.91	.05	.00	.08
	8	.01	.21	.17	.26

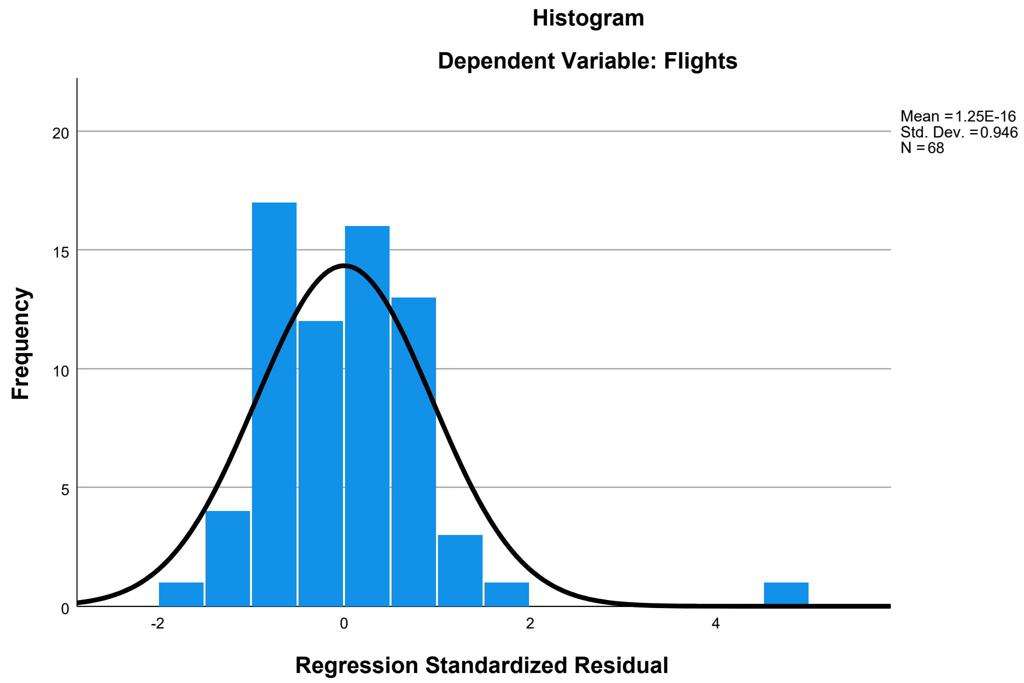
a. Dependent Variable: Flights

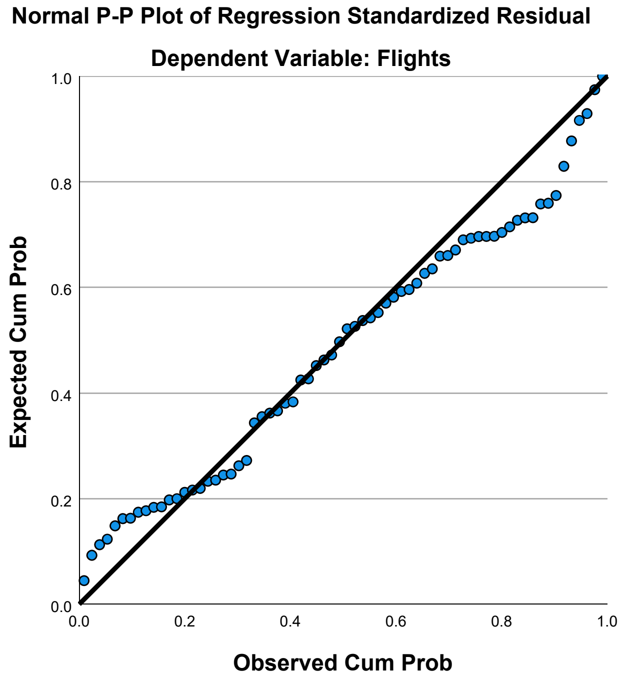
Residuals Statistics[a]

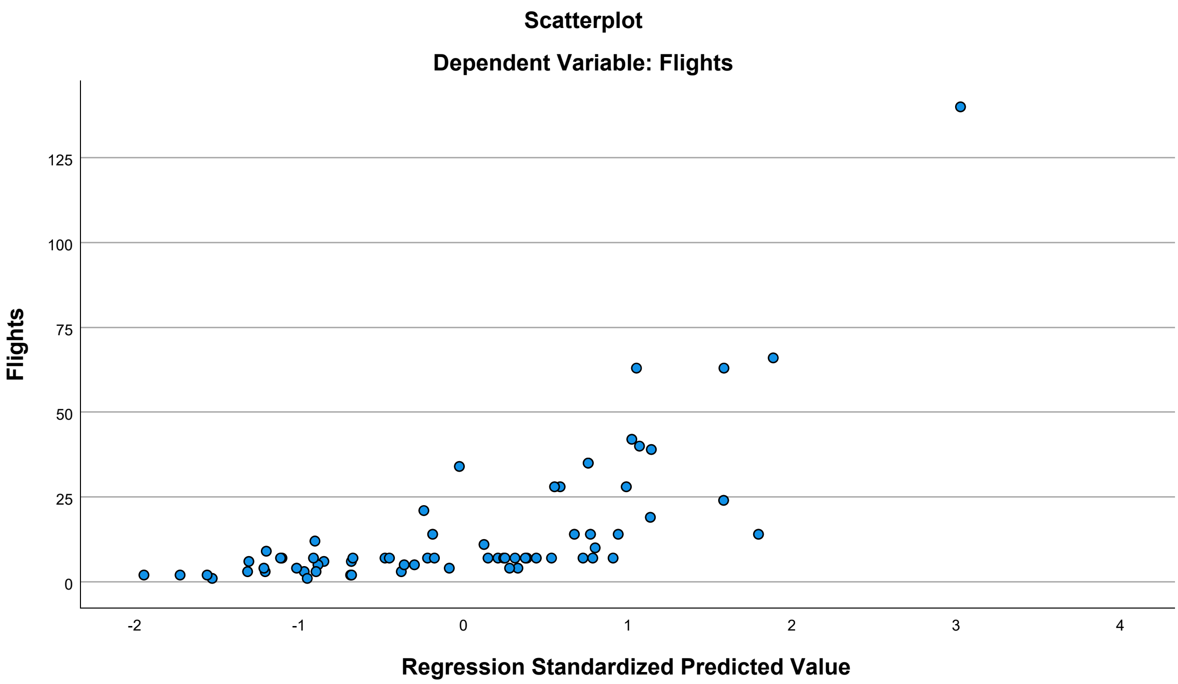
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-13.66	60.22	15.25	14.858	68
Residual	-27.943	79.776	.000	15.571	68
Std. Predicted Value	-1.946	3.027	.000	1.000	68
Std. Residual	-1.698	4.848	.000	.946	68

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
25
50
75
100
125
-2
-1
0
1
2
3
4

Regression

```
[DataSet5] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\UK\2017 S
ummer Can-UK Total 4.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.33	9.087	42
Congestion	4.95	.909	42
GLHR	.33	.477	42
Distance	3.60519	.732299	42
Language	3.81207167	3.721059405	42
Ethnicity	1.28811095	1.021234219	42
Urban	15.57	3.820	42

Correlations

		Flights	Congestion	GLHR	Distance	Language
Pearson Correlation	Flights	1.000	.415	.446	.054	.299
	Congestion	.415	1.000	-.075	.537	.377
	GLHR	.446	-.075	1.000	-.121	-.081
	Distance	.054	.537	-.121	1.000	-.082
	Language	.299	.377	-.081	-.082	1.000
	Ethnicity	.369	.577	-.061	.130	.938
	Urban	.627	.724	.187	.399	.311
Sig. (1-tailed)	Flights	.	.003	.002	.367	.027
	Congestion	.003	.	.319	.000	.007
	GLHR	.002	.319	.	.223	.304
	Distance	.367	.000	.223	.	.303
	Language	.027	.007	.304	.303	.
	Ethnicity	.008	.000	.350	.207	.000
	Urban	.000	.000	.117	.004	.022
N	Flights	42	42	42	42	42
	Congestion	42	42	42	42	42
	GLHR	42	42	42	42	42
	Distance	42	42	42	42	42
	Language	42	42	42	42	42
	Ethnicity	42	42	42	42	42
	Urban	42	42	42	42	42

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.369	.627
	Congestion	.577	.724
	GLHR	-.061	.187
	Distance	.130	.399
	Language	.938	.311
	Ethnicity	1.000	.380
	Urban	.380	1.000
Sig. (1-tailed)	Flights	.008	<.001
	Congestion	.000	.000
	GLHR	.350	.117
	Distance	.207	.004
	Language	.000	.022
	Ethnicity	.	.007
	Urban	.007	.
N	Flights	42	42
	Congestion	42	42
	GLHR	42	42
	Distance	42	42
	Language	42	42
	Ethnicity	42	42
	Urban	42	42

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, GLHR, Language, Distance, Congestion, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.774[a]	.600	.531	6.222	.600	8.740

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	35	<.001

a. Predictors: (Constant), Urban, GLHR, Language, Distance, Congestion, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2030.248	6	338.375	8.740	<.001[b]
	Residual	1355.086	35	38.717		
	Total	3385.333	41			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, GLHR, Language, Distance, Congestion, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.150	8.700		.247	.806
	Congestion	-2.647	2.573	-.265	-1.029	.311
	GLHR	4.741	2.393	.249	1.982	.055
	Distance	-3.682	1.883	-.297	-1.955	.059
	Language	-2.293	1.232	-.939	-1.861	.071
	Ethnicity	10.478	4.870	1.178	2.151	.038
	Urban	1.749	.474	.735	3.691	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.172	5.798
	GLHR	.725	1.380
	Distance	.496	2.014
	Language	.045	22.260
	Ethnicity	.038	26.193
	Urban	.288	3.469

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GLHR	Distance
1	1	5.684	1.000	.00	.00	.01	.00
	2	.766	2.724	.00	.00	.38	.00
	3	.473	3.465	.00	.00	.34	.01
	4	.034	12.921	.09	.00	.01	.06
	5	.027	14.442	.10	.00	.04	.08
	6	.012	21.632	.10	.12	.01	.74
	7	.003	44.202	.71	.87	.22	.11

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Language	Ethnicity	Urban
1	1	.00	.00	.00
	2	.01	.00	.00
	3	.01	.00	.00
	4	.16	.15	.00
	5	.00	.01	.38
	6	.14	.08	.03
	7	.69	.76	.59

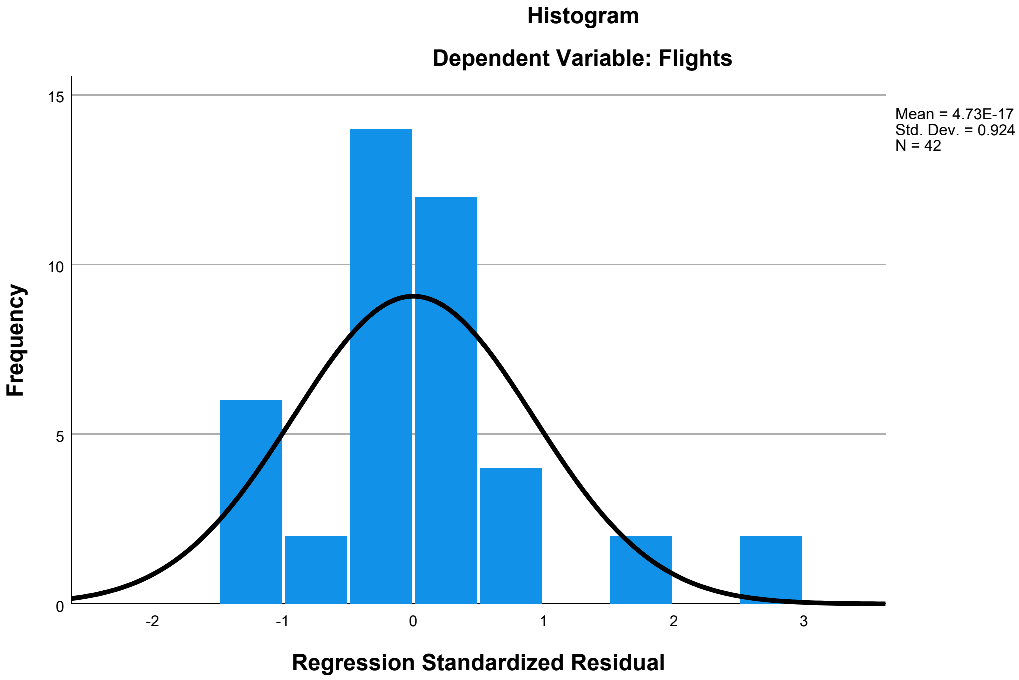
a. Dependent Variable: Flights

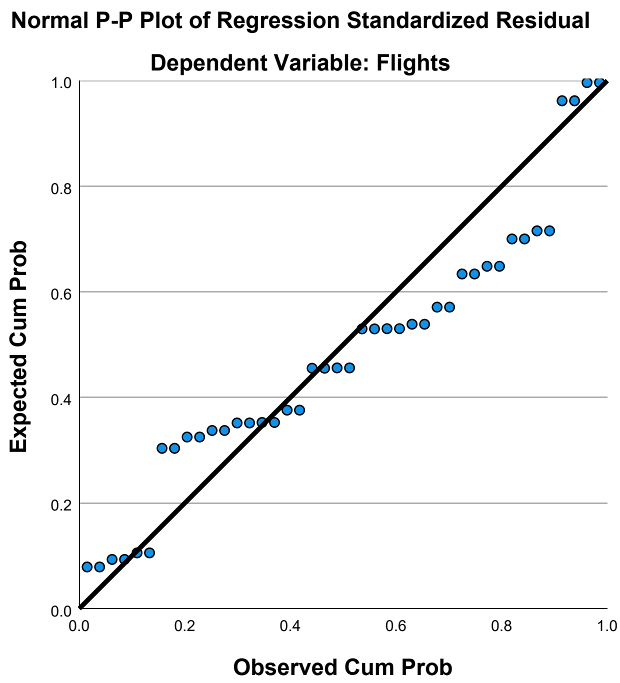
Residuals Statistics[a]

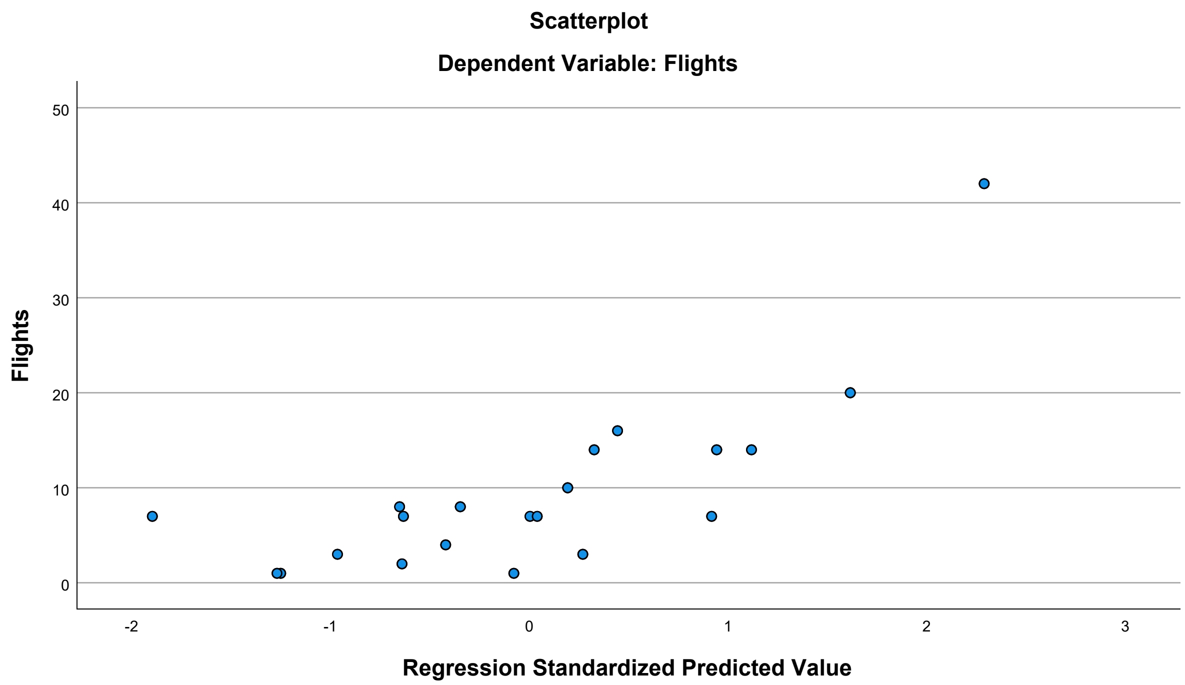
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-4.02	25.44	9.33	7.037	42
Residual	-8.790	16.558	.000	5.749	42
Std. Predicted Value	-1.897	2.289	.000	1.000	42
Std. Residual	-1.413	2.661	.000	.924	42

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Frequency
15
10
5
0
-2
-1
0
1
2
3
Regression Standardized Residual
Mean = 4.73E-17
Std. Dev. = 0.924
N = 42


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	9.33	9.087	42
Congestion	4.95	.909	42
GLHR	.33	.477	42
Distance	3.60519	.732299	42
Ethnicity	1.28811095	1.021234219	42
Urban	15.57	3.820	42

Correlations

		Flights	Congestion	GLHR	Distance	Ethnicity
Pearson Correlation	Flights	1.000	.415	.446	.054	.369
	Congestion	.415	1.000	-.075	.537	.577
	GLHR	.446	-.075	1.000	-.121	-.061
	Distance	.054	.537	-.121	1.000	.130
	Ethnicity	.369	.577	-.061	.130	1.000
	Urban	.627	.724	.187	.399	.380
Sig. (1-tailed)	Flights	.	.003	.002	.367	.008
	Congestion	.003	.	.319	.000	.000
	GLHR	.002	.319	.	.223	.350
	Distance	.367	.000	.223	.	.207
	Ethnicity	.008	.000	.350	.207	.
	Urban	.000	.000	.117	.004	.007
N	Flights	42	42	42	42	42
	Congestion	42	42	42	42	42
	GLHR	42	42	42	42	42
	Distance	42	42	42	42	42
	Ethnicity	42	42	42	42	42
	Urban	42	42	42	42	42

Correlations

		Urban
Pearson Correlation	Flights	.627
	Congestion	.724
	GLHR	.187
	Distance	.399
	Ethnicity	.380
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	Congestion	.000
	GLHR	.117
	Distance	.004
	Ethnicity	.007
	Urban	.
N	Flights	42
	Congestion	42
	GLHR	42
	Distance	42
	Ethnicity	42
	Urban	42

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, GLHR, Ethnicity, Distance, Congestion[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.748[a]	.560	.499	6.432	.560	9.168	5	36	<.001

a. Predictors: (Constant), Urban, GLHR, Ethnicity, Distance, Congestion

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1896.168	5	379.234	9.168	<.001[b]
	Residual	1489.166	36	41.366		
	Total	3385.333	41			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, GLHR, Ethnicity, Distance, Congestion

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-9.157	6.436		-1.423	.163
	Congestion	.313	2.091	.031	.150	.882
	GLHR	6.512	2.269	.342	2.869	.007
	Distance	-1.962	1.696	-.158	-1.157	.255
	Ethnicity	1.699	1.251	.191	1.358	.183
	Urban	1.262	.408	.531	3.090	.004

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Congestion	.279	3.582
	GLHR	.861	1.162
	Distance	.654	1.529
	Ethnicity	.618	1.618
	Urban	.415	2.413

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Congestion	GLHR	Distance
1	1	5.020	1.000	.00	.00	.01	.00
	2	.650	2.780	.00	.00	.78	.00
	3	.277	4.258	.01	.00	.07	.01
	4	.027	13.573	.19	.00	.05	.10
	5	.019	16.343	.55	.00	.04	.75
	6	.007	27.277	.25	.99	.06	.14

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.03	.00
	3	.64	.00
	4	.10	.55
	5	.00	.00
	6	.22	.45

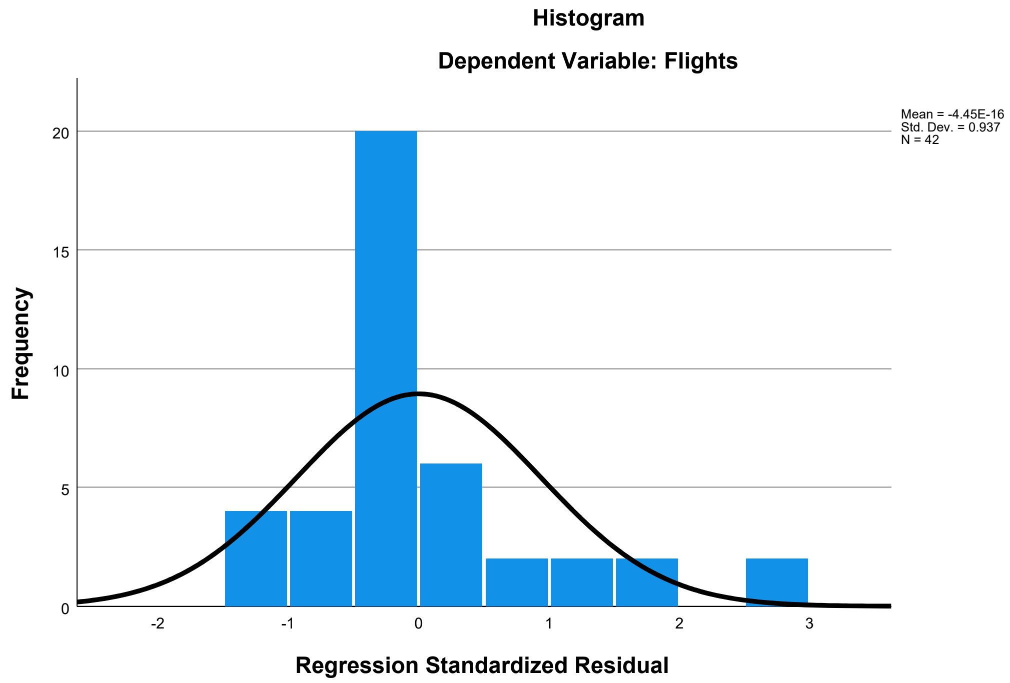
a. Dependent Variable: Flights

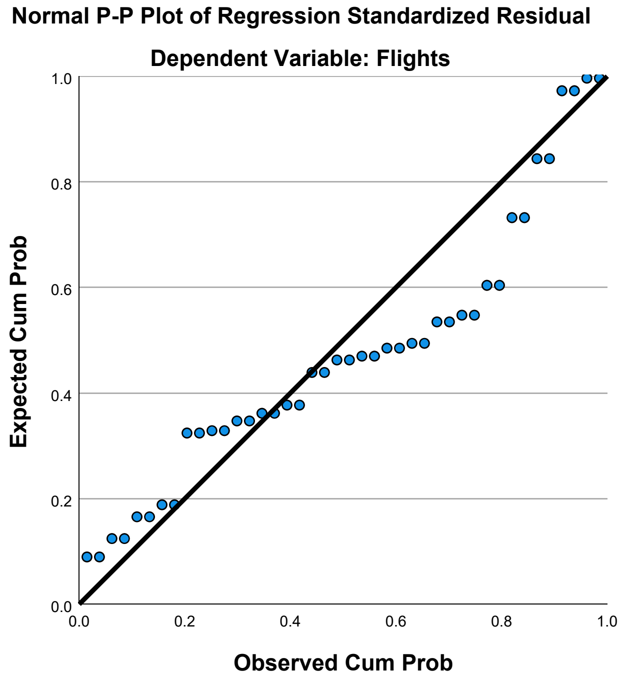
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-5.34	24.82	9.33	6.801	42
Residual	-8.643	17.184	.000	6.027	42
Std. Predicted Value	-2.157	2.277	.000	1.000	42
Std. Residual	-1.344	2.672	.000	.937	42

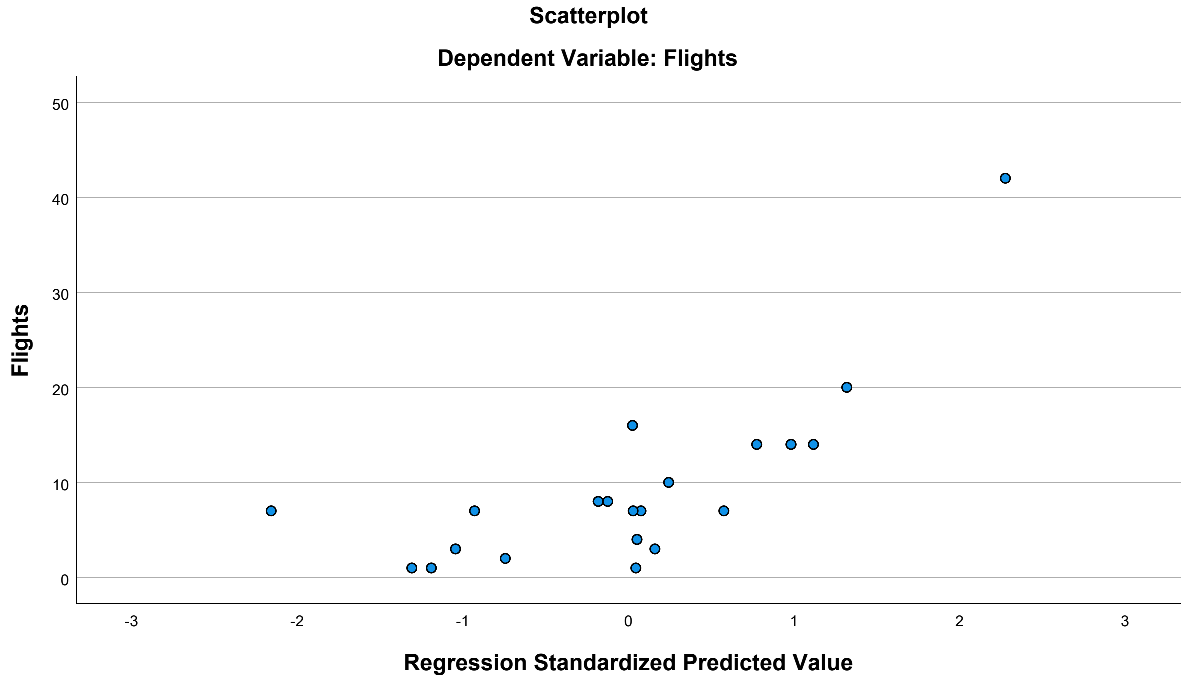
a. Dependent Variable: Flights

Charts





Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0



Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-3
-2
-1
0
1
2
3

Regression

```
[DataSet7] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\UK\2017 W
inter to US - Airline 4.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.01	7.779	74
HomeConcentration	2.9529539730	2.6224583037	74
GLHR	.72	.454	74
GJFK	.11	.313	74
PartnerConcentration	1.6852648919	2.8160805842	74
Distance	4.23946	.765508	74
Language	5.42702604	3.371130166	74
Ethnicity	.49579958	.279318120	74
Urban	18.96	3.532	74

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.355	.432	.315
	HomeConcentration	.355	1.000	.413	-.166
	GLHR	.432	.413	1.000	-.167
	GJFK	.315	-.166	-.167	1.000
	PartnerConcentration	.035	-.060	.146	-.039
	Distance	-.178	.005	.116	-.373
	Language	.360	-.046	.008	.770
	Ethnicity	.306	-.047	.161	.604
	Urban	.515	.075	.463	.351
Sig. (1-tailed)	Flights	.	<.001	<.001	.003
	HomeConcentration	.001	.	.000	.078
	GLHR	.000	.000	.	.078
	GJFK	.003	.078	.078	.
	PartnerConcentration	.384	.306	.108	.370
	Distance	.065	.483	.163	.001
	Language	.001	.348	.472	.000
	Ethnicity	.004	.345	.085	.000
	Urban	.000	.262	.000	.001
N	Flights	74	74	74	74
	HomeConcentration	74	74	74	74

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
Pearson Correlation	Flights	.035	-.178	.360	.306
	HomeConcentration	-.060	.005	-.046	-.047
	GLHR	.146	.116	.008	.161
	GJFK	-.039	-.373	.770	.604
	PartnerConcentration	1.000	-.041	.107	.127
	Distance	-.041	1.000	-.533	-.408
	Language	.107	-.533	1.000	.866
	Ethnicity	.127	-.408	.866	1.000
	Urban	.022	-.232	.566	.494
Sig. (1-tailed)	Flights	.384	.065	<.001	.004
	HomeConcentration	.306	.483	.348	.345
	GLHR	.108	.163	.472	.085
	GJFK	.370	.001	.000	.000
	PartnerConcentration	.	.363	.183	.141
	Distance	.363	.	.000	.000
	Language	.183	.000	.	.000
	Ethnicity	.141	.000	.000	.
	Urban	.425	.023	.000	.000
N	Flights	74	74	74	74
	HomeConcentration	74	74	74	74

Correlations

		Urban
Pearson Correlation	Flights	.515
	HomeConcentration	.075
	GLHR	.463
	GJFK	.351
	PartnerConcentration	.022
	Distance	-.232
	Language	.566
	Ethnicity	.494
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.262
	GLHR	.000
	GJFK	.001
	PartnerConcentration	.425
	Distance	.023
	Language	.000
	Ethnicity	.000
	Urban	.
N	Flights	74
	HomeConcentration	74

Correlations

		Flights	HomeConcentration	GLHR	GJFK
	GLHR	74	74	74	74
	GJFK	74	74	74	74
	PartnerConcentration	74	74	74	74
	Distance	74	74	74	74
	Language	74	74	74	74
	Ethnicity	74	74	74	74
	Urban	74	74	74	74

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
	GLHR	74	74	74	74
	GJFK	74	74	74	74
	PartnerConcentration	74	74	74	74
	Distance	74	74	74	74
	Language	74	74	74	74
	Ethnicity	74	74	74	74
	Urban	74	74	74	74

Correlations

		Urban
	GLHR	74
	GJFK	74
	PartnerConcentration	74
	Distance	74
	Language	74
	Ethnicity	74
	Urban	74

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, HomeConcentration, Distance, GJFK, GLHR, Ethnicity, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.670[a]	.449	.381	6.120	.449	6.615

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	8	65	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, GJFK, GLHR, Ethnicity, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1982.251	8	247.781	6.615	<.001[b]
	Residual	2434.736	65	37.457		
	Total	4416.986	73			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, GJFK, GLHR, Ethnicity, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-5.211	7.079		-.736	.464
	HomeConcentration	.851	.319	.287	2.671	.010
	GLHR	4.226	2.372	.247	1.781	.080
	GJFK	8.904	3.905	.358	2.280	.026
	PartnerConcentration	.098	.270	.035	.362	.719
	Distance	-.581	1.134	-.057	-.513	.610
	Language	-.111	.678	-.048	-.164	.870
	Ethnicity	-1.987	5.730	-.071	-.347	.730
	Urban	.665	.314	.302	2.116	.038

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.735	1.360
	GLHR	.442	2.260
	GJFK	.344	2.904
	PartnerConcentration	.887	1.128
	Distance	.681	1.467
	Language	.098	10.169
	Ethnicity	.200	4.993
	Urban	.416	2.403

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	6.467	1.000	.00	.00	.00
	2	1.139	2.382	.00	.02	.01
	3	.710	3.018	.00	.05	.00
	4	.323	4.476	.00	.60	.01
	5	.176	6.054	.00	.18	.44
	6	.134	6.942	.00	.03	.14
	7	.033	14.054	.00	.02	.00
	8	.011	23.885	.04	.03	.15
	9	.006	31.653	.95	.06	.25

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.01	.00	.00	.00	.00
	2	.18	.01	.00	.00	.00	.00
	3	.00	.80	.00	.00	.00	.00
	4	.06	.08	.01	.00	.00	.00
	5	.01	.04	.01	.00	.02	.00
	6	.51	.01	.01	.04	.11	.00
	7	.10	.00	.09	.22	.52	.10
	8	.13	.03	.47	.71	.31	.37
	9	.00	.02	.40	.02	.04	.53

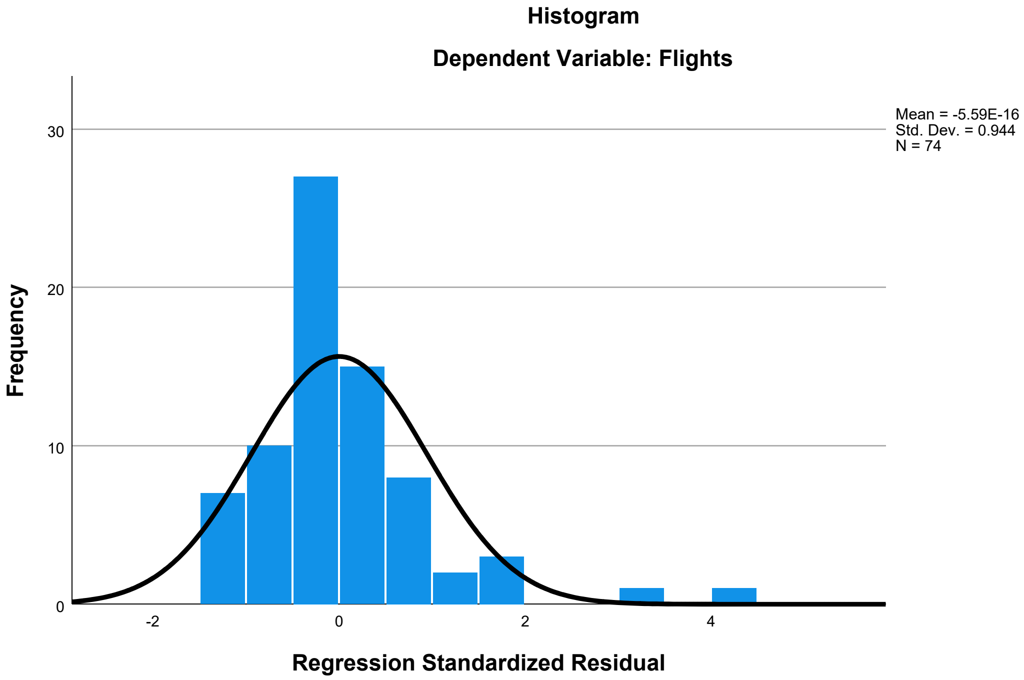
a. Dependent Variable: Flights

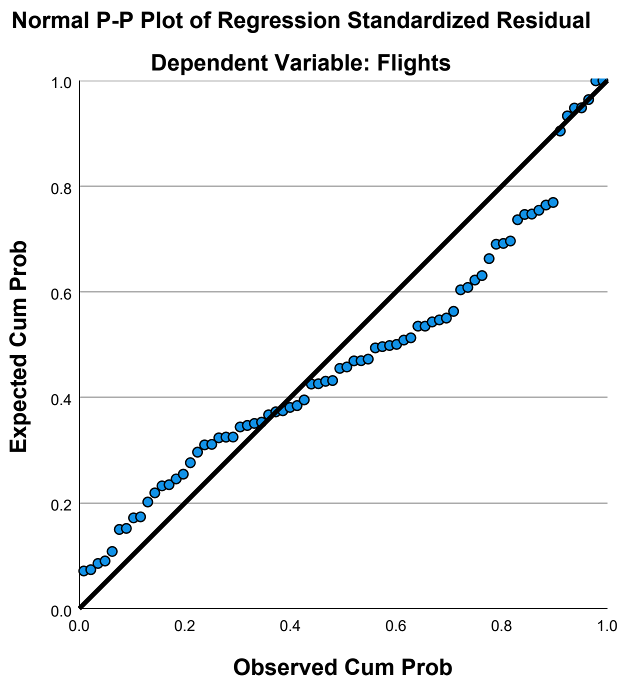
Residuals Statistics[a]

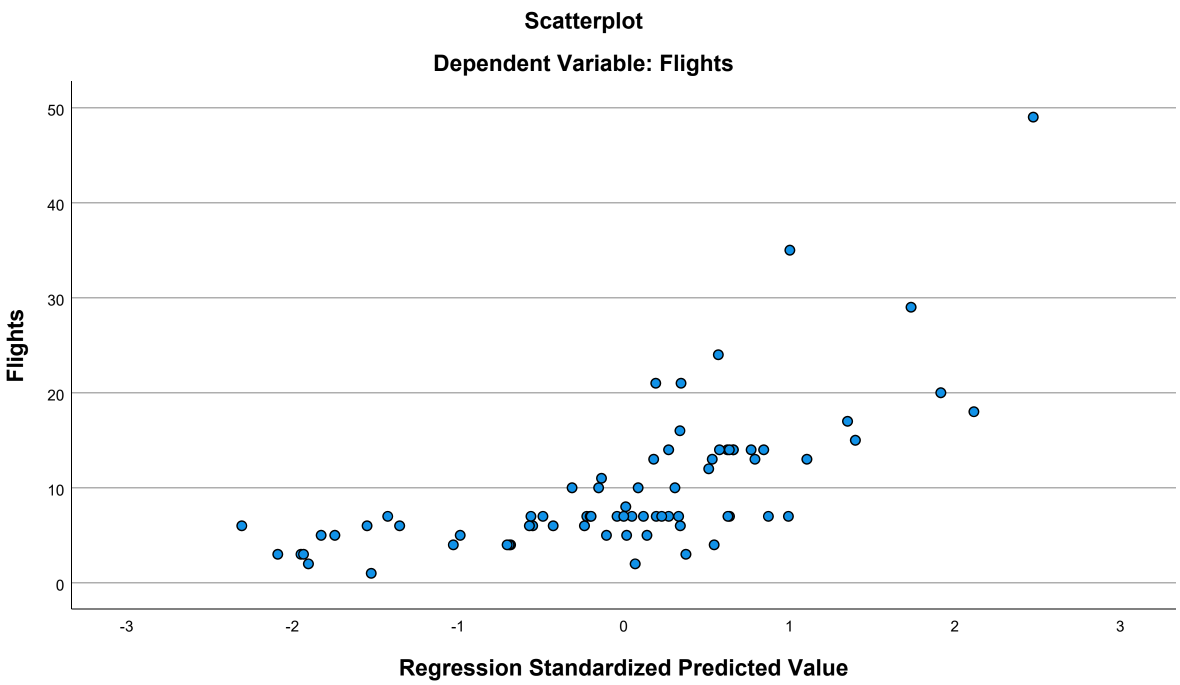
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-2.00	22.90	10.01	5.211	74
Residual	-8.974	26.096	.000	5.775	74
Std. Predicted Value	-2.306	2.474	.000	1.000	74
Std. Residual	-1.466	4.264	.000	.944	74

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -5.59E-16
Std. Dev. = 0.944
N = 74
Frequency
30
20
10
0
-2
0
2
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.01	7.779	74
HomeConcentration	2.9529539730	2.6224583037	74
GLHR	.72	.454	74
GJFK	.11	.313	74
PartnerConcentration	1.6852648919	2.8160805842	74
Distance	4.23946	.765508	74
Ethnicity	.49579958	.279318120	74
Urban	18.96	3.532	74

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.355	.432	.315
	HomeConcentration	.355	1.000	.413	-.166
	GLHR	.432	.413	1.000	-.167
	GJFK	.315	-.166	-.167	1.000
	PartnerConcentration	.035	-.060	.146	-.039
	Distance	-.178	.005	.116	-.373
	Ethnicity	.306	-.047	.161	.604
	Urban	.515	.075	.463	.351
Sig. (1-tailed)	Flights	.	<.001	<.001	.003
	HomeConcentration	.001	.	.000	.078
	GLHR	.000	.000	.	.078
	GJFK	.003	.078	.078	.
	PartnerConcentration	.384	.306	.108	.370
	Distance	.065	.483	.163	.001
	Ethnicity	.004	.345	.085	.000
	Urban	.000	.262	.000	.001
N	Flights	74	74	74	74
	HomeConcentration	74	74	74	74
	GLHR	74	74	74	74
	GJFK	74	74	74	74
	PartnerConcentration	74	74	74	74
	Distance	74	74	74	74
	Ethnicity	74	74	74	74
	Urban	74	74	74	74

Correlations

		PartnerConcentration	Distance	Ethnicity	Urban
Pearson Correlation	Flights	.035	-.178	.306	.515
	HomeConcentration	-.060	.005	-.047	.075
	GLHR	.146	.116	.161	.463
	GJFK	-.039	-.373	.604	.351
	PartnerConcentration	1.000	-.041	.127	.022
	Distance	-.041	1.000	-.408	-.232
	Ethnicity	.127	-.408	1.000	.494
	Urban	.022	-.232	.494	1.000
Sig. (1-tailed)	Flights	.384	.065	.004	<.001
	HomeConcentration	.306	.483	.345	.262
	GLHR	.108	.163	.085	.000
	GJFK	.370	.001	.000	.001
	PartnerConcentration	.	.363	.141	.425
	Distance	.363	.	.000	.023
	Ethnicity	.141	.000	.	.000
	Urban	.425	.023	.000	.
N	Flights	74	74	74	74
	HomeConcentration	74	74	74	74
	GLHR	74	74	74	74
	GJFK	74	74	74	74
	PartnerConcentration	74	74	74	74
	Distance	74	74	74	74
	Ethnicity	74	74	74	74
	Urban	74	74	74	74

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, HomeConcentration, Distance, GJFK, GLHR, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.670[a]	.449	.390	6.075	.449	7.669

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	7	66	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, GJFK, GLHR, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1981.244	7	283.035	7.669	<.001[b]
	Residual	2435.742	66	36.905		
	Total	4416.986	73			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, GJFK, GLHR, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-5.250	7.023		-.748	.457
	HomeConcentration	.838	.307	.283	2.729	.008
	GLHR	4.363	2.204	.255	1.979	.052
	GJFK	8.535	3.167	.343	2.695	.009
	PartnerConcentration	.088	.262	.032	.337	.737
	Distance	-.521	1.064	-.051	-.490	.626
	Ethnicity	-2.707	3.658	-.097	-.740	.462
	Urban	.640	.274	.291	2.339	.022

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.779	1.284
	GLHR	.505	1.980
	GJFK	.516	1.940
	PartnerConcentration	.927	1.078
	Distance	.761	1.313
	Ethnicity	.484	2.064
	Urban	.540	1.850

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GLHR
1	1	5.637	1.000	.00	.01	.00
	2	1.021	2.349	.00	.02	.01
	3	.710	2.818	.00	.05	.00
	4	.323	4.179	.00	.63	.01
	5	.176	5.658	.00	.20	.53
	6	.105	7.334	.00	.03	.17
	7	.022	15.912	.01	.00	.06
	8	.007	29.399	.98	.05	.22

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions GJFK	PartnerConcentration	Distance	Ethnicity	Urban
1	1	.00	.01	.00	.00	.00
	2	.36	.01	.00	.01	.00
	3	.00	.83	.00	.00	.00
	4	.09	.08	.01	.00	.00
	5	.01	.04	.01	.04	.00
	6	.48	.01	.01	.75	.00
	7	.05	.00	.40	.18	.45
	8	.02	.02	.56	.02	.54

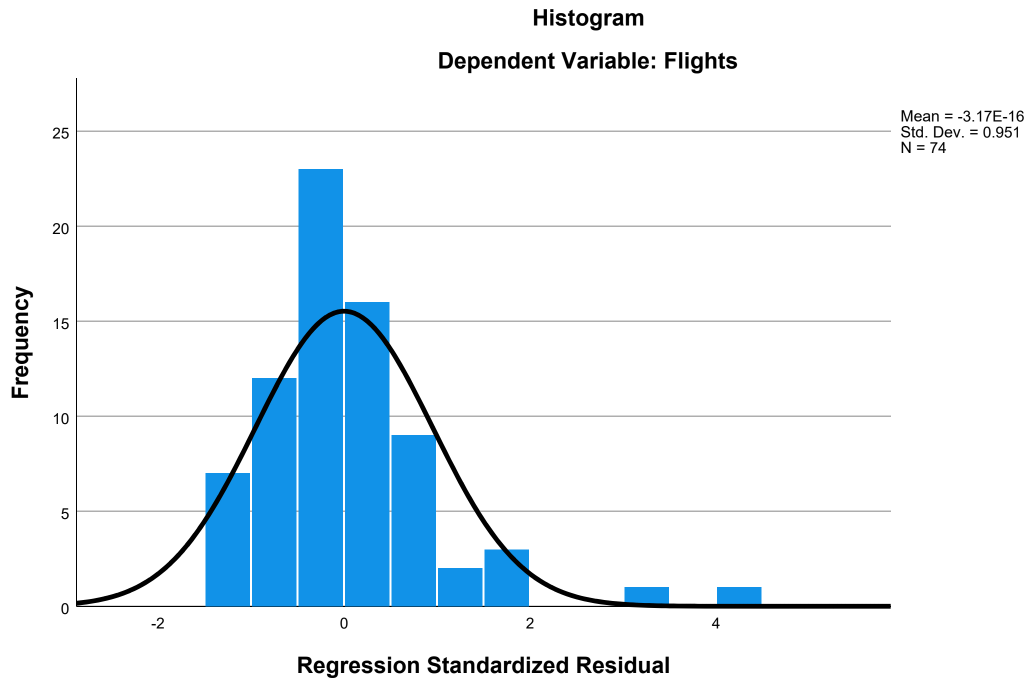
a. Dependent Variable: Flights

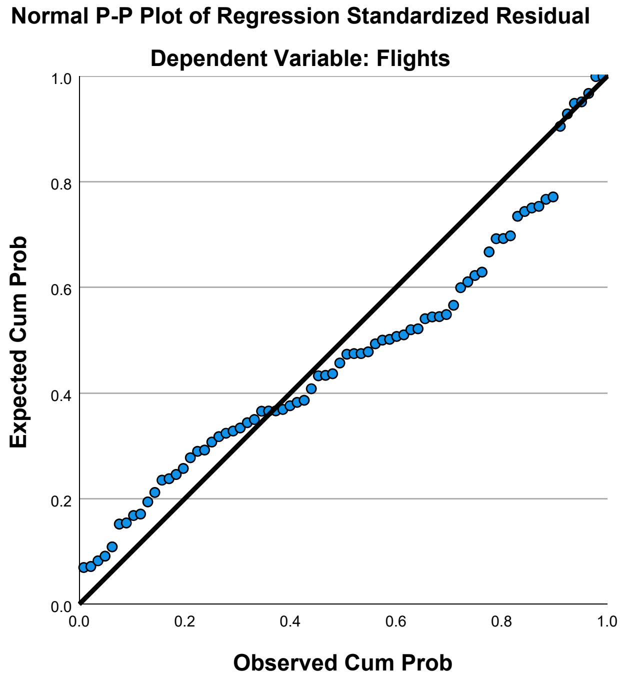
Residuals Statistics[a]

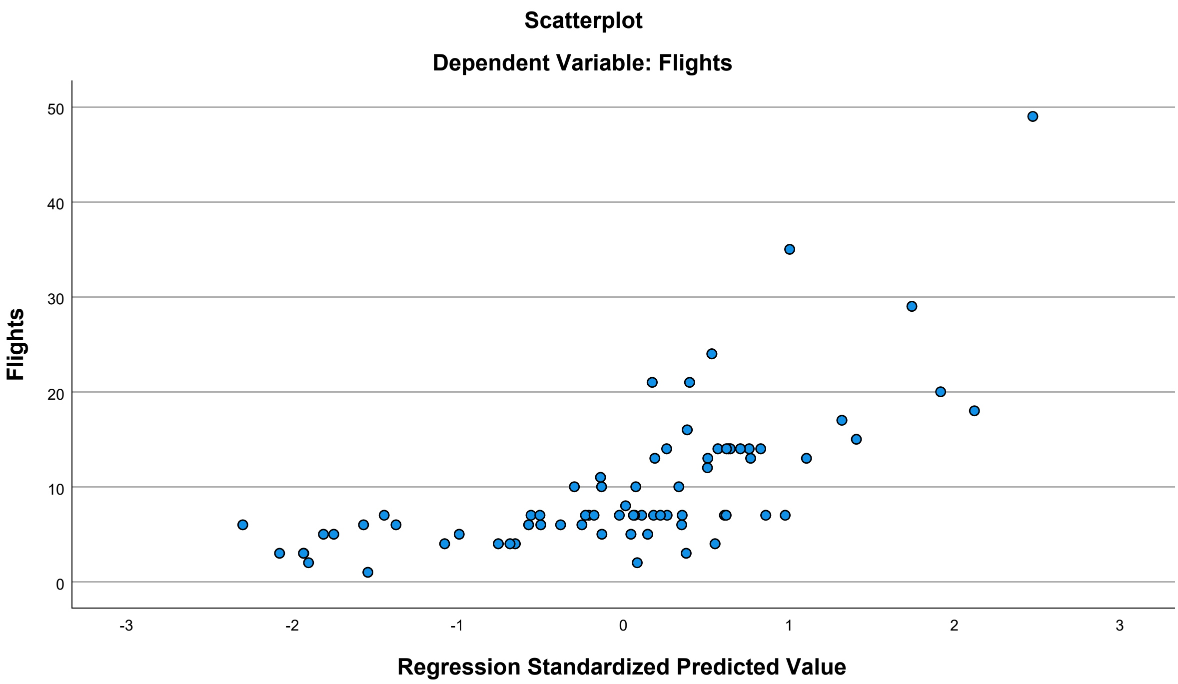
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-1.97	22.90	10.01	5.210	74
Residual	-8.989	26.102	.000	5.776	74
Std. Predicted Value	-2.300	2.473	.000	1.000	74
Std. Residual	-1.480	4.297	.000	.951	74

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-3
-2
-1
0
1
2
3

Regression

```
[DataSet8] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\UK\2017 W
inter to CAN - Airline 4.sav
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Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.61	6.021	18
HomeConcentration	1.9983354444	1.8853111228	18
GLHR	.61	.502	18
PartnerConcentration	.000100	.0000000	18
Distance	3.73989	.693169	18
Language	3.48651056	3.943635120	18
Ethnicity	1.22517944	1.132657031	18
Urban	17.83	3.222	18

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.504	.453	.
	HomeConcentration	.504	1.000	.602	.
	GLHR	.453	.602	1.000	.
	PartnerConcentration	.	.	.	1.000
	Distance	-.015	.255	-.153	.
	Language	.350	-.112	-.407	.
	Ethnicity	.385	-.053	-.385	.
	Urban	.579	.453	-.079	.
Sig. (1-tailed)	Flights	.	.016	.029	.000
	HomeConcentration	.016	.	.004	.000
	GLHR	.029	.004	.	.000
	PartnerConcentration	.000	.000	.000	.
	Distance	.476	.154	.272	.000
	Language	.077	.330	.047	.000
	Ethnicity	.057	.417	.057	.000
	Urban	.006	.029	.378	.000
N	Flights	18	18	18	18
	HomeConcentration	18	18	18	18
	GLHR	18	18	18	18
	PartnerConcentration	18	18	18	18
	Distance	18	18	18	18
	Language	18	18	18	18

Correlations

		Distance	Language	Ethnicity	Urban
Pearson Correlation	Flights	-.015	.350	.385	.579
	HomeConcentration	.255	-.112	-.053	.453
	GLHR	-.153	-.407	-.385	-.079
	PartnerConcentration	.	.	.	.
	Distance	1.000	-.243	-.051	.379
	Language	-.243	1.000	.950	.467
	Ethnicity	-.051	.950	1.000	.586
	Urban	.379	.467	.586	1.000
Sig. (1-tailed)	Flights	.476	.077	.057	.006
	HomeConcentration	.154	.330	.417	.029
	GLHR	.272	.047	.057	.378
	PartnerConcentration	.000	.000	.000	.000
	Distance	.	.165	.420	.061
	Language	.165	.	.000	.025
	Ethnicity	.420	.000	.	.005
	Urban	.061	.025	.005	.
N	Flights	18	18	18	18
	HomeConcentration	18	18	18	18
	GLHR	18	18	18	18
	PartnerConcentration	18	18	18	18
	Distance	18	18	18	18
	Language	18	18	18	18

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
	Ethnicity	18	18	18	18
	Urban	18	18	18	18

Correlations

		Distance	Language	Ethnicity	Urban
	Ethnicity	18	18	18	18
	Urban	18	18	18	18

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, GLHR, Distance, Ethnicity, HomeConcentration, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.842[a]	.709	.551	4.036	.709	4.472

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	6	11	.016

a. Predictors: (Constant), Urban, GLHR, Distance, Ethnicity, HomeConcentration, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	437.098	6	72.850	4.472	.016[b]
	Residual	179.179	11	16.289		
	Total	616.278	17			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, GLHR, Distance, Ethnicity, HomeConcentration, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-21.734	10.937		-1.987	.072
	HomeConcentration	-.577	.919	-.181	-.627	.543
	GLHR	9.691	3.436	.807	2.820	.017
	Distance	1.200	2.357	.138	.509	.621
	Language	1.258	1.141	.824	1.103	.294
	Ethnicity	-2.096	3.821	-.394	-.549	.594
	Urban	.968	.532	.518	1.820	.096

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.319	3.133
	GLHR	.322	3.101
	Distance	.359	2.787
	Language	.047	21.126
	Ethnicity	.051	19.546
	Urban	.326	3.068

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions GLHR
1	1	5.428	1.000	.00	.00	.00
	2	1.067	2.256	.00	.02	.03
	3	.313	4.167	.00	.19	.02
	4	.154	5.938	.00	.29	.46
	5	.026	14.418	.04	.06	.06
	6	.008	25.748	.01	.05	.02
	7	.004	36.794	.95	.39	.40

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00
	2	.00	.01	.01	.00
	3	.01	.01	.00	.00
	4	.00	.01	.00	.00
	5	.02	.31	.41	.00
	6	.43	.09	.00	.77
	7	.53	.58	.58	.23

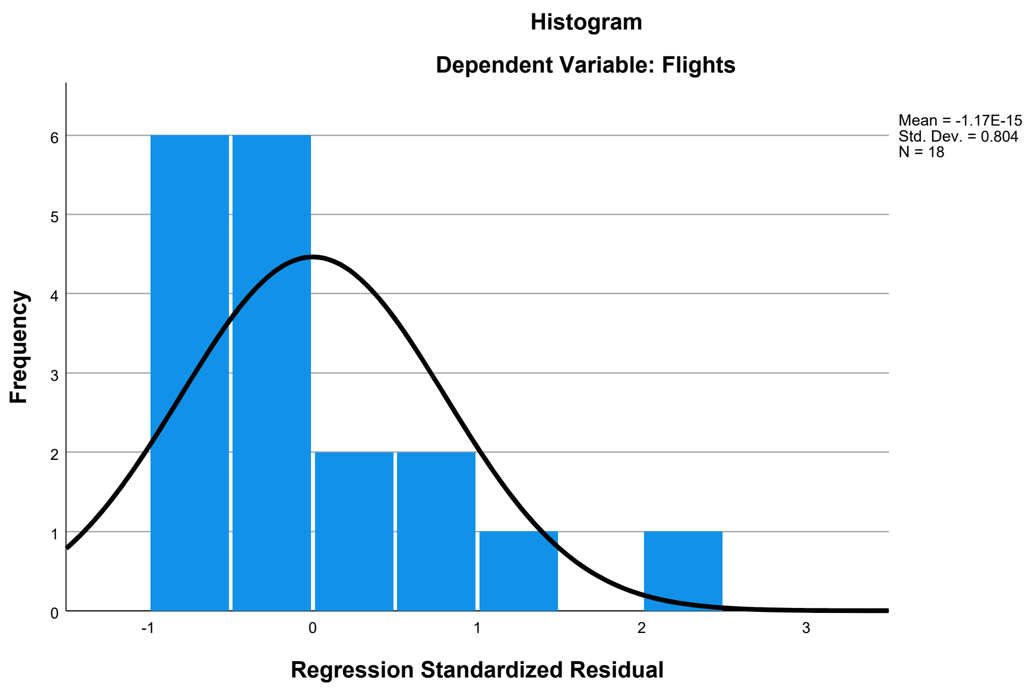
a. Dependent Variable: Flights

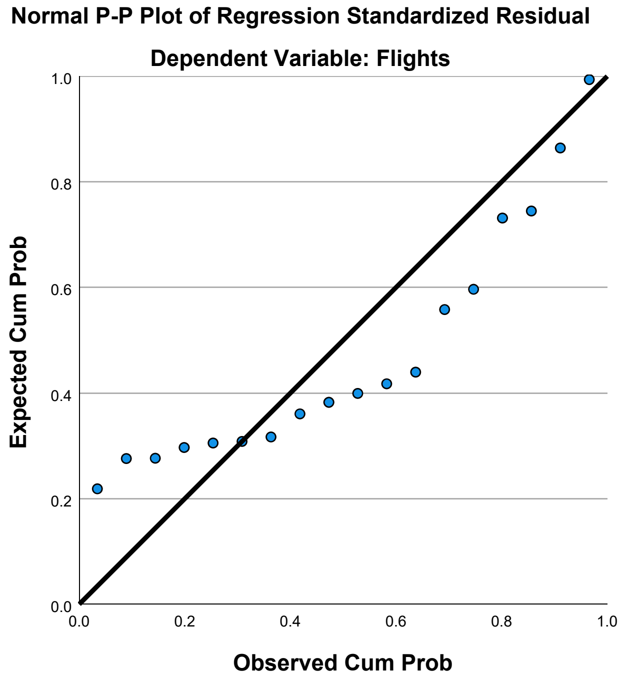
Residuals Statistics[a]

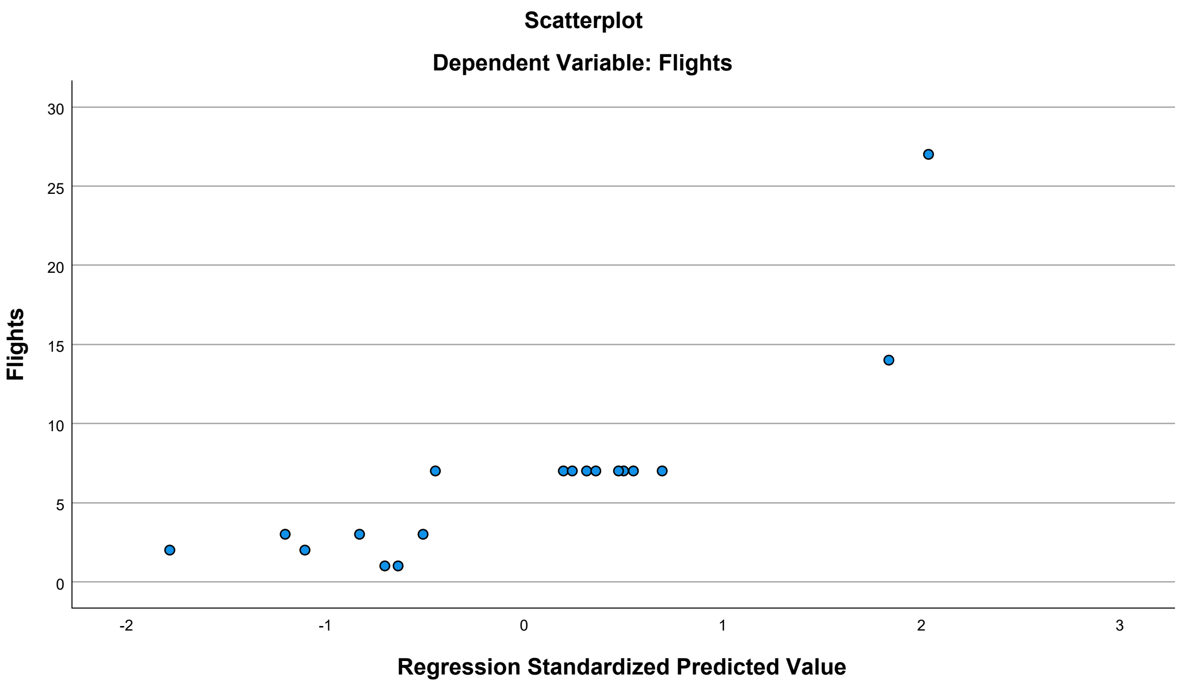
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-2.44	16.94	6.61	5.071	18
Residual	-3.137	10.063	.000	3.247	18
Std. Predicted Value	-1.784	2.036	.000	1.000	18
Std. Residual	-.777	2.493	.000	.804	18

a. Dependent Variable: Flights

Charts







Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.61	6.021	18
HomeConcentration	1.9983354444	1.8853111228	18
GLHR	.61	.502	18
PartnerConcentration	.000100	.0000000	18
Distance	3.73989	.693169	18
Ethnicity	1.22517944	1.132657031	18
Urban	17.83	3.222	18

Correlations

		Flights	HomeConcentration	GLHR	PartnerConcentration
Pearson Correlation	Flights	1.000	.504	.453	.
	HomeConcentration	.504	1.000	.602	.
	GLHR	.453	.602	1.000	.
	PartnerConcentration	.	.	.	1.000
	Distance	-.015	.255	-.153	.
	Ethnicity	.385	-.053	-.385	.
	Urban	.579	.453	-.079	.
Sig. (1-tailed)	Flights	.	.016	.029	.000
	HomeConcentration	.016	.	.004	.000
	GLHR	.029	.004	.	.000
	PartnerConcentration	.000	.000	.000	.
	Distance	.476	.154	.272	.000
	Ethnicity	.057	.417	.057	.000
	Urban	.006	.029	.378	.000
N	Flights	18	18	18	18
	HomeConcentration	18	18	18	18
	GLHR	18	18	18	18
	PartnerConcentration	18	18	18	18
	Distance	18	18	18	18
	Ethnicity	18	18	18	18
	Urban	18	18	18	18

Correlations

		Distance	Ethnicity	Urban
Pearson Correlation	Flights	-.015	.385	.579
	HomeConcentration	.255	-.053	.453
	GLHR	-.153	-.385	-.079
	PartnerConcentration	.	.	.
	Distance	1.000	-.051	.379
	Ethnicity	-.051	1.000	.586
	Urban	.379	.586	1.000
Sig. (1-tailed)	Flights	.476	.057	.006
	HomeConcentration	.154	.417	.029
	GLHR	.272	.057	.378
	PartnerConcentration	.000	.000	.000
	Distance	.	.420	.061
	Ethnicity	.420	.	.005
	Urban	.061	.005	.
N	Flights	18	18	18
	HomeConcentration	18	18	18
	GLHR	18	18	18
	PartnerConcentration	18	18	18
	Distance	18	18	18
	Ethnicity	18	18	18
	Urban	18	18	18

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, GLHR, Distance, Ethnicity, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.823[a]	.677	.543	4.072	.677	5.033

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	5	12	.010

a. Predictors: (Constant), Urban, GLHR, Distance, Ethnicity, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	417.278	5	83.456	5.033	.010[b]
	Residual	199.000	12	16.583		
	Total	616.278	17			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, GLHR, Distance, Ethnicity, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-14.390	8.755		-1.644	.126
	HomeConcentration	-.274	.885	-.086	-.309	.762
	GLHR	8.025	3.114	.669	2.577	.024
	Distance	-.504	1.797	-.058	-.280	.784
	Ethnicity	1.852	1.350	.348	1.372	.195
	Urban	.912	.534	.488	1.706	.114

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.350	2.853
	GLHR	.400	2.502
	Distance	.629	1.591
	Ethnicity	.417	2.395
	Urban	.329	3.039

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	GLHR
1	1	4.891	1.000	.00	.00	.00
	2	.686	2.670	.00	.04	.07
	3	.265	4.292	.01	.25	.00
	4	.140	5.913	.00	.26	.57
	5	.011	20.827	.25	.05	.24
	6	.007	27.285	.74	.39	.12

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions		
		Distance	Ethnicity	Urban
1	1	.00	.00	.00
	2	.00	.12	.00
	3	.01	.19	.00
	4	.01	.18	.00
	5	.97	.27	.15
	6	.00	.23	.85

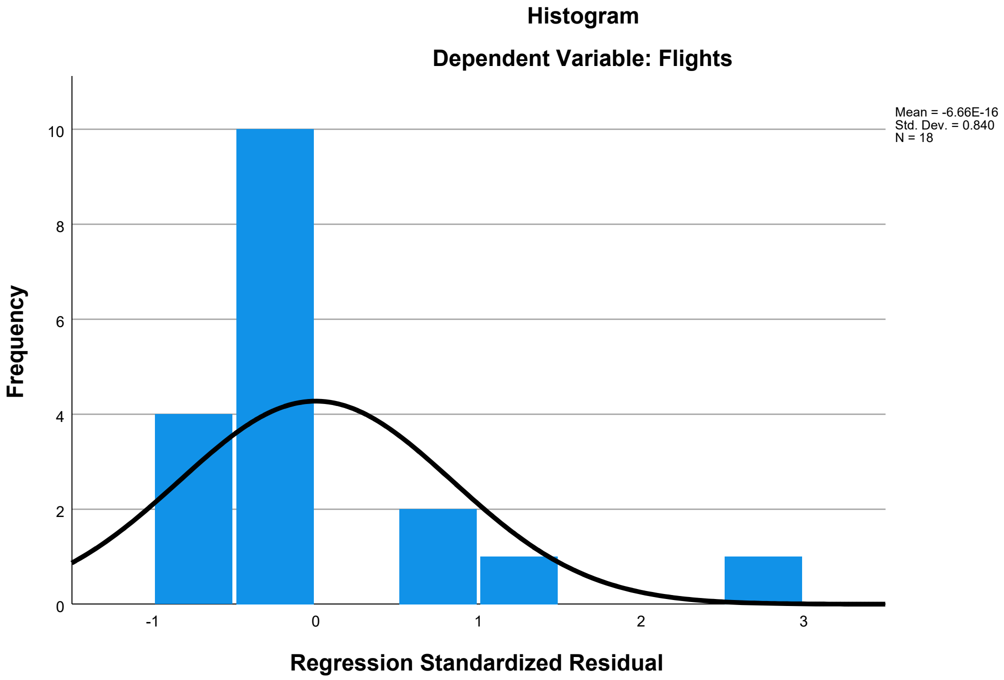
a. Dependent Variable: Flights

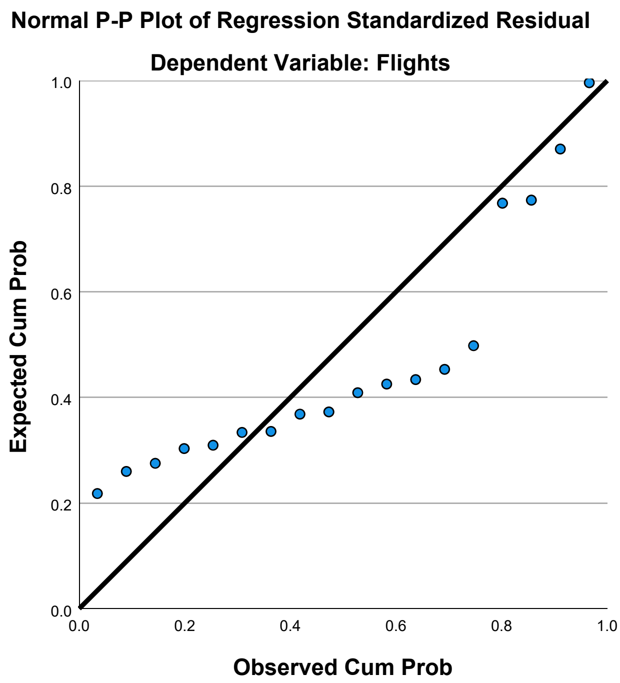
Residuals Statistics[a]

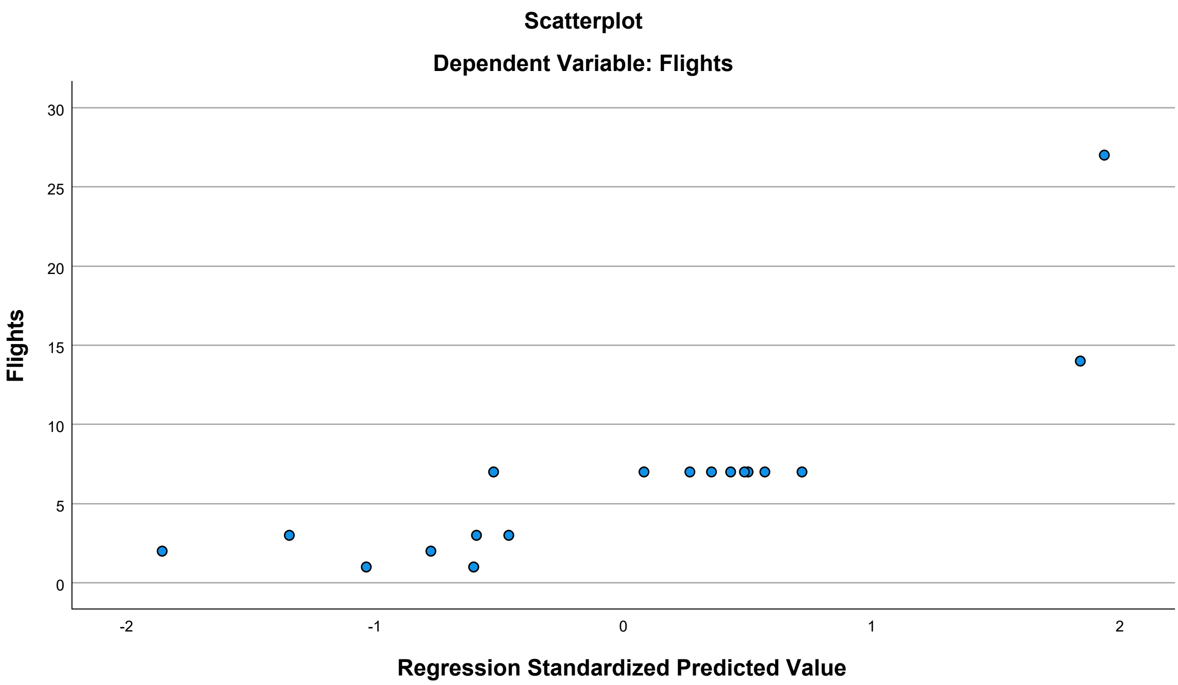
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-2.59	16.21	6.61	4.954	18
Residual	-3.175	10.791	.000	3.421	18
Std. Predicted Value	-1.858	1.937	.000	1.000	18
Std. Residual	-.780	2.650	.000	.840	18

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -6.66E-16
Std. Dev. = 0.840
N = 18
Frequency
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.61	6.021	18
GLHR	.61	.502	18
PartnerConcentration	.000100	.0000000	18
Distance	3.73989	.693169	18
Ethnicity	1.22517944	1.132657031	18
Urban	17.83	3.222	18

Correlations

		Flights	GLHR	PartnerConcentration	Distance
Pearson Correlation	Flights	1.000	.453	.	-.015
	GLHR	.453	1.000	.	-.153
	PartnerConcentration	.	.	1.000	.
	Distance	-.015	-.153	.	1.000
	Ethnicity	.385	-.385	.	-.051
	Urban	.579	-.079	.	.379
Sig. (1-tailed)	Flights	.	.029	.000	.476
	GLHR	.029	.	.000	.272
	PartnerConcentration	.000	.000	.	.000
	Distance	.476	.272	.000	.
	Ethnicity	.057	.057	.000	.420
	Urban	.006	.378	.000	.061
N	Flights	18	18	18	18
	GLHR	18	18	18	18
	PartnerConcentration	18	18	18	18
	Distance	18	18	18	18
	Ethnicity	18	18	18	18
	Urban	18	18	18	18

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.385	.579
	GLHR	-.385	-.079
	PartnerConcentration	.	.
	Distance	-.051	.379
	Ethnicity	1.000	.586
	Urban	.586	1.000
Sig. (1-tailed)	Flights	.057	.006
	GLHR	.057	.378
	PartnerConcentration	.000	.000
	Distance	.420	.061
	Ethnicity	.	.005
	Urban	.005	.
N	Flights	18	18
	GLHR	18	18
	PartnerConcentration	18	18
	Distance	18	18
	Ethnicity	18	18
	Urban	18	18

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, GLHR, Distance, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.821[a]	.675	.574	3.928	.675	6.735

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	4	13	.004

a. Predictors: (Constant), Urban, GLHR, Distance, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	415.691	4	103.923	6.735	.004[b]
	Residual	200.587	13	15.430		
	Total	616.278	17			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, GLHR, Distance, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics
		B	Std. Error	Beta			Tolerance
1	(Constant)	-12.731	6.677		-1.907	.079	
	GLHR	7.380	2.231	.615	3.308	.006	.725
	Distance	-.620	1.696	-.071	-.365	.721	.657
	Ethnicity	1.897	1.294	.357	1.465	.167	.422
	Urban	.831	.451	.445	1.845	.088	.431

Coefficients[a]

Model		Collinearity Statistics VIF
1	(Constant)	
	GLHR	1.380
	Distance	1.522
	Ethnicity	2.368
	Urban	2.322

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	GLHR	Distance	Ethnicity
1	1	4.212	1.000	.00	.01	.00	.01
	2	.582	2.690	.00	.23	.00	.17
	3	.183	4.799	.01	.55	.02	.32
	4	.014	17.558	.87	.09	.56	.02
	5	.009	21.159	.12	.11	.42	.49

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.00
	4	.01
	5	.99

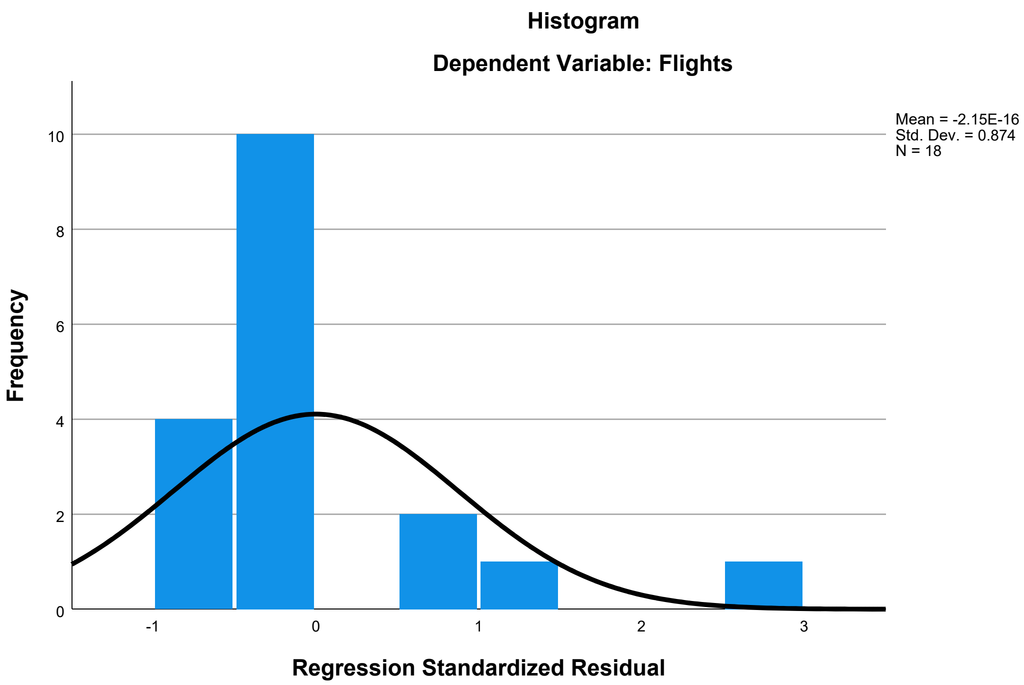
a. Dependent Variable: Flights

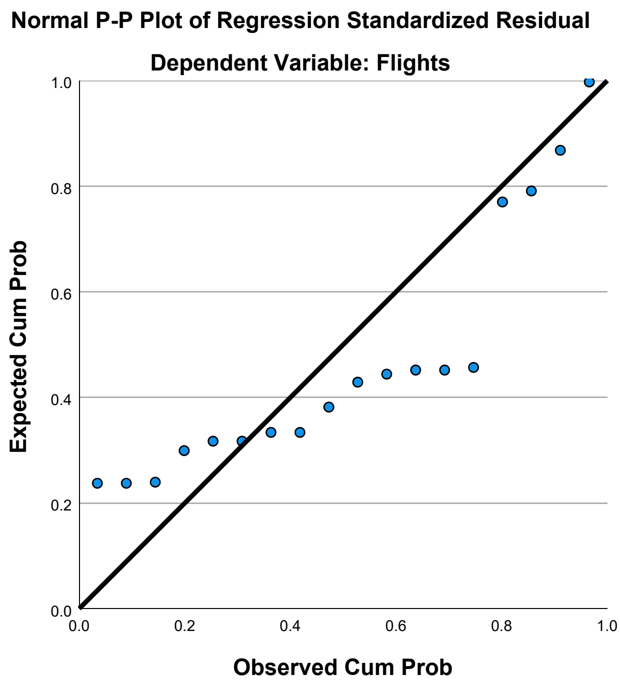
Residuals Statistics[a]

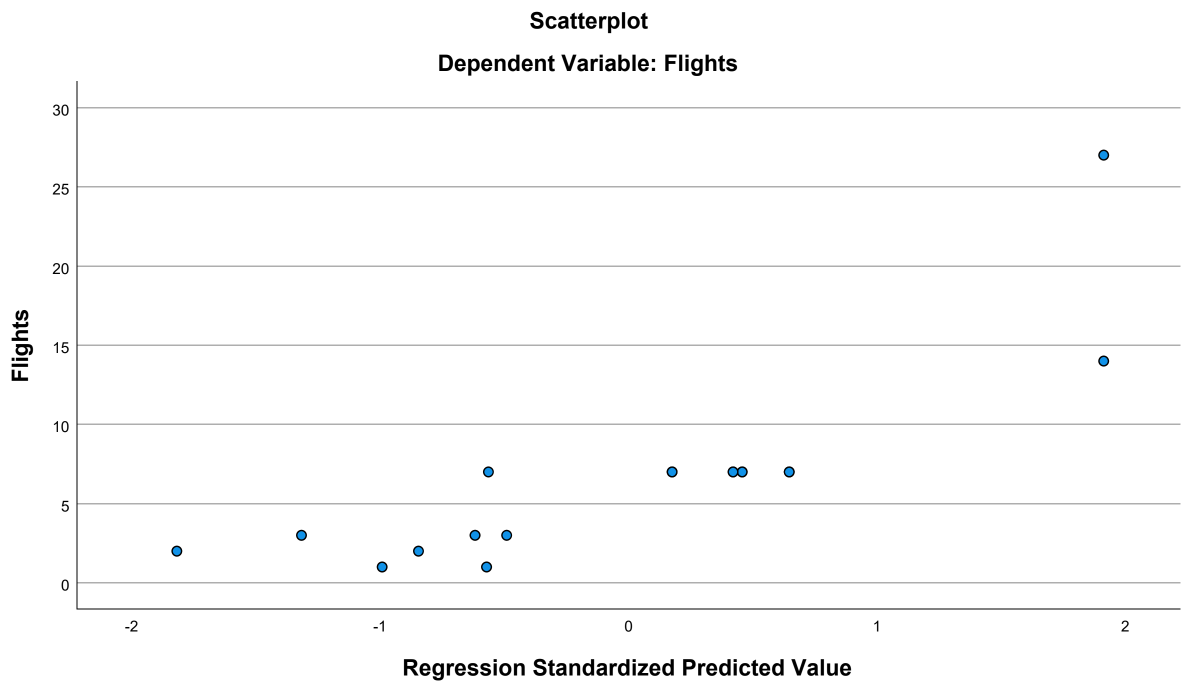
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-2.39	16.07	6.61	4.945	18
Residual	-2.807	10.931	.000	3.435	18
Std. Predicted Value	-1.819	1.913	.000	1.000	18
Std. Residual	-.715	2.783	.000	.874	18

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -2.15E-16
Std. Dev. = 0.874
N = 18
Frequency
10
8
6
4
2
0
-1
0
1
2
3
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.61	6.021	18
GLHR	.61	.502	18
PartnerConcentration	.000100	.0000000	18
Distance	3.73989	.693169	18
Urban	17.83	3.222	18

Correlations

		Flights	GLHR	PartnerConcentration	Distance
Pearson Correlation	Flights	1.000	.453	.	-.015
	GLHR	.453	1.000	.	-.153
	PartnerConcentration	.	.	1.000	.
	Distance	-.015	-.153	.	1.000
	Urban	.579	-.079	.	.379
Sig. (1-tailed)	Flights	.	.029	.000	.476
	GLHR	.029	.	.000	.272
	PartnerConcentration	.000	.000	.	.000
	Distance	.476	.272	.000	.
	Urban	.006	.378	.000	.061
N	Flights	18	18	18	18
	GLHR	18	18	18	18
	PartnerConcentration	18	18	18	18
	Distance	18	18	18	18
	Urban	18	18	18	18

Correlations

		Urban
Pearson Correlation	Flights	.579
	GLHR	-.079
	PartnerConcentration	.
	Distance	.379
	Urban	1.000
Sig. (1-tailed)	Flights	.006
	GLHR	.378
	PartnerConcentration	.000
	Distance	.061
	Urban	.
N	Flights	18
	GLHR	18
	PartnerConcentration	18
	Distance	18
	Urban	18

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, GLHR, Distance[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.788[a]	.621	.539	4.086	.621	7.639

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	3	14	.003

a. Predictors: (Constant), Urban, GLHR, Distance

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	382.559	3	127.520	7.639	.003[b]
	Residual	233.718	14	16.694		
	Total	616.278	17			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, GLHR, Distance

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance
1	(Constant)	-13.345	6.931		-1.925	.075	
	GLHR	5.722	2.000	.477	2.862	.013	.976
	Distance	-1.782	1.559	-.205	-1.143	.272	.841
	Urban	1.297	.332	.694	3.901	.002	.856

Coefficients[a]

Model		Collinearity Statistics VIF
1	(Constant)	
	GLHR	1.024
	Distance	1.189
	Urban	1.168

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	GLHR	Distance	Urban
1	1	3.634	1.000	.00	.02	.00	.00
	2	.334	3.298	.00	.90	.01	.01
	3	.019	13.845	.00	.01	.71	.67
	4	.013	16.541	1.00	.07	.28	.33

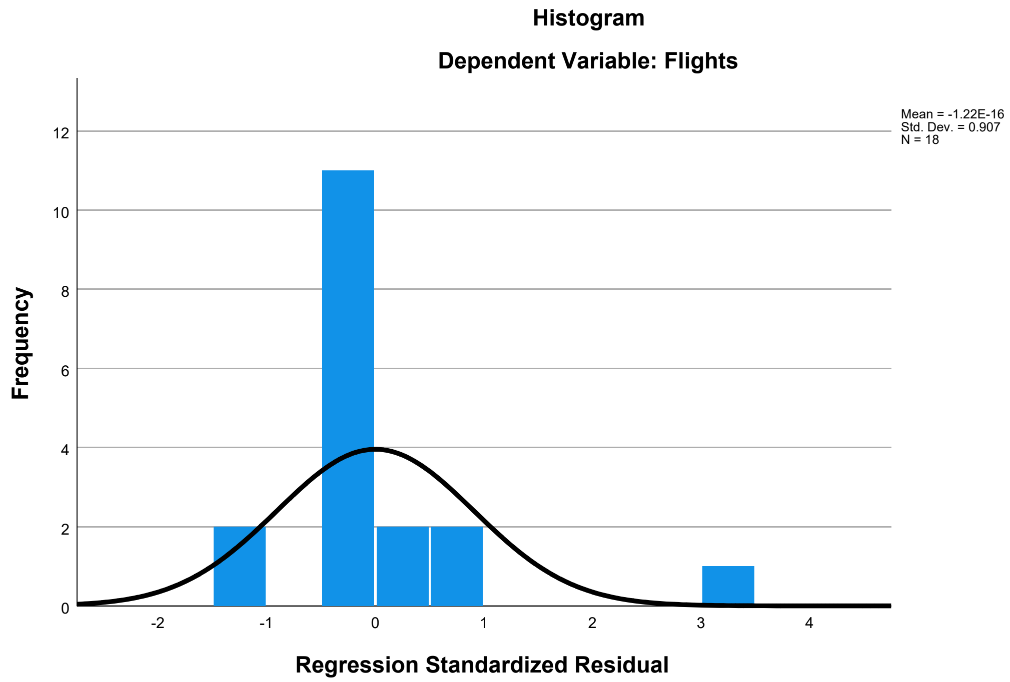
a. Dependent Variable: Flights

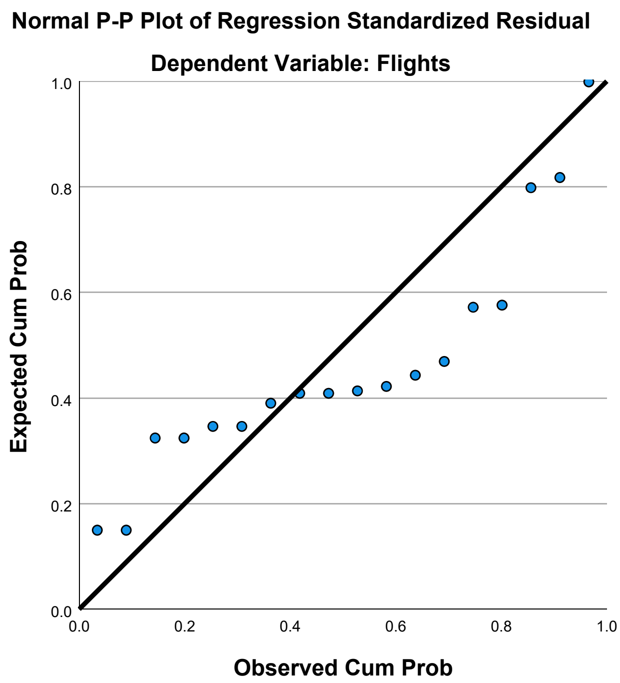
Residuals Statistics[a]

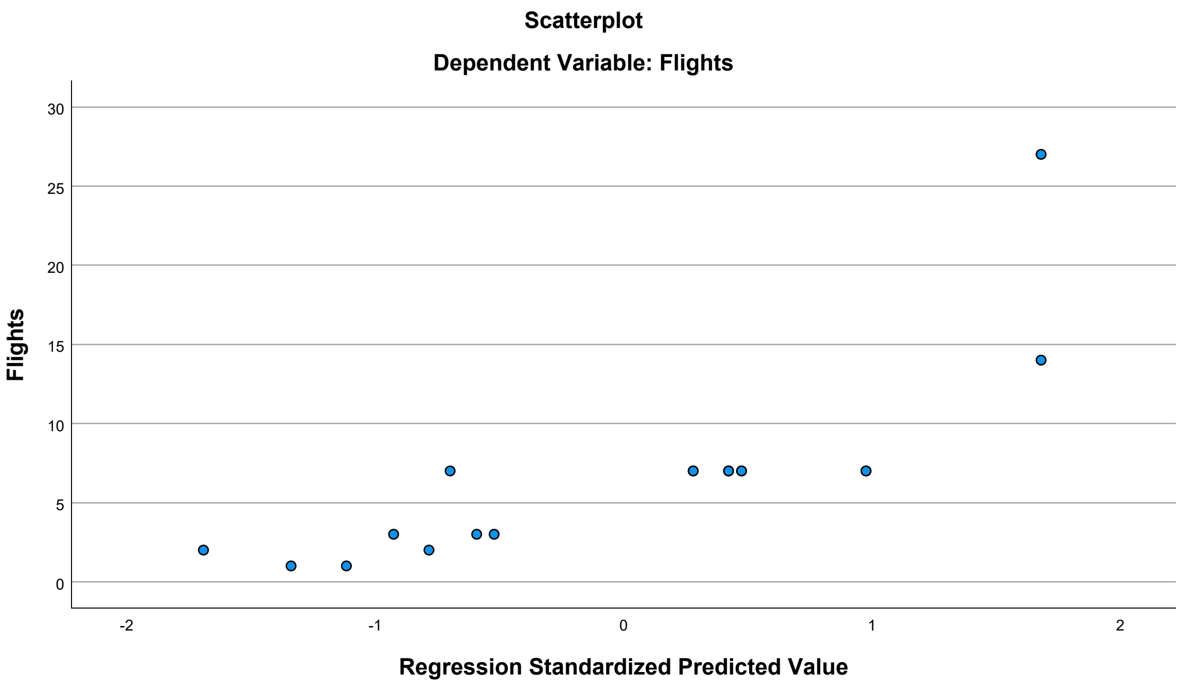
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-1.41	14.58	6.61	4.744	18
Residual	-4.240	12.415	.000	3.708	18
Std. Predicted Value	-1.692	1.681	.000	1.000	18
Std. Residual	-1.038	3.039	.000	.907	18

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
5
10
15
20
25
30
-2
-1
0
1
2

Regression

```
[DataSet1] C:\kremfra\PhD\Doctorate\Data\Modelling\Modelling Files\Final Try\UK\2017 S
ummer - nonLHR - Airline.sav
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Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.99	3.013	78
HomeConcentration	.96117541026	1.4538679669	78
GJFK	.12	.322	78
PartnerConcentration	.36060328205	1.5394681881	78
Distance	3.94122	.722529	78
Language	4.80198750	4.268717162	78
Ethnicity	.61757603	.791516560	78
Urban	14.23	4.737	78

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.318	.189	.080
	HomeConcentration	.318	1.000	.031	-.143
	GJFK	.189	.031	1.000	.022
	PartnerConcentration	.080	-.143	.022	1.000
	Distance	-.185	-.320	-.309	.071
	Language	.249	.294	.684	.088
	Ethnicity	.004	.144	.046	-.009
	Urban	.321	.299	.383	-.008
Sig. (1-tailed)	Flights	.	.002	.049	.242
	HomeConcentration	.002	.	.393	.107
	GJFK	.049	.393	.	.425
	PartnerConcentration	.242	.107	.425	.
	Distance	.052	.002	.003	.269
	Language	.014	.004	.000	.222
	Ethnicity	.484	.105	.343	.468
	Urban	.002	.004	.000	.473
N	Flights	78	78	78	78
	HomeConcentration	78	78	78	78
	GJFK	78	78	78	78
	PartnerConcentration	78	78	78	78
	Distance	78	78	78	78
	Language	78	78	78	78
	Ethnicity	78	78	78	78
	Urban	78	78	78	78

Correlations

		Distance	Language	Ethnicity	Urban
Pearson Correlation	Flights	-.185	.249	.004	.321
	HomeConcentration	-.320	.294	.144	.299
	GJFK	-.309	.684	.046	.383
	PartnerConcentration	.071	.088	-.009	-.008
	Distance	1.000	-.489	-.224	-.152
	Language	-.489	1.000	.446	.582
	Ethnicity	-.224	.446	1.000	.477
	Urban	-.152	.582	.477	1.000
Sig. (1-tailed)	Flights	.052	.014	.484	.002
	HomeConcentration	.002	.004	.105	.004
	GJFK	.003	.000	.343	.000
	PartnerConcentration	.269	.222	.468	.473
	Distance	.	.000	.024	.091
	Language	.000	.	.000	.000
	Ethnicity	.024	.000	.	.000
	Urban	.091	.000	.000	.
N	Flights	78	78	78	78
	HomeConcentration	78	78	78	78
	GJFK	78	78	78	78
	PartnerConcentration	78	78	78	78
	Distance	78	78	78	78
	Language	78	78	78	78
	Ethnicity	78	78	78	78
	Urban	78	78	78	78

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, HomeConcentration, GJFK, Ethnicity, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.461[a]	.213	.134	2.804	.213	2.701

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	7	70	.015

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, GJFK, Ethnicity, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	148.656	7	21.237	2.701	.015[b]
	Residual	550.331	70	7.862		
	Total	698.987	77			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, GJFK, Ethnicity, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.708	2.373		1.562	.123
	HomeConcentration	.484	.255	.234	1.896	.062
	GJFK	.300	1.570	.032	.191	.849
	PartnerConcentration	.237	.215	.121	1.101	.275
	Distance	-.441	.538	-.106	-.820	.415
	Language	.001	.147	.001	.006	.995
	Ethnicity	-.790	.528	-.207	-1.497	.139
	Urban	.205	.092	.322	2.223	.029

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.741	1.350
	GJFK	.401	2.496
	PartnerConcentration	.932	1.074
	Distance	.675	1.482
	Language	.261	3.832
	Ethnicity	.585	1.709
	Urban	.535	1.869

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	4.796	1.000	.00	.01	.00
	2	.998	2.192	.00	.07	.00
	3	.956	2.240	.00	.01	.27
	4	.569	2.902	.00	.62	.00
	5	.534	2.996	.00	.04	.01
	6	.095	7.096	.00	.17	.68
	7	.041	10.859	.04	.05	.03
	8	.010	21.615	.95	.04	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.01	.00
	2	.75	.00	.00	.00	.00
	3	.01	.00	.01	.00	.00
	4	.18	.00	.00	.00	.00
	5	.00	.00	.00	.51	.00
	6	.04	.00	.80	.36	.00
	7	.00	.05	.05	.11	.99
	8	.01	.93	.12	.00	.00

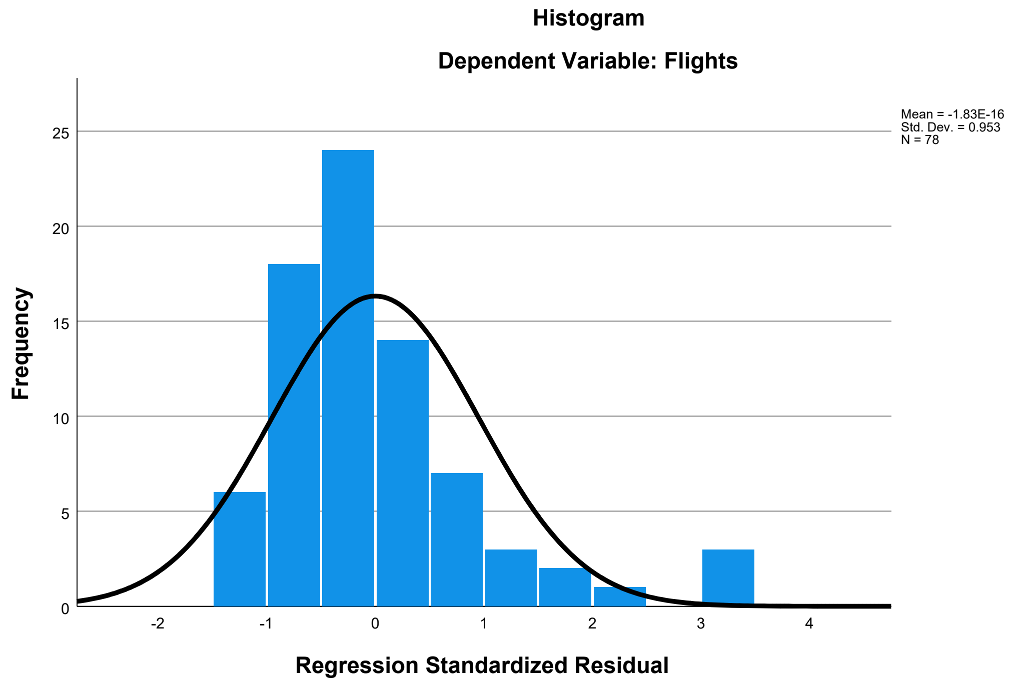
a. Dependent Variable: Flights

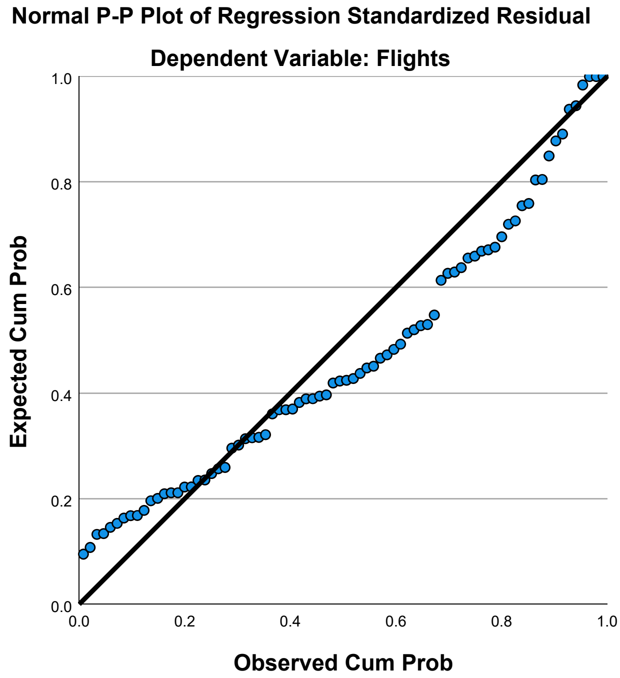
Residuals Statistics[a]

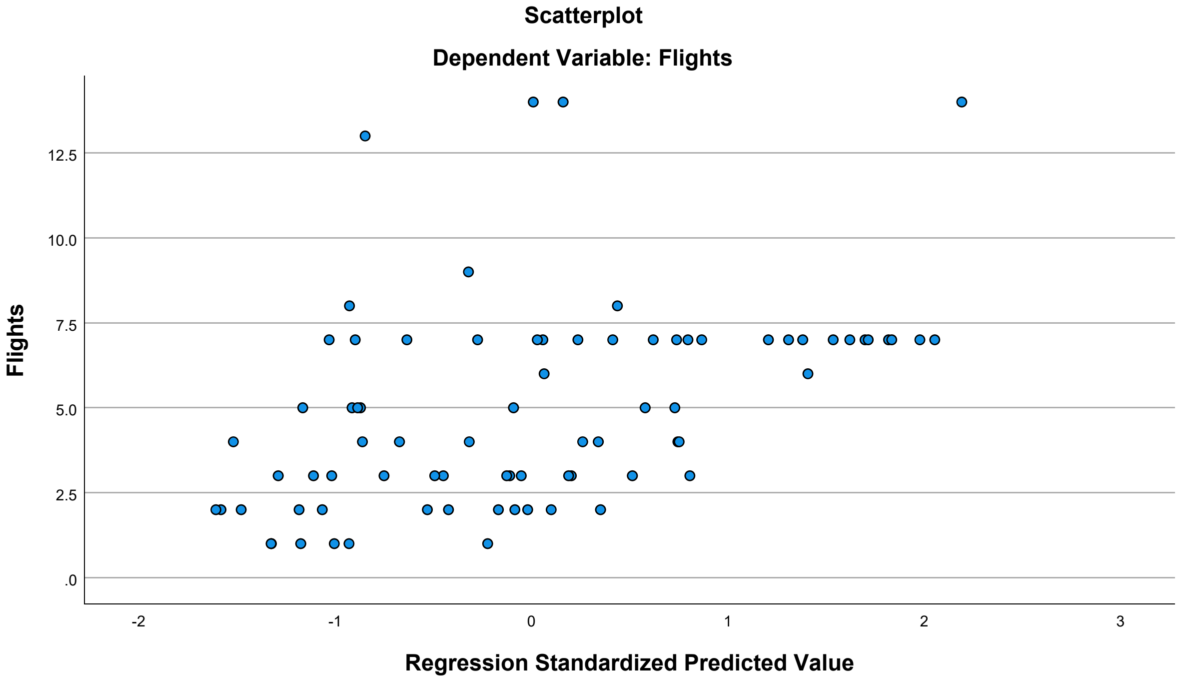
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.75	8.03	4.99	1.389	78
Residual	-3.677	9.190	.000	2.673	78
Std. Predicted Value	-1.608	2.191	.000	1.000	78
Std. Residual	-1.311	3.277	.000	.953	78

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
.0
2.5
5.0
7.5
10.0
12.5
-2
-1
0
1
2
3

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.99	3.013	78
HomeConcentration	.96117541026	1.4538679669	78
GJFK	.12	.322	78
PartnerConcentration	.36060328205	1.5394681881	78
Distance	3.94122	.722529	78
Ethnicity	.61757603	.791516560	78
Urban	14.23	4.737	78

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.318	.189	.080
	HomeConcentration	.318	1.000	.031	-.143
	GJFK	.189	.031	1.000	.022
	PartnerConcentration	.080	-.143	.022	1.000
	Distance	-.185	-.320	-.309	.071
	Ethnicity	.004	.144	.046	-.009
	Urban	.321	.299	.383	-.008
Sig. (1-tailed)	Flights	.	.002	.049	.242
	HomeConcentration	.002	.	.393	.107
	GJFK	.049	.393	.	.425
	PartnerConcentration	.242	.107	.425	.
	Distance	.052	.002	.003	.269
	Ethnicity	.484	.105	.343	.468
	Urban	.002	.004	.000	.473
N	Flights	78	78	78	78
	HomeConcentration	78	78	78	78
	GJFK	78	78	78	78
	PartnerConcentration	78	78	78	78
	Distance	78	78	78	78
	Ethnicity	78	78	78	78
	Urban	78	78	78	78

Correlations

		Distance	Ethnicity	Urban
Pearson Correlation	Flights	-.185	.004	.321
	HomeConcentration	-.320	.144	.299
	GJFK	-.309	.046	.383
	PartnerConcentration	.071	-.009	-.008
	Distance	1.000	-.224	-.152
	Ethnicity	-.224	1.000	.477
	Urban	-.152	.477	1.000
Sig. (1-tailed)	Flights	.052	.484	.002
	HomeConcentration	.002	.105	.004
	GJFK	.003	.343	.000
	PartnerConcentration	.269	.468	.473
	Distance	.	.024	.091
	Ethnicity	.024	.	.000
	Urban	.091	.000	.
N	Flights	78	78	78
	HomeConcentration	78	78	78
	GJFK	78	78	78
	PartnerConcentration	78	78	78
	Distance	78	78	78
	Ethnicity	78	78	78
	Urban	78	78	78

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, HomeConcentration, GJFK, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.461[a]	.213	.146	2.784	.213	3.196

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	71	.008

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, GJFK, Ethnicity

b. Dependent Variable: Flights

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	148.656	6	24.776	3.196	.008[b]
	Residual	550.331	71	7.751		
	Total	698.987	77			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, GJFK, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.712	2.243		1.655	.102
	HomeConcentration	.485	.247	.234	1.965	.053
	GJFK	.306	1.166	.033	.262	.794
	PartnerConcentration	.237	.209	.121	1.137	.259
	Distance	-.442	.506	-.106	-.874	.385
	Ethnicity	-.788	.478	-.207	-1.649	.103
	Urban	.205	.089	.323	2.315	.024

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.783	1.277
	GJFK	.716	1.397
	PartnerConcentration	.977	1.024
	Distance	.753	1.329
	Ethnicity	.703	1.422
	Urban	.571	1.750

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	4.016	1.000	.00	.01	.01
	2	.998	2.006	.00	.07	.00
	3	.853	2.170	.00	.01	.69
	4	.564	2.667	.00	.71	.00
	5	.515	2.792	.00	.00	.00
	6	.042	9.750	.04	.11	.23
	7	.012	18.663	.95	.09	.07

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Distance	Ethnicity	Urban
1	1	.00	.00	.02	.00
	2	.79	.00	.00	.00
	3	.01	.00	.01	.00
	4	.17	.00	.04	.00
	5	.02	.01	.64	.00
	6	.00	.07	.26	.99
	7	.00	.92	.03	.01

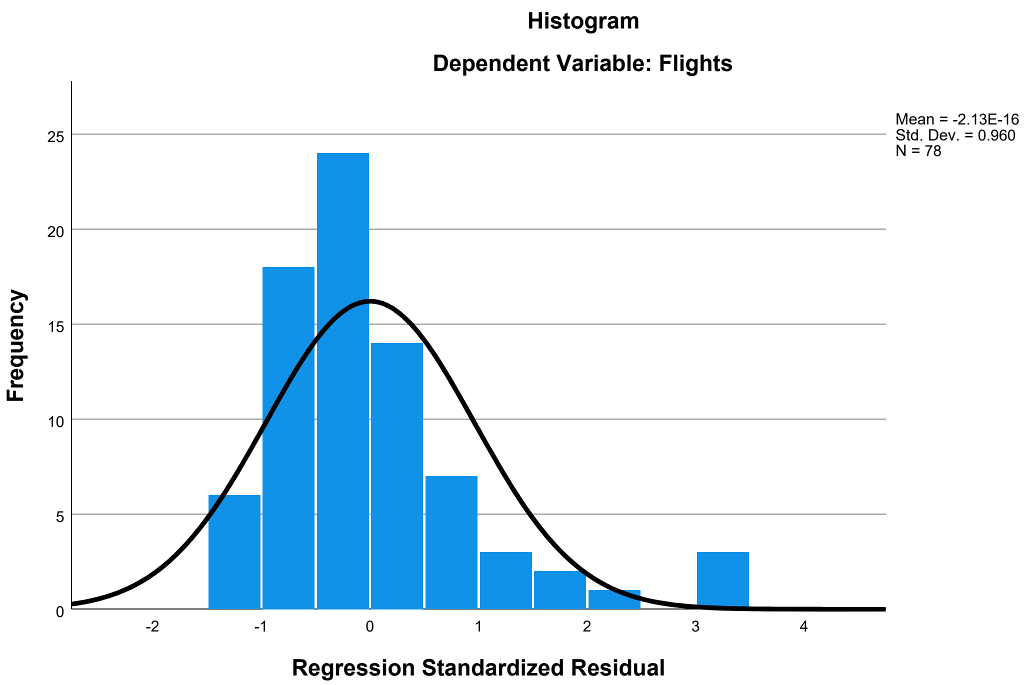
a. Dependent Variable: Flights

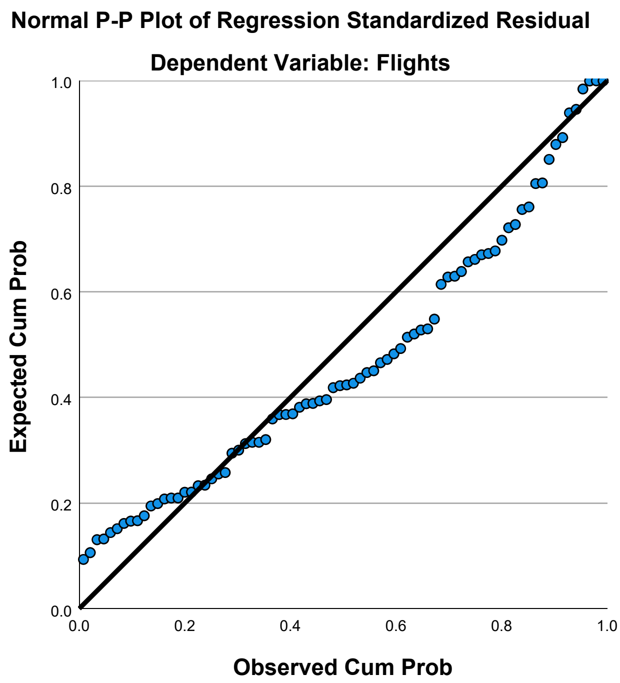
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.75	8.03	4.99	1.389	78
Residual	-3.679	9.189	.000	2.673	78
Std. Predicted Value	-1.608	2.191	.000	1.000	78
Std. Residual	-1.321	3.301	.000	.960	78

a. Dependent Variable: Flights

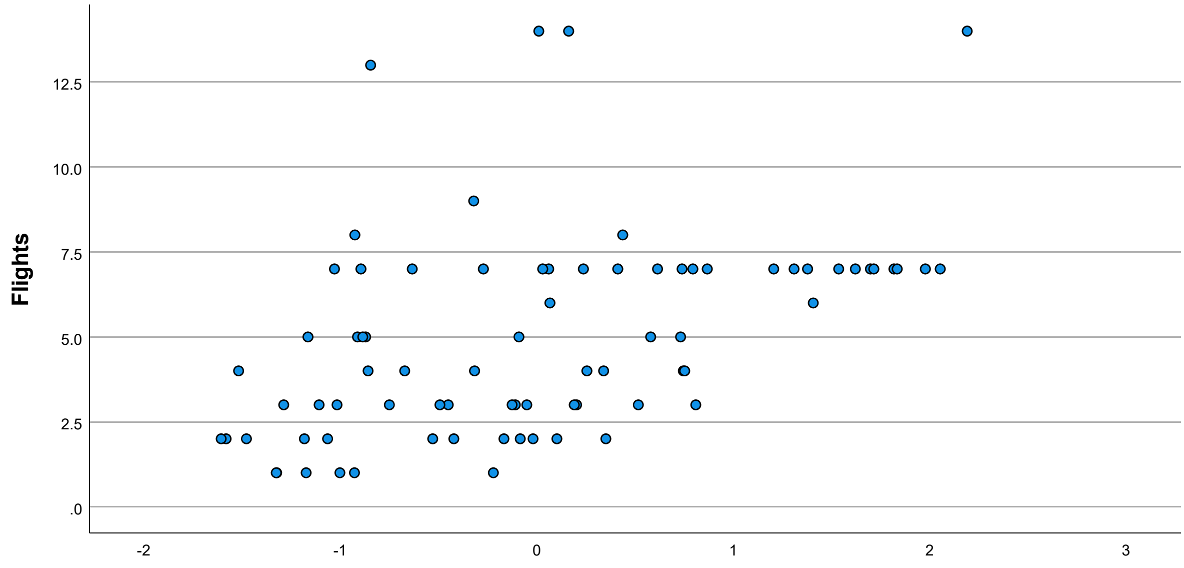
Charts


Histogram
Dependent Variable: Flights
Mean = -2.13E-16
Std. Dev. = 0.960
N = 78
Frequency
0
5
10
15
20
25
-2
-1
0
1
2
3
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob

Scatterplot

Dependent Variable: Flights



Regression

```
[DataSet1] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\UK\2017 Summer - nonLHR - Airline.sav
```

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, HomeConcentration, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.460[a]	.212	.157	2.766	.212	3.872

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	5	72	.004

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	148.123	5	29.625	3.872	.004[b]
	Residual	550.865	72	7.651		
	Total	698.987	77			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.817	2.193		1.741	.086
	HomeConcentration	.471	.240	.227	1.965	.053
	PartnerConcentration	.238	.207	.122	1.151	.254
	Distance	-.490	.469	-.118	-1.044	.300
	Ethnicity	-.819	.461	-.215	-1.777	.080
	Urban	.216	.079	.339	2.743	.008

Coefficients[a]

Model		Correlations Zero-order	Correlations Partial	Correlations Part	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)					
	HomeConcentration	.318	.226	.206	.817	1.225
	PartnerConcentration	.080	.134	.120	.978	1.023
	Distance	-.185	-.122	-.109	.864	1.158
	Ethnicity	.004	-.205	-.186	.747	1.339
	Urban	.321	.308	.287	.717	1.395

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	PartnerConcentration
1	1	3.854	1.000	.00	.02	.00
	2	.998	1.965	.00	.07	.80
	3	.565	2.612	.00	.75	.17
	4	.515	2.734	.00	.00	.02
	5	.055	8.338	.02	.10	.00
	6	.012	17.691	.97	.06	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Distance	Ethnicity	Urban
1	1	.00	.02	.00
	2	.00	.00	.00
	3	.00	.04	.00
	4	.01	.69	.00
	5	.09	.24	.92
	6	.90	.01	.07

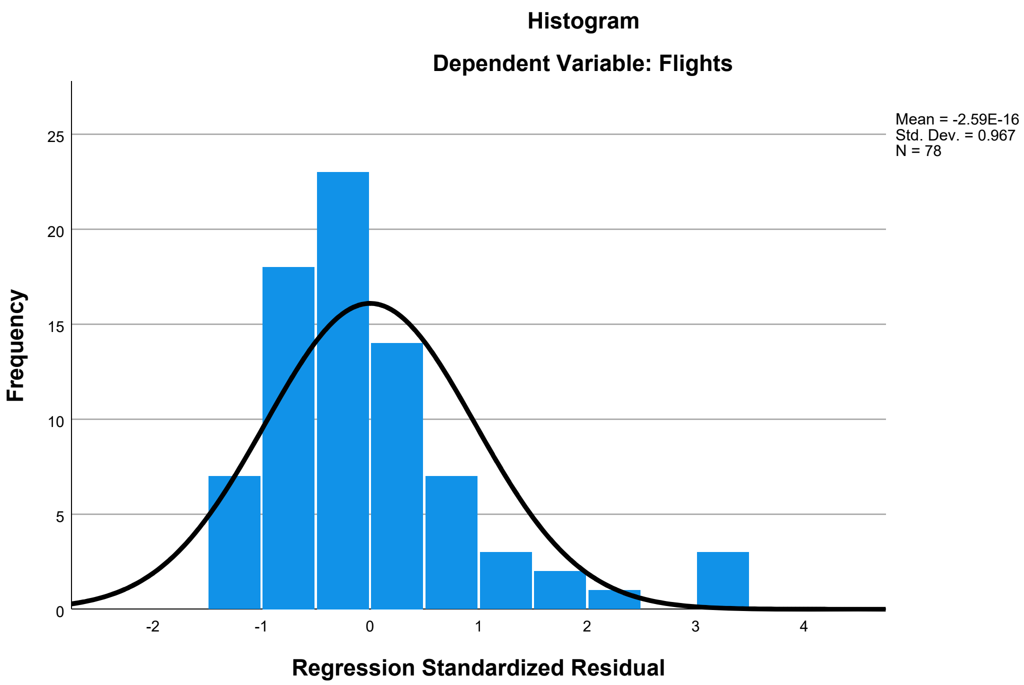
a. Dependent Variable: Flights

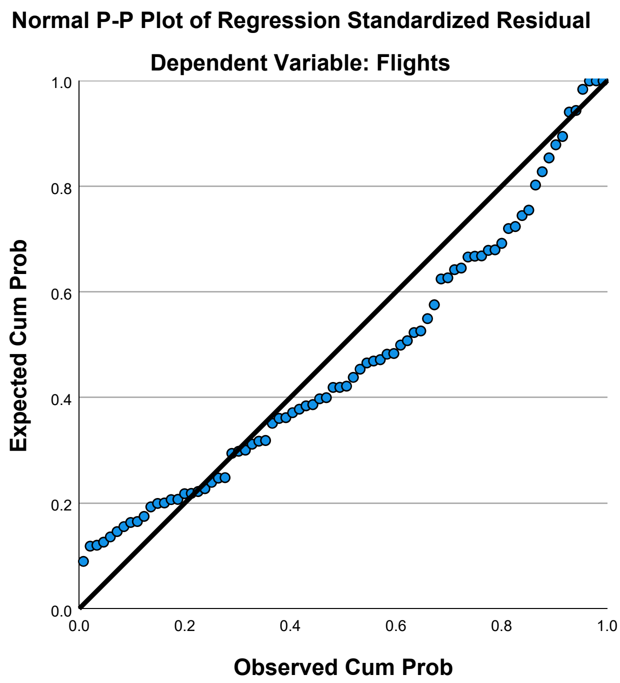
Residuals Statistics[a]

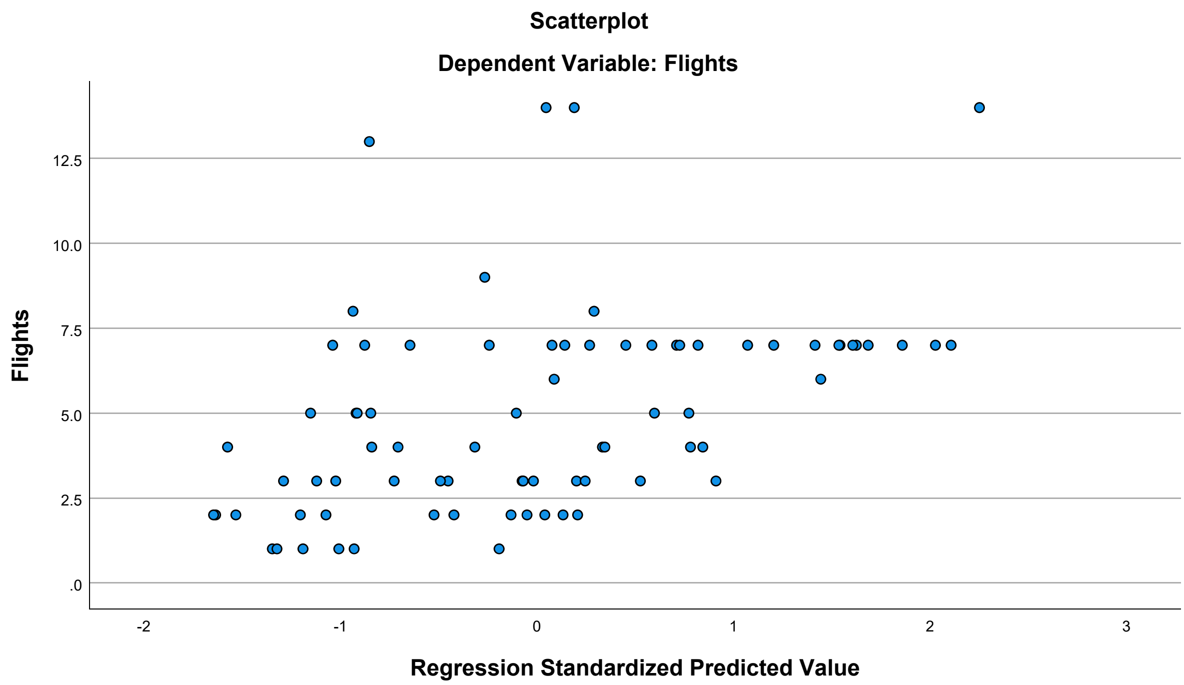
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.70	8.11	4.99	1.387	78
Residual	-3.720	9.196	.000	2.675	78
Std. Predicted Value	-1.646	2.252	.000	1.000	78
Std. Residual	-1.345	3.324	.000	.967	78

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -2.59E-16
Std. Dev. = 0.967
N = 78
Frequency
25
20
15
10
5
0
-2
-1
0
1
2
3
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, HomeConcentration, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.447[a]	.200	.156	2.768	.200	4.562

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	4	73	.002

a. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	139.784	4	34.946	4.562	.002[b]
	Residual	559.203	73	7.660		
	Total	698.987	77			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.796	1.030		1.743	.086
	HomeConcentration	.544	.230	.262	2.365	.021
	PartnerConcentration	.232	.207	.119	1.121	.266
	Ethnicity	-.731	.453	-.192	-1.613	.111
	Urban	.213	.079	.335	2.714	.008

Coefficients[a]

Model		Correlations Zero-order	Correlations Partial	Correlations Part	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)					
	HomeConcentration	.318	.267	.248	.891	1.123
	PartnerConcentration	.080	.130	.117	.978	1.022
	Ethnicity	.004	-.186	-.169	.773	1.294
	Urban	.321	.303	.284	.717	1.394

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions PartnerConcentration
1	1	3.010	1.000	.01	.04	.01
	2	.995	1.740	.00	.07	.83
	3	.552	2.335	.00	.66	.09
	4	.402	2.737	.07	.20	.07
	5	.041	8.518	.92	.04	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.03	.01
	2	.00	.00
	3	.30	.00
	4	.51	.02
	5	.16	.97

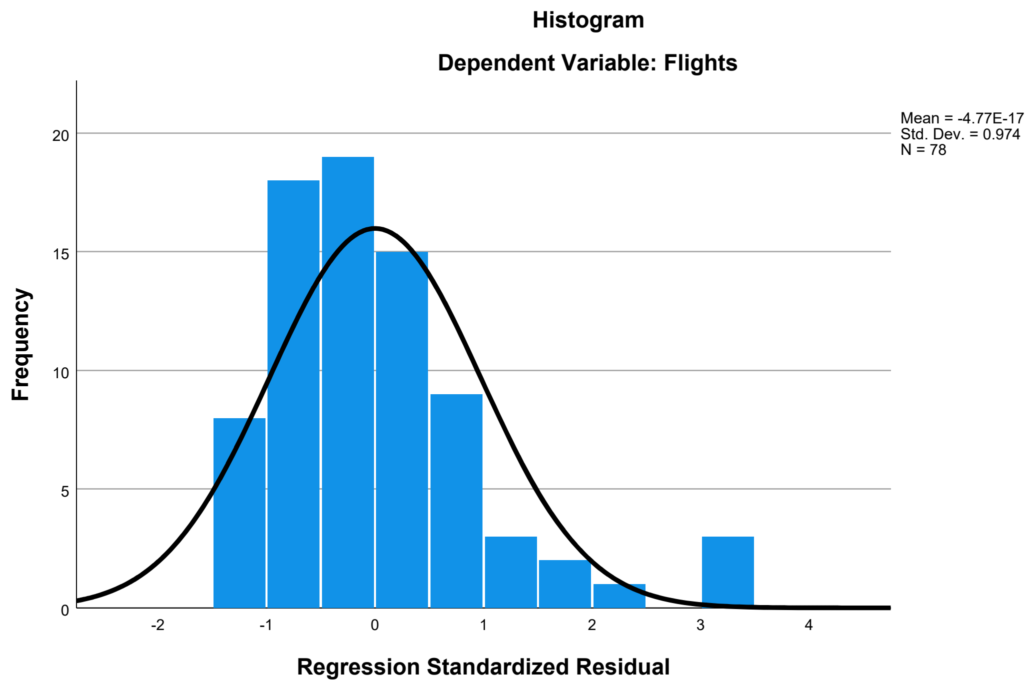
a. Dependent Variable: Flights

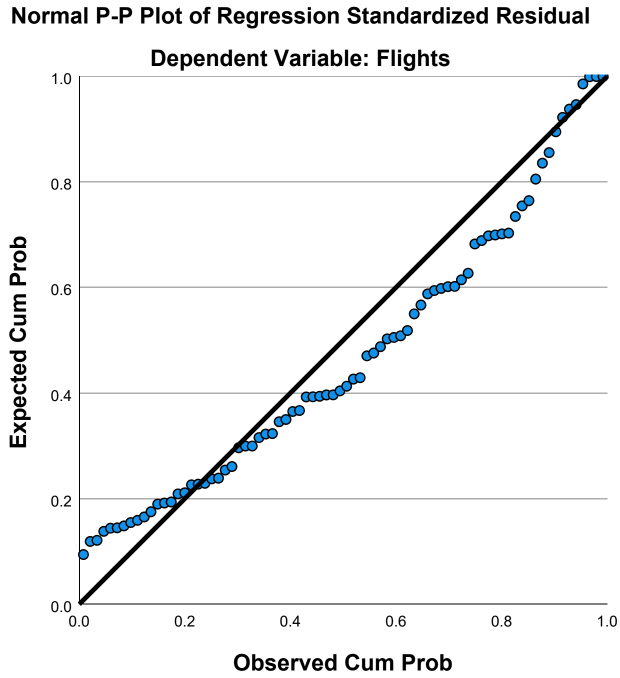
Residuals Statistics[a]

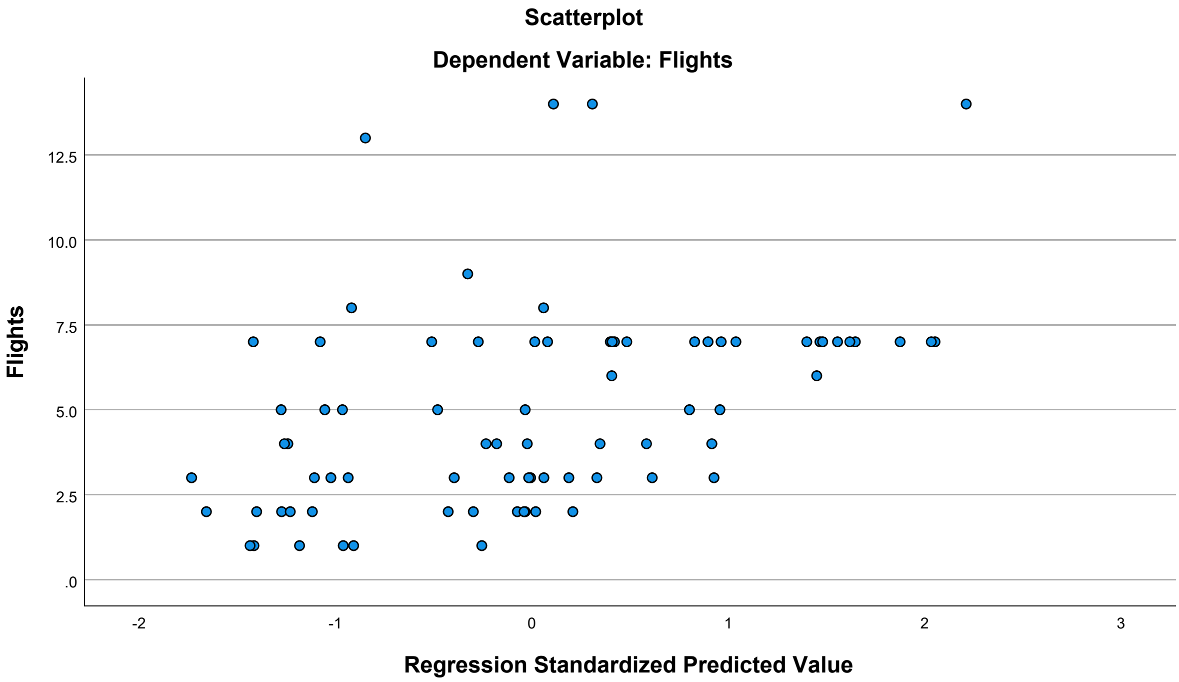
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.65	7.97	4.99	1.347	78
Residual	-3.643	9.155	.000	2.695	78
Std. Predicted Value	-1.733	2.211	.000	1.000	78
Std. Residual	-1.316	3.308	.000	.974	78

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
.0
2.5
5.0
7.5
10.0
12.5
-2
-1
0
1
2
3

Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change
1	.432[a]	.186	.153	2.773	.186	5.644	3	74	.002

a. Predictors: (Constant), Urban, HomeConcentration, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	130.161	3	43.387	5.644	.002[b]
	Residual	568.827	74	7.687		
	Total	698.987	77			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.874	1.030		1.819	.073
	HomeConcentration	.506	.228	.244	2.221	.029
	Ethnicity	-.734	.454	-.193	-1.617	.110
	Urban	.216	.079	.340	2.751	.007

Coefficients[a]

Model		Correlations Zero-order	Partial	Part	Collinearity Statistics Tolerance	VIF
1	(Constant)					
	HomeConcentration	.318	.250	.233	.910	1.098
	Ethnicity	.004	-.185	-.170	.773	1.294
	Urban	.321	.305	.288	.718	1.392

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Ethnicity
1	1	2.961	1.000	.01	.04	.03
	2	.580	2.261	.00	.80	.19
	3	.418	2.663	.06	.12	.61
	4	.041	8.449	.93	.04	.16

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.01
	2	.00
	3	.02
	4	.97

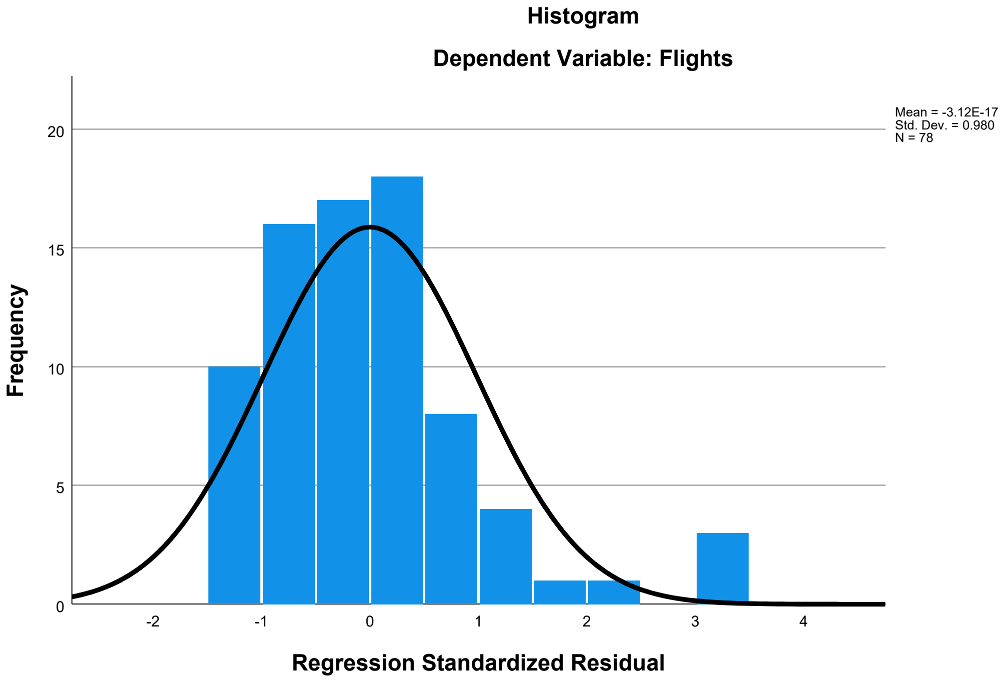
a. Dependent Variable: Flights

Residuals Statistics[a]

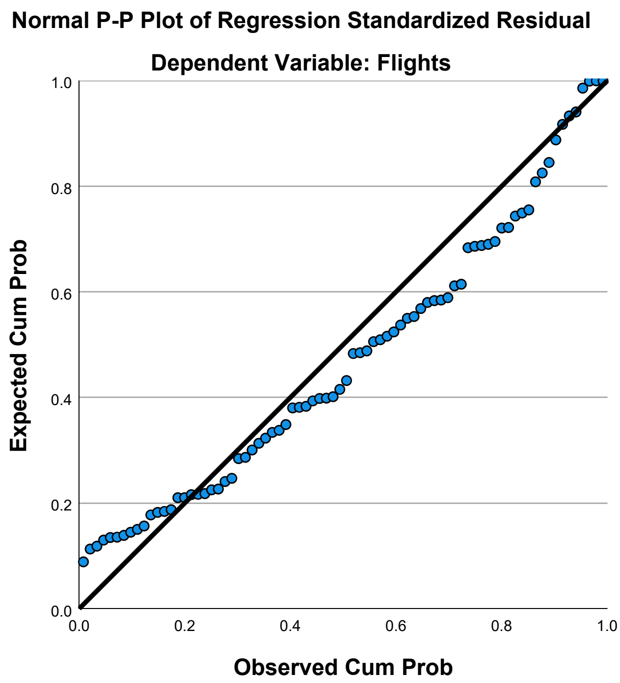
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.74	7.93	4.99	1.300	78
Residual	-3.743	9.257	.000	2.718	78
Std. Predicted Value	-1.727	2.266	.000	1.000	78
Std. Residual	-1.350	3.339	.000	.980	78

a. Dependent Variable: Flights

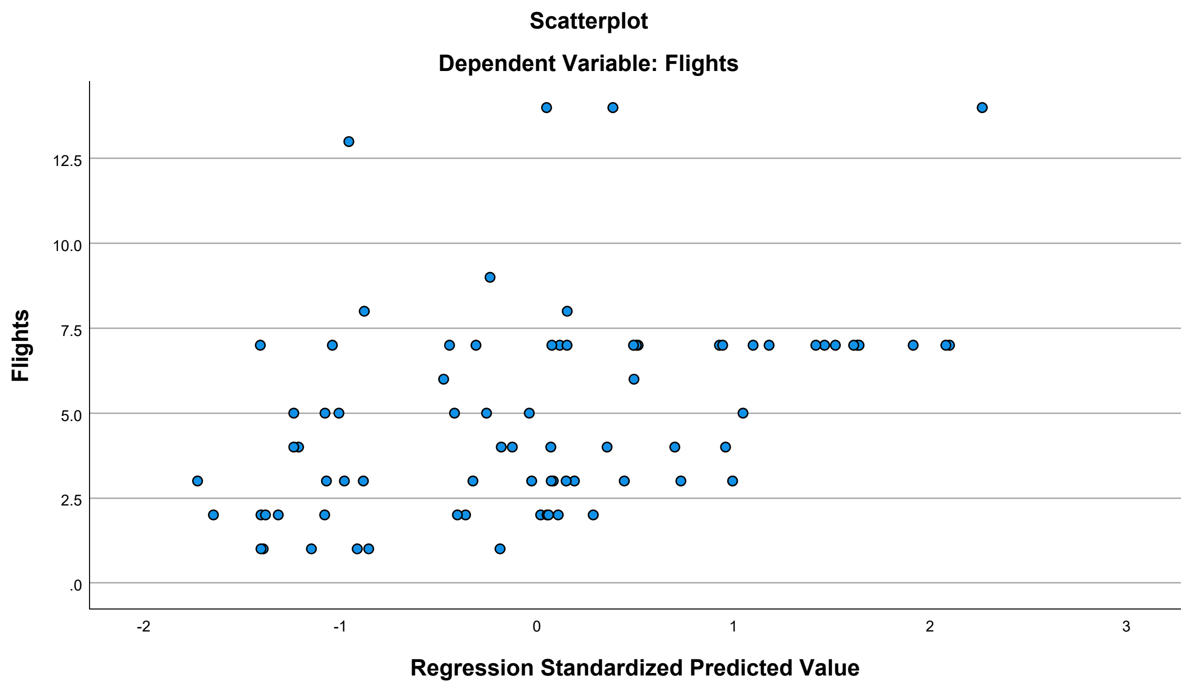
Charts



Histogram
Dependent Variable: Flights
Mean = -3.12E-17
Std. Dev. = 0.980
N = 78
Frequency
0
5
10
15
20
-2
-1
0
1
2
3
4
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.397[a]	.157	.135	2.802	.157	7.008

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	2	75	.002

a. Predictors: (Constant), Urban, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	110.063	2	55.032	7.008	.002[b]
	Residual	588.924	75	7.852		
	Total	698.987	77			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.253	1.014		2.222	.029
	HomeConcentration	.505	.230	.244	2.196	.031
	Urban	.158	.071	.248	2.237	.028

Coefficients[a]

Model		Correlations			Collinearity Statistics	
		Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)					
	HomeConcentration	.318	.246	.233	.910	1.098
	Urban	.321	.250	.237	.910	1.098

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Urban
1	1	2.421	1.000	.01	.06	.01
	2	.530	2.137	.03	.89	.02
	3	.048	7.068	.96	.05	.97

a. Dependent Variable: Flights

Residuals Statistics[a]

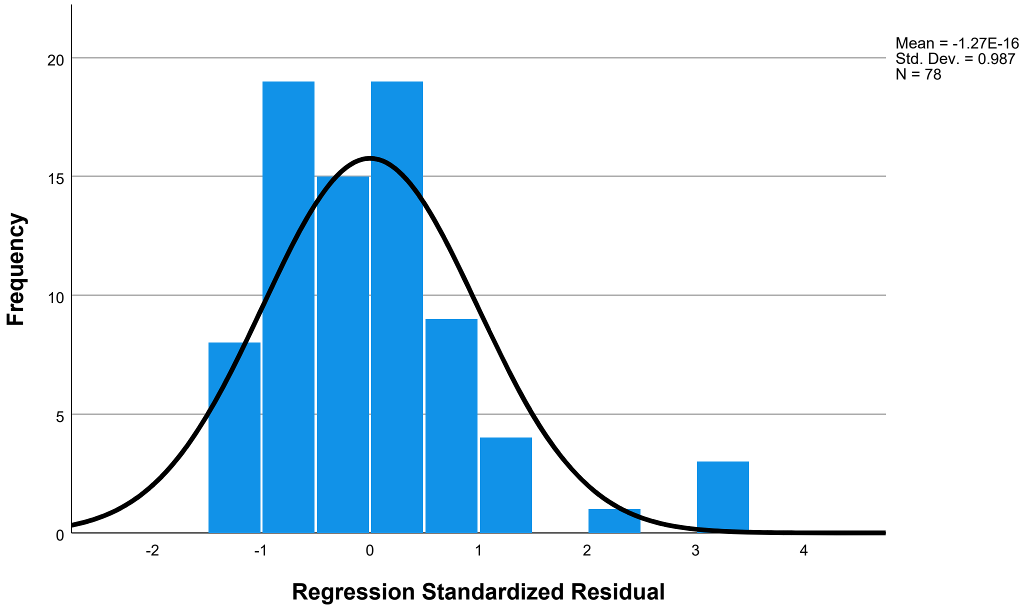
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.89	7.39	4.99	1.196	78
Residual	-3.726	9.336	.000	2.766	78
Std. Predicted Value	-1.753	2.009	.000	1.000	78
Std. Residual	-1.330	3.332	.000	.987	78

a. Dependent Variable: Flights

Charts

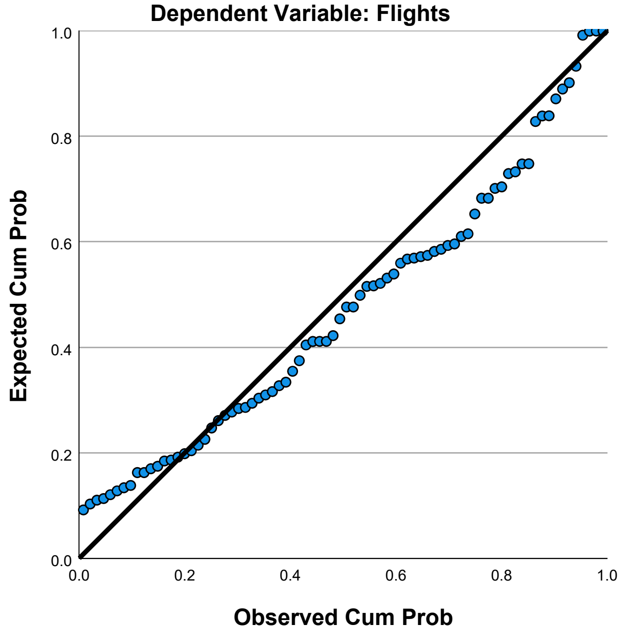
Histogram

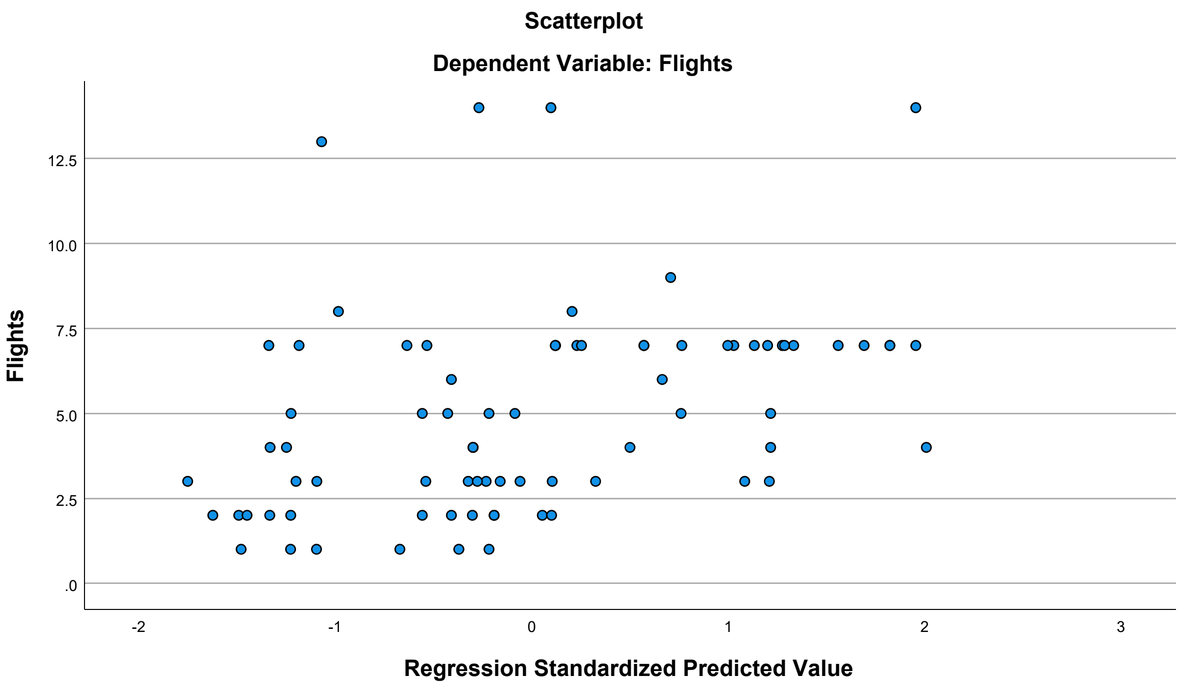
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights





Scatterplot
Dependent Variable: Flights
Flights
12.5
10.0
7.5
5.0
2.5
.0
-2
-1
0
1
2
3
Regression Standardized Predicted Value

Regression

```
[DataSet2] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\UK\2017 Summer - USnonLHR - Airline.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: GLHR. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	5.23	3.229	57
HomeConcentration	.92203898246	1.5319054683	57
GLHR	.00	.000	57
GJFK	.16	.368	57
PartnerConcentration	.49342028070	1.7866188242	57
Distance	4.00879	.729160	57
Language	4.98667386	4.354781716	57
Ethnicity	.30747447	.296949406	57
Urban	13.47	4.822	57

Correlations

		Flights	HomeConcentration	GLHR	GJFK
Pearson Correlation	Flights	1.000	.407	.	.180
	HomeConcentration	.407	1.000	.	.047
	GLHR	.	.	1.000	.
	GJFK	.180	.047	.	1.000
	PartnerConcentration	.068	-.153	.	-.010
	Distance	-.194	-.383	.	-.408
	Language	.261	.260	.	.787
	Ethnicity	.116	-.009	.	.605
	Urban	.401	.307	.	.521
Sig. (1-tailed)	Flights	.	<.001	.000	.091
	HomeConcentration	.001	.	.000	.365
	GLHR	.000	.000	.	.000
	GJFK	.091	.365	.000	.
	PartnerConcentration	.308	.128	.000	.471
	Distance	.074	.002	.000	.001
	Language	.025	.025	.000	.000
	Ethnicity	.194	.472	.000	.000
	Urban	.001	.010	.000	.000
N	Flights	57	57	57	57
	HomeConcentration	57	57	57	57
	GLHR	57	57	57	57

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
Pearson Correlation	Flights	.068	-.194	.261	.116
	HomeConcentration	-.153	-.383	.260	-.009
	GLHR	.	.	.	.
	GJFK	-.010	-.408	.787	.605
	PartnerConcentration	1.000	.057	.090	.265
	Distance	.057	1.000	-.539	-.222
	Language	.090	-.539	1.000	.642
	Ethnicity	.265	-.222	.642	1.000
	Urban	.035	-.241	.709	.649
Sig. (1-tailed)	Flights	.308	.074	.025	.194
	HomeConcentration	.128	.002	.025	.472
	GLHR	.000	.000	.000	.000
	GJFK	.471	.001	.000	.000
	PartnerConcentration	.	.337	.252	.023
	Distance	.337	.	.000	.048
	Language	.252	.000	.	.000
	Ethnicity	.023	.048	.000	.
	Urban	.398	.035	.000	.000
N	Flights	57	57	57	57
	HomeConcentration	57	57	57	57
	GLHR	57	57	57	57

Correlations

		Urban
Pearson Correlation	Flights	.401
	HomeConcentration	.307
	GLHR	.
	GJFK	.521
	PartnerConcentration	.035
	Distance	-.241
	Language	.709
	Ethnicity	.649
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.010
	GLHR	.000
	GJFK	.000
	PartnerConcentration	.398
	Distance	.035
	Language	.000
	Ethnicity	.000
	Urban	.
N	Flights	57
	HomeConcentration	57
	GLHR	57

Correlations

		Flights	HomeConcentration	GLHR	GJFK
	GJFK	57	57	57	57
	PartnerConcentration	57	57	57	57
	Distance	57	57	57	57
	Language	57	57	57	57
	Ethnicity	57	57	57	57
	Urban	57	57	57	57

Correlations

		PartnerConcentration	Distance	Language	Ethnicity
	GJFK	57	57	57	57
	PartnerConcentration	57	57	57	57
	Distance	57	57	57	57
	Language	57	57	57	57
	Ethnicity	57	57	57	57
	Urban	57	57	57	57

Correlations

	Urban
GJFK	57
PartnerConcentration	57
Distance	57
Language	57
Ethnicity	57
Urban	57

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, HomeConcentration, GJFK, Ethnicity, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.547[a]	.300	.200	2.889	.300	2.995

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	7	49	.011

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, GJFK, Ethnicity, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	174.991	7	24.999	2.995	.011[b]
	Residual	409.044	49	8.348		
	Total	584.035	56			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, GJFK, Ethnicity, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.368	3.054		.775	.442
	HomeConcentration	.651	.306	.309	2.128	.038
	GJFK	1.910	1.863	.218	1.025	.310
	PartnerConcentration	.344	.238	.190	1.449	.154
	Distance	-.255	.695	-.058	-.367	.715
	Language	-.172	.201	-.232	-.855	.397
	Ethnicity	-2.728	2.066	-.251	-1.320	.193
	Urban	.335	.135	.500	2.471	.017

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.678	1.474
	GJFK	.317	3.153
	PartnerConcentration	.827	1.209
	Distance	.580	1.725
	Language	.195	5.139
	Ethnicity	.396	2.524
	Urban	.350	2.860

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	5.097	1.000	.00	.01	.00
	2	1.020	2.236	.00	.12	.00
	3	.971	2.292	.00	.03	.15
	4	.590	2.939	.00	.50	.00
	5	.189	5.194	.00	.00	.26
	6	.094	7.367	.00	.22	.52
	7	.030	13.021	.05	.04	.06
	8	.009	24.243	.94	.09	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.01	.00
	2	.54	.00	.00	.01	.00
	3	.02	.00	.01	.01	.00
	4	.25	.00	.00	.00	.00
	5	.12	.00	.00	.68	.00
	6	.01	.01	.55	.10	.01
	7	.04	.02	.26	.19	.96
	8	.00	.96	.17	.00	.02

a. Dependent Variable: Flights

Residuals Statistics[a]

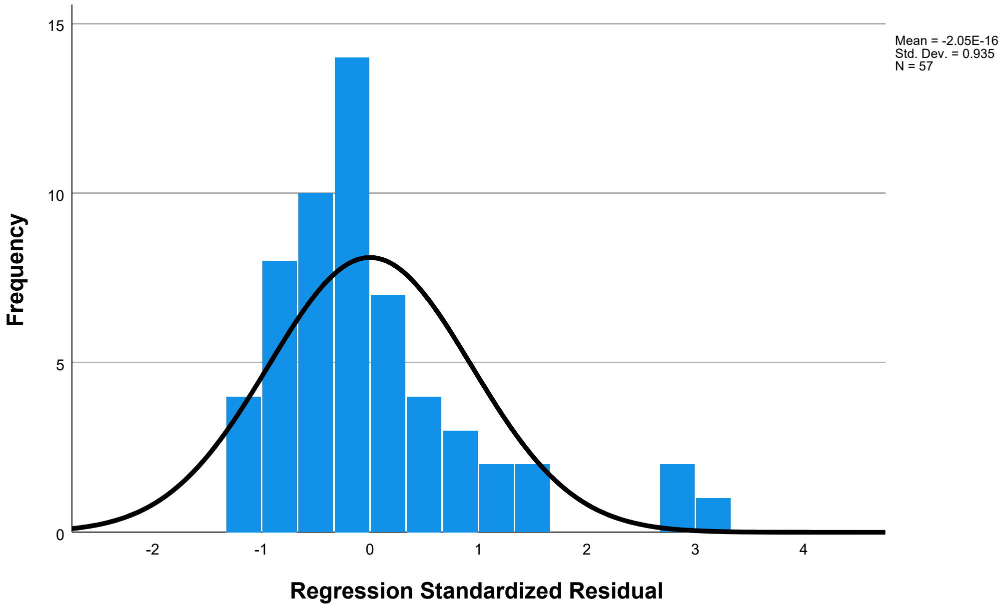
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.30	9.18	5.23	1.768	57
Residual	-3.619	9.017	.000	2.703	57
Std. Predicted Value	-1.655	2.238	.000	1.000	57
Std. Residual	-1.253	3.121	.000	.935	57

a. Dependent Variable: Flights

Charts

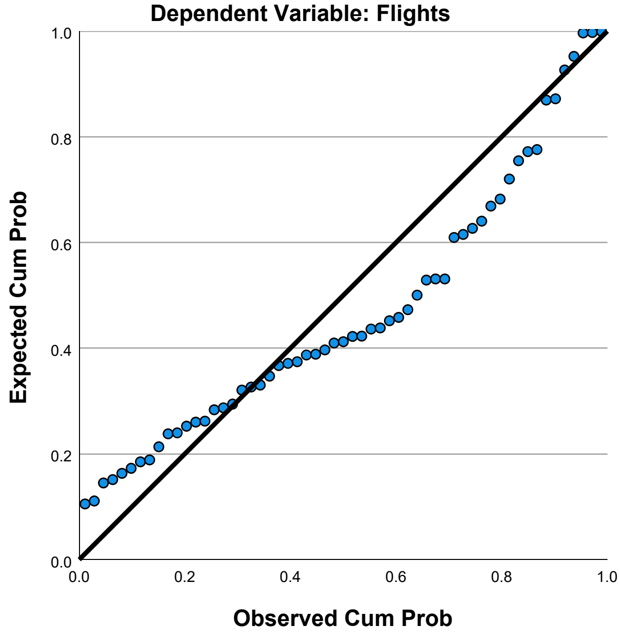
Histogram

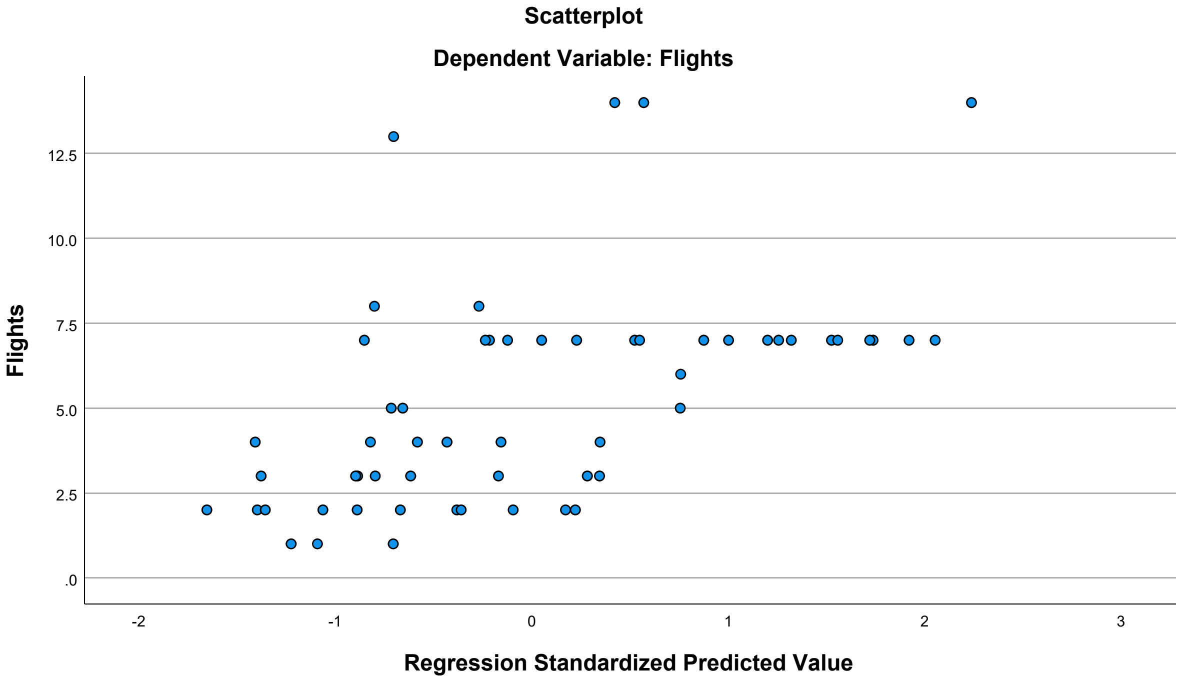
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights





Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	5.23	3.229	57
HomeConcentration	.92203898246	1.5319054683	57
GJFK	.16	.368	57
PartnerConcentration	.49342028070	1.7866188242	57
Distance	4.00879	.729160	57
Ethnicity	.30747447	.296949406	57
Urban	13.47	4.822	57

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.407	.180	.068
	HomeConcentration	.407	1.000	.047	-.153
	GJFK	.180	.047	1.000	-.010
	PartnerConcentration	.068	-.153	-.010	1.000
	Distance	-.194	-.383	-.408	.057
	Ethnicity	.116	-.009	.605	.265
	Urban	.401	.307	.521	.035
Sig. (1-tailed)	Flights	.	<.001	.091	.308
	HomeConcentration	.001	.	.365	.128
	GJFK	.091	.365	.	.471
	PartnerConcentration	.308	.128	.471	.
	Distance	.074	.002	.001	.337
	Ethnicity	.194	.472	.000	.023
	Urban	.001	.010	.000	.398
N	Flights	57	57	57	57
	HomeConcentration	57	57	57	57
	GJFK	57	57	57	57
	PartnerConcentration	57	57	57	57
	Distance	57	57	57	57
	Ethnicity	57	57	57	57
	Urban	57	57	57	57

Correlations

		Distance	Ethnicity	Urban
Pearson Correlation	Flights	-.194	.116	.401
	HomeConcentration	-.383	-.009	.307
	GJFK	-.408	.605	.521
	PartnerConcentration	.057	.265	.035
	Distance	1.000	-.222	-.241
	Ethnicity	-.222	1.000	.649
	Urban	-.241	.649	1.000
Sig. (1-tailed)	Flights	.074	.194	<.001
	HomeConcentration	.002	.472	.010
	GJFK	.001	.000	.000
	PartnerConcentration	.337	.023	.398
	Distance	.	.048	.035
	Ethnicity	.048	.	.000
	Urban	.035	.000	.
N	Flights	57	57	57
	HomeConcentration	57	57	57
	GJFK	57	57	57
	PartnerConcentration	57	57	57
	Distance	57	57	57
	Ethnicity	57	57	57
	Urban	57	57	57

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, HomeConcentration, GJFK, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.538[a]	.289	.204	2.881	.289	3.390

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	50	.007

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, GJFK, Ethnicity

b. Dependent Variable: Flights

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	168.884	6	28.147	3.390	.007[b]
	Residual	415.151	50	8.303		
	Total	584.035	56			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, HomeConcentration, GJFK, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.530	2.885		.530	.598
	HomeConcentration	.624	.304	.296	2.056	.045
	GJFK	.938	1.473	.107	.637	.527
	PartnerConcentration	.306	.233	.169	1.315	.195
	Distance	-.018	.636	-.004	-.028	.978
	Ethnicity	-2.853	2.055	-.262	-1.388	.171
	Urban	.280	.119	.418	2.352	.023

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.686	1.459
	GJFK	.505	1.981
	PartnerConcentration	.857	1.166
	Distance	.690	1.449
	Ethnicity	.398	2.512
	Urban	.450	2.221

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	4.274	1.000	.00	.01	.01
	2	1.019	2.048	.00	.13	.00
	3	.889	2.193	.00	.02	.32
	4	.582	2.711	.00	.52	.01
	5	.188	4.774	.00	.00	.53
	6	.039	10.521	.02	.20	.05
	7	.010	20.527	.97	.12	.09

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Distance	Ethnicity	Urban
1	1	.01	.00	.01	.00
	2	.54	.00	.01	.00
	3	.06	.00	.02	.00
	4	.24	.00	.00	.00
	5	.13	.01	.64	.00
	6	.02	.06	.32	.98
	7	.00	.93	.00	.02

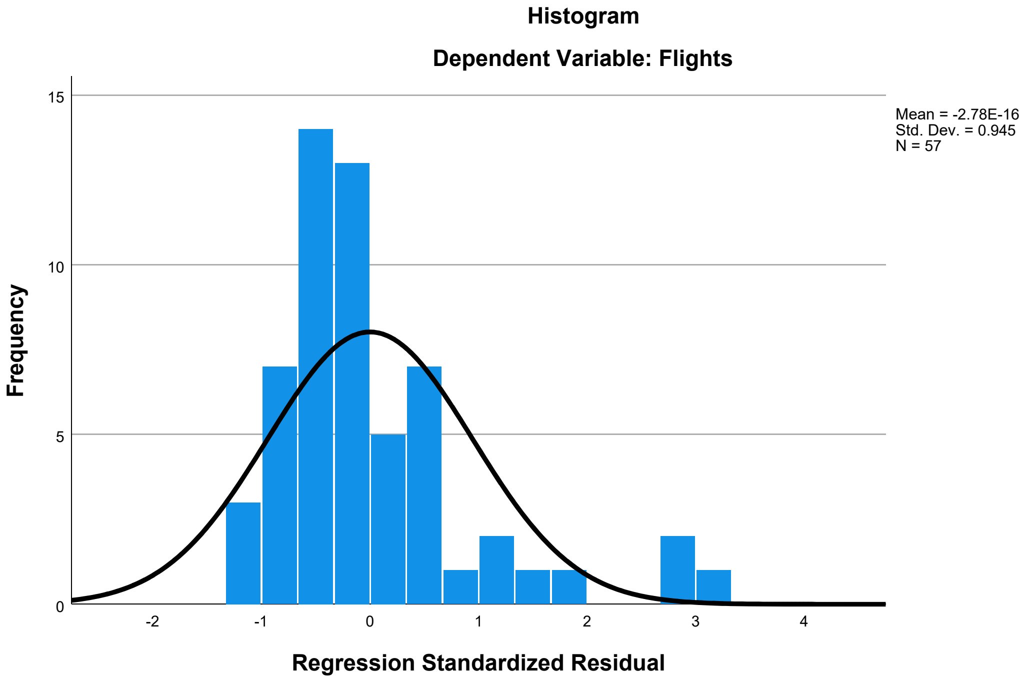
a. Dependent Variable: Flights

Residuals Statistics[a]

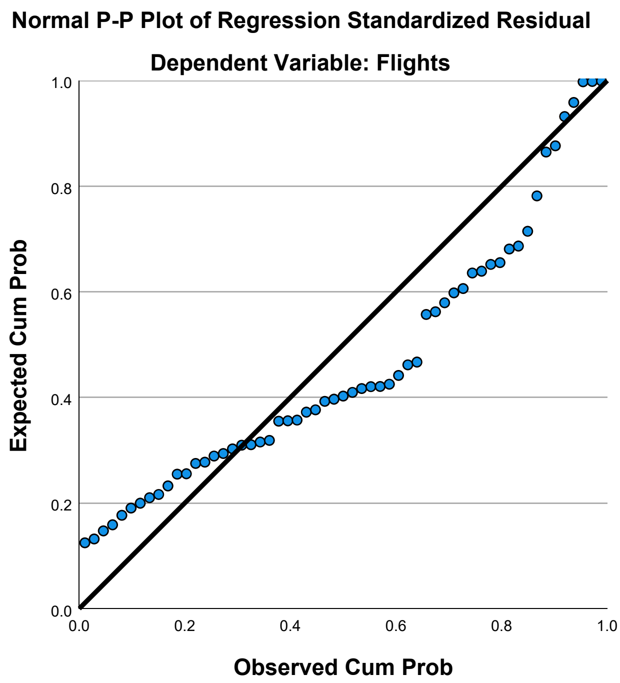
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.42	9.00	5.23	1.737	57
Residual	-3.321	9.149	.000	2.723	57
Std. Predicted Value	-1.615	2.173	.000	1.000	57
Std. Residual	-1.153	3.175	.000	.945	57

a. Dependent Variable: Flights

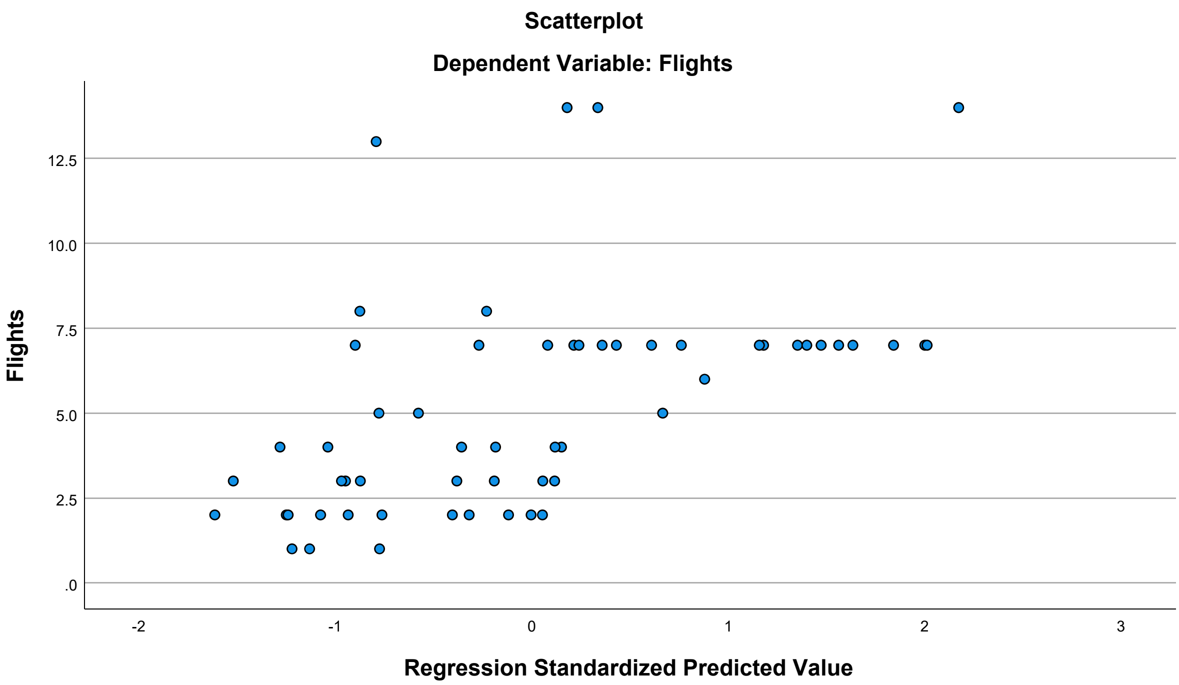
Charts



Histogram
Dependent Variable: Flights
Mean = -2.78E-16
Std. Dev. = 0.945
N = 57
Frequency
15
10
5
0
-2
-1
0
1
2
3
4
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	5.23	3.229	57
HomeConcentration	.92203898246	1.5319054683	57
GJFK	.16	.368	57
PartnerConcentration	.49342028070	1.7866188242	57
Ethnicity	.30747447	.296949406	57
Urban	13.47	4.822	57

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.407	.180	.068
	HomeConcentration	.407	1.000	.047	-.153
	GJFK	.180	.047	1.000	-.010
	PartnerConcentration	.068	-.153	-.010	1.000
	Ethnicity	.116	-.009	.605	.265
	Urban	.401	.307	.521	.035
Sig. (1-tailed)	Flights	.	<.001	.091	.308
	HomeConcentration	.001	.	.365	.128
	GJFK	.091	.365	.	.471
	PartnerConcentration	.308	.128	.471	.
	Ethnicity	.194	.472	.000	.023
	Urban	.001	.010	.000	.398
N	Flights	57	57	57	57
	HomeConcentration	57	57	57	57
	GJFK	57	57	57	57
	PartnerConcentration	57	57	57	57
	Ethnicity	57	57	57	57
	Urban	57	57	57	57

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.116	.401
	HomeConcentration	-.009	.307
	GJFK	.605	.521
	PartnerConcentration	.265	.035
	Ethnicity	1.000	.649
	Urban	.649	1.000
Sig. (1-tailed)	Flights	.194	<.001
	HomeConcentration	.472	.010
	GJFK	.000	.000
	PartnerConcentration	.023	.398
	Ethnicity	.	.000
	Urban	.000	.
N	Flights	57	57
	HomeConcentration	57	57
	GJFK	57	57
	PartnerConcentration	57	57
	Ethnicity	57	57
	Urban	57	57

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, HomeConcentration, GJFK, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.538[a]	.289	.219	2.853	.289	4.149

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	5	51	.003

a. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, GJFK, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	168.877	5	33.775	4.149	.003[b]
	Residual	415.158	51	8.140		
	Total	584.035	56			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, GJFK, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.459	1.267		1.151	.255
	HomeConcentration	.628	.274	.298	2.287	.026
	GJFK	.953	1.358	.109	.702	.486
	PartnerConcentration	.306	.230	.169	1.328	.190
	Ethnicity	-2.850	2.032	-.262	-1.402	.167
	Urban	.279	.117	.417	2.389	.021

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.822	1.216
	GJFK	.583	1.716
	PartnerConcentration	.857	1.166
	Ethnicity	.399	2.506
	Urban	.457	2.189

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	3.494	1.000	.01	.02	.02
	2	1.018	1.853	.00	.15	.00
	3	.817	2.067	.01	.15	.34
	4	.466	2.738	.04	.54	.15
	5	.172	4.511	.09	.02	.46
	6	.033	10.334	.86	.12	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Ethnicity	Urban
1	1	.01	.01	.00
	2	.55	.01	.00
	3	.11	.01	.00
	4	.21	.00	.01
	5	.11	.71	.00
	6	.02	.26	.98

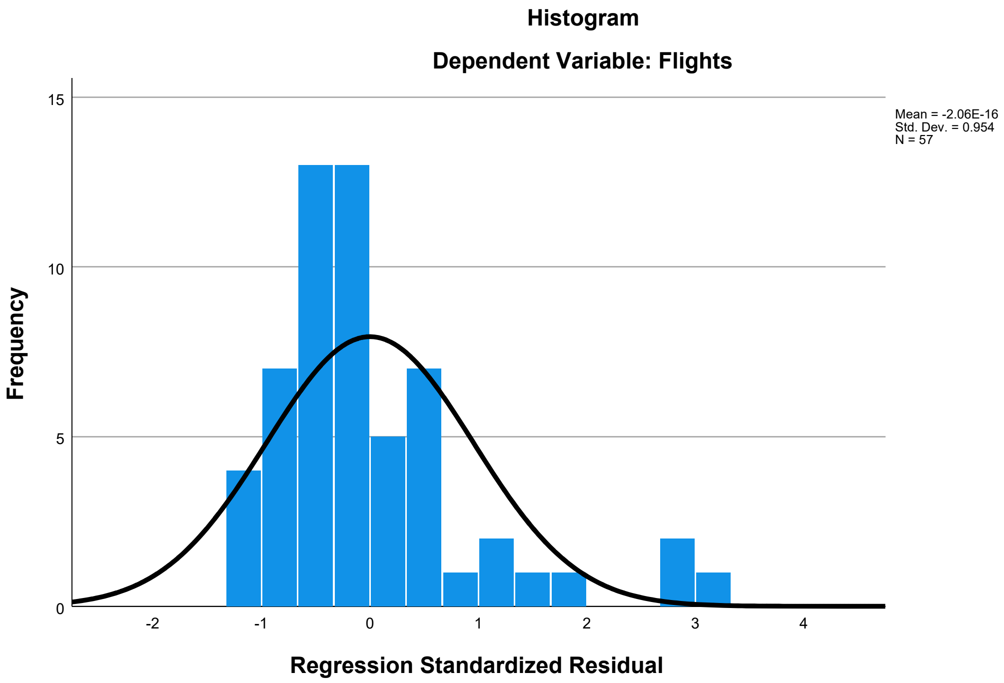
a. Dependent Variable: Flights

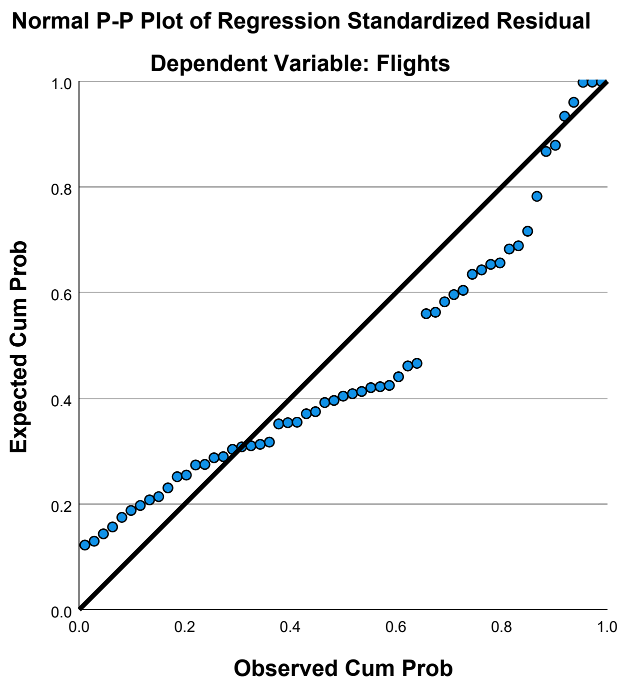
Residuals Statistics[a]

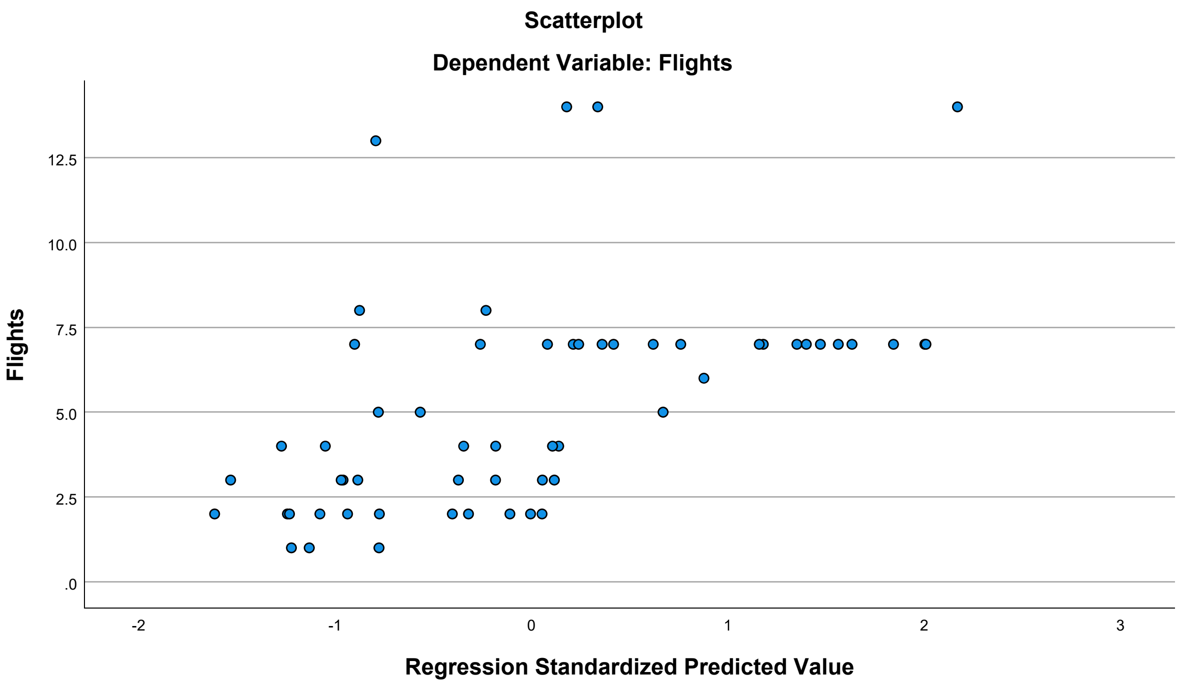
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.43	9.00	5.23	1.737	57
Residual	-3.321	9.149	.000	2.723	57
Std. Predicted Value	-1.614	2.170	.000	1.000	57
Std. Residual	-1.164	3.207	.000	.954	57

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
.0
2.5
5.0
7.5
10.0
12.5
-2
-1
0
1
2
3

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	5.23	3.229	57
HomeConcentration	.92203898246	1.5319054683	57
PartnerConcentration	.49342028070	1.7866188242	57
Ethnicity	.30747447	.296949406	57
Urban	13.47	4.822	57

Correlations

		Flights	HomeConcentration	PartnerConcentration	Ethnicity
Pearson Correlation	Flights	1.000	.407	.068	.116
	HomeConcentration	.407	1.000	-.153	-.009
	PartnerConcentration	.068	-.153	1.000	.265
	Ethnicity	.116	-.009	.265	1.000
	Urban	.401	.307	.035	.649
Sig. (1-tailed)	Flights	.	<.001	.308	.194
	HomeConcentration	.001	.	.128	.472
	PartnerConcentration	.308	.128	.	.023
	Ethnicity	.194	.472	.023	.
	Urban	.001	.010	.398	.000
N	Flights	57	57	57	57
	HomeConcentration	57	57	57	57
	PartnerConcentration	57	57	57	57
	Ethnicity	57	57	57	57
	Urban	57	57	57	57

Correlations

		Urban
Pearson Correlation	Flights	.401
	HomeConcentration	.307
	PartnerConcentration	.035
	Ethnicity	.649
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.010
	PartnerConcentration	.398
	Ethnicity	.000
	Urban	.
N	Flights	57
	HomeConcentration	57
	PartnerConcentration	57
	Ethnicity	57
	Urban	57

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, HomeConcentration, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change
1	.531[a]	.282	.227	2.839	.282	5.113

Model Summary[b]

Model	Change Statistics: df1	df2	Sig. F Change
1	4	52	.001

a. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	164.864	4	41.216	5.113	.001[b]
	Residual	419.171	52	8.061		
	Total	584.035	56			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.246	1.224		1.018	.313
	HomeConcentration	.620	.273	.294	2.270	.027
	PartnerConcentration	.275	.225	.152	1.221	.228
	Ethnicity	-2.241	1.829	-.206	-1.225	.226
	Urban	.294	.115	.439	2.569	.013

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.824	1.214
	PartnerConcentration	.891	1.123
	Ethnicity	.488	2.050
	Urban	.472	2.119

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions PartnerConcentration
1	1	3.135	1.000	.01	.03	.01
	2	1.018	1.755	.00	.16	.57
	3	.551	2.386	.01	.61	.37
	4	.263	3.452	.14	.09	.03
	5	.034	9.664	.85	.12	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Variance Proportions Urban
1	1	.02	.01
	2	.01	.00
	3	.05	.00
	4	.49	.01
	5	.44	.99

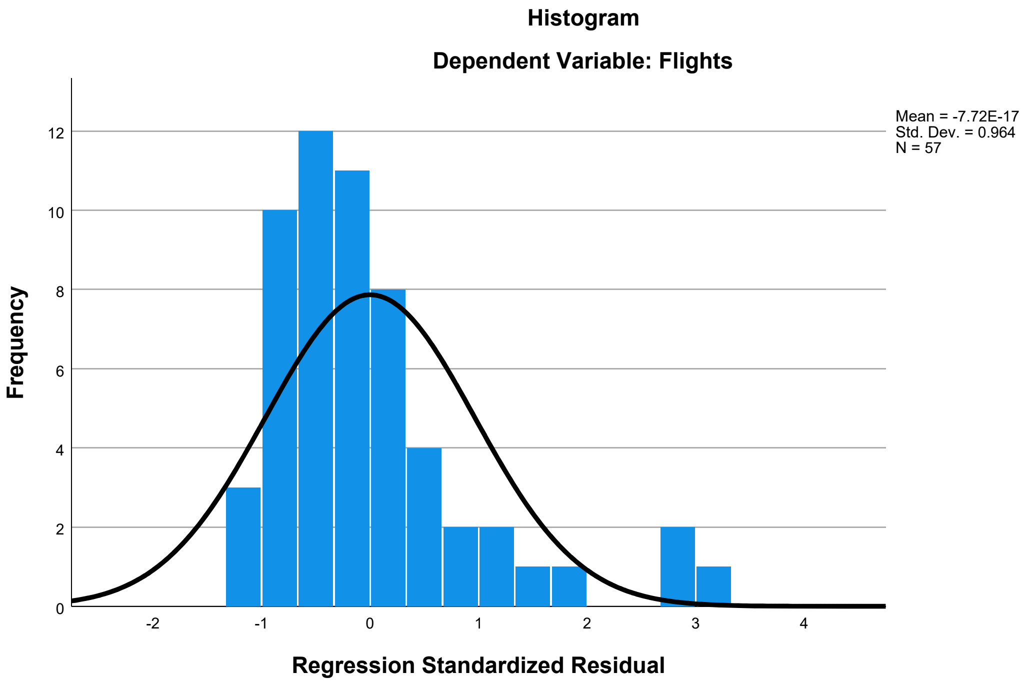
a. Dependent Variable: Flights

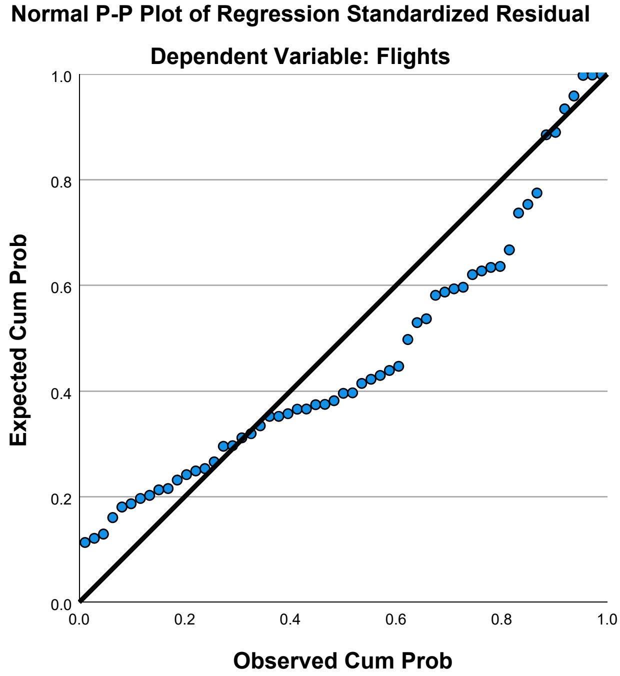
Residuals Statistics[a]

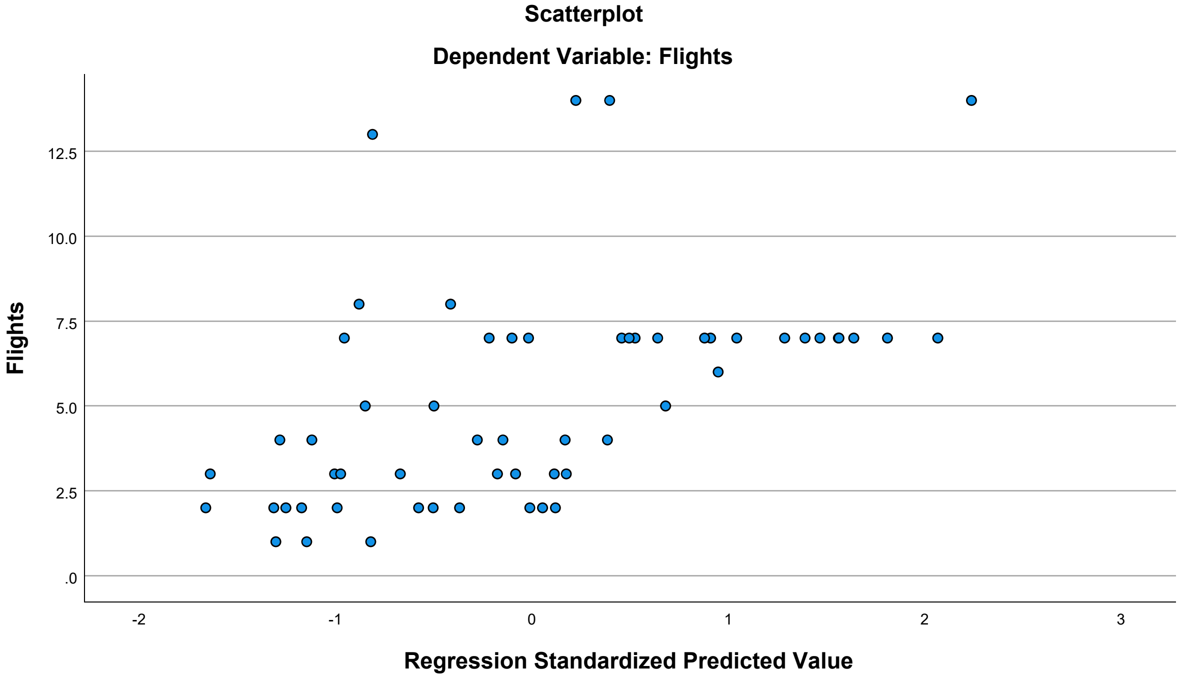
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.38	9.07	5.23	1.716	57
Residual	-3.434	9.164	.000	2.736	57
Std. Predicted Value	-1.660	2.238	.000	1.000	57
Std. Residual	-1.209	3.228	.000	.964	57

a. Dependent Variable: Flights

Charts







Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	5.23	3.229	57
HomeConcentration	.92203898246	1.5319054683	57
PartnerConcentration	.49342028070	1.7866188242	57
Urban	13.47	4.822	57

Correlations

		Flights	HomeConcentration	PartnerConcentration	Urban
Pearson Correlation	Flights	1.000	.407	.068	.401
	HomeConcentration	.407	1.000	-.153	.307
	PartnerConcentration	.068	-.153	1.000	.035
	Urban	.401	.307	.035	1.000
Sig. (1-tailed)	Flights	.	<.001	.308	<.001
	HomeConcentration	.001	.	.128	.010
	PartnerConcentration	.308	.128	.	.398
	Urban	.001	.010	.398	.
N	Flights	57	57	57	57
	HomeConcentration	57	57	57	57
	PartnerConcentration	57	57	57	57
	Urban	57	57	57	57

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.511[a]	.262	.220	2.853	.262	6.258

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	3	53	.001

a. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	152.765	3	50.922	6.258	.001[b]
	Residual	431.270	53	8.137		
	Total	584.035	56			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.822	1.136		1.604	.115
	HomeConcentration	.703	.265	.334	2.649	.011
	PartnerConcentration	.196	.217	.109	.906	.369
	Urban	.198	.083	.295	2.369	.022

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.879	1.138
	PartnerConcentration	.969	1.032
	Urban	.899	1.113

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	PartnerConcentration
1	1	2.456	1.000	.02	.06	.02
	2	.990	1.575	.00	.12	.74
	3	.499	2.219	.04	.77	.24
	4	.055	6.693	.95	.05	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.02
	2	.00
	3	.02
	4	.96

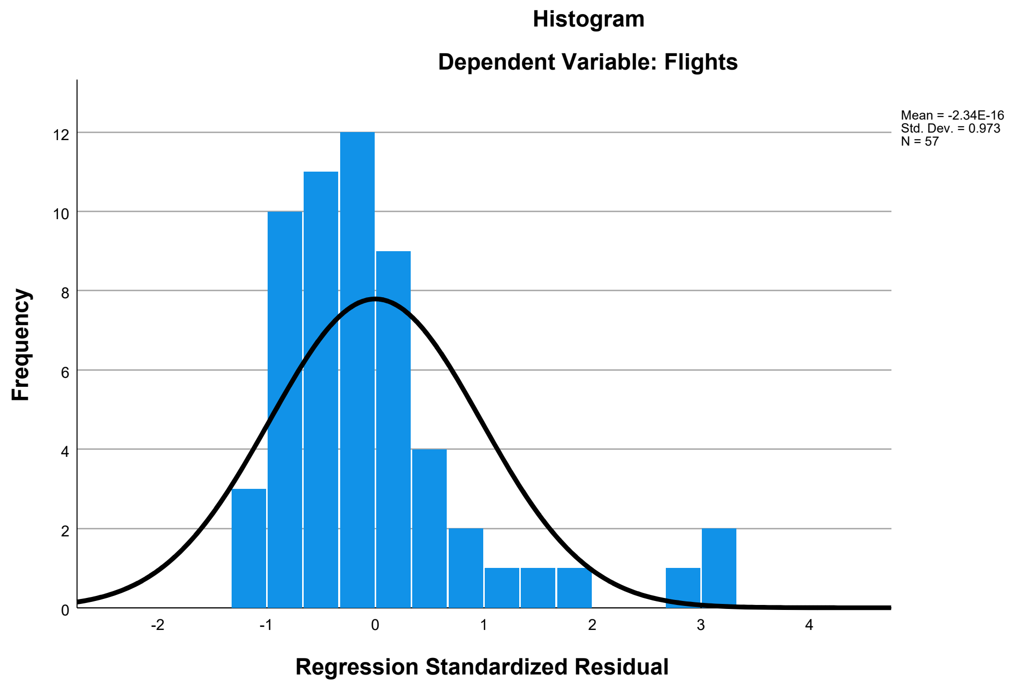
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.62	8.48	5.23	1.652	57
Residual	-3.391	9.182	.000	2.775	57
Std. Predicted Value	-1.578	1.966	.000	1.000	57
Std. Residual	-1.189	3.219	.000	.973	57

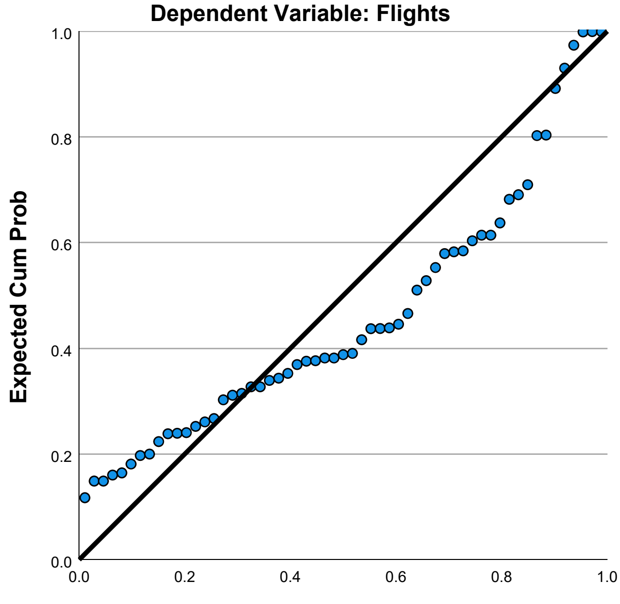
a. Dependent Variable: Flights

Charts



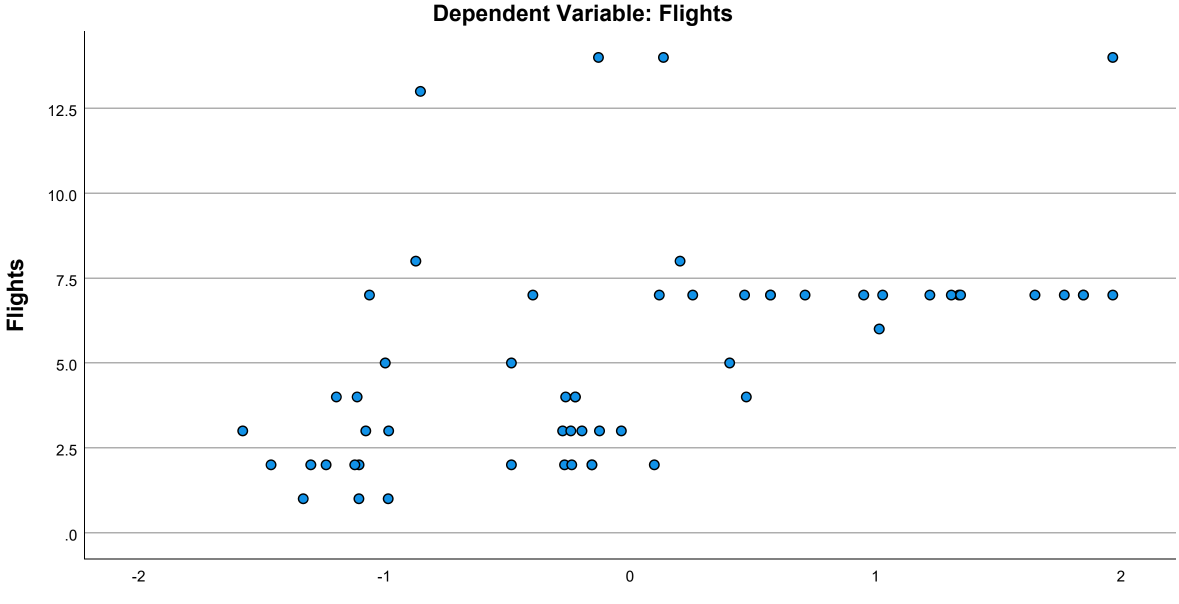
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	5.23	3.229	57
HomeConcentration	.92203898246	1.5319054683	57
Urban	13.47	4.822	57

Correlations

		Flights	HomeConcentration	Urban
Pearson Correlation	Flights	1.000	.407	.401
	HomeConcentration	.407	1.000	.307
	Urban	.401	.307	1.000
Sig. (1-tailed)	Flights	.	<.001	<.001
	HomeConcentration	.001	.	.010
	Urban	.001	.010	.
N	Flights	57	57	57
	HomeConcentration	57	57	57
	Urban	57	57	57

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.500[a]	.250	.222	2.848	.250	9.007

Model Summary[b]

	Change Statistics		
Model	df1	df2	Sig. F Change
1	2	54	<.001

a. Predictors: (Constant), Urban, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	146.091	2	73.045	9.007	<.001[b]
	Residual	437.944	54	8.110		
	Total	584.035	56			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.868	1.133		1.649	.105
	HomeConcentration	.662	.261	.314	2.535	.014
	Urban	.204	.083	.305	2.461	.017

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.906	1.104
	Urban	.906	1.104

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions Urban
1	1	2.378	1.000	.02	.07	.02
	2	.567	2.049	.03	.88	.02
	3	.055	6.584	.95	.05	.97

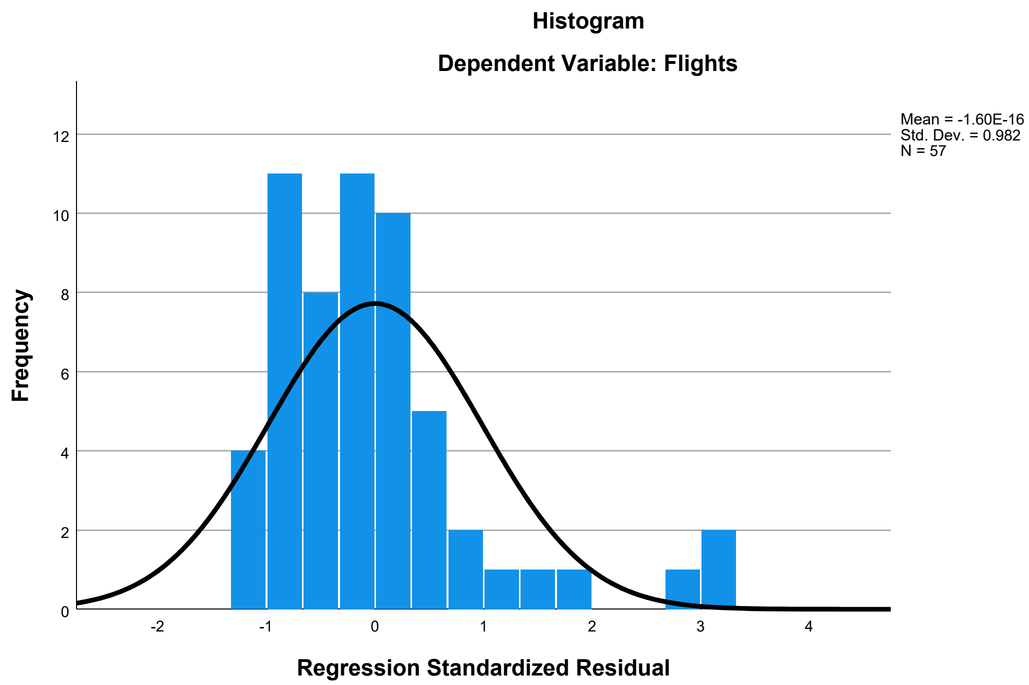
a. Dependent Variable: Flights

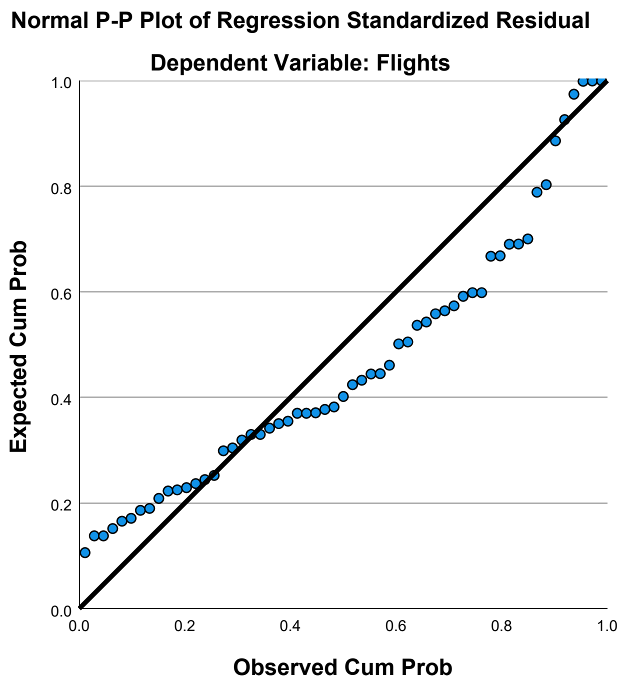
Residuals Statistics[a]

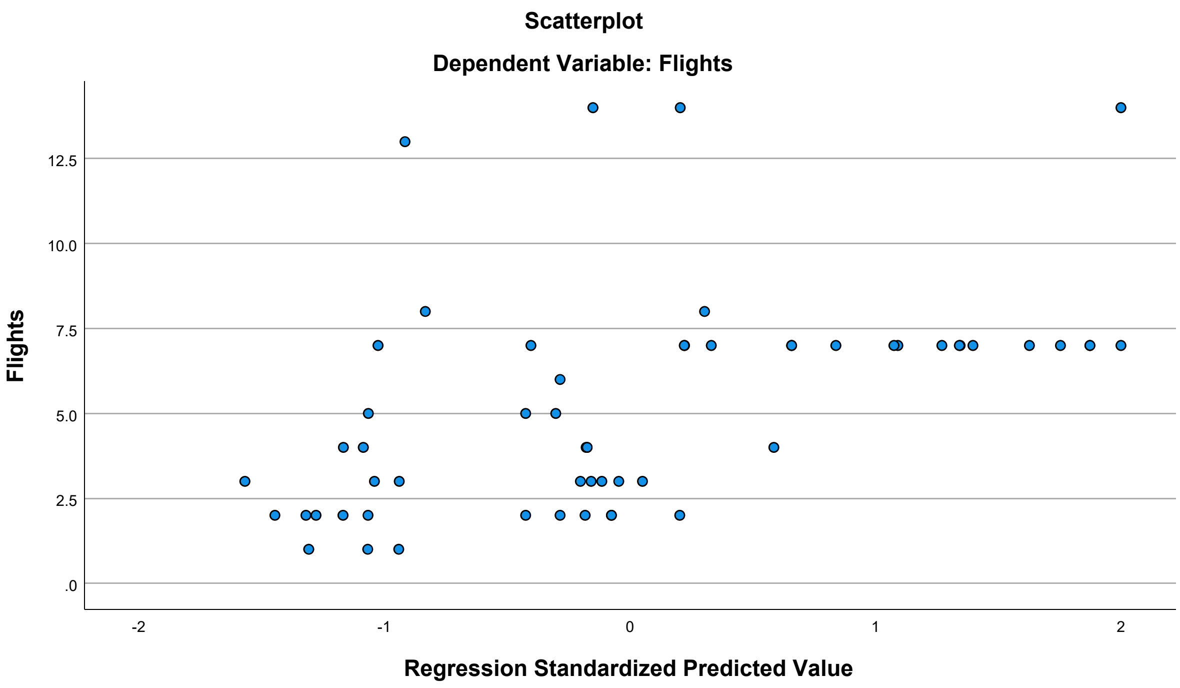
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.69	8.46	5.23	1.615	57
Residual	-3.555	9.253	.000	2.797	57
Std. Predicted Value	-1.569	2.000	.000	1.000	57
Std. Residual	-1.248	3.249	.000	.982	57

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -1.60E-16
Std. Dev. = 0.982
N = 57
Frequency
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
12.5
10.0
7.5
5.0
2.5
.0
-2
-1
0
1
2
Regression Standardized Predicted Value

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.33	2.266	21
HomeConcentration	1.0674028571	1.2453106108	21
Distance	3.75781	.687650	21
Language	4.30069595	4.085814189	21
Ethnicity	1.45928024	1.071057552	21
Urban	16.29	3.901	21

Correlations

		Flights	HomeConcentration	Distance	Language
Pearson Correlation	Flights	1.000	-.063	-.285	.171
	HomeConcentration	-.063	1.000	-.077	.442
	Distance	-.285	-.077	1.000	-.411
	Language	.171	.442	-.411	1.000
	Ethnicity	.214	.390	-.187	.932
	Urban	.238	.261	.339	.318
Sig. (1-tailed)	Flights	.	.393	.105	.229
	HomeConcentration	.393	.	.369	.022
	Distance	.105	.369	.	.032
	Language	.229	.022	.032	.
	Ethnicity	.176	.040	.209	.000
	Urban	.150	.127	.066	.080
N	Flights	21	21	21	21
	HomeConcentration	21	21	21	21
	Distance	21	21	21	21
	Language	21	21	21	21
	Ethnicity	21	21	21	21
	Urban	21	21	21	21

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.214	.238
	HomeConcentration	.390	.261
	Distance	-.187	.339
	Language	.932	.318
	Ethnicity	1.000	.430
	Urban	.430	1.000
Sig. (1-tailed)	Flights	.176	.150
	HomeConcentration	.040	.127
	Distance	.209	.066
	Language	.000	.080
	Ethnicity	.	.026
	Urban	.026	.
N	Flights	21	21
	HomeConcentration	21	21
	Distance	21	21
	Language	21	21
	Ethnicity	21	21
	Urban	21	21

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, Distance, Ethnicity, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.589[a]	.346	.129	2.115	.346	1.591

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	5	15	.223

a. Predictors: (Constant), Urban, HomeConcentration, Distance, Ethnicity, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	35.572	5	7.114	1.591	.223[b]
	Residual	67.094	15	4.473		
	Total	102.667	20			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, Distance, Ethnicity, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.180	3.610		2.543	.022
	HomeConcentration	-.207	.437	-.114	-.475	.642
	Distance	-2.471	1.047	-.750	-2.361	.032
	Language	-.672	.451	-1.211	-1.491	.157
	Ethnicity	2.224	1.548	1.051	1.437	.171
	Urban	.264	.154	.455	1.716	.107

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.757	1.322
	Distance	.432	2.316
	Language	.066	15.153
	Ethnicity	.081	12.288
	Urban	.620	1.613

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Distance
1	1	4.988	1.000	.00	.01	.00
	2	.583	2.925	.00	.15	.00
	3	.369	3.675	.00	.76	.00
	4	.031	12.703	.18	.01	.00
	5	.023	14.870	.02	.02	.10
	6	.006	28.012	.80	.04	.89

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Language	Ethnicity	Urban
1	1	.00	.00	.00
	2	.01	.00	.01
	3	.01	.01	.00
	4	.22	.26	.14
	5	.07	.20	.83
	6	.68	.52	.02

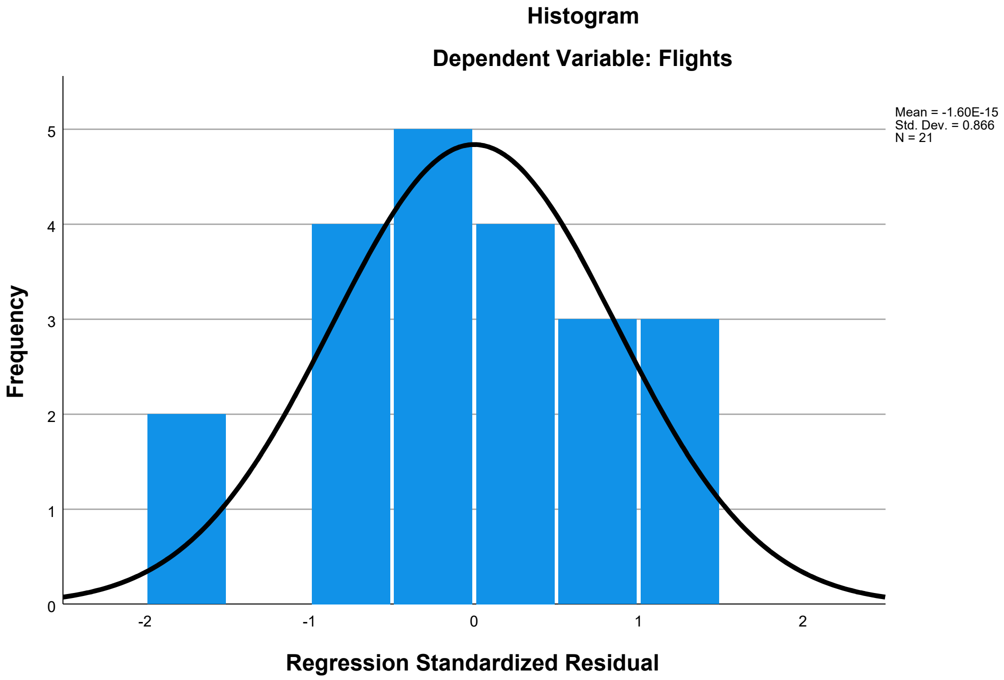
a. Dependent Variable: Flights

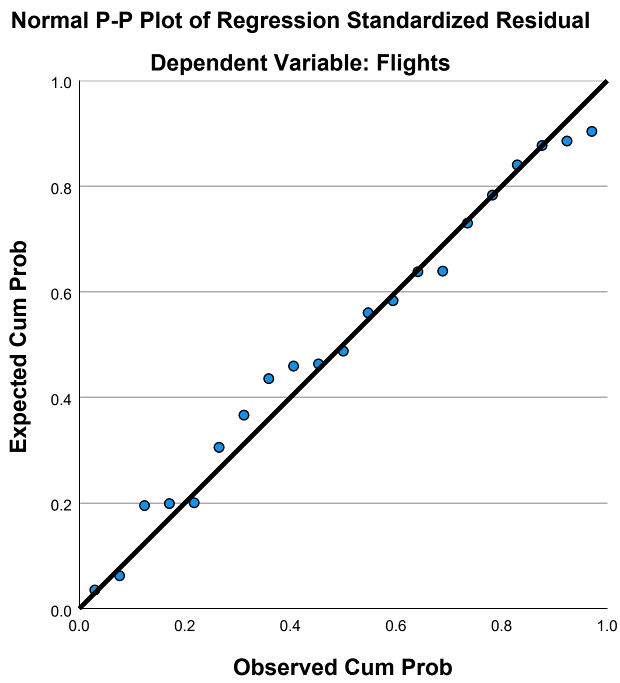
Residuals Statistics[a]

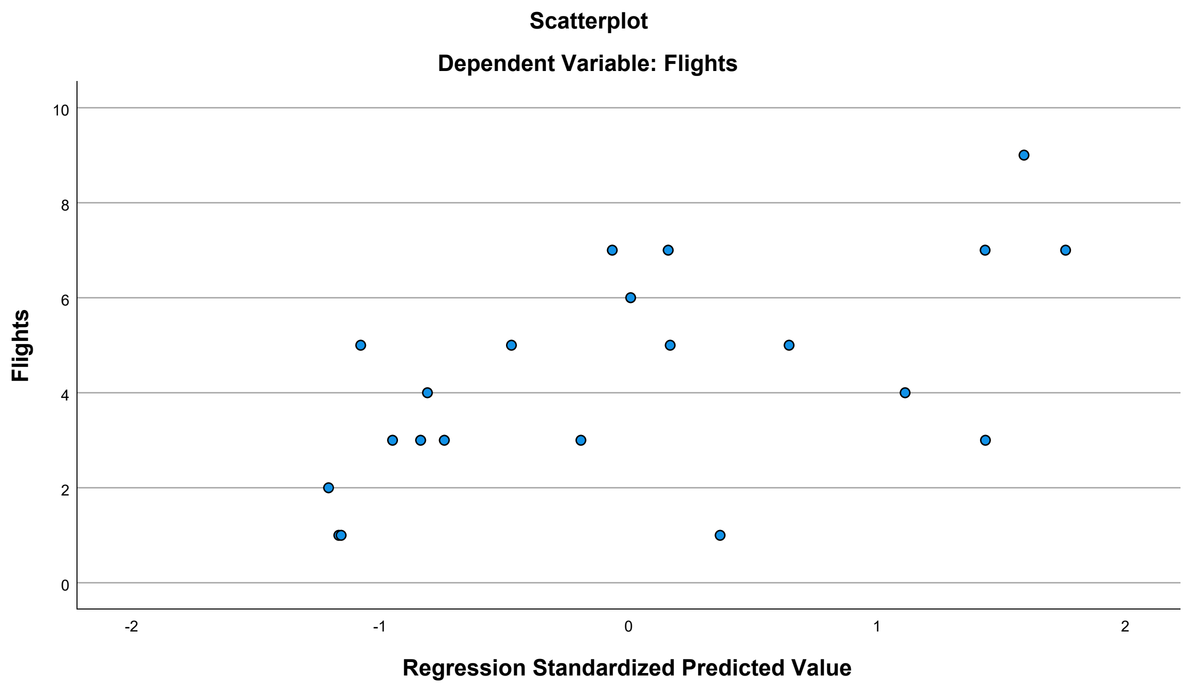
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.72	6.68	4.33	1.334	21
Residual	-3.824	2.755	.000	1.832	21
Std. Predicted Value	-1.208	1.759	.000	1.000	21
Std. Residual	-1.808	1.302	.000	.866	21

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -1.60E-15
Std. Dev. = 0.866
N = 21
Frequency
0
1
2
3
4
5
-2
-1
0
1
2
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.33	2.266	21
HomeConcentration	1.0674028571	1.2453106108	21
Distance	3.75781	.687650	21
Ethnicity	1.45928024	1.071057552	21
Urban	16.29	3.901	21

Correlations

		Flights	HomeConcentration	Distance	Ethnicity
Pearson Correlation	Flights	1.000	-.063	-.285	.214
	HomeConcentration	-.063	1.000	-.077	.390
	Distance	-.285	-.077	1.000	-.187
	Ethnicity	.214	.390	-.187	1.000
	Urban	.238	.261	.339	.430
Sig. (1-tailed)	Flights	.	.393	.105	.176
	HomeConcentration	.393	.	.369	.040
	Distance	.105	.369	.	.209
	Ethnicity	.176	.040	.209	.
	Urban	.150	.127	.066	.026
N	Flights	21	21	21	21
	HomeConcentration	21	21	21	21
	Distance	21	21	21	21
	Ethnicity	21	21	21	21
	Urban	21	21	21	21

Correlations

		Urban
Pearson Correlation	Flights	.238
	HomeConcentration	.261
	Distance	.339
	Ethnicity	.430
	Urban	1.000
Sig. (1-tailed)	Flights	.150
	HomeConcentration	.127
	Distance	.066
	Ethnicity	.026
	Urban	.
N	Flights	21
	HomeConcentration	21
	Distance	21
	Ethnicity	21
	Urban	21

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, Distance, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.500[a]	.250	.062	2.194	.250	1.331

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	4	16	.301

a. Predictors: (Constant), Urban, HomeConcentration, Distance, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.633	4	6.408	1.331	.301[b]
	Residual	77.033	16	4.815		
	Total	102.667	20			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, Distance, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	6.060	3.051		1.986	.064
	HomeConcentration	-.405	.432	-.223	-.938	.362
	Distance	-1.458	.826	-.442	-1.765	.097
	Ethnicity	.069	.573	.033	.120	.906
	Urban	.251	.159	.432	1.572	.135

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.834	1.200
	Distance	.746	1.340
	Ethnicity	.638	1.566
	Urban	.622	1.607

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions Distance
1	1	4.249	1.000	.00	.02	.00
	2	.482	2.969	.00	.70	.01
	3	.231	4.289	.00	.27	.01
	4	.024	13.170	.27	.01	.04
	5	.013	17.765	.72	.00	.95

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Variance Proportions Urban
1	1	.01	.00
	2	.01	.00
	3	.71	.00
	4	.12	.90
	5	.14	.10

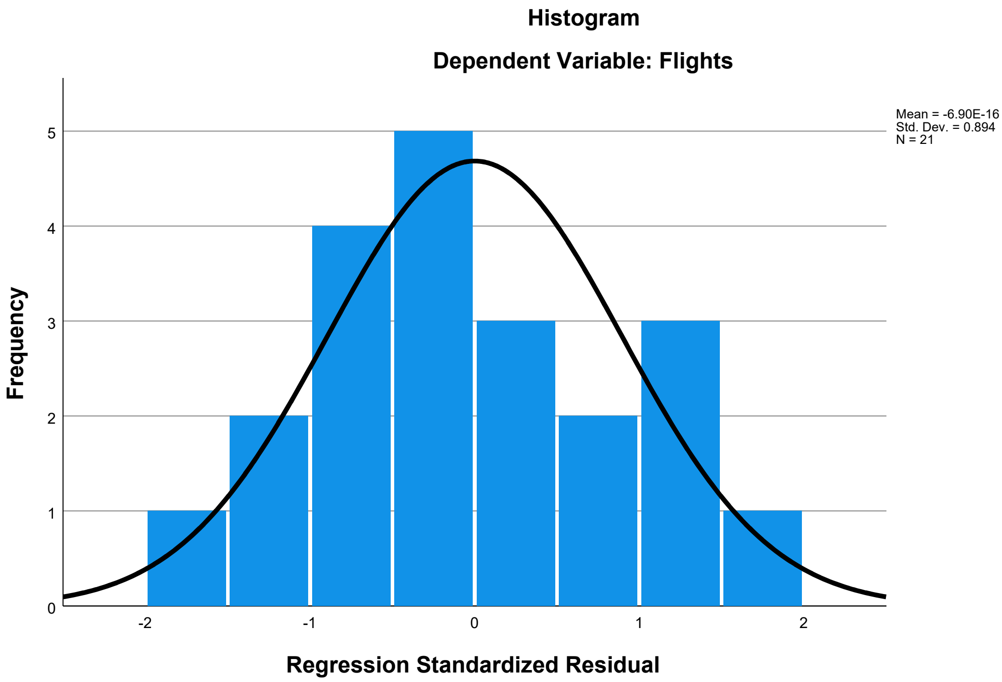
a. Dependent Variable: Flights

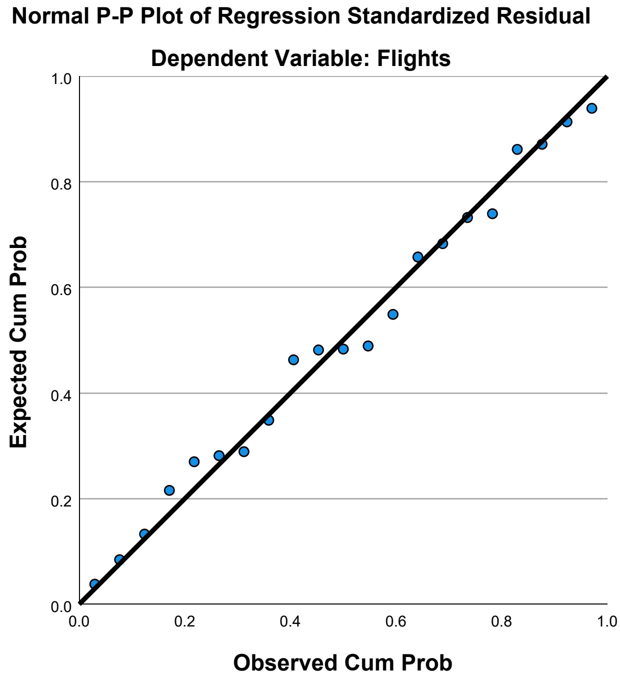
Residuals Statistics[a]

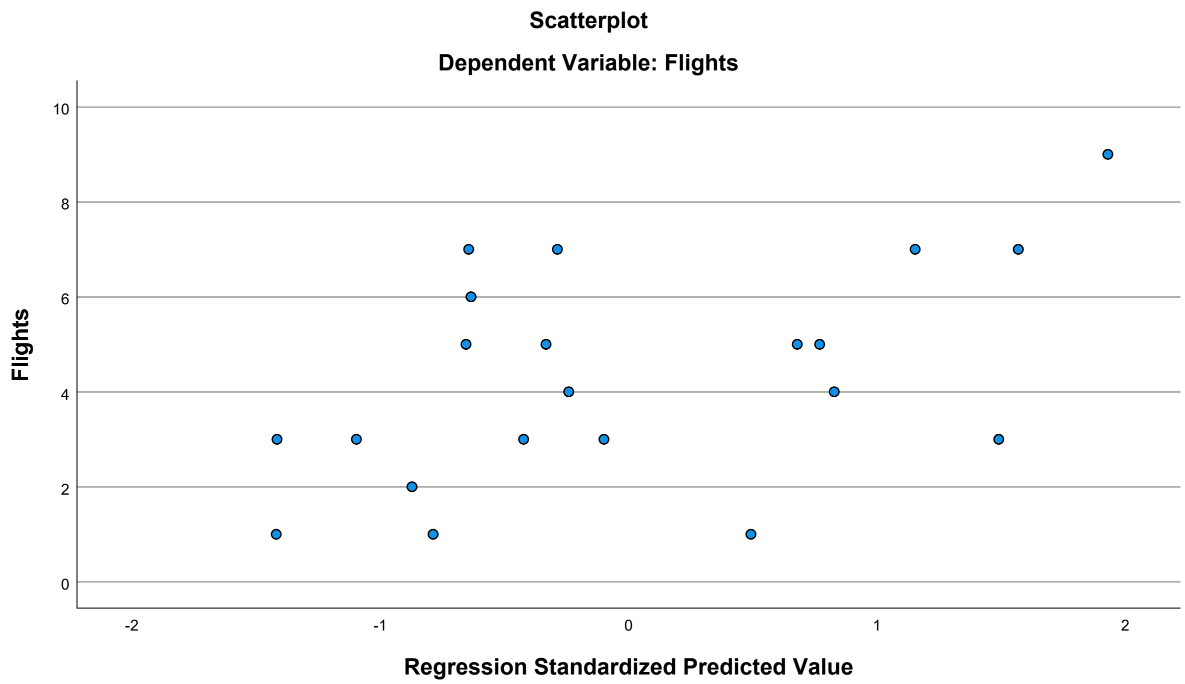
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.73	6.52	4.33	1.132	21
Residual	-3.891	3.396	.000	1.963	21
Std. Predicted Value	-1.419	1.929	.000	1.000	21
Std. Residual	-1.773	1.548	.000	.894	21

a. Dependent Variable: Flights

Charts







Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.33	2.266	21
HomeConcentration	1.0674028571	1.2453106108	21
Distance	3.75781	.687650	21
Urban	16.29	3.901	21

Correlations

		Flights	HomeConcentration	Distance	Urban
Pearson Correlation	Flights	1.000	-.063	-.285	.238
	HomeConcentration	-.063	1.000	-.077	.261
	Distance	-.285	-.077	1.000	.339
	Urban	.238	.261	.339	1.000
Sig. (1-tailed)	Flights	.	.393	.105	.150
	HomeConcentration	.393	.	.369	.127
	Distance	.105	.369	.	.066
	Urban	.150	.127	.066	.
N	Flights	21	21	21	21
	HomeConcentration	21	21	21	21
	Distance	21	21	21	21
	Urban	21	21	21	21

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, Distance[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.499[a]	.249	.116	2.130	.249	1.879

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	3	17	.171

a. Predictors: (Constant), Urban, HomeConcentration, Distance

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.564	3	8.521	1.879	.171[b]
	Residual	77.103	17	4.535		
	Total	102.667	20			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, Distance

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.131	2.905		2.110	.050
	HomeConcentration	-.391	.403	-.215	-.970	.346
	Distance	-1.493	.749	-.453	-1.995	.062
	Urban	.260	.136	.447	1.906	.074

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.901	1.110
	Distance	.856	1.169
	Urban	.802	1.247

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Distance
1	1	3.483	1.000	.00	.03	.00
	2	.473	2.715	.00	.88	.00
	3	.029	10.997	.14	.07	.14
	4	.015	15.140	.86	.02	.85

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.99
	4	.00

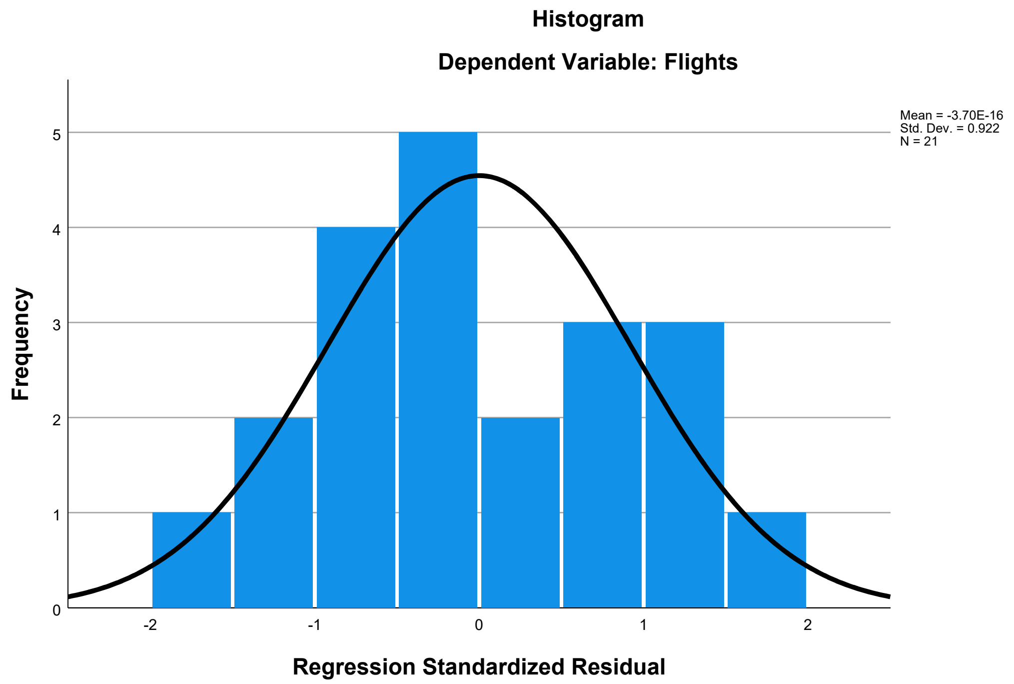
a. Dependent Variable: Flights

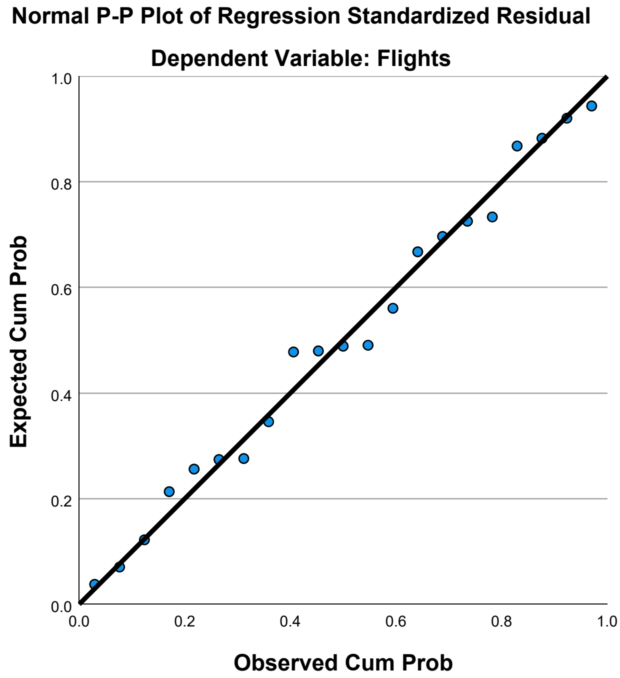
Residuals Statistics[a]

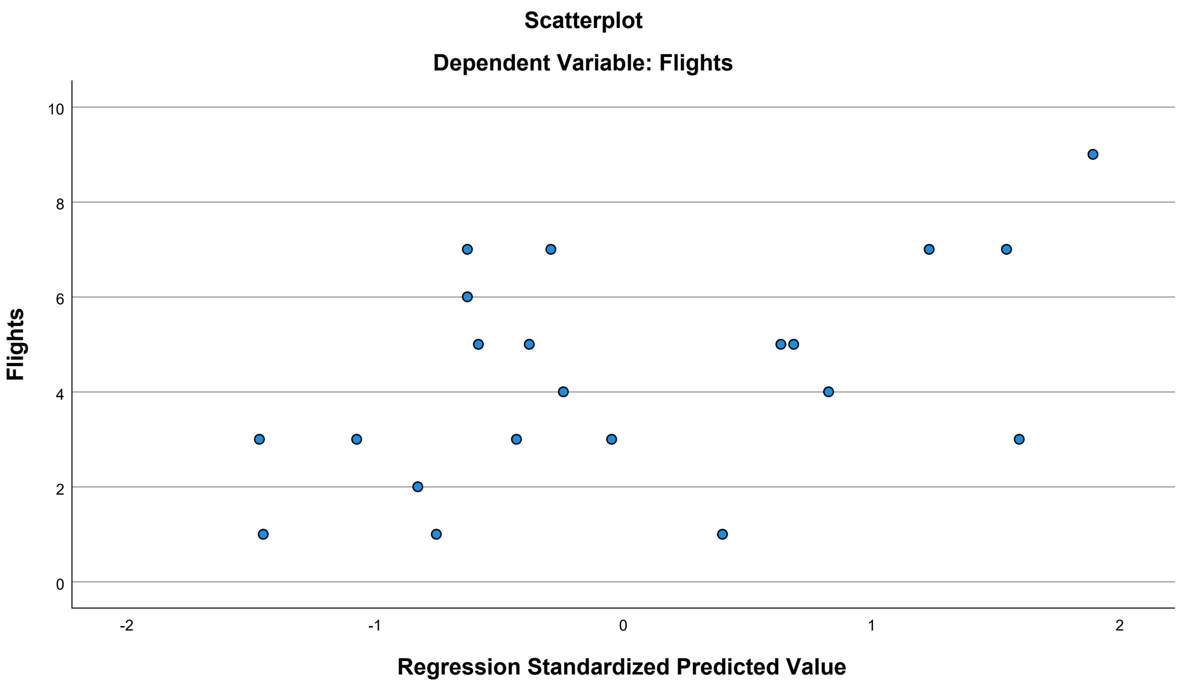
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.68	6.47	4.33	1.131	21
Residual	-3.784	3.378	.000	1.963	21
Std. Predicted Value	-1.466	1.891	.000	1.000	21
Std. Residual	-1.777	1.586	.000	.922	21

a. Dependent Variable: Flights

Charts







Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.33	2.266	21
Distance	3.75781	.687650	21
Urban	16.29	3.901	21

Correlations

		Flights	Distance	Urban
Pearson Correlation	Flights	1.000	-.285	.238
	Distance	-.285	1.000	.339
	Urban	.238	.339	1.000
Sig. (1-tailed)	Flights	.	.105	.150
	Distance	.105	.	.066
	Urban	.150	.066	.
N	Flights	21	21	21
	Distance	21	21	21
	Urban	21	21	21

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.455[a]	.207	.119	2.126	.207	2.355

Model Summary[b]

	Change Statistics		
Model	df1	df2	Sig. F Change
1	2	18	.123

a. Predictors: (Constant), Urban, Distance

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.296	2	10.648	2.355	.123[b]
	Residual	81.371	18	4.521		
	Total	102.667	20			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance
1	(Constant)	5.875	2.889		2.034	.057	
	Distance	-1.361	.735	-.413	-1.852	.081	.885
	Urban	.219	.130	.378	1.693	.108	.885

Coefficients[a]

Model		Collinearity Statistics VIF
1	(Constant)	
	Distance	1.130
	Urban	1.130

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Distance	Urban
1	1	2.954	1.000	.00	.00	.01
	2	.031	9.774	.11	.18	.99
	3	.016	13.796	.89	.82	.01

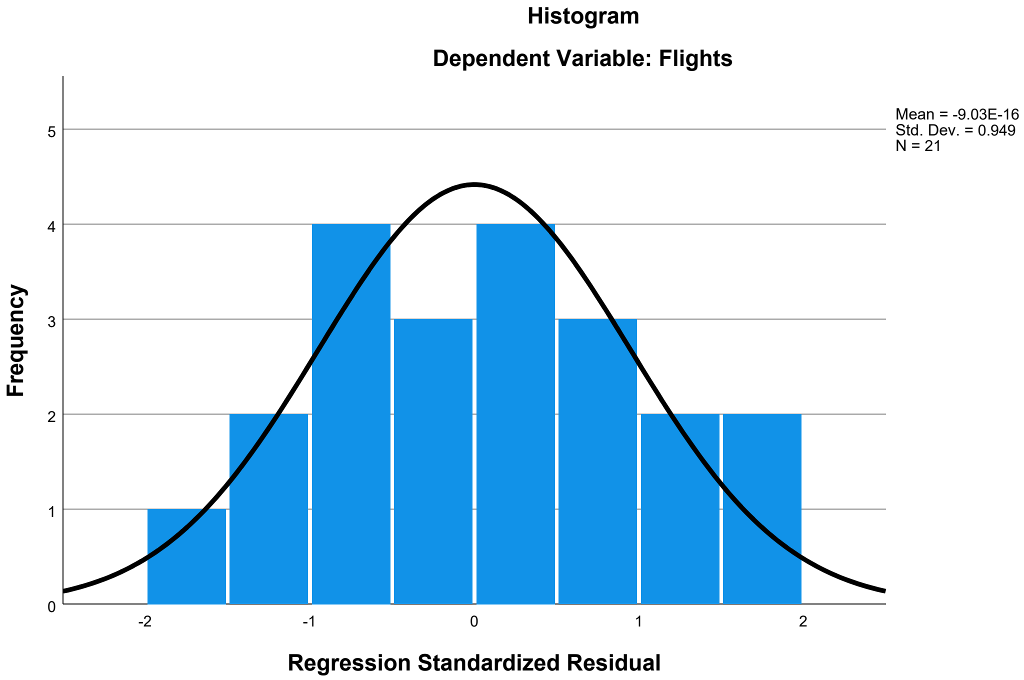
a. Dependent Variable: Flights

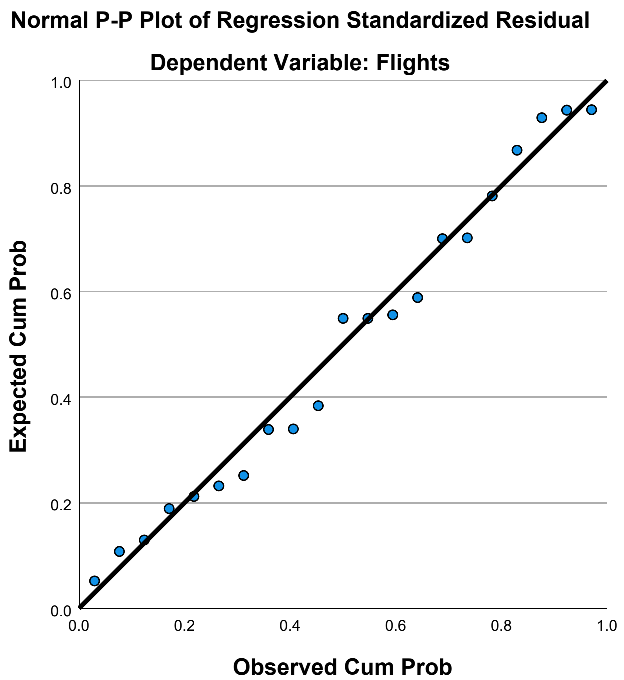
Residuals Statistics[a]

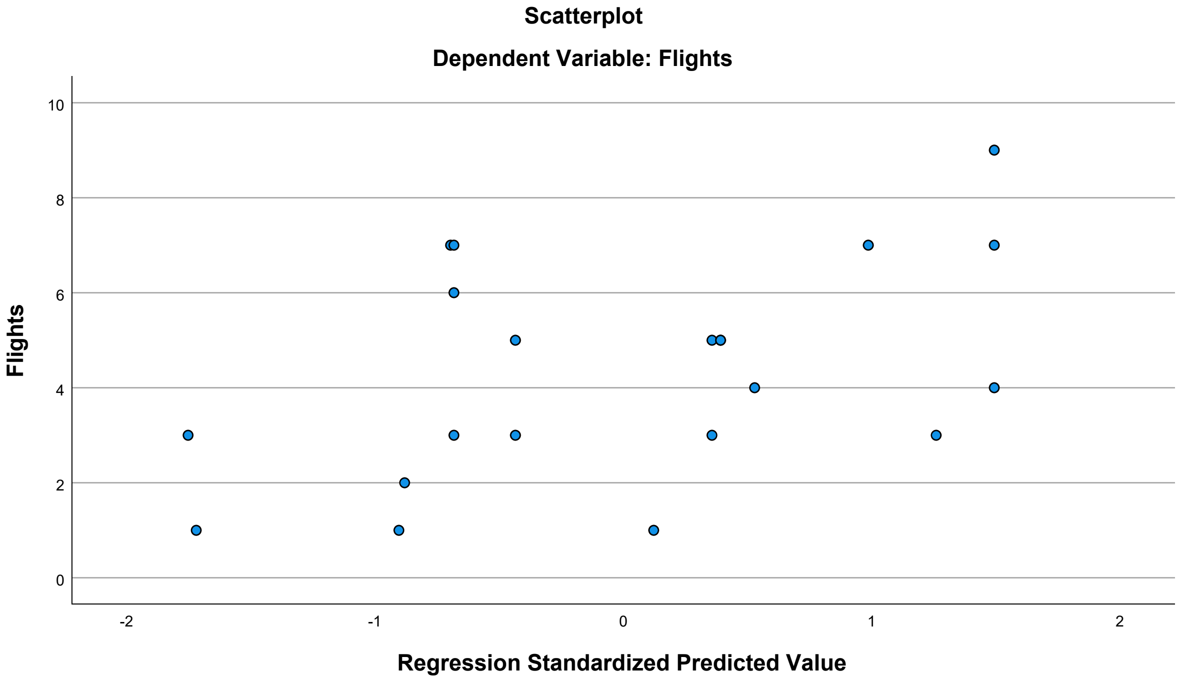
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.52	5.87	4.33	1.032	21
Residual	-3.459	3.385	.000	2.017	21
Std. Predicted Value	-1.753	1.494	.000	1.000	21
Std. Residual	-1.627	1.592	.000	.949	21

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -9.03E-16
Std. Dev. = 0.949
N = 21
Frequency
0
1
2
3
4
5
-2
-1
0
1
2
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: Flights
Flights
10
8
6
4
2
0
-2
-1
0
1
2
Regression Standardized Predicted Value

Regression

```
[DataSet3] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\UK\2017 Winter - nonLHR - Airline.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.36	2.112	28
HomeConcentration	1.0868387143	1.5101929827	28
GJFK	.14	.356	28
PartnerConcentration	.77837107143	2.4645751381	28
Distance	4.04211	.722739	28
Language	5.39674443	4.124682893	28
Ethnicity	.75776336	.851519652	28
Urban	16.82	3.732	28

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.307	.127	.119
	HomeConcentration	.307	1.000	-.007	-.213
	GJFK	.127	-.007	1.000	-.081
	PartnerConcentration	.119	-.213	-.081	1.000
	Distance	-.235	-.486	-.373	.113
	Language	.215	.128	.750	.059
	Ethnicity	-.030	-.217	.107	-.064
	Urban	.394	.170	.465	-.218
Sig. (1-tailed)	Flights	.	.056	.261	.274
	HomeConcentration	.056	.	.486	.139
	GJFK	.261	.486	.	.341
	PartnerConcentration	.274	.139	.341	.
	Distance	.114	.004	.025	.283
	Language	.136	.259	.000	.382
	Ethnicity	.439	.133	.294	.372
	Urban	.019	.193	.006	.133
N	Flights	28	28	28	28
	HomeConcentration	28	28	28	28
	GJFK	28	28	28	28
	PartnerConcentration	28	28	28	28
	Distance	28	28	28	28
	Language	28	28	28	28
	Ethnicity	28	28	28	28
	Urban	28	28	28	28

Correlations

		Distance	Language	Ethnicity	Urban
Pearson Correlation	Flights	-.235	.215	-.030	.394
	HomeConcentration	-.486	.128	-.217	.170
	GJFK	-.373	.750	.107	.465
	PartnerConcentration	.113	.059	-.064	-.218
	Distance	1.000	-.663	-.410	-.432
	Language	-.663	1.000	.566	.611
	Ethnicity	-.410	.566	1.000	.445
	Urban	-.432	.611	.445	1.000
Sig. (1-tailed)	Flights	.114	.136	.439	.019
	HomeConcentration	.004	.259	.133	.193
	GJFK	.025	.000	.294	.006
	PartnerConcentration	.283	.382	.372	.133
	Distance	.	.000	.015	.011
	Language	.000	.	.001	.000
	Ethnicity	.015	.001	.	.009
	Urban	.011	.000	.009	.
N	Flights	28	28	28	28
	HomeConcentration	28	28	28	28
	GJFK	28	28	28	28
	PartnerConcentration	28	28	28	28
	Distance	28	28	28	28
	Language	28	28	28	28
	Ethnicity	28	28	28	28
	Urban	28	28	28	28

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, PartnerConcentration, GJFK, Ethnicity, Distance, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.558[a]	.312	.071	2.036	.312	1.294

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	7	20	.303

a. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, GJFK, Ethnicity, Distance, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.545	7	5.364	1.294	.303[b]
	Residual	82.883	20	4.144		
	Total	120.429	27			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, GJFK, Ethnicity, Distance, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.144	4.740		.030	.976
	HomeConcentration	.222	.436	.159	.508	.617
	GJFK	-.971	2.787	-.164	-.348	.731
	PartnerConcentration	.207	.202	.241	1.023	.319
	Distance	-.214	.912	-.073	-.235	.817
	Language	.044	.319	.085	.137	.893
	Ethnicity	-.694	1.019	-.280	-.681	.504
	Urban	.303	.144	.536	2.109	.048

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.354	2.826
	GJFK	.156	6.425
	PartnerConcentration	.619	1.616
	Distance	.353	2.831
	Language	.088	11.308
	Ethnicity	.204	4.907
	Urban	.532	1.879

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	4.953	1.000	.00	.00	.00
	2	1.035	2.187	.00	.01	.03
	3	.919	2.322	.00	.08	.05
	4	.661	2.738	.00	.10	.03
	5	.386	3.580	.00	.13	.02
	6	.023	14.772	.00	.44	.86
	7	.019	16.232	.02	.05	.00
	8	.004	34.354	.98	.18	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00
	2	.35	.00	.00	.00	.00
	3	.08	.00	.00	.00	.00
	4	.12	.00	.00	.07	.00
	5	.07	.01	.01	.08	.00
	6	.33	.01	.87	.80	.00
	7	.05	.09	.05	.03	.96
	8	.00	.90	.07	.01	.04

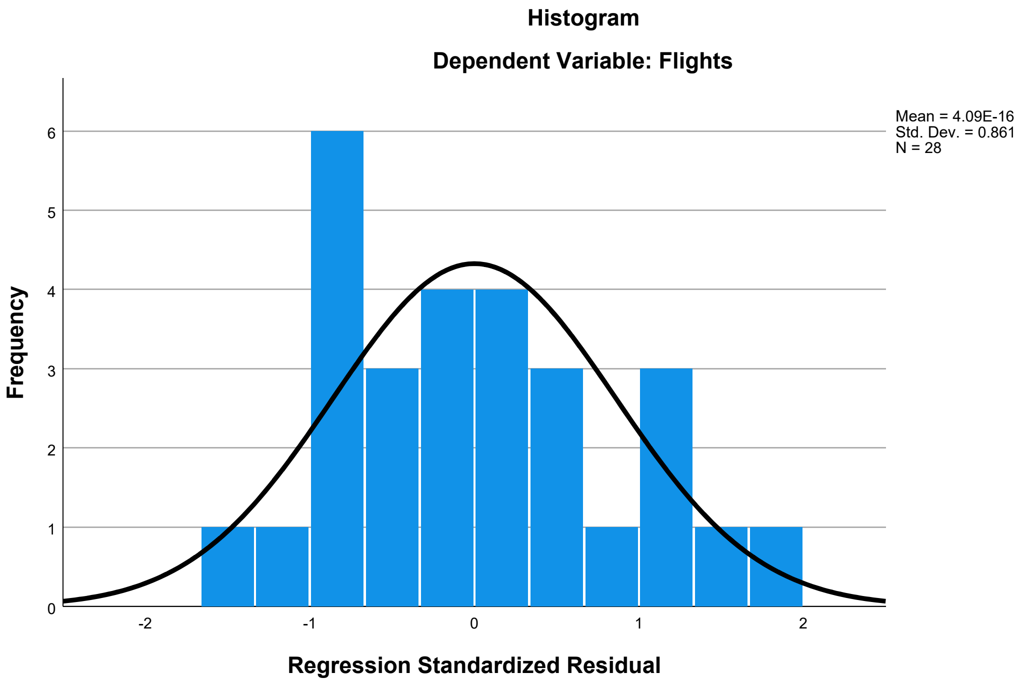
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.13	6.08	4.36	1.179	28
Residual	-2.802	3.874	.000	1.752	28
Std. Predicted Value	-1.892	1.461	.000	1.000	28
Std. Residual	-1.376	1.903	.000	.861	28

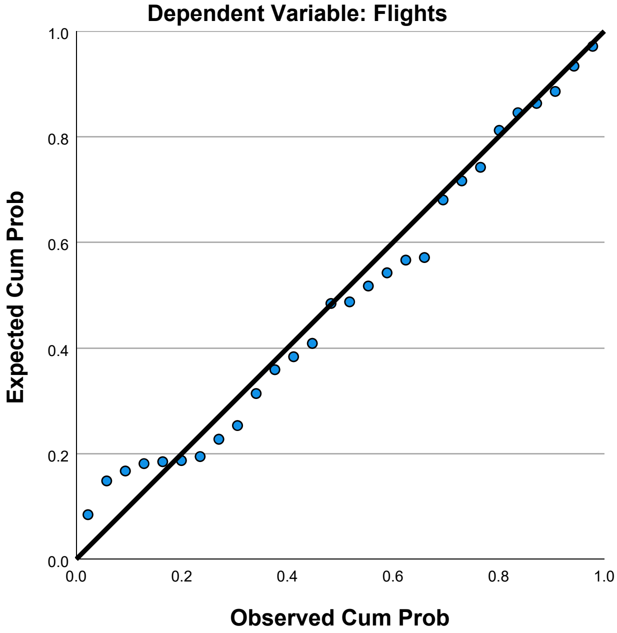
a. Dependent Variable: Flights

Charts



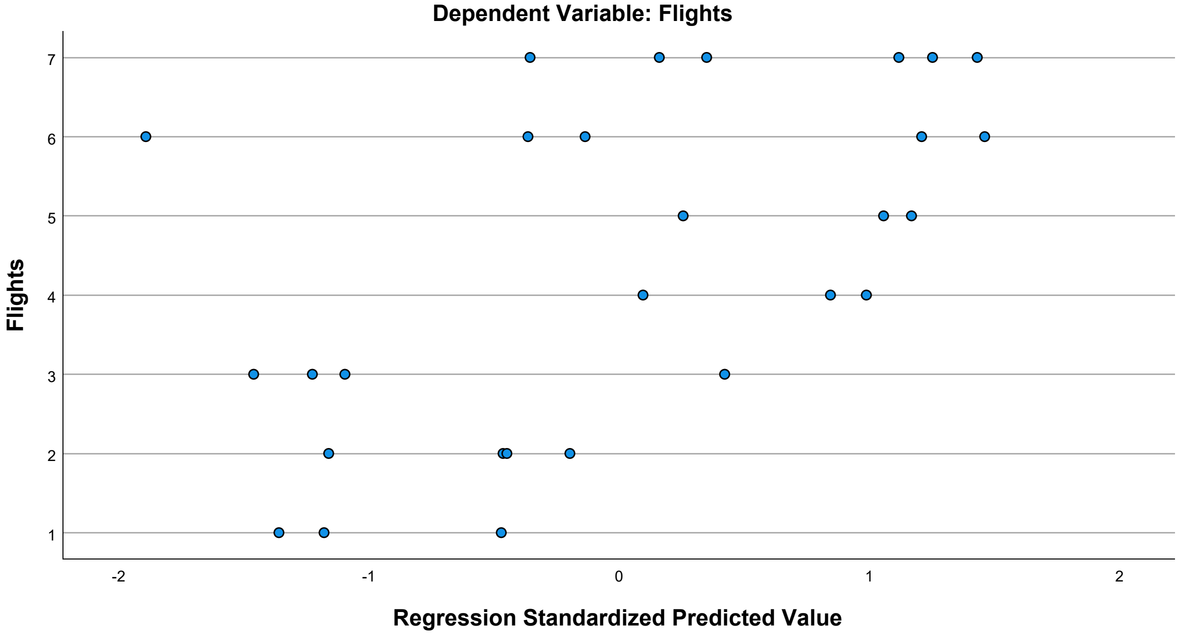
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.36	2.112	28
HomeConcentration	1.0868387143	1.5101929827	28
GJFK	.14	.356	28
PartnerConcentration	.77837107143	2.4645751381	28
Distance	4.04211	.722739	28
Ethnicity	.75776336	.851519652	28
Urban	16.82	3.732	28

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.307	.127	.119
	HomeConcentration	.307	1.000	-.007	-.213
	GJFK	.127	-.007	1.000	-.081
	PartnerConcentration	.119	-.213	-.081	1.000
	Distance	-.235	-.486	-.373	.113
	Ethnicity	-.030	-.217	.107	-.064
	Urban	.394	.170	.465	-.218
Sig. (1-tailed)	Flights	.	.056	.261	.274
	HomeConcentration	.056	.	.486	.139
	GJFK	.261	.486	.	.341
	PartnerConcentration	.274	.139	.341	.
	Distance	.114	.004	.025	.283
	Ethnicity	.439	.133	.294	.372
	Urban	.019	.193	.006	.133
N	Flights	28	28	28	28
	HomeConcentration	28	28	28	28
	GJFK	28	28	28	28
	PartnerConcentration	28	28	28	28
	Distance	28	28	28	28
	Ethnicity	28	28	28	28
	Urban	28	28	28	28

Correlations

		Distance	Ethnicity	Urban
Pearson Correlation	Flights	-.235	-.030	.394
	HomeConcentration	-.486	-.217	.170
	GJFK	-.373	.107	.465
	PartnerConcentration	.113	-.064	-.218
	Distance	1.000	-.410	-.432
	Ethnicity	-.410	1.000	.445
	Urban	-.432	.445	1.000
Sig. (1-tailed)	Flights	.114	.439	.019
	HomeConcentration	.004	.133	.193
	GJFK	.025	.294	.006
	PartnerConcentration	.283	.372	.133
	Distance	.	.015	.011
	Ethnicity	.015	.	.009
	Urban	.011	.009	.
N	Flights	28	28	28
	HomeConcentration	28	28	28
	GJFK	28	28	28
	PartnerConcentration	28	28	28
	Distance	28	28	28
	Ethnicity	28	28	28
	Urban	28	28	28

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, PartnerConcentration, GJFK, Ethnicity, Distance[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.558[a]	.311	.114	1.988	.311	1.581

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	6	21	.202

a. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, GJFK, Ethnicity, Distance

b. Dependent Variable: Flights

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.468	6	6.245	1.581	.202[b]
	Residual	82.961	21	3.951		
	Total	120.429	27			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, GJFK, Ethnicity, Distance

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.294	4.503		.065	.949
	HomeConcentration	.248	.384	.177	.645	.526
	GJFK	-.643	1.386	-.108	-.464	.648
	PartnerConcentration	.222	.163	.259	1.366	.186
	Distance	-.244	.865	-.083	-.282	.781
	Ethnicity	-.591	.672	-.238	-.880	.389
	Urban	.306	.139	.541	2.195	.040

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.436	2.294
	GJFK	.600	1.668
	PartnerConcentration	.909	1.100
	Distance	.374	2.671
	Ethnicity	.447	2.235
	Urban	.541	1.850

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	4.117	1.000	.00	.01	.01
	2	1.016	2.013	.00	.03	.06
	3	.836	2.220	.00	.10	.38
	4	.659	2.500	.00	.11	.15
	5	.348	3.440	.00	.20	.00
	6	.019	14.731	.02	.18	.31
	7	.004	30.445	.98	.39	.09

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Distance	Ethnicity	Urban
1	1	.01	.00	.01	.00
	2	.61	.00	.00	.00
	3	.01	.00	.02	.00
	4	.17	.00	.15	.00
	5	.15	.01	.27	.00
	6	.01	.10	.33	.94
	7	.03	.89	.23	.05

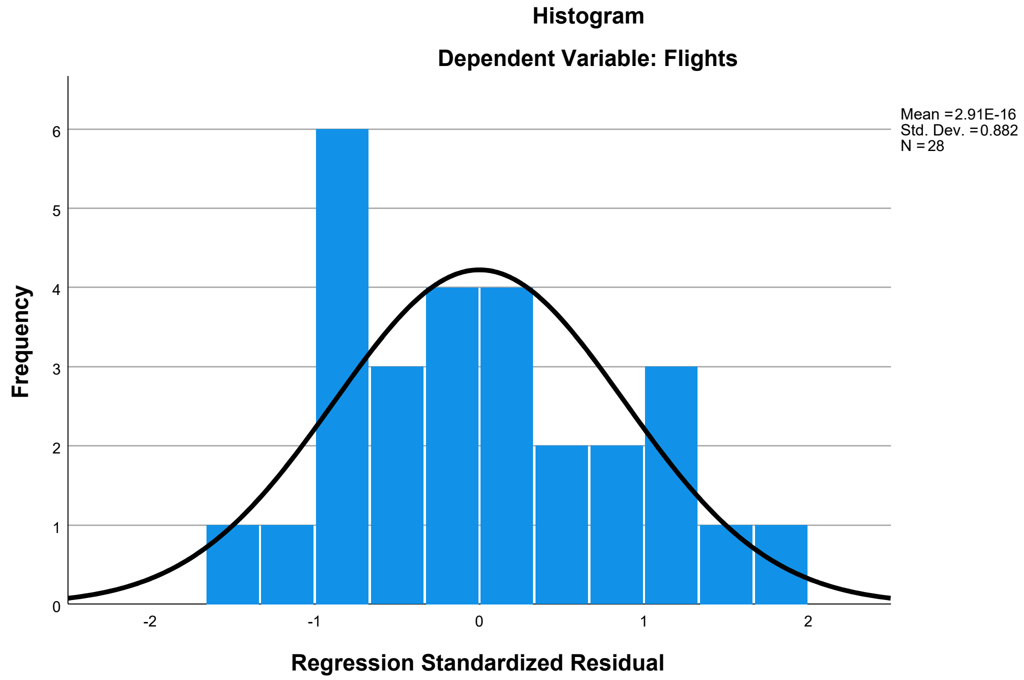
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.14	6.06	4.36	1.178	28
Residual	-2.820	3.860	.000	1.753	28
Std. Predicted Value	-1.882	1.446	.000	1.000	28
Std. Residual	-1.419	1.942	.000	.882	28

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean =2.91E-16
Std. Dev. =0.882
N =28
Frequency
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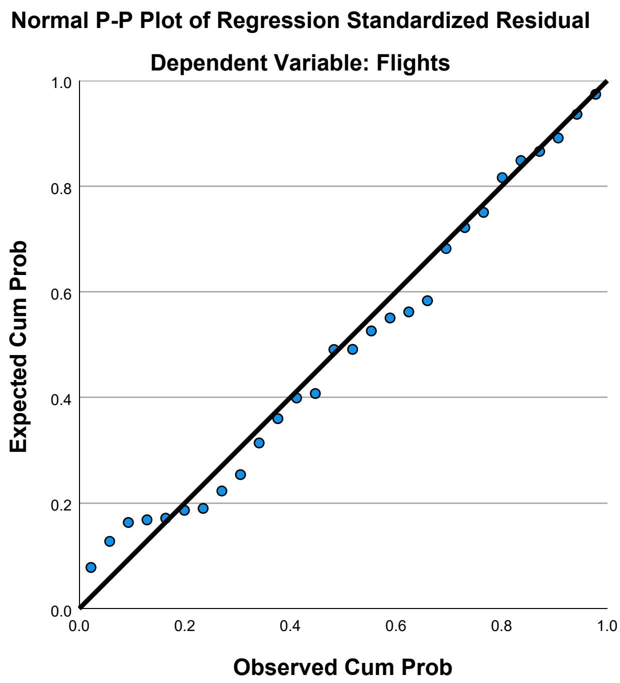
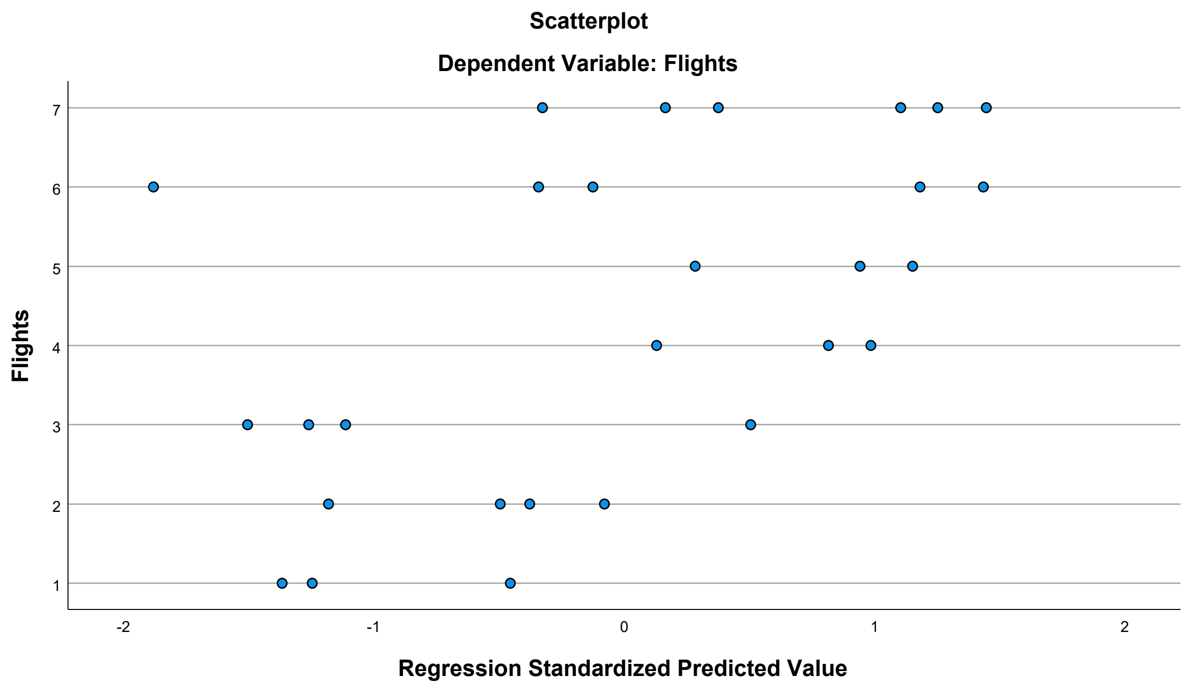
1
2
3
4
5
6
-2
-1
0
1
2
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.36	2.112	28
HomeConcentration	1.0868387143	1.5101929827	28
GJFK	.14	.356	28
PartnerConcentration	.77837107143	2.4645751381	28
Ethnicity	.75776336	.851519652	28
Urban	16.82	3.732	28

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.307	.127	.119
	HomeConcentration	.307	1.000	-.007	-.213
	GJFK	.127	-.007	1.000	-.081
	PartnerConcentration	.119	-.213	-.081	1.000
	Ethnicity	-.030	-.217	.107	-.064
	Urban	.394	.170	.465	-.218
Sig. (1-tailed)	Flights	.	.056	.261	.274
	HomeConcentration	.056	.	.486	.139
	GJFK	.261	.486	.	.341
	PartnerConcentration	.274	.139	.341	.
	Ethnicity	.439	.133	.294	.372
	Urban	.019	.193	.006	.133
N	Flights	28	28	28	28
	HomeConcentration	28	28	28	28
	GJFK	28	28	28	28
	PartnerConcentration	28	28	28	28
	Ethnicity	28	28	28	28
	Urban	28	28	28	28

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	-.030	.394
	HomeConcentration	-.217	.170
	GJFK	.107	.465
	PartnerConcentration	-.064	-.218
	Ethnicity	1.000	.445
	Urban	.445	1.000
Sig. (1-tailed)	Flights	.439	.019
	HomeConcentration	.133	.193
	GJFK	.294	.006
	PartnerConcentration	.372	.133
	Ethnicity	.	.009
	Urban	.009	.
N	Flights	28	28
	HomeConcentration	28	28
	GJFK	28	28
	PartnerConcentration	28	28
	Ethnicity	28	28
	Urban	28	28

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, PartnerConcentration, GJFK, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.555[a]	.309	.151	1.946	.309	1.963

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	5	22	.124

a. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, GJFK, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.154	5	7.431	1.963	.124[b]
	Residual	83.274	22	3.785		
	Total	120.429	27			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, GJFK, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.831	2.037		-.408	.687
	HomeConcentration	.321	.274	.230	1.172	.254
	GJFK	-.466	1.211	-.079	-.385	.704
	PartnerConcentration	.227	.158	.265	1.435	.165
	Ethnicity	-.479	.528	-.193	-.906	.375
	Urban	.303	.136	.535	2.226	.037

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.817	1.223
	GJFK	.753	1.328
	PartnerConcentration	.920	1.087
	Ethnicity	.692	1.444
	Urban	.544	1.837

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	3.267	1.000	.00	.02	.02
	2	1.005	1.803	.00	.06	.04
	3	.818	1.998	.00	.22	.47
	4	.654	2.234	.00	.16	.23
	5	.242	3.678	.04	.49	.02
	6	.014	15.155	.96	.05	.21

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Ethnicity	Urban
1	1	.01	.02	.00
	2	.68	.00	.00
	3	.00	.02	.00
	4	.15	.26	.00
	5	.14	.51	.01
	6	.03	.19	.98

a. Dependent Variable: Flights

Residuals Statistics[a]

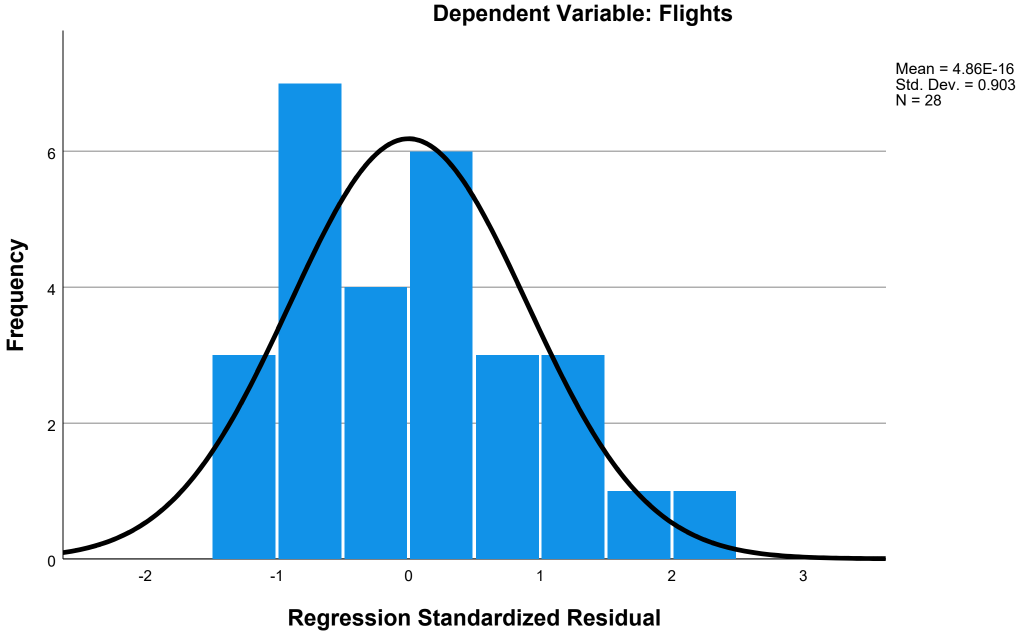
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.04	6.06	4.36	1.173	28
Residual	-2.745	3.959	.000	1.756	28
Std. Predicted Value	-1.974	1.453	.000	1.000	28
Std. Residual	-1.411	2.035	.000	.903	28

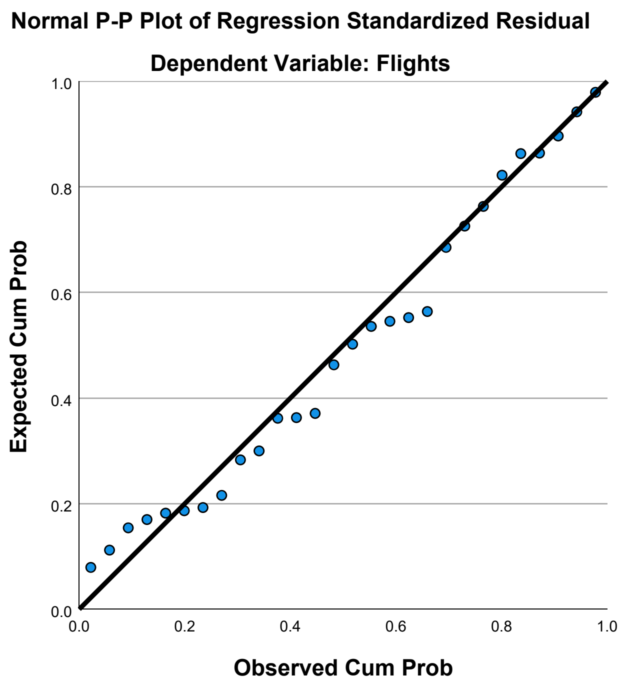
a. Dependent Variable: Flights

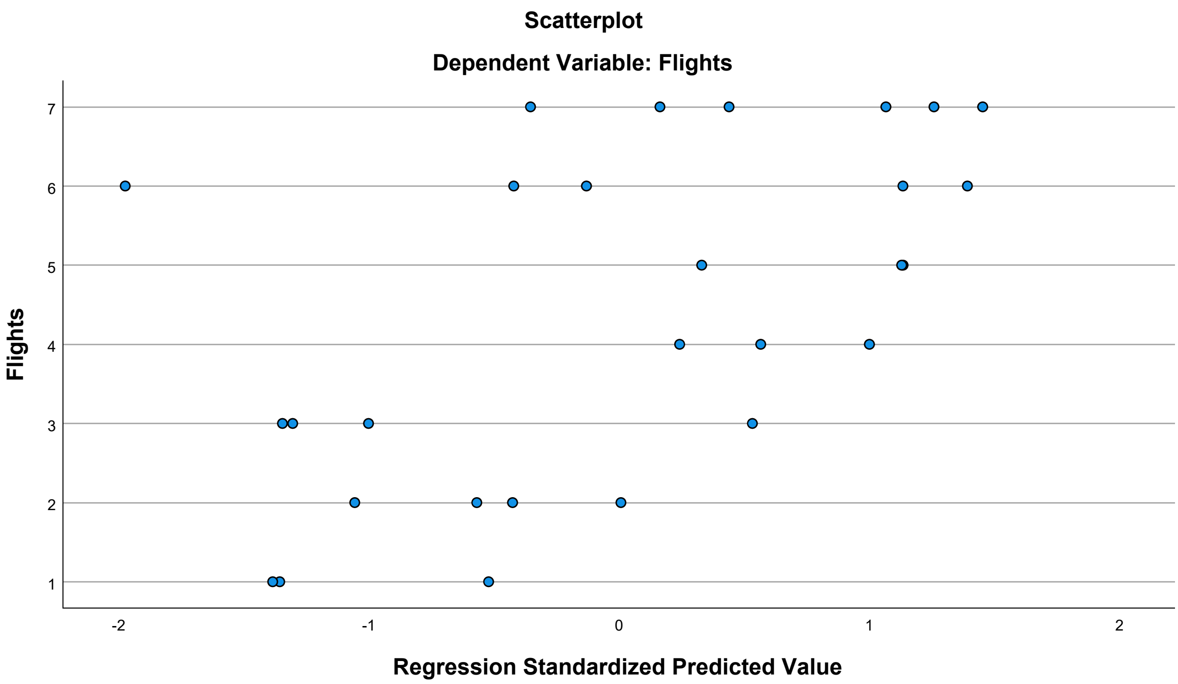
Charts

Histogram

Dependent Variable: Flights




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
1
2
3
4
5
6
7
-2
-1
0

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.36	2.112	28
HomeConcentration	1.0868387143	1.5101929827	28
PartnerConcentration	.77837107143	2.4645751381	28
Ethnicity	.75776336	.851519652	28
Urban	16.82	3.732	28

Correlations

		Flights	HomeConcentration	PartnerConcentration	Ethnicity
Pearson Correlation	Flights	1.000	.307	.119	-.030
	HomeConcentration	.307	1.000	-.213	-.217
	PartnerConcentration	.119	-.213	1.000	-.064
	Ethnicity	-.030	-.217	-.064	1.000
	Urban	.394	.170	-.218	.445
Sig. (1-tailed)	Flights	.	.056	.274	.439
	HomeConcentration	.056	.	.139	.133
	PartnerConcentration	.274	.139	.	.372
	Ethnicity	.439	.133	.372	.
	Urban	.019	.193	.133	.009
N	Flights	28	28	28	28
	HomeConcentration	28	28	28	28
	PartnerConcentration	28	28	28	28
	Ethnicity	28	28	28	28
	Urban	28	28	28	28

Correlations

		Urban
Pearson Correlation	Flights	.394
	HomeConcentration	.170
	PartnerConcentration	-.218
	Ethnicity	.445
	Urban	1.000
Sig. (1-tailed)	Flights	.019
	HomeConcentration	.193
	PartnerConcentration	.133
	Ethnicity	.009
	Urban	.
N	Flights	28
	HomeConcentration	28
	PartnerConcentration	28
	Ethnicity	28
	Urban	28

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, PartnerConcentration, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.551[a]	.304	.183	1.909	.304	2.510

Model Summary[b]

	Change Statistics		
Model	df1	df2	Sig. F Change
1	4	23	.070

a. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	36.592	4	9.148	2.510	.070[b]
	Residual	83.836	23	3.645		
	Total	120.429	27			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.515	1.829		-.282	.781
	HomeConcentration	.337	.266	.241	1.267	.218
	PartnerConcentration	.227	.155	.265	1.462	.157
	Ethnicity	-.444	.511	-.179	-.869	.394
	Urban	.277	.117	.490	2.374	.026

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.836	1.196
	PartnerConcentration	.920	1.087
	Ethnicity	.713	1.403
	Urban	.710	1.408

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions PartnerConcentration
1	1	3.047	1.000	.00	.03	.01
	2	.989	1.755	.00	.11	.68
	3	.699	2.087	.00	.34	.15
	4	.246	3.516	.04	.50	.12
	5	.018	13.009	.96	.03	.04

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Variance Proportions Urban
1	1	.03	.00
	2	.00	.00
	3	.25	.00
	4	.56	.02
	5	.17	.98

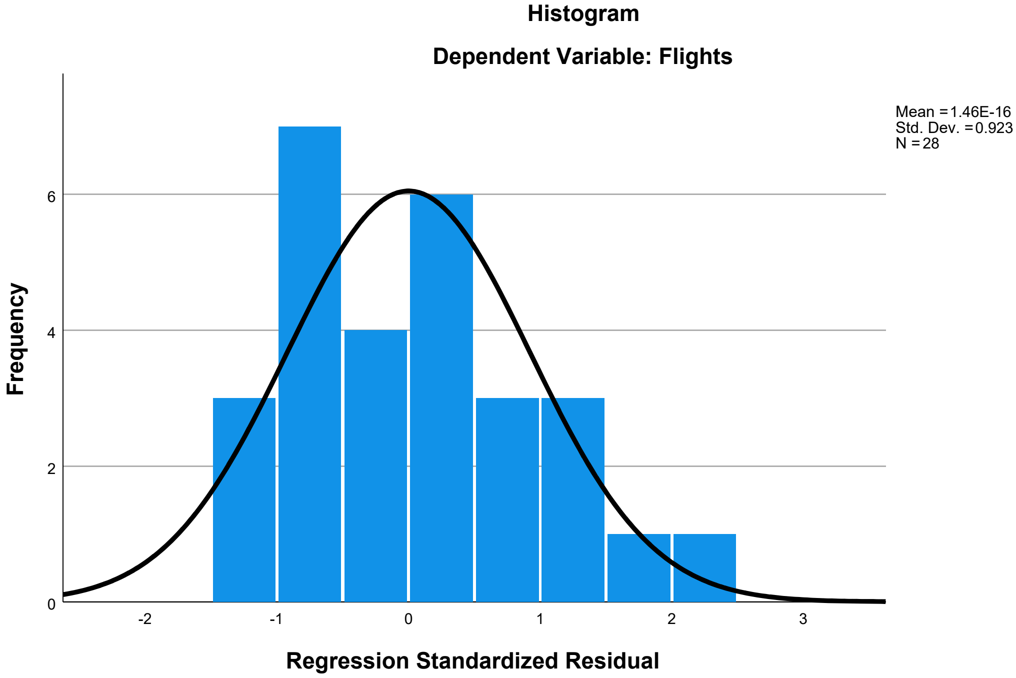
a. Dependent Variable: Flights

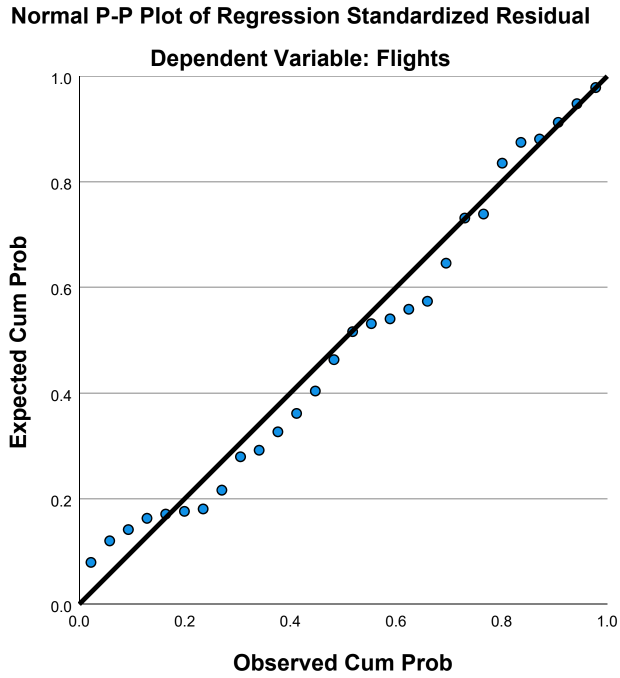
Residuals Statistics[a]

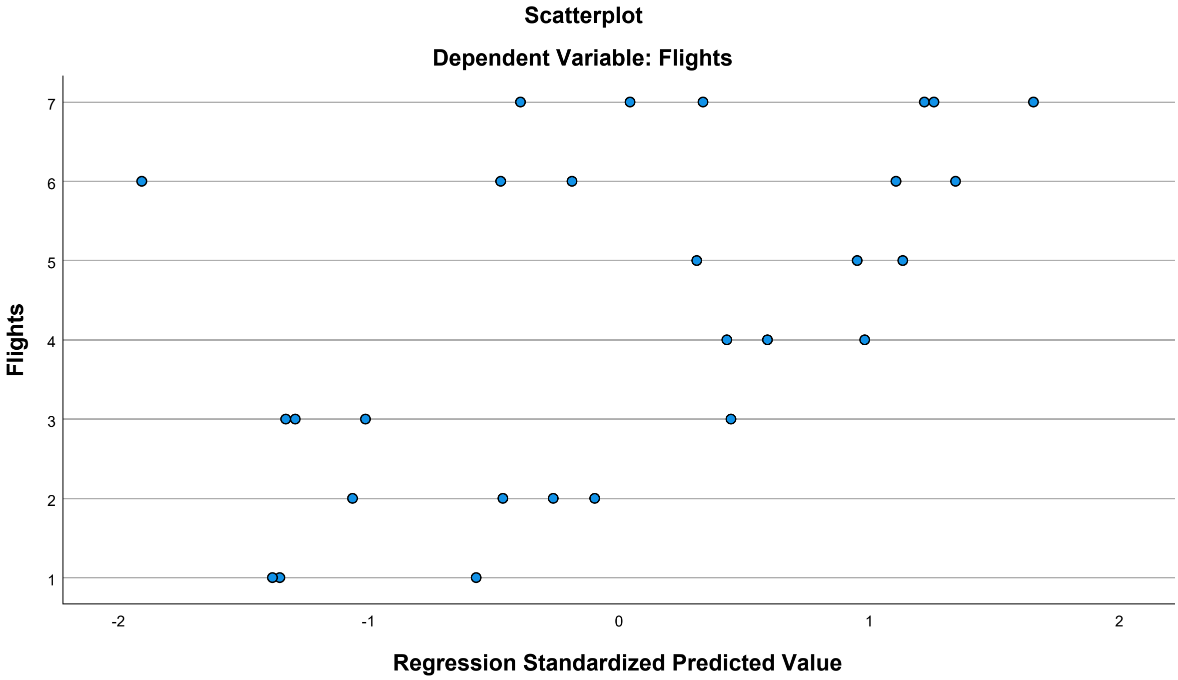
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.14	6.28	4.36	1.164	28
Residual	-2.692	3.864	.000	1.762	28
Std. Predicted Value	-1.908	1.656	.000	1.000	28
Std. Residual	-1.410	2.024	.000	.923	28

a. Dependent Variable: Flights

Charts







Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.36	2.112	28
HomeConcentration	1.0868387143	1.5101929827	28
PartnerConcentration	.77837107143	2.4645751381	28
Urban	16.82	3.732	28

Correlations

		Flights	HomeConcentration	PartnerConcentration	Urban
Pearson Correlation	Flights	1.000	.307	.119	.394
	HomeConcentration	.307	1.000	-.213	.170
	PartnerConcentration	.119	-.213	1.000	-.218
	Urban	.394	.170	-.218	1.000
Sig. (1-tailed)	Flights	.	.056	.274	.019
	HomeConcentration	.056	.	.139	.193
	PartnerConcentration	.274	.139	.	.133
	Urban	.019	.193	.133	.
N	Flights	28	28	28	28
	HomeConcentration	28	28	28	28
	PartnerConcentration	28	28	28	28
	Urban	28	28	28	28

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, PartnerConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.530[a]	.281	.191	1.899	.281	3.126

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	3	24	.044

a. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.839	3	11.280	3.126	.044[b]
	Residual	86.590	24	3.608		
	Total	120.429	27			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, PartnerConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.098	1.756		-.056	.956
	HomeConcentration	.414	.250	.296	1.656	.111
	PartnerConcentration	.231	.155	.269	1.492	.149
	Urban	.227	.101	.402	2.247	.034

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.939	1.065
	PartnerConcentration	.921	1.086
	Urban	.937	1.068

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	PartnerConcentration
1	1	2.548	1.000	.01	.05	.02
	2	.988	1.606	.00	.10	.70
	3	.443	2.398	.01	.84	.22
	4	.021	10.904	.98	.00	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.01
	2	.00
	3	.01
	4	.98

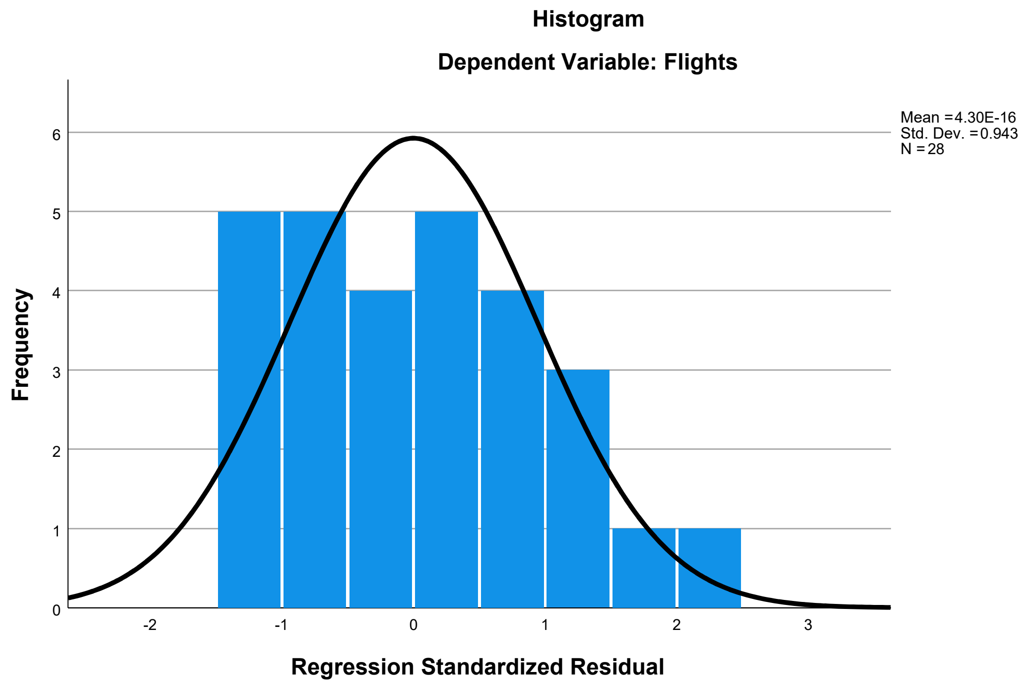
a. Dependent Variable: Flights

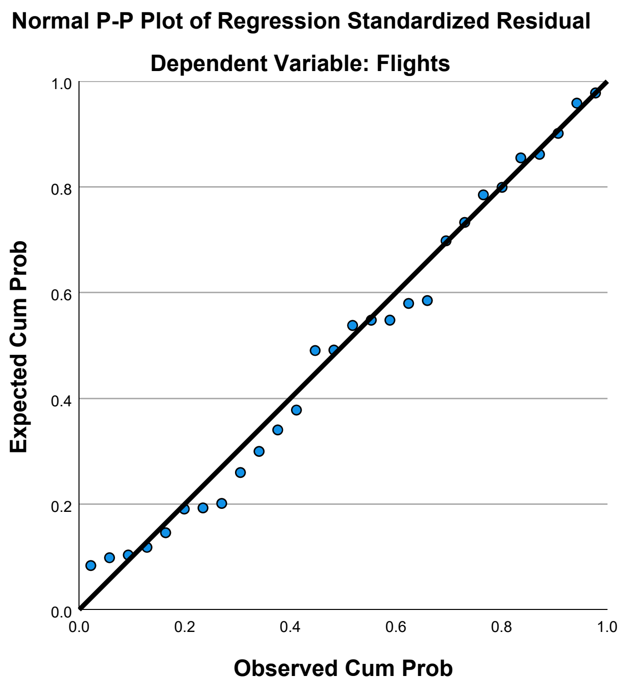
Residuals Statistics[a]

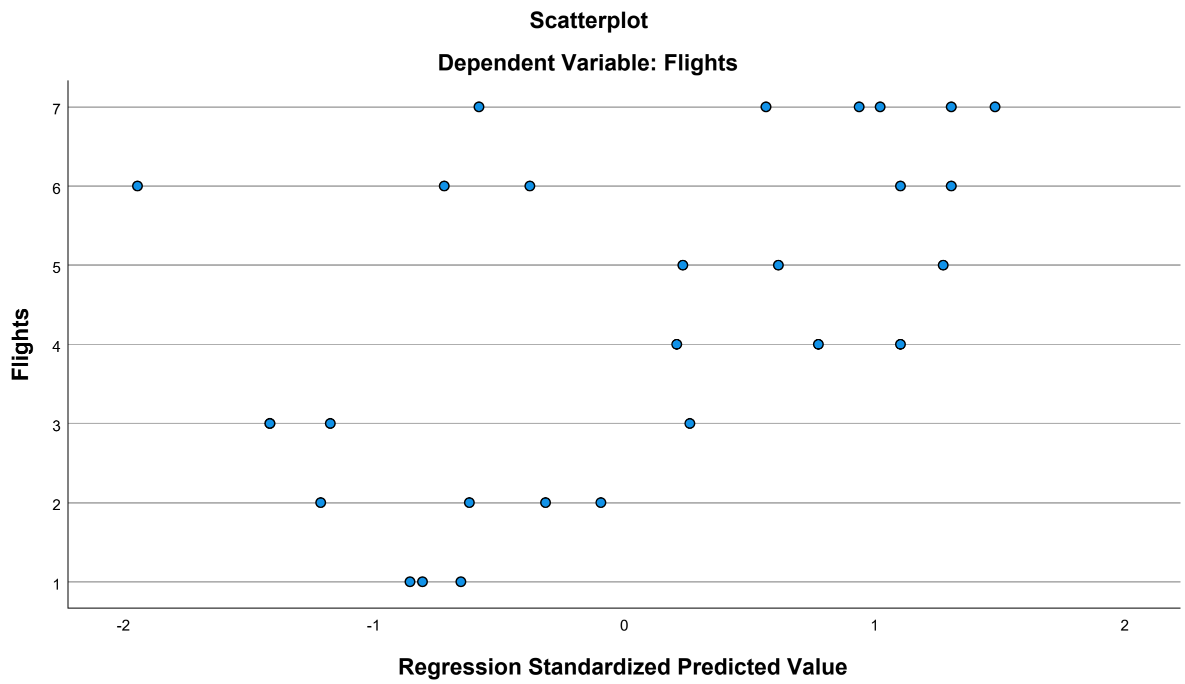
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.18	6.01	4.36	1.120	28
Residual	-2.626	3.821	.000	1.791	28
Std. Predicted Value	-1.946	1.481	.000	1.000	28
Std. Residual	-1.382	2.012	.000	.943	28

a. Dependent Variable: Flights

Charts







Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.36	2.112	28
HomeConcentration	1.0868387143	1.5101929827	28
Urban	16.82	3.732	28

Correlations

		Flights	HomeConcentration	Urban
Pearson Correlation	Flights	1.000	.307	.394
	HomeConcentration	.307	1.000	.170
	Urban	.394	.170	1.000
Sig. (1-tailed)	Flights	.	.056	.019
	HomeConcentration	.056	.	.193
	Urban	.019	.193	.
N	Flights	28	28	28
	HomeConcentration	28	28	28
	Urban	28	28	28

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.463[a]	.214	.151	1.945	.214	3.409

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	2	25	.049

a. Predictors: (Constant), Urban, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.807	2	12.903	3.409	.049[b]
	Residual	94.622	25	3.785		
	Total	120.429	27			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.634	1.727		.367	.716
	HomeConcentration	.346	.252	.247	1.374	.182
	Urban	.199	.102	.352	1.955	.062

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.971	1.030
	Urban	.971	1.030

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions Urban
1	1	2.466	1.000	.01	.06	.01
	2	.511	2.197	.01	.93	.01
	3	.023	10.419	.98	.01	.98

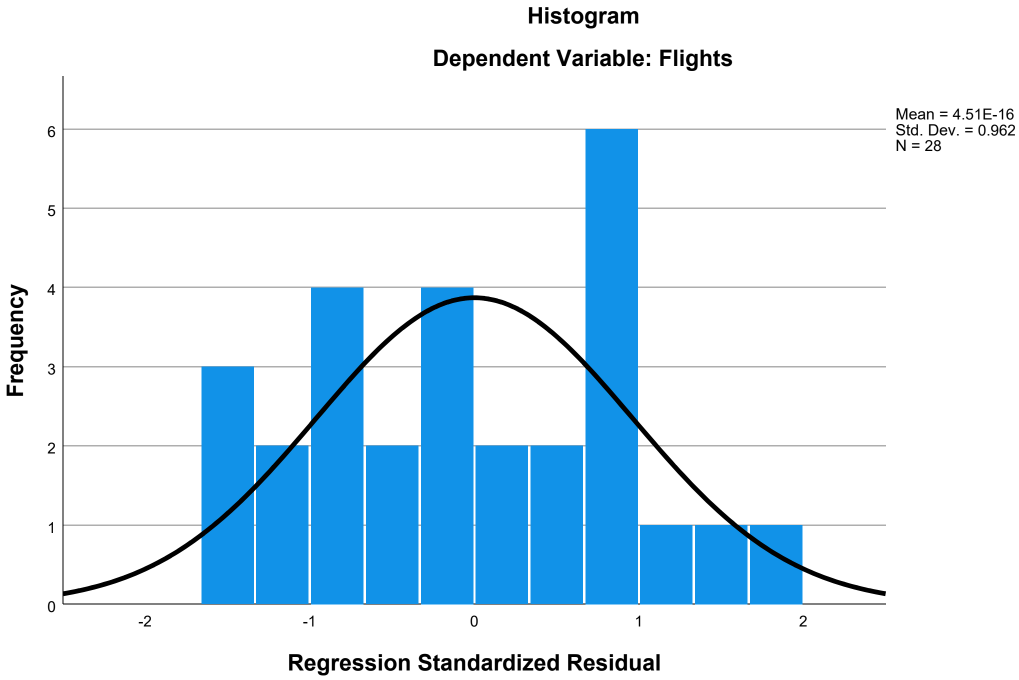
a. Dependent Variable: Flights

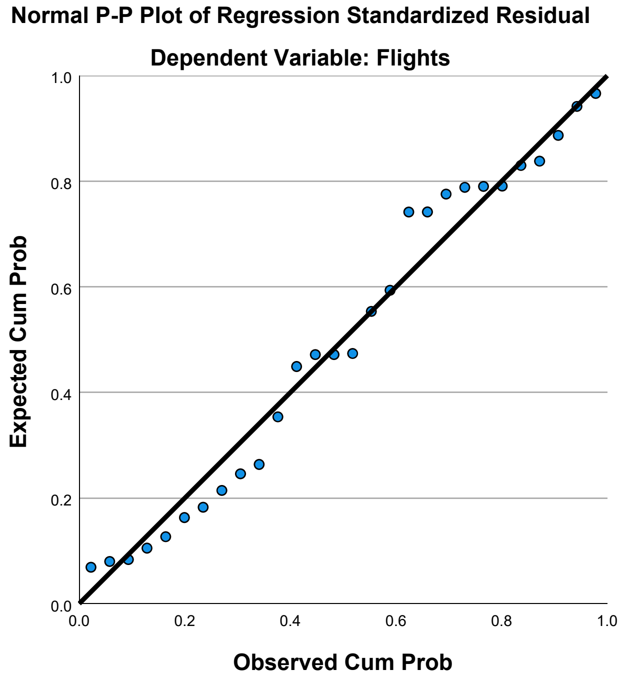
Residuals Statistics[a]

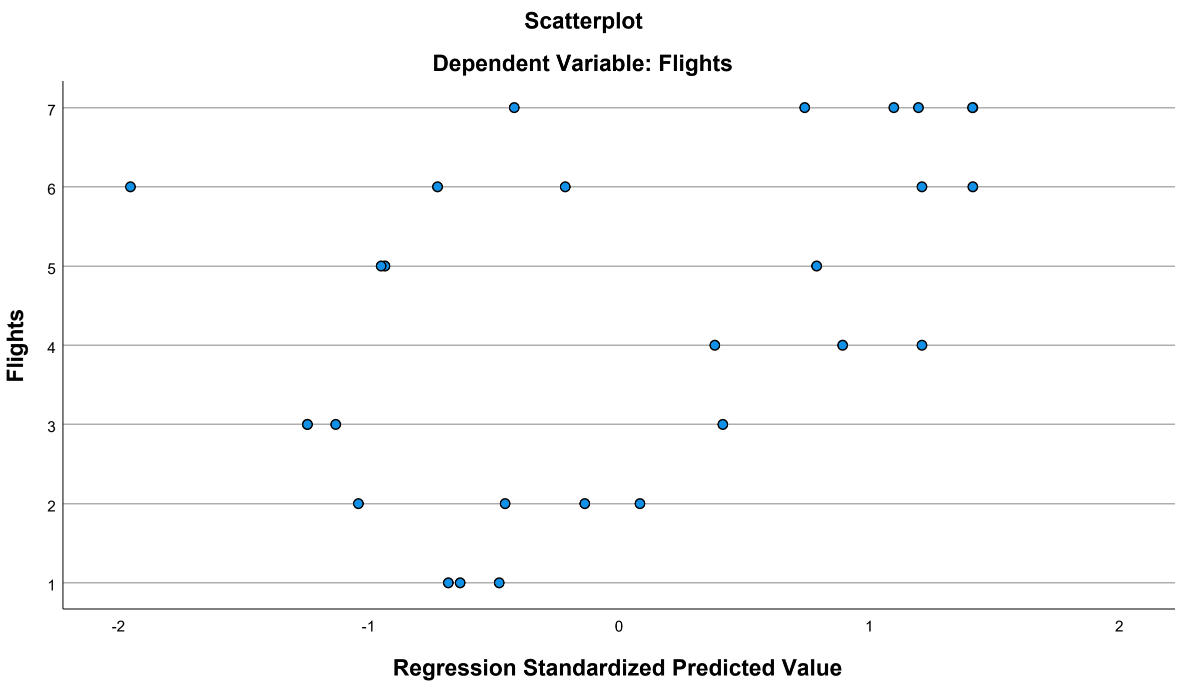
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.45	5.74	4.36	.978	28
Residual	-2.889	3.553	.000	1.872	28
Std. Predicted Value	-1.953	1.414	.000	1.000	28
Std. Residual	-1.485	1.826	.000	.962	28

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = 4.51E-16
Std. Dev. = 0.962
N = 28
Frequency
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.36	2.112	28
Urban	16.82	3.732	28

Correlations

		Flights	Urban
Pearson Correlation	Flights	1.000	.394
	Urban	.394	1.000
Sig. (1-tailed)	Flights	.	.019
	Urban	.019	.
N	Flights	28	28
	Urban	28	28

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.394[a]	.155	.122	1.978	.155	4.769

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	1	26	.038

a. Predictors: (Constant), Urban

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.665	1	18.665	4.769	.038[b]
	Residual	101.764	26	3.914		
	Total	120.429	27			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance
1	(Constant)	.610	1.756		.347	.731	
	Urban	.223	.102	.394	2.184	.038	1.000

Coefficients[a]

Model		Collinearity Statistics VIF
1	(Constant)	
	Urban	1.000

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Urban
1	1	1.977	1.000	.01	.01
	2	.023	9.287	.99	.99

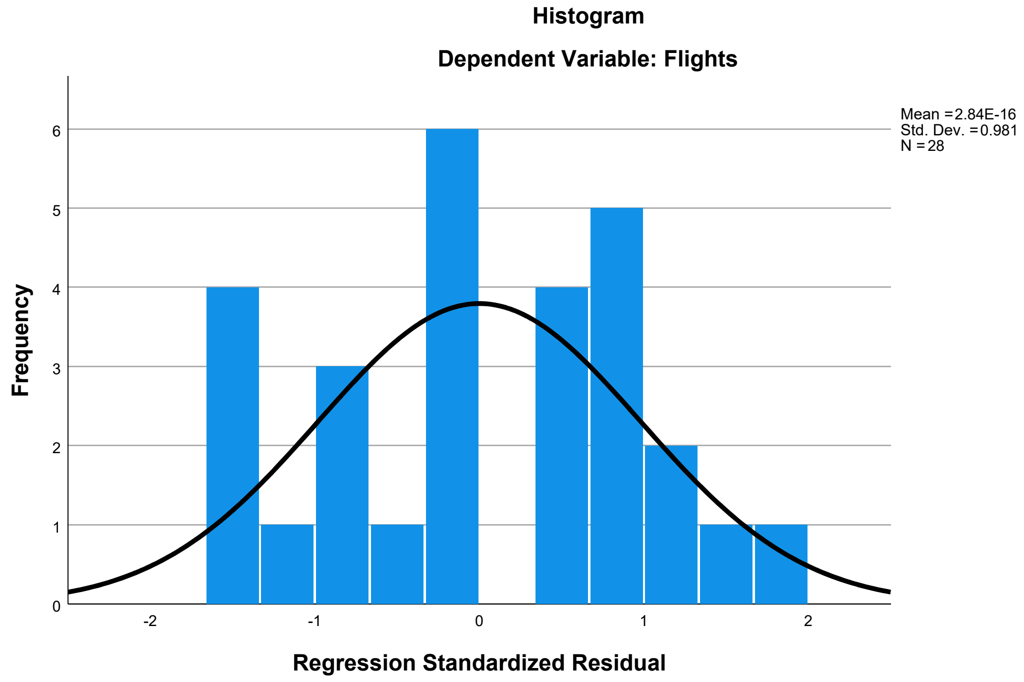
a. Dependent Variable: Flights

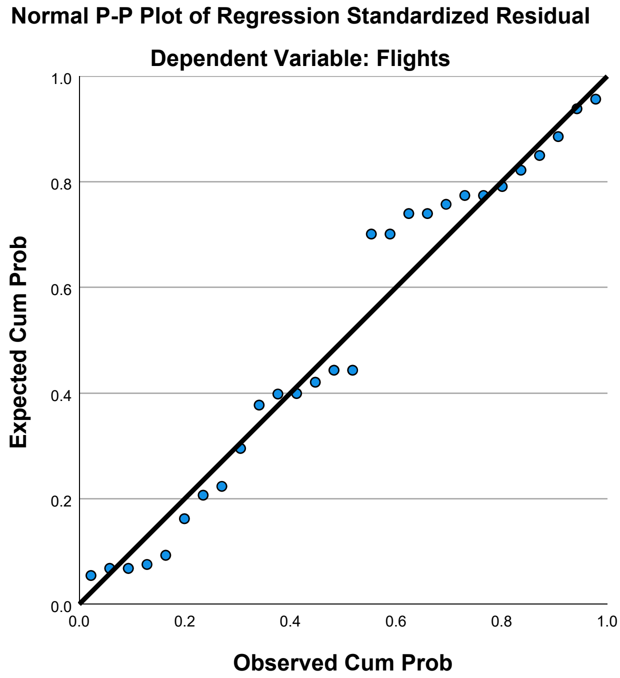
Residuals Statistics[a]

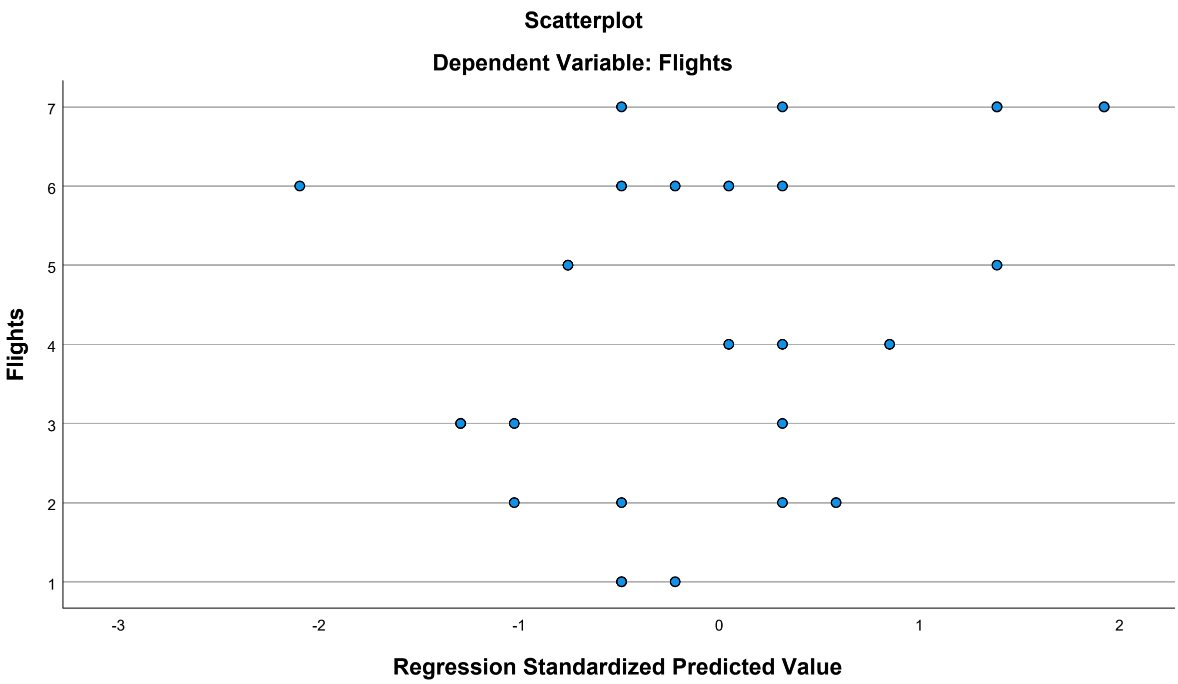
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.61	5.96	4.36	.831	28
Residual	-3.174	3.385	.000	1.941	28
Std. Predicted Value	-2.096	1.923	.000	1.000	28
Std. Residual	-1.604	1.711	.000	.981	28

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
1
2
3
4
5
6
7
-3
-2
-1
0
1
2

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.01	7.779	74
HomeConcentration	2.9529539730	2.6224583037	74
GJFK	.11	.313	74
PartnerConcentration	1.6852648919	2.8160805842	74
Distance	4.23946	.765508	74
Language	5.42702604	3.371130166	74
Ethnicity	.49579958	.279318120	74
Urban	18.96	3.532	74

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.355	.315	.035
	HomeConcentration	.355	1.000	-.166	-.060
	GJFK	.315	-.166	1.000	-.039
	PartnerConcentration	.035	-.060	-.039	1.000
	Distance	-.178	.005	-.373	-.041
	Language	.360	-.046	.770	.107
	Ethnicity	.306	-.047	.604	.127
	Urban	.515	.075	.351	.022
Sig. (1-tailed)	Flights	.	<.001	.003	.384
	HomeConcentration	.001	.	.078	.306
	GJFK	.003	.078	.	.370
	PartnerConcentration	.384	.306	.370	.
	Distance	.065	.483	.001	.363
	Language	.001	.348	.000	.183
	Ethnicity	.004	.345	.000	.141
	Urban	.000	.262	.001	.425
N	Flights	74	74	74	74
	HomeConcentration	74	74	74	74
	GJFK	74	74	74	74
	PartnerConcentration	74	74	74	74
	Distance	74	74	74	74
	Language	74	74	74	74
	Ethnicity	74	74	74	74
	Urban	74	74	74	74

Correlations

		Distance	Language	Ethnicity	Urban
Pearson Correlation	Flights	-.178	.360	.306	.515
	HomeConcentration	.005	-.046	-.047	.075
	GJFK	-.373	.770	.604	.351
	PartnerConcentration	-.041	.107	.127	.022
	Distance	1.000	-.533	-.408	-.232
	Language	-.533	1.000	.866	.566
	Ethnicity	-.408	.866	1.000	.494
	Urban	-.232	.566	.494	1.000
Sig. (1-tailed)	Flights	.065	<.001	.004	<.001
	HomeConcentration	.483	.348	.345	.262
	GJFK	.001	.000	.000	.001
	PartnerConcentration	.363	.183	.141	.425
	Distance	.	.000	.000	.023
	Language	.000	.	.000	.000
	Ethnicity	.000	.000	.	.000
	Urban	.023	.000	.000	.
N	Flights	74	74	74	74
	HomeConcentration	74	74	74	74
	GJFK	74	74	74	74
	PartnerConcentration	74	74	74	74
	Distance	74	74	74	74
	Language	74	74	74	74
	Ethnicity	74	74	74	74
	Urban	74	74	74	74

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, HomeConcentration, Distance, GJFK, Ethnicity, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.650[a]	.422	.361	6.220	.422	6.880

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	7	66	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, GJFK, Ethnicity, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1863.380	7	266.197	6.880	<.001[b]
	Residual	2553.607	66	38.691		
	Total	4416.986	73			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, GJFK, Ethnicity, Language

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-9.834	6.694		-1.469	.147
	HomeConcentration	1.114	.287	.376	3.883	<.001
	GJFK	8.578	3.964	.345	2.164	.034
	PartnerConcentration	.209	.267	.076	.781	.437
	Distance	-.392	1.147	-.039	-.342	.734
	Language	-.536	.645	-.232	-.831	.409
	Ethnicity	1.885	5.388	.068	.350	.728
	Urban	.998	.257	.453	3.880	<.001

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.937	1.068
	GJFK	.345	2.898
	PartnerConcentration	.936	1.068
	Distance	.688	1.454
	Language	.112	8.910
	Ethnicity	.234	4.274
	Urban	.643	1.556

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	GJFK
1	1	5.705	1.000	.00	.01	.00
	2	1.072	2.307	.00	.04	.19
	3	.705	2.844	.00	.07	.00
	4	.320	4.223	.00	.86	.06
	5	.143	6.323	.00	.00	.46
	6	.033	13.189	.00	.02	.11
	7	.015	19.500	.01	.00	.16
	8	.008	26.912	.98	.00	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions				
		PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.01	.00	.00	.00	.00
	2	.03	.00	.00	.00	.00
	3	.82	.00	.00	.00	.00
	4	.09	.01	.00	.00	.00
	5	.04	.02	.04	.15	.00
	6	.00	.09	.27	.61	.14
	7	.01	.18	.61	.21	.70
	8	.00	.70	.08	.02	.16

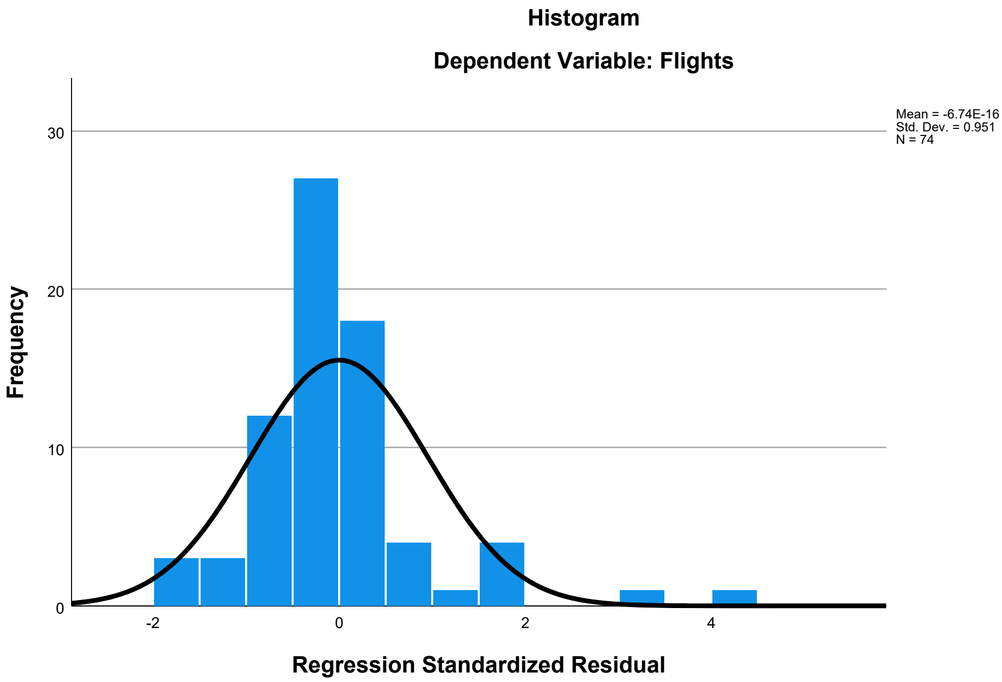
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-2.74	22.15	10.01	5.052	74
Residual	-10.591	26.855	.000	5.914	74
Std. Predicted Value	-2.525	2.401	.000	1.000	74
Std. Residual	-1.703	4.317	.000	.951	74

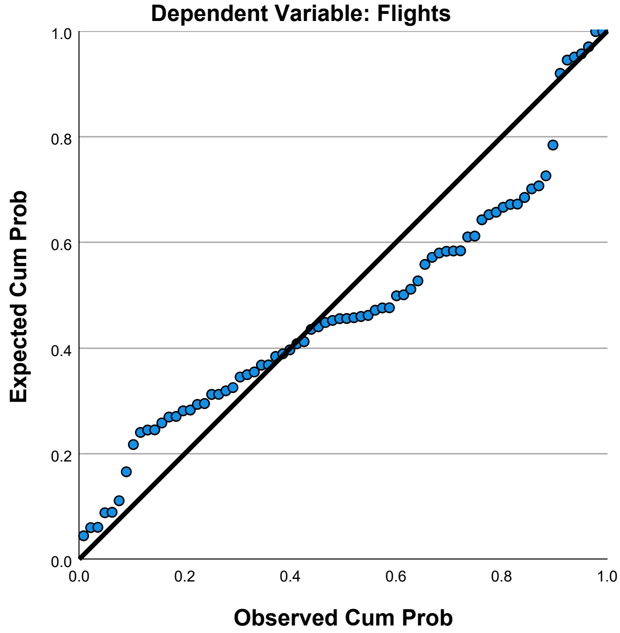
a. Dependent Variable: Flights

Charts



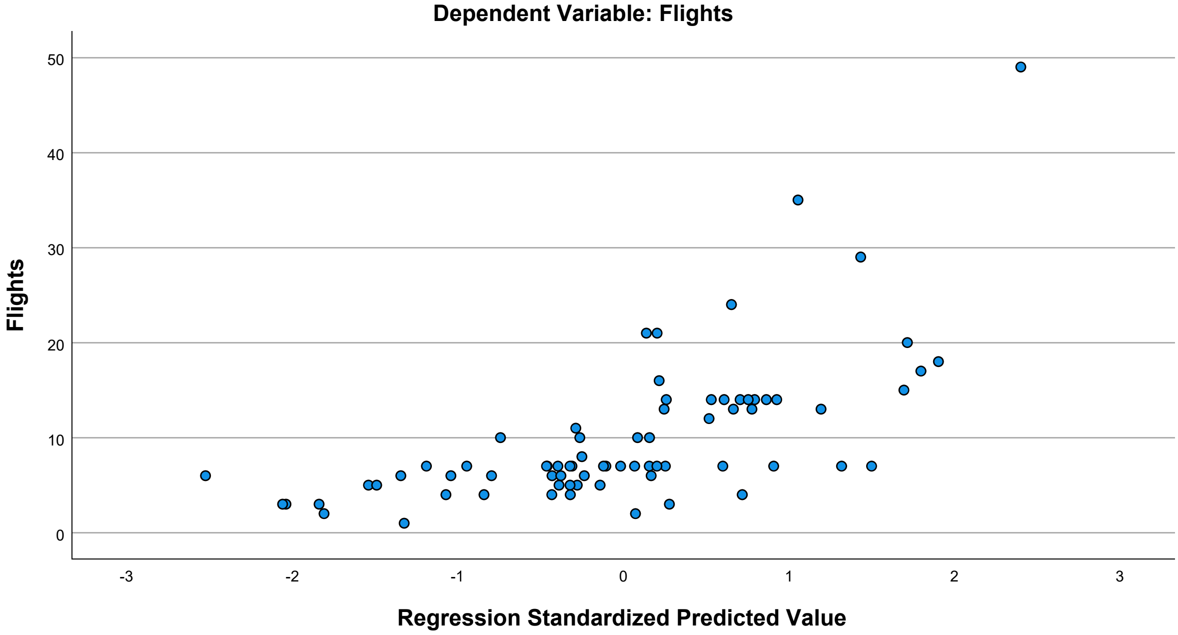
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.01	7.779	74
HomeConcentration	2.9529539730	2.6224583037	74
GJFK	.11	.313	74
PartnerConcentration	1.6852648919	2.8160805842	74
Distance	4.23946	.765508	74
Ethnicity	.49579958	.279318120	74
Urban	18.96	3.532	74

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.355	.315	.035
	HomeConcentration	.355	1.000	-.166	-.060
	GJFK	.315	-.166	1.000	-.039
	PartnerConcentration	.035	-.060	-.039	1.000
	Distance	-.178	.005	-.373	-.041
	Ethnicity	.306	-.047	.604	.127
	Urban	.515	.075	.351	.022
Sig. (1-tailed)	Flights	.	<.001	.003	.384
	HomeConcentration	.001	.	.078	.306
	GJFK	.003	.078	.	.370
	PartnerConcentration	.384	.306	.370	.
	Distance	.065	.483	.001	.363
	Ethnicity	.004	.345	.000	.141
	Urban	.000	.262	.001	.425
N	Flights	74	74	74	74
	HomeConcentration	74	74	74	74
	GJFK	74	74	74	74
	PartnerConcentration	74	74	74	74
	Distance	74	74	74	74
	Ethnicity	74	74	74	74
	Urban	74	74	74	74

Correlations

		Distance	Ethnicity	Urban
Pearson Correlation	Flights	-.178	.306	.515
	HomeConcentration	.005	-.047	.075
	GJFK	-.373	.604	.351
	PartnerConcentration	-.041	.127	.022
	Distance	1.000	-.408	-.232
	Ethnicity	-.408	1.000	.494
	Urban	-.232	.494	1.000
Sig. (1-tailed)	Flights	.065	.004	<.001
	HomeConcentration	.483	.345	.262
	GJFK	.001	.000	.001
	PartnerConcentration	.363	.141	.425
	Distance	.	.000	.023
	Ethnicity	.000	.	.000
	Urban	.023	.000	.
N	Flights	74	74	74
	HomeConcentration	74	74	74
	GJFK	74	74	74
	PartnerConcentration	74	74	74
	Distance	74	74	74
	Ethnicity	74	74	74
	Urban	74	74	74

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, HomeConcentration, Distance, GJFK, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.645[a]	.416	.364	6.206	.416	7.948

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	67	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, GJFK, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1836.652	6	306.109	7.948	<.001[b]
	Residual	2580.335	67	38.512		
	Total	4416.986	73			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, Distance, GJFK, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-10.872	6.561		-1.657	.102
	HomeConcentration	1.093	.285	.369	3.834	<.001
	GJFK	6.489	3.059	.261	2.122	.038
	PartnerConcentration	.177	.264	.064	.672	.504
	Distance	-.027	1.057	-.003	-.025	.980
	Ethnicity	-1.384	3.673	-.050	-.377	.707
	Urban	.921	.239	.418	3.847	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.944	1.059
	GJFK	.577	1.733
	PartnerConcentration	.955	1.047
	Distance	.806	1.241
	Ethnicity	.501	1.996
	Urban	.738	1.355

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

				Variance Proportions		
Model	Dimension	Eigenvalue	Condition Index	(Constant)	HomeConcentration	GJFK
1	1	4.845	1.000	.00	.01	.00
	2	.982	2.222	.00	.03	.42
	3	.705	2.622	.00	.07	.00
	4	.320	3.892	.00	.86	.09
	5	.116	6.455	.00	.00	.47
	6	.024	14.194	.00	.02	.02
	7	.008	24.280	.99	.00	.00

Collinearity Diagnostics[a]

		Variance Proportions			
Model	Dimension	PartnerConcentration	Distance	Ethnicity	Urban
1	1	.01	.00	.00	.00
	2	.03	.00	.01	.00
	3	.84	.00	.00	.00
	4	.09	.01	.00	.00
	5	.03	.03	.73	.00
	6	.00	.34	.25	.63
	7	.00	.62	.01	.37

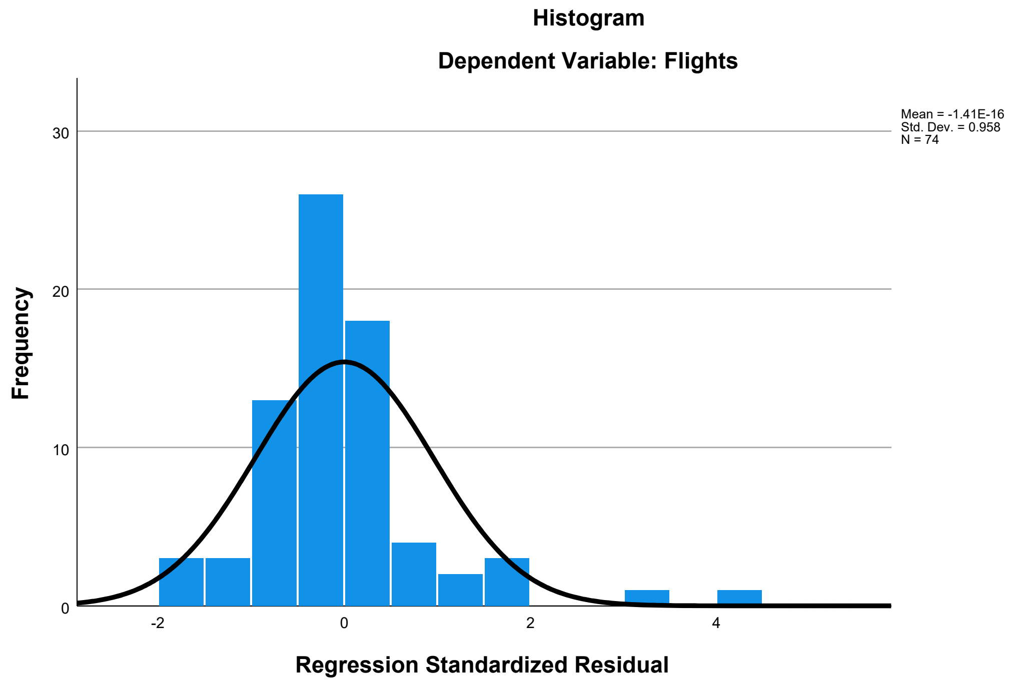
a. Dependent Variable: Flights

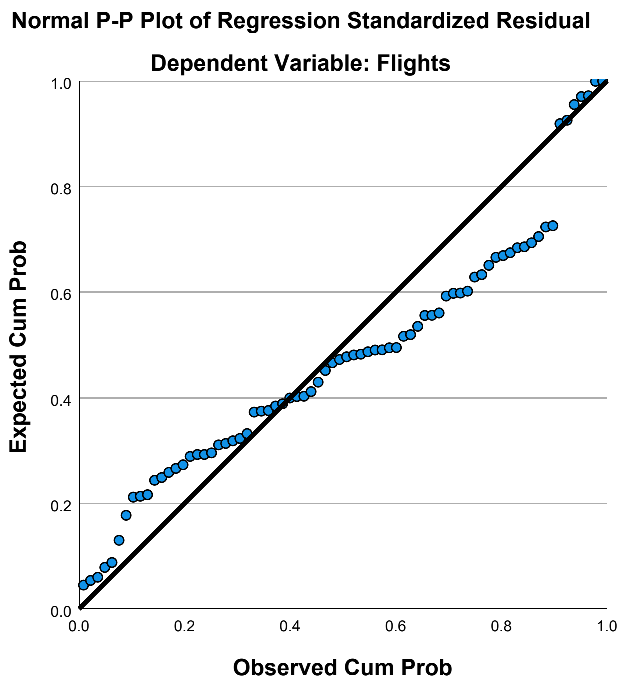
Residuals Statistics[a]

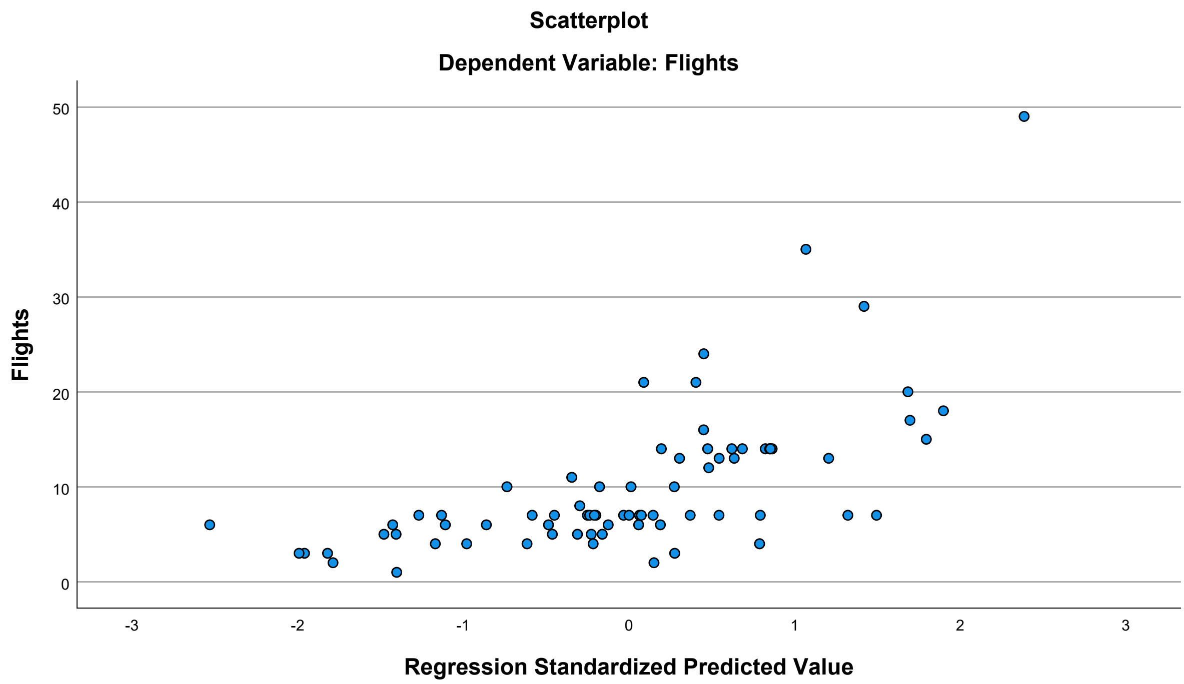
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-2.68	21.98	10.01	5.016	74
Residual	-10.510	27.021	.000	5.945	74
Std. Predicted Value	-2.531	2.386	.000	1.000	74
Std. Residual	-1.694	4.354	.000	.958	74

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-3
-2
-1
0
1
2
3

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.01	7.779	74
HomeConcentration	2.9529539730	2.6224583037	74
GJFK	.11	.313	74
PartnerConcentration	1.6852648919	2.8160805842	74
Ethnicity	.49579958	.279318120	74
Urban	18.96	3.532	74

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.355	.315	.035
	HomeConcentration	.355	1.000	-.166	-.060
	GJFK	.315	-.166	1.000	-.039
	PartnerConcentration	.035	-.060	-.039	1.000
	Ethnicity	.306	-.047	.604	.127
	Urban	.515	.075	.351	.022
Sig. (1-tailed)	Flights	.	<.001	.003	.384
	HomeConcentration	.001	.	.078	.306
	GJFK	.003	.078	.	.370
	PartnerConcentration	.384	.306	.370	.
	Ethnicity	.004	.345	.000	.141
	Urban	.000	.262	.001	.425
N	Flights	74	74	74	74
	HomeConcentration	74	74	74	74
	GJFK	74	74	74	74
	PartnerConcentration	74	74	74	74
	Ethnicity	74	74	74	74
	Urban	74	74	74	74

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	.306	.515
	HomeConcentration	-.047	.075
	GJFK	.604	.351
	PartnerConcentration	.127	.022
	Ethnicity	1.000	.494
	Urban	.494	1.000
Sig. (1-tailed)	Flights	.004	<.001
	HomeConcentration	.345	.262
	GJFK	.000	.001
	PartnerConcentration	.141	.425
	Ethnicity	.	.000
	Urban	.000	.
N	Flights	74	74
	HomeConcentration	74	74
	GJFK	74	74
	PartnerConcentration	74	74
	Ethnicity	74	74
	Urban	74	74

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, HomeConcentration, GJFK, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.645[a]	.416	.373	6.160	.416	9.680

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	5	68	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, GJFK, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1836.627	5	367.325	9.680	<.001[b]
	Residual	2580.359	68	37.946		
	Total	4416.986	73			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, GJFK, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-11.001	4.136		-2.660	.010
	HomeConcentration	1.093	.283	.369	3.868	<.001
	GJFK	6.503	2.988	.261	2.177	.033
	PartnerConcentration	.177	.262	.064	.677	.500
	Ethnicity	-1.365	3.562	-.049	-.383	.703
	Urban	.921	.238	.418	3.877	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.946	1.057
	GJFK	.596	1.678
	PartnerConcentration	.956	1.046
	Ethnicity	.525	1.905
	Urban	.738	1.354

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	3.962	1.000	.00	.02	.01
	2	.955	2.037	.00	.05	.42
	3	.693	2.392	.00	.11	.01
	4	.281	3.756	.01	.82	.21
	5	.095	6.464	.06	.01	.34
	6	.014	16.787	.93	.00	.02

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Ethnicity	Urban
1	1	.02	.01	.00
	2	.06	.00	.00
	3	.78	.00	.00
	4	.12	.02	.01
	5	.01	.90	.02
	6	.00	.07	.97

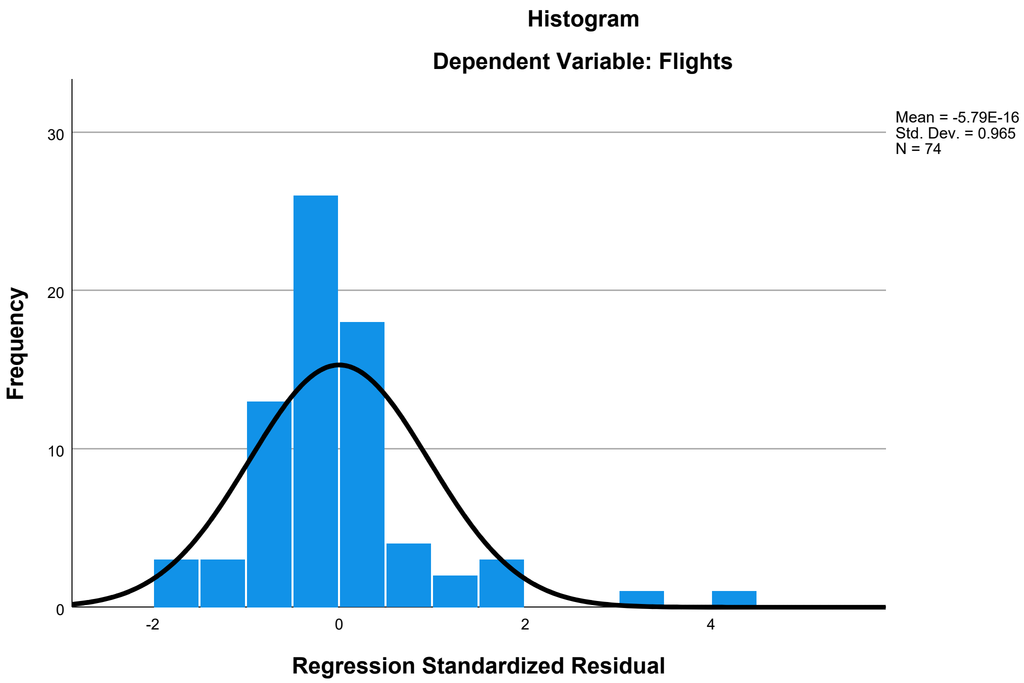
a. Dependent Variable: Flights

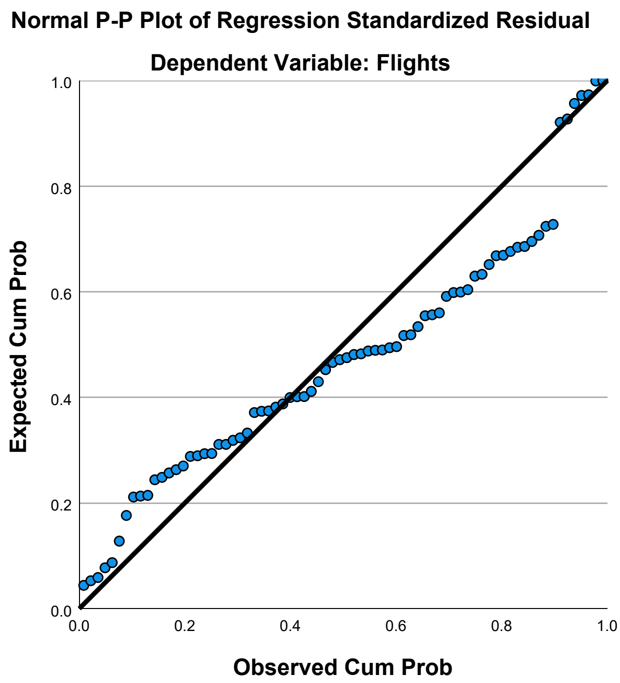
Residuals Statistics[a]

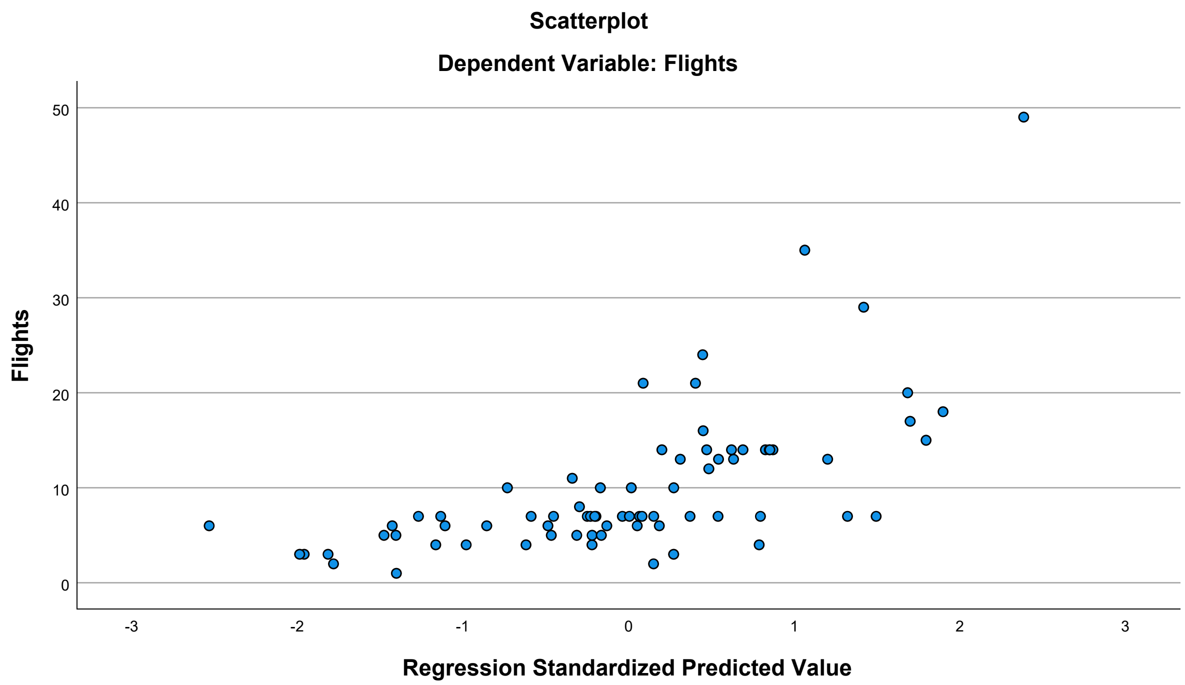
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-2.69	21.98	10.01	5.016	74
Residual	-10.511	27.019	.000	5.945	74
Std. Predicted Value	-2.533	2.386	.000	1.000	74
Std. Residual	-1.706	4.386	.000	.965	74

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -5.79E-16
Std. Dev. = 0.965
N = 74
30
20
10
0
Frequency
-2
0
2
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
1.0
0.8
0.6
0.4
0.2
0.0
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.01	7.779	74
HomeConcentration	2.9529539730	2.6224583037	74
GJFK	.11	.313	74
PartnerConcentration	1.6852648919	2.8160805842	74
Urban	18.96	3.532	74

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.355	.315	.035
	HomeConcentration	.355	1.000	-.166	-.060
	GJFK	.315	-.166	1.000	-.039
	PartnerConcentration	.035	-.060	-.039	1.000
	Urban	.515	.075	.351	.022
Sig. (1-tailed)	Flights	.	<.001	.003	.384
	HomeConcentration	.001	.	.078	.306
	GJFK	.003	.078	.	.370
	PartnerConcentration	.384	.306	.370	.
	Urban	.000	.262	.001	.425
N	Flights	74	74	74	74
	HomeConcentration	74	74	74	74
	GJFK	74	74	74	74
	PartnerConcentration	74	74	74	74
	Urban	74	74	74	74

Correlations

		Urban
Pearson Correlation	Flights	.515
	HomeConcentration	.075
	GJFK	.351
	PartnerConcentration	.022
	Urban	1.000
Sig. (1-tailed)	Flights	<.001
	HomeConcentration	.262
	GJFK	.001
	PartnerConcentration	.425
	Urban	.
N	Flights	74
	HomeConcentration	74
	GJFK	74
	PartnerConcentration	74
	Urban	74

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, HomeConcentration, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.644[a]	.415	.381	6.122	.415	12.214

Model Summary[b]

	Change Statistics		
Model	df1	df2	Sig. F Change
1	4	69	<.001

a. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1831.060	4	457.765	12.214	<.001[b]
	Residual	2585.927	69	37.477		
	Total	4416.986	73			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, HomeConcentration, GJFK

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-10.930	4.106		-2.662	.010
	HomeConcentration	1.090	.281	.368	3.883	<.001
	GJFK	5.890	2.507	.237	2.349	.022
	PartnerConcentration	.158	.256	.057	.620	.537
	Urban	.887	.219	.403	4.047	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.947	1.056
	GJFK	.836	1.197
	PartnerConcentration	.992	1.009
	Urban	.856	1.168

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions GJFK
1	1	3.111	1.000	.00	.03	.01
	2	.914	1.845	.00	.03	.71
	3	.693	2.119	.00	.11	.01
	4	.267	3.413	.02	.83	.15
	5	.015	14.448	.97	.00	.11

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Variance Proportions Urban
1	1	.03	.00
	2	.05	.00
	3	.81	.00
	4	.11	.02
	5	.00	.98

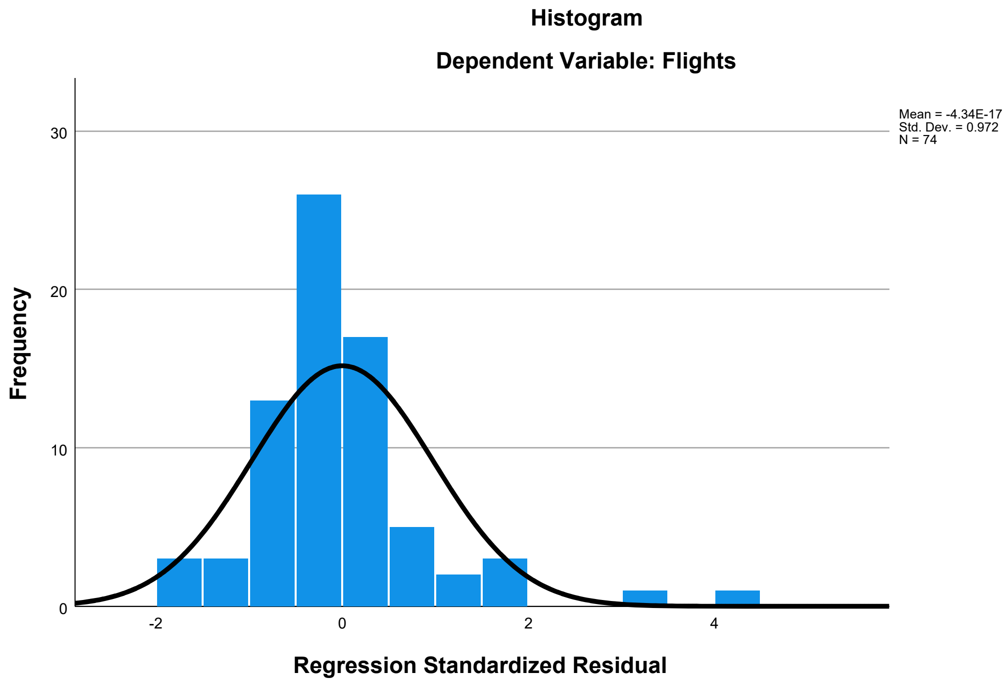
a. Dependent Variable: Flights

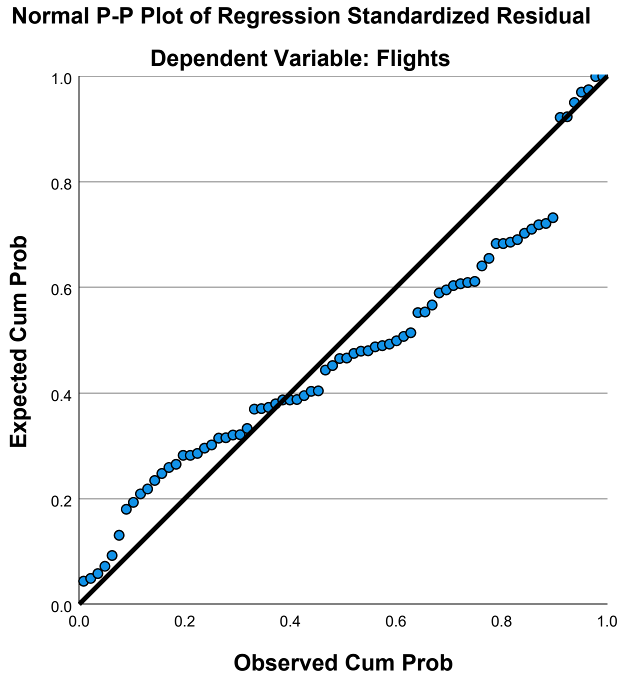
Residuals Statistics[a]

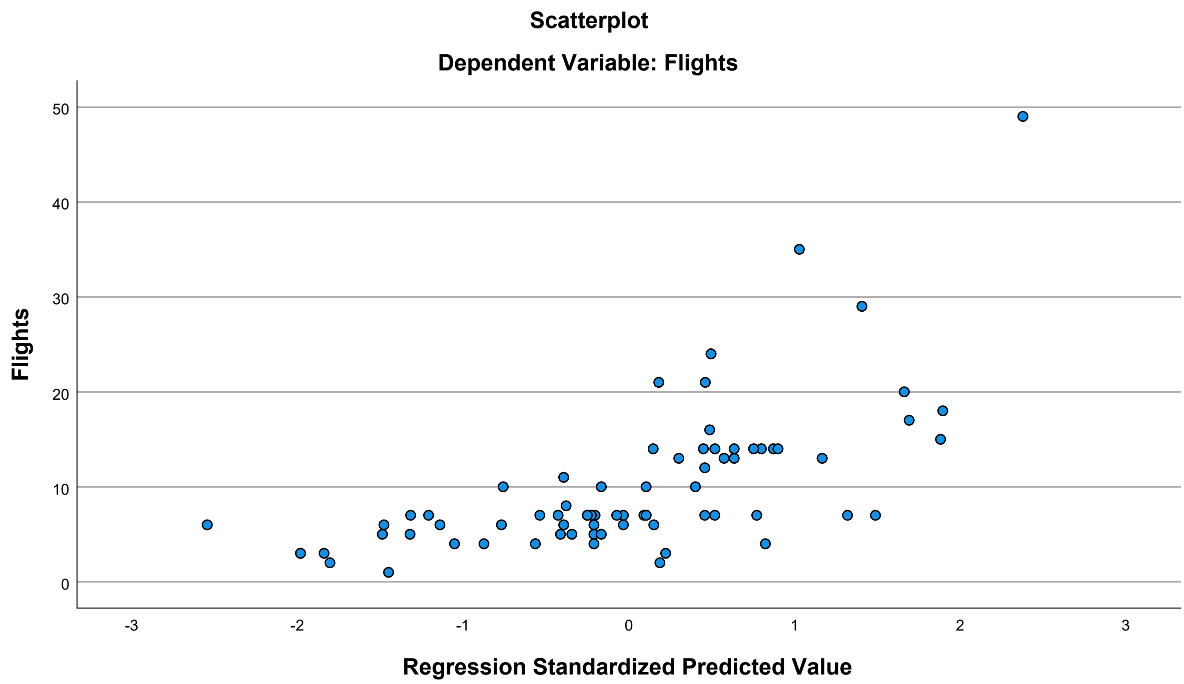
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-2.74	21.92	10.01	5.008	74
Residual	-10.467	27.075	.000	5.952	74
Std. Predicted Value	-2.546	2.378	.000	1.000	74
Std. Residual	-1.710	4.423	.000	.972	74

a. Dependent Variable: Flights

Charts







Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	10.01	7.779	74
HomeConcentration	2.9529539730	2.6224583037	74
GJFK	.11	.313	74
Urban	18.96	3.532	74

Correlations

		Flights	HomeConcentration	GJFK	Urban
Pearson Correlation	Flights	1.000	.355	.315	.515
	HomeConcentration	.355	1.000	-.166	.075
	GJFK	.315	-.166	1.000	.351
	Urban	.515	.075	.351	1.000
Sig. (1-tailed)	Flights	.	<.001	.003	<.001
	HomeConcentration	.001	.	.078	.262
	GJFK	.003	.078	.	.001
	Urban	.000	.262	.001	.
N	Flights	74	74	74	74
	HomeConcentration	74	74	74	74
	GJFK	74	74	74	74
	Urban	74	74	74	74

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration, GJFK[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.641[a]	.411	.386	6.095	.411	16.301

Model Summary[b]

	Change Statistics		
Model	df1	df2	Sig. F Change
1	3	70	<.001

a. Predictors: (Constant), Urban, HomeConcentration, GJFK

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1816.664	3	605.555	16.301	<.001[b]
	Residual	2600.323	70	37.147		
	Total	4416.986	73			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration, GJFK

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-10.741	4.076		-2.635	.010
	HomeConcentration	1.077	.279	.363	3.864	<.001
	GJFK	5.789	2.491	.233	2.324	.023
	Urban	.894	.218	.406	4.100	<.001

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.952	1.051
	GJFK	.839	1.192
	Urban	.858	1.165

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	GJFK
1	1	2.799	1.000	.00	.04	.02
	2	.899	1.765	.00	.06	.72
	3	.288	3.120	.02	.90	.15
	4	.015	13.703	.98	.00	.11

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.01
	4	.98

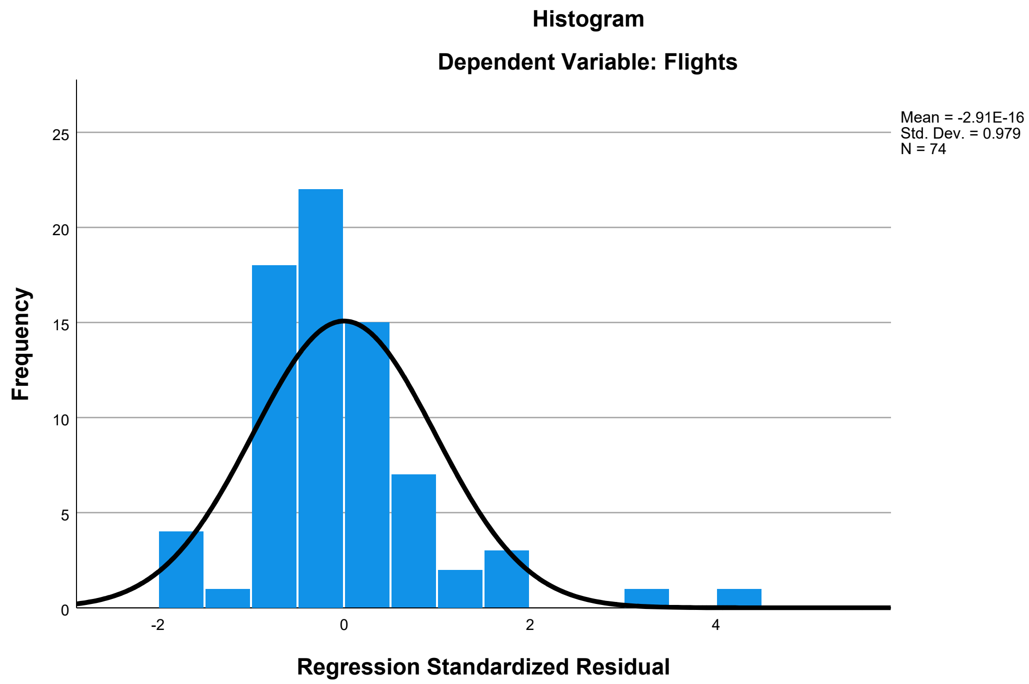
a. Dependent Variable: Flights

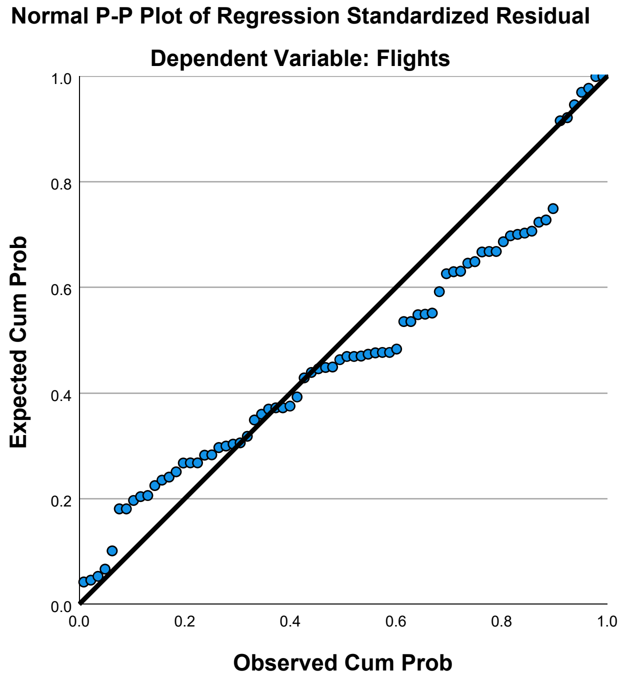
Residuals Statistics[a]

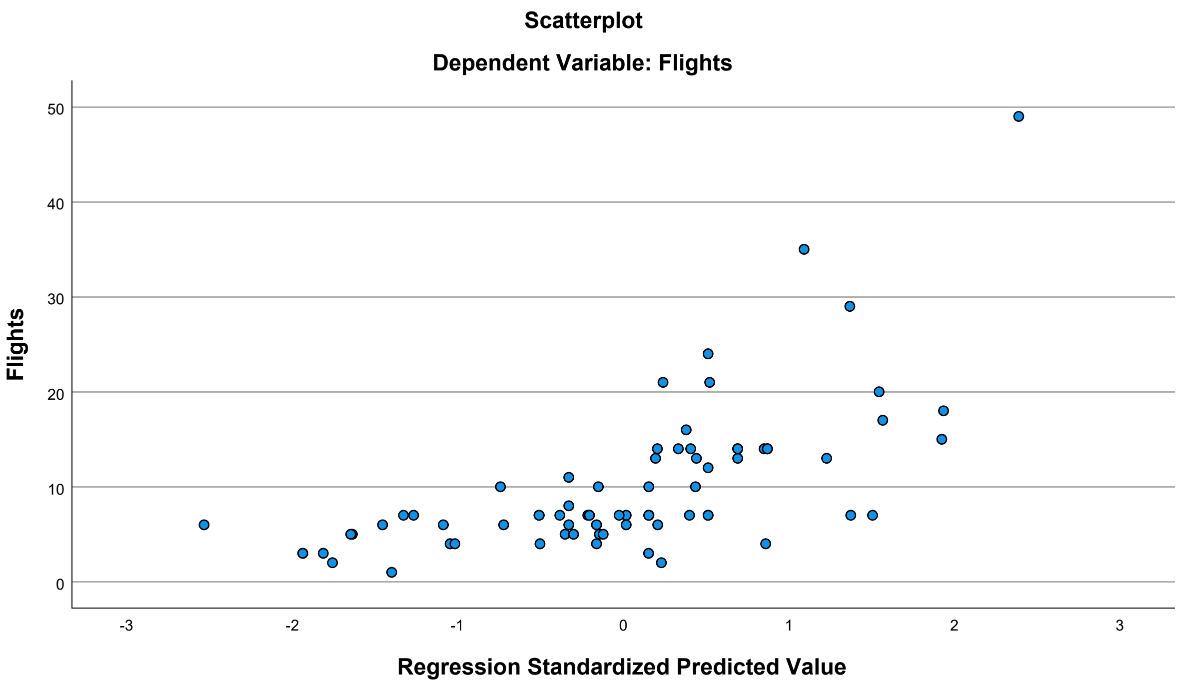
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-2.63	21.93	10.01	4.989	74
Residual	-10.524	27.070	.000	5.968	74
Std. Predicted Value	-2.534	2.389	.000	1.000	74
Std. Residual	-1.727	4.441	.000	.979	74

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
0
10
20
30
40
50
-3
-2
-1
0
1
2
3

Regression

```
[DataSet5] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final T
ry\UK\2017 Winter - nonLHR - CAN - Airline.sav
```

Warnings

For models with dependent variable Flights, the following variables are constants or have missing correlations: PartnerConcentration. They will be deleted from the analysis.

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.61	6.021	18
HomeConcentration	1.9983354444	1.8853111228	18
PartnerConcentration	.000100	.0000000	18
Distance	3.73989	.693169	18
Language	3.48651056	3.943635120	18
Ethnicity	1.22517944	1.132657031	18
Urban	17.83	3.222	18

Correlations

		Flights	HomeConcentration	PartnerConcentration	Distance
Pearson Correlation	Flights	1.000	.504	.	-.015
	HomeConcentration	.504	1.000	.	.255
	PartnerConcentration	.	.	1.000	.
	Distance	-.015	.255	.	1.000
	Language	.350	-.112	.	-.243
	Ethnicity	.385	-.053	.	-.051
	Urban	.579	.453	.	.379
Sig. (1-tailed)	Flights	.	.016	.000	.476
	HomeConcentration	.016	.	.000	.154
	PartnerConcentration	.000	.000	.	.000
	Distance	.476	.154	.000	.
	Language	.077	.330	.000	.165
	Ethnicity	.057	.417	.000	.420
	Urban	.006	.029	.000	.061
N	Flights	18	18	18	18
	HomeConcentration	18	18	18	18
	PartnerConcentration	18	18	18	18
	Distance	18	18	18	18
	Language	18	18	18	18
	Ethnicity	18	18	18	18
	Urban	18	18	18	18

Correlations

		Language	Ethnicity	Urban
Pearson Correlation	Flights	.350	.385	.579
	HomeConcentration	-.112	-.053	.453
	PartnerConcentration	.	.	.
	Distance	-.243	-.051	.379
	Language	1.000	.950	.467
	Ethnicity	.950	1.000	.586
	Urban	.467	.586	1.000
Sig. (1-tailed)	Flights	.077	.057	.006
	HomeConcentration	.330	.417	.029
	PartnerConcentration	.000	.000	.000
	Distance	.165	.420	.061
	Language	.	.000	.025
	Ethnicity	.000	.	.005
	Urban	.025	.005	.
N	Flights	18	18	18
	HomeConcentration	18	18	18
	PartnerConcentration	18	18	18
	Distance	18	18	18
	Language	18	18	18
	Ethnicity	18	18	18
	Urban	18	18	18

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, HomeConcentration, Language, Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.706[a]	.499	.290	5.072	.499	2.390

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	5	12	.100

a. Predictors: (Constant), Urban, Distance, HomeConcentration, Language, Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	307.527	5	61.505	2.390	.100[b]
	Residual	308.751	12	25.729		
	Total	616.278	17			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, HomeConcentration, Language, Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-1.457	10.359		-.141	.890
	HomeConcentration	1.252	.819	.392	1.529	.152
	Distance	-2.456	2.475	-.283	-.992	.341
	Language	-.156	1.288	-.102	-.121	.906
	Ethnicity	1.314	4.555	.247	.289	.778
	Urban	.767	.663	.411	1.158	.269

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.635	1.574
	Distance	.514	1.945
	Language	.059	17.045
	Ethnicity	.057	17.589
	Urban	.332	3.013

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Distance
1	1	4.849	1.000	.00	.01	.00
	2	.806	2.453	.00	.09	.00
	3	.301	4.012	.01	.59	.01
	4	.029	12.885	.09	.01	.07
	5	.009	23.403	.03	.10	.83
	6	.006	27.827	.87	.19	.09

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Language	Ethnicity	Urban
1	1	.00	.00	.00
	2	.02	.01	.00
	3	.00	.00	.00
	4	.31	.34	.00
	5	.35	.14	.43
	6	.32	.51	.57

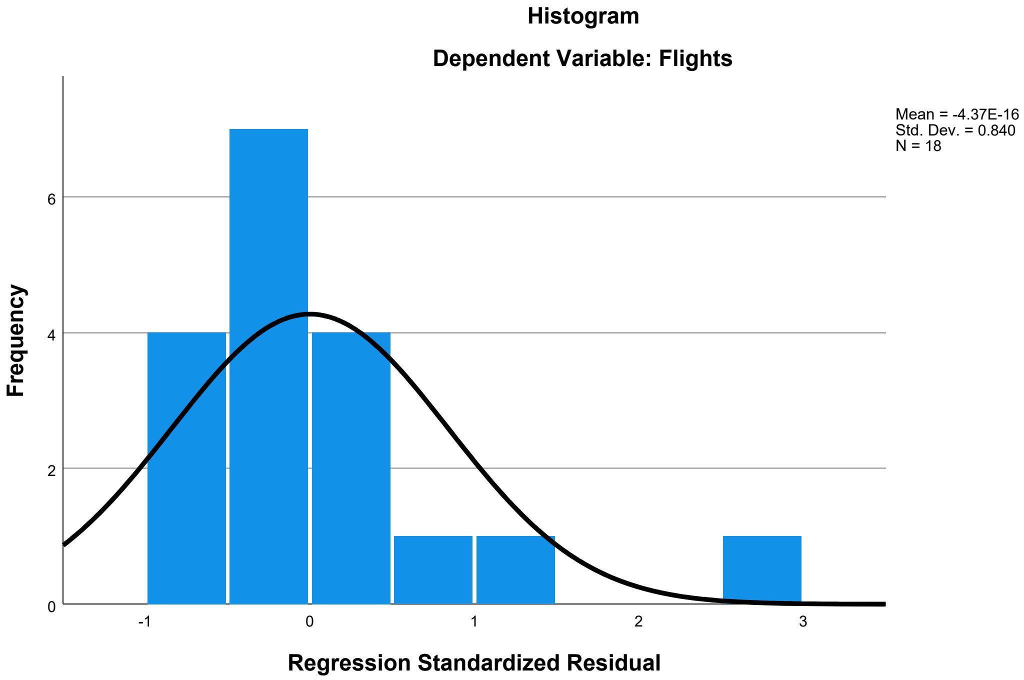
a. Dependent Variable: Flights

Residuals Statistics[a]

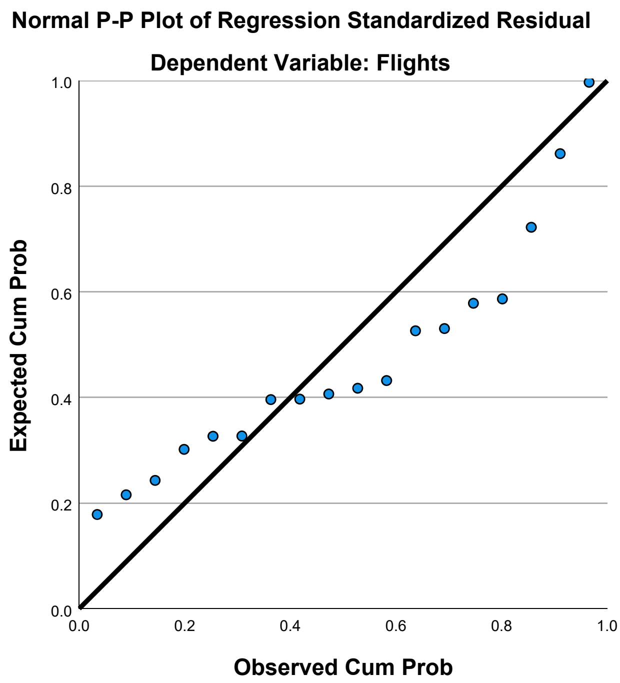
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.00	15.33	6.61	4.253	18
Residual	-4.679	13.869	.000	4.262	18
Std. Predicted Value	-1.320	2.049	.000	1.000	18
Std. Residual	-.923	2.734	.000	.840	18

a. Dependent Variable: Flights

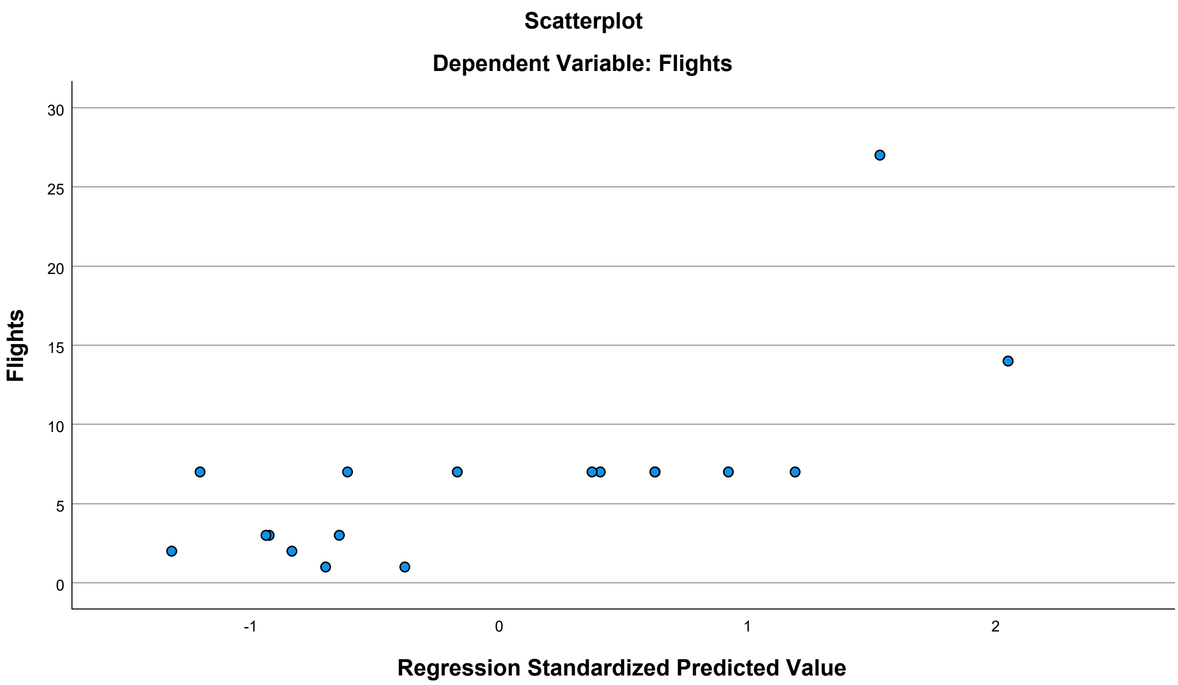
Charts



Histogram
Dependent Variable: Flights
Mean = -4.37E-16
Std. Dev. = 0.840
N = 18
Frequency
0
2
4
6
-1
0
1
2
3
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.61	6.021	18
HomeConcentration	1.9983354444	1.8853111228	18
Distance	3.73989	.693169	18
Language	3.48651056	3.943635120	18
Urban	17.83	3.222	18

Correlations

		Flights	HomeConcentration	Distance	Language
Pearson Correlation	Flights	1.000	.504	-.015	.350
	HomeConcentration	.504	1.000	.255	-.112
	Distance	-.015	.255	1.000	-.243
	Language	.350	-.112	-.243	1.000
	Urban	.579	.453	.379	.467
Sig. (1-tailed)	Flights	.	.016	.476	.077
	HomeConcentration	.016	.	.154	.330
	Distance	.476	.154	.	.165
	Language	.077	.330	.165	.
	Urban	.006	.029	.061	.025
N	Flights	18	18	18	18
	HomeConcentration	18	18	18	18
	Distance	18	18	18	18
	Language	18	18	18	18
	Urban	18	18	18	18

Correlations

		Urban
Pearson Correlation	Flights	.579
	HomeConcentration	.453
	Distance	.379
	Language	.467
	Urban	1.000
Sig. (1-tailed)	Flights	.006
	HomeConcentration	.029
	Distance	.061
	Language	.025
	Urban	.
N	Flights	18
	HomeConcentration	18
	Distance	18
	Language	18
	Urban	18

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, HomeConcentration, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.704[a]	.496	.340	4.890	.496	3.192

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	4	13	.049

a. Predictors: (Constant), Urban, Distance, HomeConcentration, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	305.385	4	76.346	3.192	.049[b]
	Residual	310.893	13	23.915		
	Total	616.278	17			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, HomeConcentration, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-3.105	8.332		-.373	.715
	HomeConcentration	1.219	.782	.382	1.560	.143
	Distance	-2.163	2.176	-.249	-.994	.338
	Language	.192	.437	.126	.440	.667
	Urban	.824	.610	.441	1.351	.200

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.648	1.544
	Distance	.618	1.617
	Language	.474	2.108
	Urban	.364	2.746

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	Distance
1	1	4.119	1.000	.00	.01	.00
	2	.572	2.682	.00	.16	.00
	3	.287	3.792	.01	.53	.01
	4	.014	17.186	.71	.01	.67
	5	.008	22.743	.28	.28	.32

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Language	Urban
1	1	.01	.00
	2	.30	.00
	3	.16	.00
	4	.05	.00
	5	.48	1.00

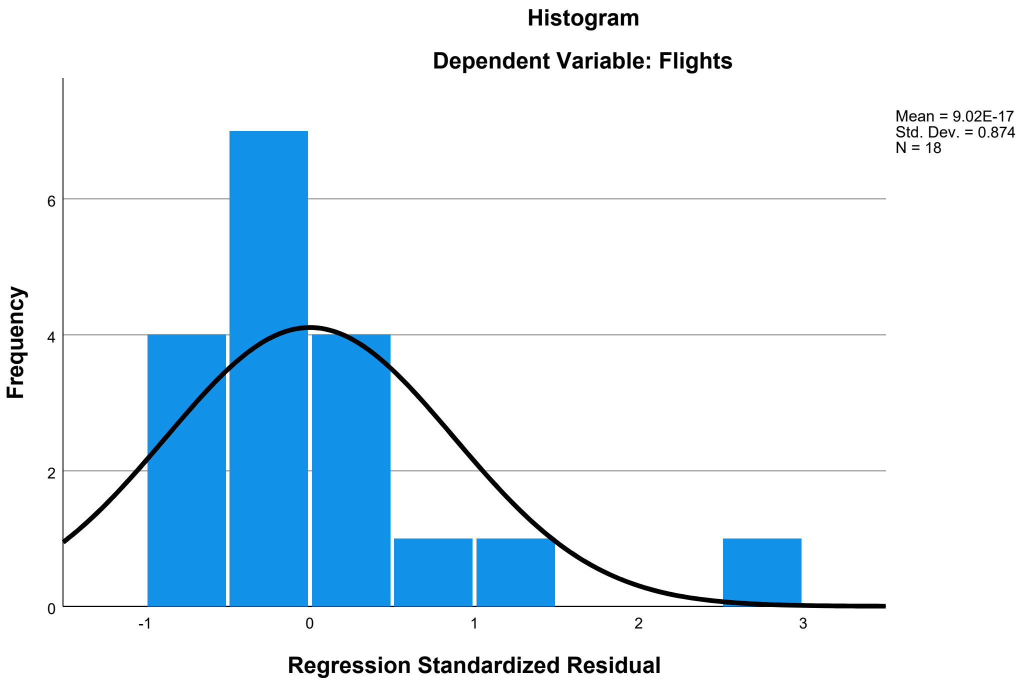
a. Dependent Variable: Flights

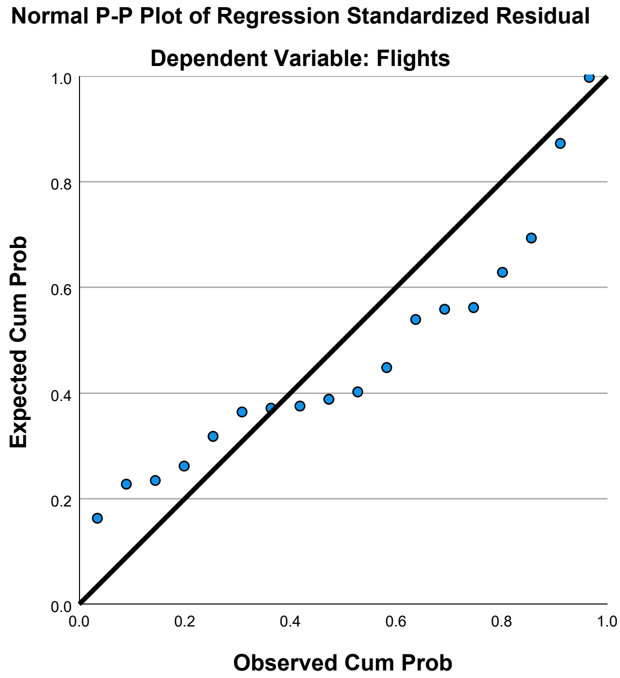
Residuals Statistics[a]

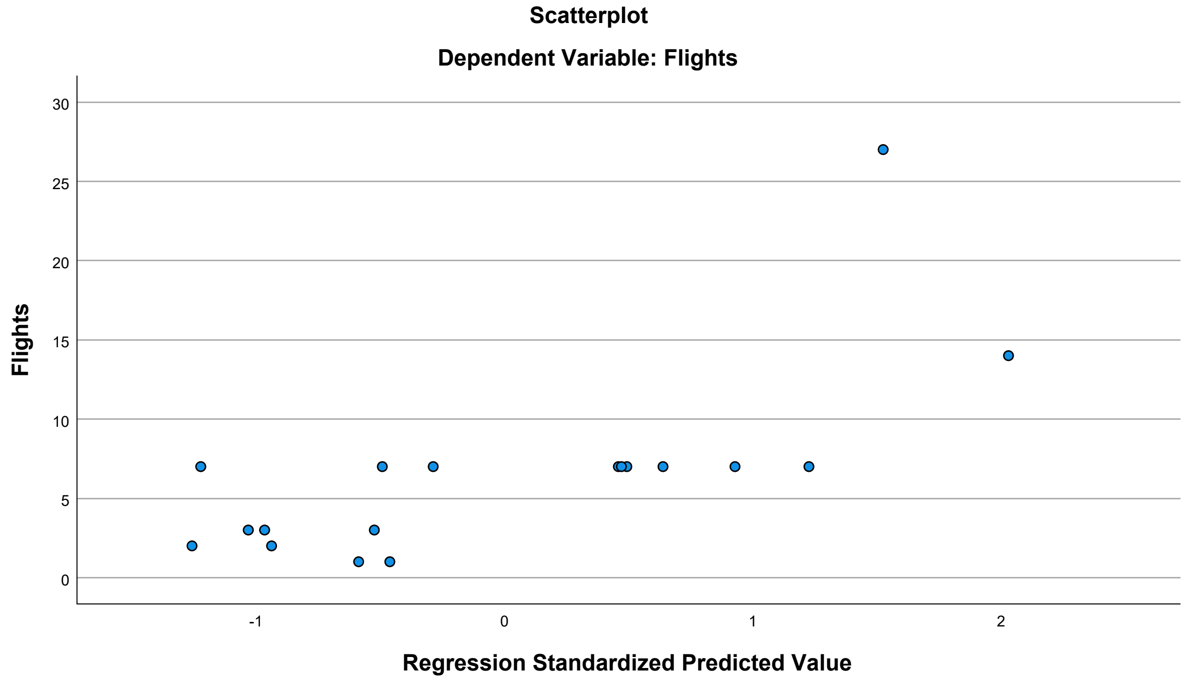
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.28	15.21	6.61	4.238	18
Residual	-4.807	13.928	.000	4.276	18
Std. Predicted Value	-1.258	2.029	.000	1.000	18
Std. Residual	-.983	2.848	.000	.874	18

a. Dependent Variable: Flights

Charts







Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.61	6.021	18
HomeConcentration	1.9983354444	1.8853111228	18
Distance	3.73989	.693169	18
Urban	17.83	3.222	18

Correlations

		Flights	HomeConcentration	Distance	Urban
Pearson Correlation	Flights	1.000	.504	-.015	.579
	HomeConcentration	.504	1.000	.255	.453
	Distance	-.015	.255	1.000	.379
	Urban	.579	.453	.379	1.000
Sig. (1-tailed)	Flights	.	.016	.476	.006
	HomeConcentration	.016	.	.154	.029
	Distance	.476	.154	.	.061
	Urban	.006	.029	.061	.
N	Flights	18	18	18	18
	HomeConcentration	18	18	18	18
	Distance	18	18	18	18
	Urban	18	18	18	18

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Distance, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.699[a]	.488	.378	4.747	.488	4.448

Model Summary[b]

	Change Statistics		
Model	df1	df2	Sig. F Change
1	3	14	.021

a. Predictors: (Constant), Urban, Distance, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	300.758	3	100.253	4.448	.021[b]
	Residual	315.520	14	22.537		
	Total	616.278	17			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Distance, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.649	7.999		-.456	.655
	HomeConcentration	1.075	.689	.337	1.561	.141
	Distance	-2.660	1.804	-.306	-1.475	.162
	Urban	1.013	.421	.542	2.405	.031

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.786	1.272
	Distance	.848	1.180
	Urban	.720	1.388

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Distance
1	1	3.623	1.000	.00	.02	.00
	2	.346	3.235	.01	.82	.01
	3	.019	13.898	.04	.01	.86
	4	.012	17.168	.95	.14	.14

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.41
	4	.59

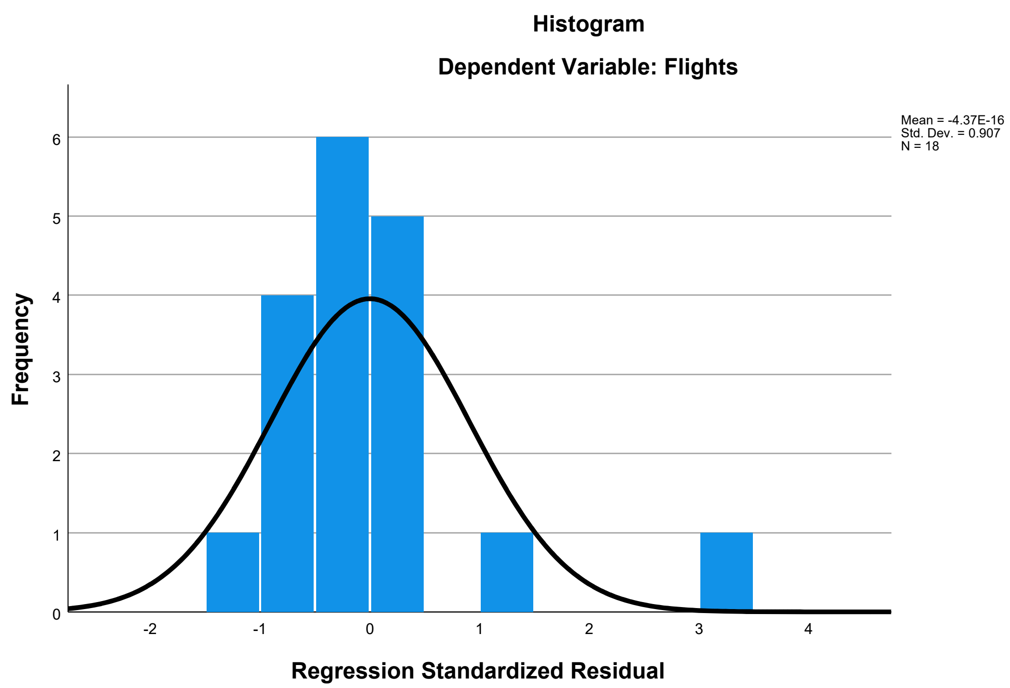
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.23	14.62	6.61	4.206	18
Residual	-5.391	14.271	.000	4.308	18
Std. Predicted Value	-1.280	1.903	.000	1.000	18
Std. Residual	-1.136	3.006	.000	.907	18

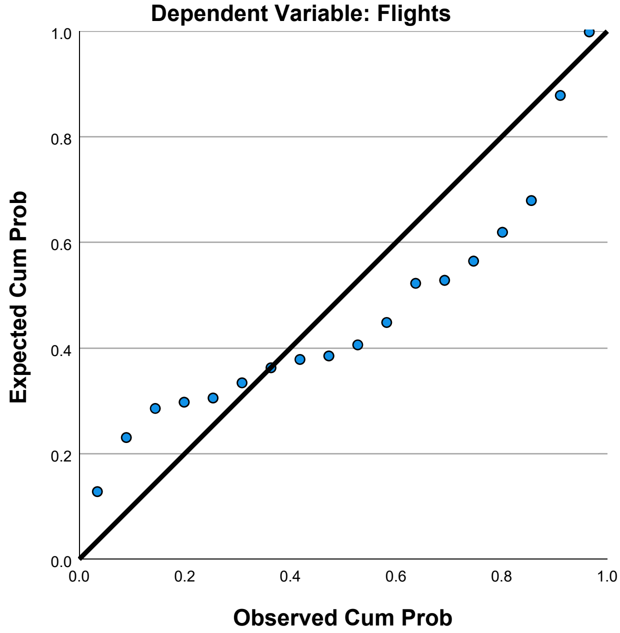
a. Dependent Variable: Flights

Charts



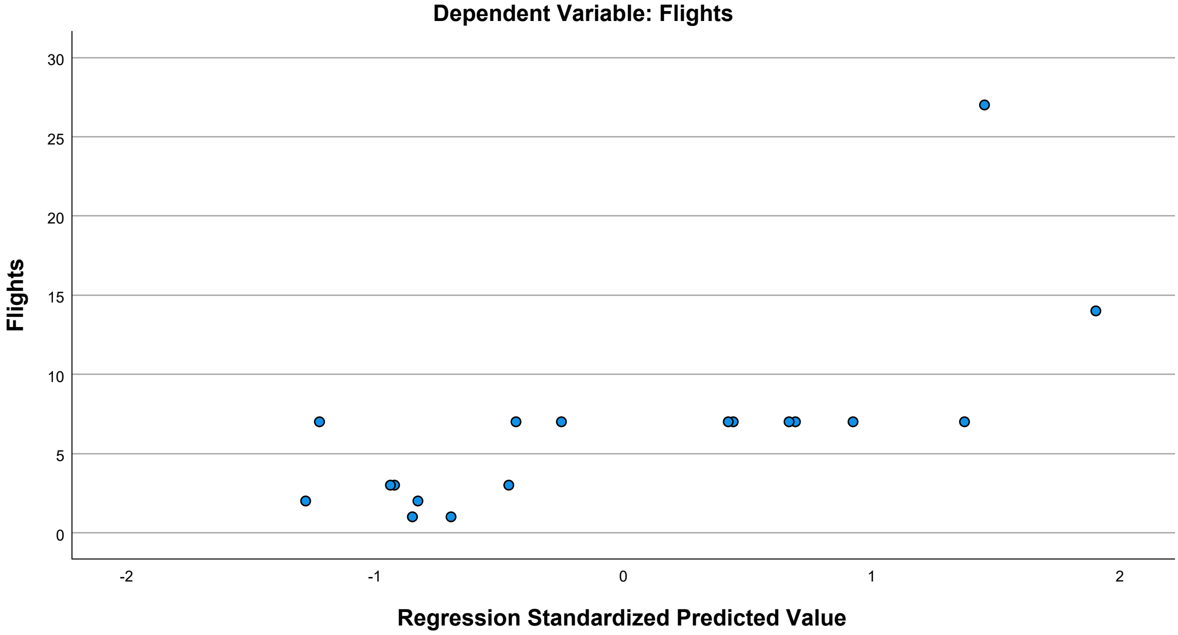
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.61	6.021	18
HomeConcentration	1.9983354444	1.8853111228	18
Urban	17.83	3.222	18

Correlations

		Flights	HomeConcentration	Urban
Pearson Correlation	Flights	1.000	.504	.579
	HomeConcentration	.504	1.000	.453
	Urban	.579	.453	1.000
Sig. (1-tailed)	Flights	.	.016	.006
	HomeConcentration	.016	.	.029
	Urban	.006	.029	.
N	Flights	18	18	18
	HomeConcentration	18	18	18
	Urban	18	18	18

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.639[a]	.408	.330	4.930	.408	5.179

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	2	15	.019

a. Predictors: (Constant), Urban, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	251.745	2	125.872	5.179	.019[b]
	Residual	364.533	15	24.302		
	Total	616.278	17			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-10.012	6.994		-1.431	.173
	HomeConcentration	.973	.712	.305	1.367	.192
	Urban	.823	.416	.441	1.977	.067

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.794	1.259
	Urban	.794	1.259

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions Urban
1	1	2.672	1.000	.00	.04	.00
	2	.315	2.913	.02	.81	.01
	3	.013	14.394	.98	.15	.99

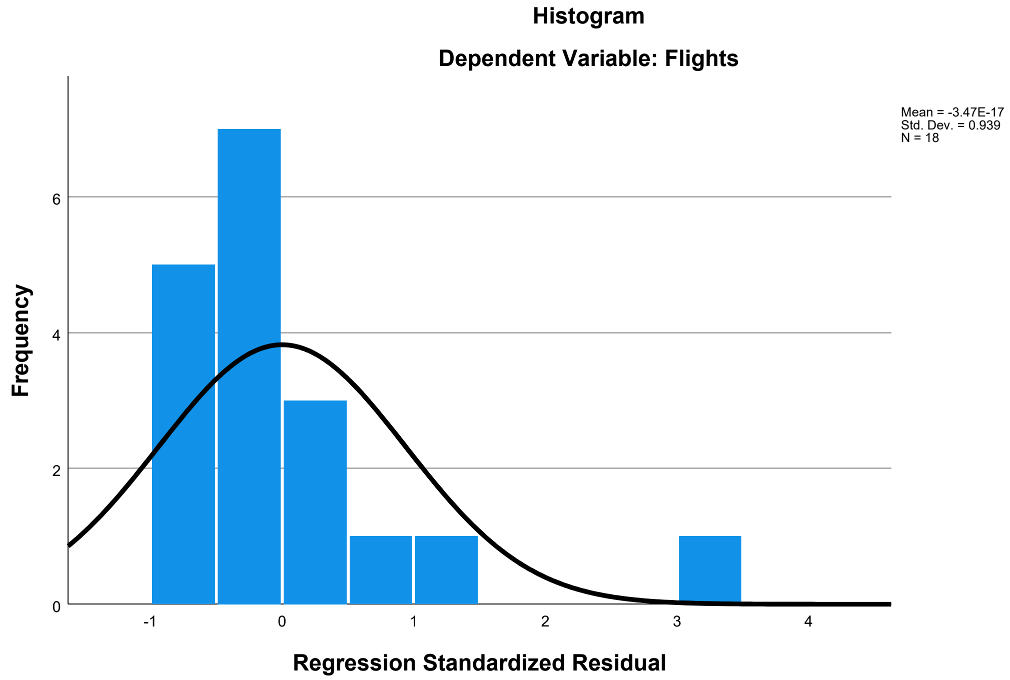
a. Dependent Variable: Flights

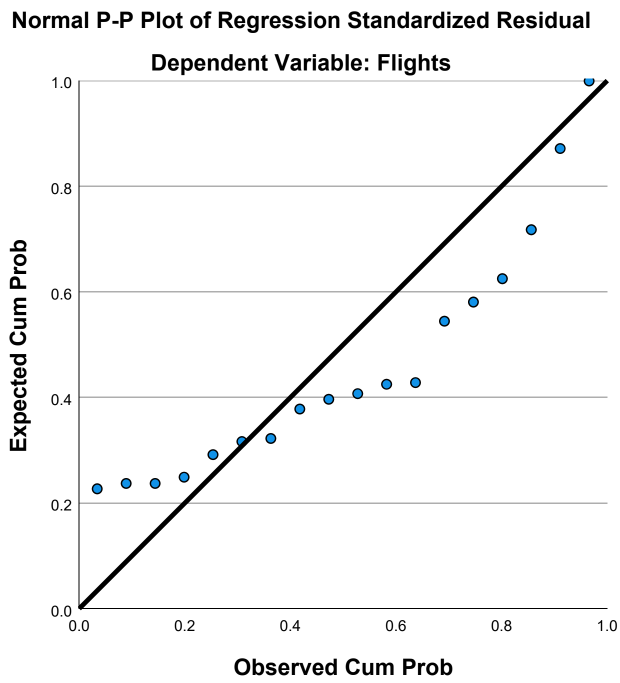
Residuals Statistics[a]

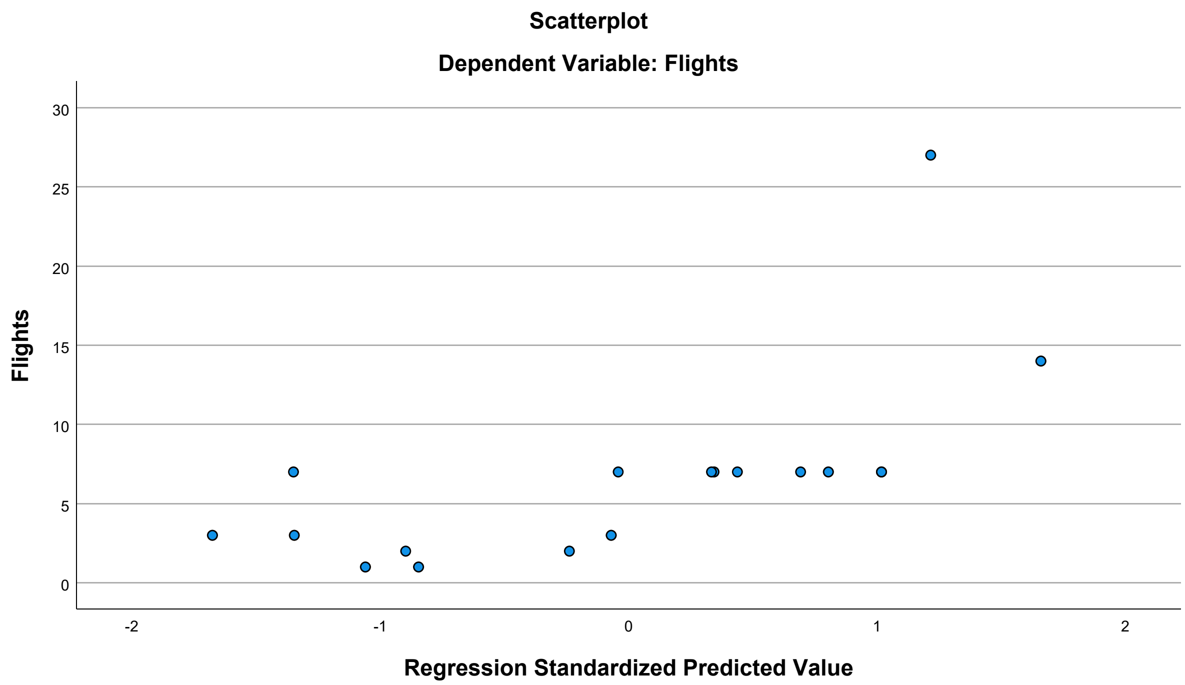
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.16	13.00	6.61	3.848	18
Residual	-3.694	15.709	.000	4.631	18
Std. Predicted Value	-1.676	1.660	.000	1.000	18
Std. Residual	-.749	3.187	.000	.939	18

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -3.47E-17
Std. Dev. = 0.939
N = 18
Frequency
0
2
4
6
-1
0
1
2
3
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	6.61	6.021	18
Urban	17.83	3.222	18

Correlations

		Flights	Urban
Pearson Correlation	Flights	1.000	.579
	Urban	.579	1.000
Sig. (1-tailed)	Flights	.	.006
	Urban	.006	.
N	Flights	18	18
	Urban	18	18

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change
1	.579[a]	.335	.293	5.062	.335	8.053	1	16	.012

a. Predictors: (Constant), Urban

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	206.331	1	206.331	8.053	.012[b]
	Residual	409.947	16	25.622		
	Total	616.278	17			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
1	(Constant)	-12.670	6.899		-1.837	.085		
	Urban	1.081	.381	.579	2.838	.012	1.000	1.000

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Urban
1	1	1.985	1.000	.01	.01
	2	.015	11.477	.99	.99

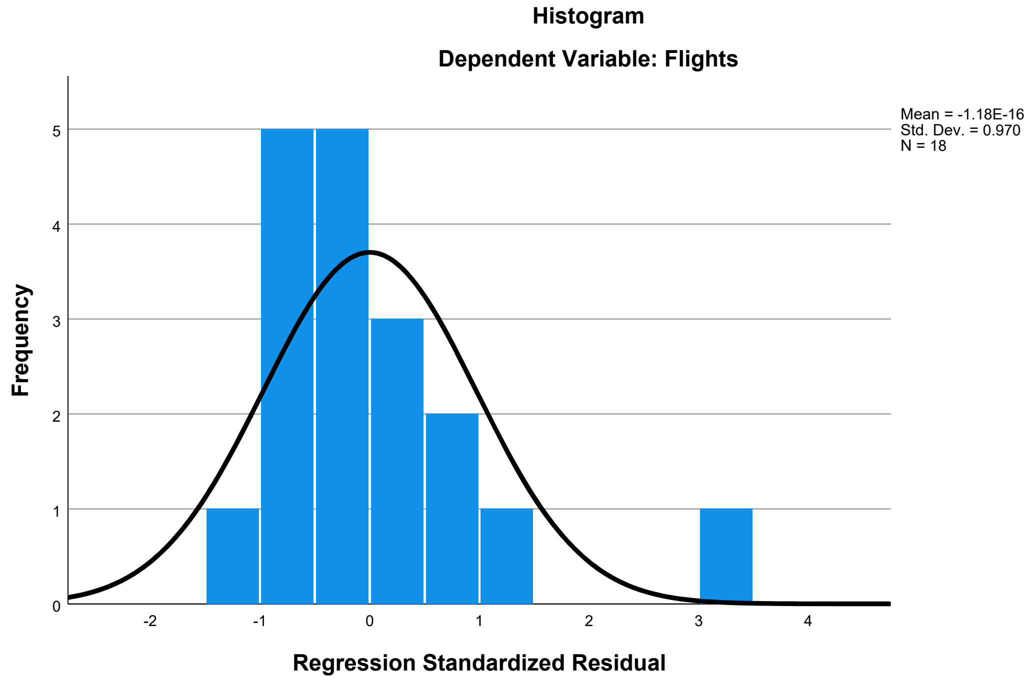
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.30	11.12	6.61	3.484	18
Residual	-5.873	15.884	.000	4.911	18
Std. Predicted Value	-1.810	1.293	.000	1.000	18
Std. Residual	-1.160	3.138	.000	.970	18

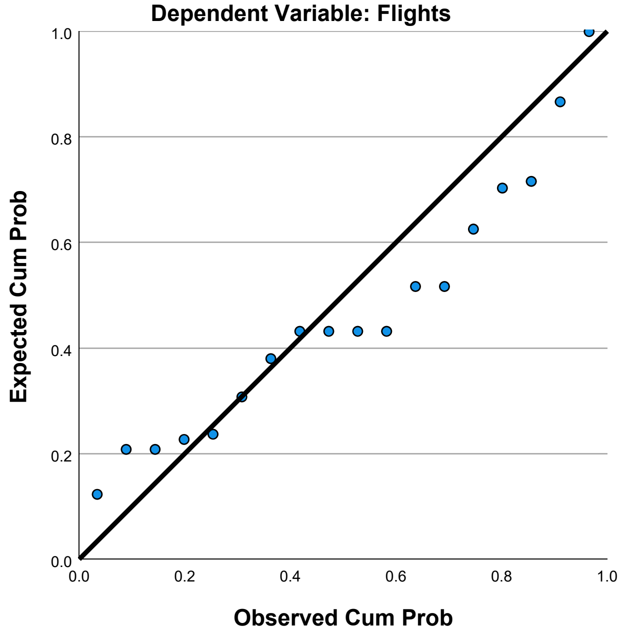
a. Dependent Variable: Flights

Charts



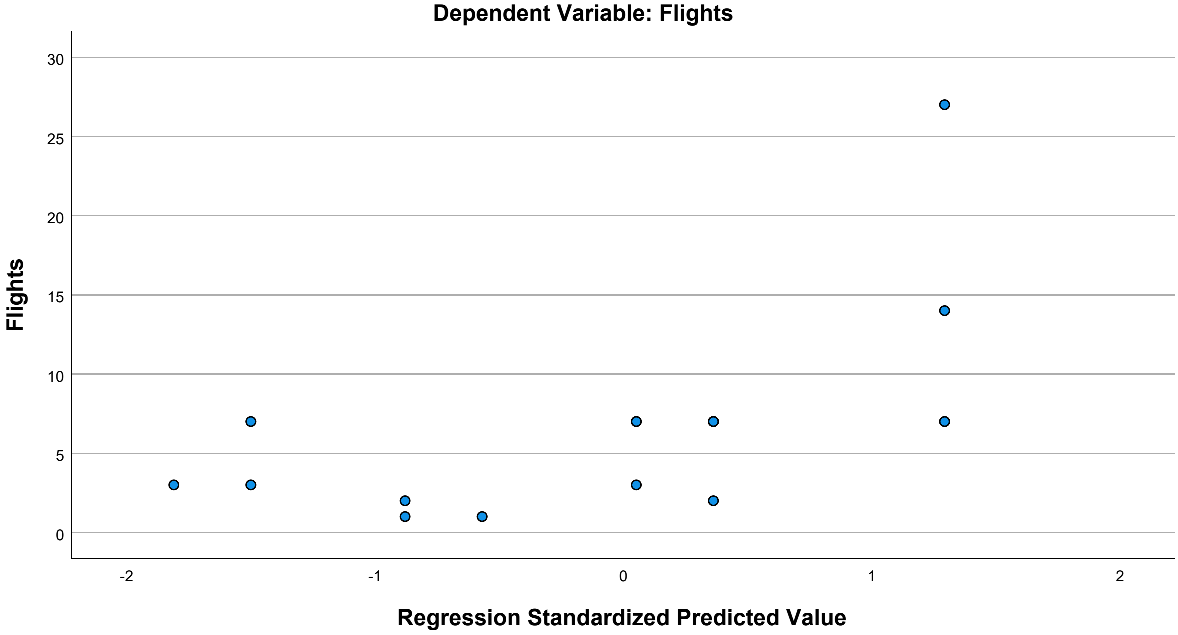
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.75	2.890	51
HomeConcentration	1.1059894118	1.7022085464	51
GJFK	.14	.348	51
PartnerConcentration	.49930211765	1.8838157131	51
Distance	3.79959	.680186	51
Language	5.54965490	4.378578072	51
Ethnicity	.57621639	.769613241	51
Urban	12.75	4.462	51

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.482	.235	.086
	HomeConcentration	.482	1.000	.025	-.168
	GJFK	.235	.025	1.000	-.017
	PartnerConcentration	.086	-.168	-.017	1.000
	Distance	-.351	-.387	-.301	.141
	Language	.328	.292	.670	.052
	Ethnicity	-.099	.085	.036	.007
	Urban	.372	.444	.461	.053
Sig. (1-tailed)	Flights	.	<.001	.049	.275
	HomeConcentration	.000	.	.431	.120
	GJFK	.049	.431	.	.453
	PartnerConcentration	.275	.120	.453	.
	Distance	.006	.003	.016	.161
	Language	.009	.019	.000	.359
	Ethnicity	.245	.276	.401	.482
	Urban	.004	.001	.000	.355
N	Flights	51	51	51	51
	HomeConcentration	51	51	51	51
	GJFK	51	51	51	51
	PartnerConcentration	51	51	51	51
	Distance	51	51	51	51
	Language	51	51	51	51
	Ethnicity	51	51	51	51
	Urban	51	51	51	51

Correlations

		Distance	Language	Ethnicity	Urban
Pearson Correlation	Flights	-.351	.328	-.099	.372
	HomeConcentration	-.387	.292	.085	.444
	GJFK	-.301	.670	.036	.461
	PartnerConcentration	.141	.052	.007	.053
	Distance	1.000	-.508	-.230	-.311
	Language	-.508	1.000	.410	.809
	Ethnicity	-.230	.410	1.000	.408
	Urban	-.311	.809	.408	1.000
Sig. (1-tailed)	Flights	.006	.009	.245	.004
	HomeConcentration	.003	.019	.276	.001
	GJFK	.016	.000	.401	.000
	PartnerConcentration	.161	.359	.482	.355
	Distance	.	.000	.052	.013
	Language	.000	.	.001	.000
	Ethnicity	.052	.001	.	.001
	Urban	.013	.000	.001	.
N	Flights	51	51	51	51
	HomeConcentration	51	51	51	51
	GJFK	51	51	51	51
	PartnerConcentration	51	51	51	51
	Distance	51	51	51	51
	Language	51	51	51	51
	Ethnicity	51	51	51	51
	Urban	51	51	51	51

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, Ethnicity, GJFK, HomeConcentration, [b] ...	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.619[a]	.384	.283	2.447	.384	3.822

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	7	43	.003

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, Ethnicity, GJFK, HomeConcentration, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	160.203	7	22.886	3.822	.003[b]
	Residual	257.484	43	5.988		
	Total	417.686	50			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, Ethnicity, GJFK, HomeConcentration, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	6.137	2.742		2.238	.030
	HomeConcentration	.599	.262	.352	2.282	.027
	GJFK	.716	1.506	.086	.476	.637
	PartnerConcentration	.258	.192	.168	1.344	.186
	Distance	-.924	.666	-.218	-1.388	.172
	Language	-.020	.192	-.031	-.106	.916
	Ethnicity	-.998	.541	-.266	-1.843	.072
	Urban	.151	.155	.233	.974	.335

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.601	1.664
	GJFK	.437	2.286
	PartnerConcentration	.919	1.088
	Distance	.584	1.713
	Language	.169	5.922
	Ethnicity	.690	1.450
	Urban	.252	3.976

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	GJFK
1	1	4.861	1.000	.00	.01	.00
	2	1.012	2.191	.00	.05	.02
	3	.891	2.335	.00	.05	.29
	4	.583	2.887	.00	.29	.00
	5	.523	3.047	.00	.18	.00
	6	.100	6.978	.00	.21	.65
	7	.021	15.296	.10	.10	.02
	8	.009	23.880	.89	.11	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions				
		PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.01	.00
	2	.67	.00	.00	.00	.00
	3	.04	.00	.00	.01	.00
	4	.10	.00	.00	.39	.00
	5	.15	.01	.00	.22	.00
	6	.03	.01	.36	.36	.02
	7	.00	.01	.43	.01	.92
	8	.01	.97	.20	.00	.06

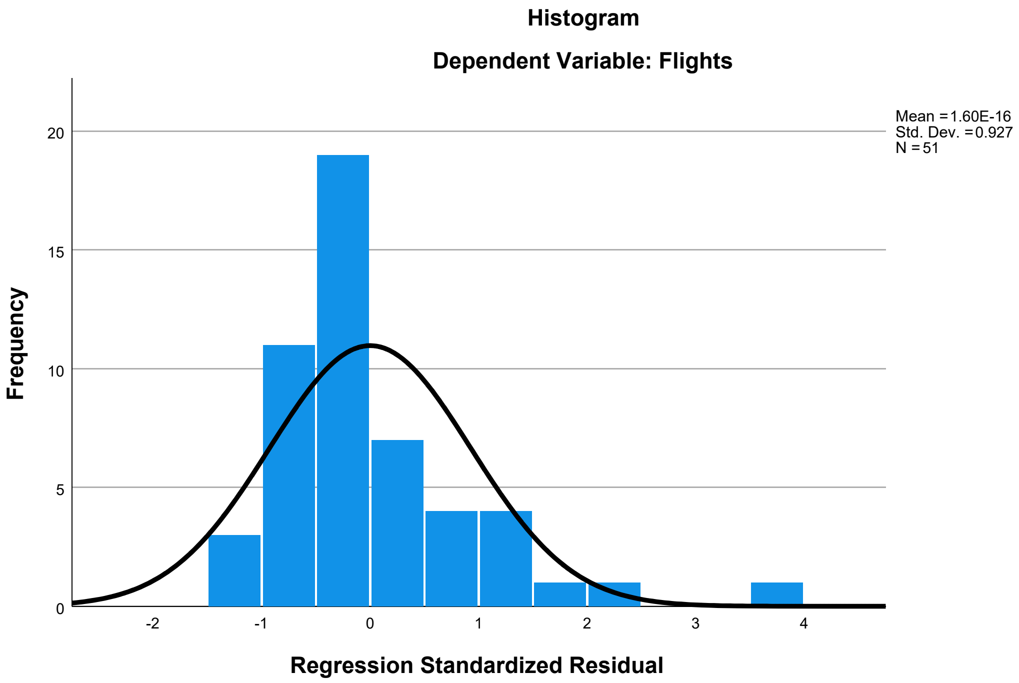
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.34	8.28	4.75	1.790	51
Residual	-3.259	9.326	.000	2.269	51
Std. Predicted Value	-1.345	1.972	.000	1.000	51
Std. Residual	-1.332	3.811	.000	.927	51

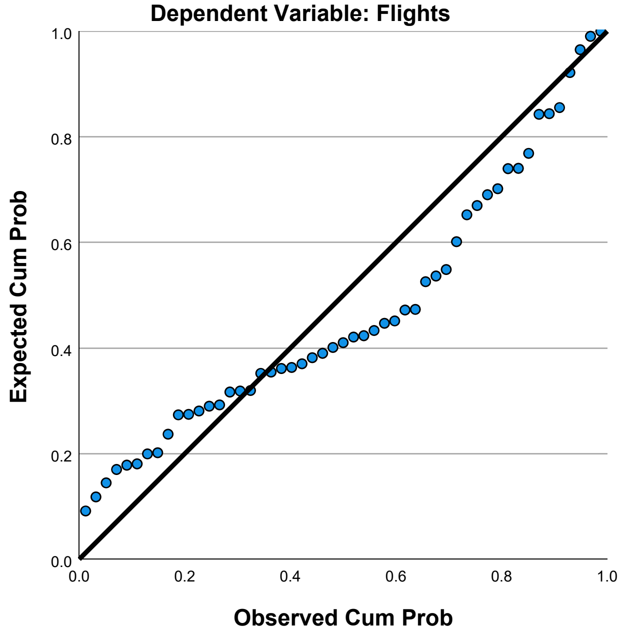
a. Dependent Variable: Flights

Charts



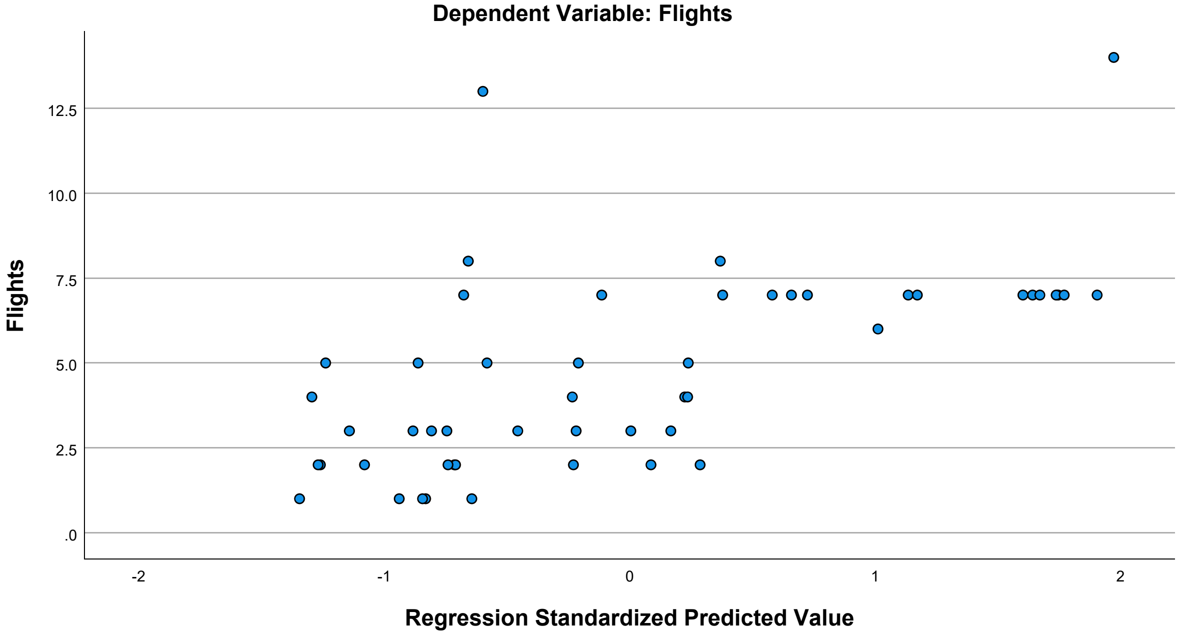
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.75	2.890	51
HomeConcentration	1.1059894118	1.7022085464	51
GJFK	.14	.348	51
PartnerConcentration	.49930211765	1.8838157131	51
Distance	3.79959	.680186	51
Ethnicity	.57621639	.769613241	51
Urban	12.75	4.462	51

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.482	.235	.086
	HomeConcentration	.482	1.000	.025	-.168
	GJFK	.235	.025	1.000	-.017
	PartnerConcentration	.086	-.168	-.017	1.000
	Distance	-.351	-.387	-.301	.141
	Ethnicity	-.099	.085	.036	.007
	Urban	.372	.444	.461	.053
Sig. (1-tailed)	Flights	.	<.001	.049	.275
	HomeConcentration	.000	.	.431	.120
	GJFK	.049	.431	.	.453
	PartnerConcentration	.275	.120	.453	.
	Distance	.006	.003	.016	.161
	Ethnicity	.245	.276	.401	.482
	Urban	.004	.001	.000	.355
N	Flights	51	51	51	51
	HomeConcentration	51	51	51	51
	GJFK	51	51	51	51
	PartnerConcentration	51	51	51	51
	Distance	51	51	51	51
	Ethnicity	51	51	51	51
	Urban	51	51	51	51

Correlations

		Distance	Ethnicity	Urban
Pearson Correlation	Flights	-.351	-.099	.372
	HomeConcentration	-.387	.085	.444
	GJFK	-.301	.036	.461
	PartnerConcentration	.141	.007	.053
	Distance	1.000	-.230	-.311
	Ethnicity	-.230	1.000	.408
	Urban	-.311	.408	1.000
Sig. (1-tailed)	Flights	.006	.245	.004
	HomeConcentration	.003	.276	.001
	GJFK	.016	.401	.000
	PartnerConcentration	.161	.482	.355
	Distance	.	.052	.013
	Ethnicity	.052	.	.001
	Urban	.013	.001	.
N	Flights	51	51	51
	HomeConcentration	51	51	51
	GJFK	51	51	51
	PartnerConcentration	51	51	51
	Distance	51	51	51
	Ethnicity	51	51	51
	Urban	51	51	51

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, PartnerConcentration, Distance, Ethnicity, GJFK, HomeConcentr...[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.619[a]	.383	.299	2.419	.383	4.560

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	44	.001

a. Predictors: (Constant), Urban, PartnerConcentration, Distance, Ethnicity, GJFK, HomeConcentration

b. Dependent Variable: Flights

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	160.135	6	26.689	4.560	.001[b]
	Residual	257.551	44	5.853		
	Total	417.686	50			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, PartnerConcentration, Distance, Ethnicity, GJFK, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	6.065	2.628		2.308	.026
	HomeConcentration	.601	.258	.354	2.330	.024
	GJFK	.628	1.237	.075	.507	.614
	PartnerConcentration	.255	.188	.166	1.356	.182
	Distance	-.894	.593	-.210	-1.506	.139
	Ethnicity	-1.012	.518	-.270	-1.954	.057
	Urban	.140	.114	.216	1.227	.226

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.607	1.649
	GJFK	.633	1.579
	PartnerConcentration	.933	1.072
	Distance	.719	1.391
	Ethnicity	.736	1.359
	Urban	.453	2.206

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	GJFK
1	1	4.028	1.000	.00	.01	.01
	2	1.004	2.003	.00	.06	.01
	3	.830	2.203	.00	.03	.58
	4	.582	2.630	.00	.32	.00
	5	.508	2.817	.00	.18	.01
	6	.038	10.335	.02	.33	.35
	7	.010	20.193	.97	.07	.03

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions			
		PartnerConcentration	Distance	Ethnicity	Urban
1	1	.00	.00	.02	.00
	2	.71	.00	.00	.00
	3	.00	.00	.01	.00
	4	.11	.00	.39	.00
	5	.14	.01	.31	.00
	6	.02	.07	.25	.96
	7	.01	.91	.02	.03

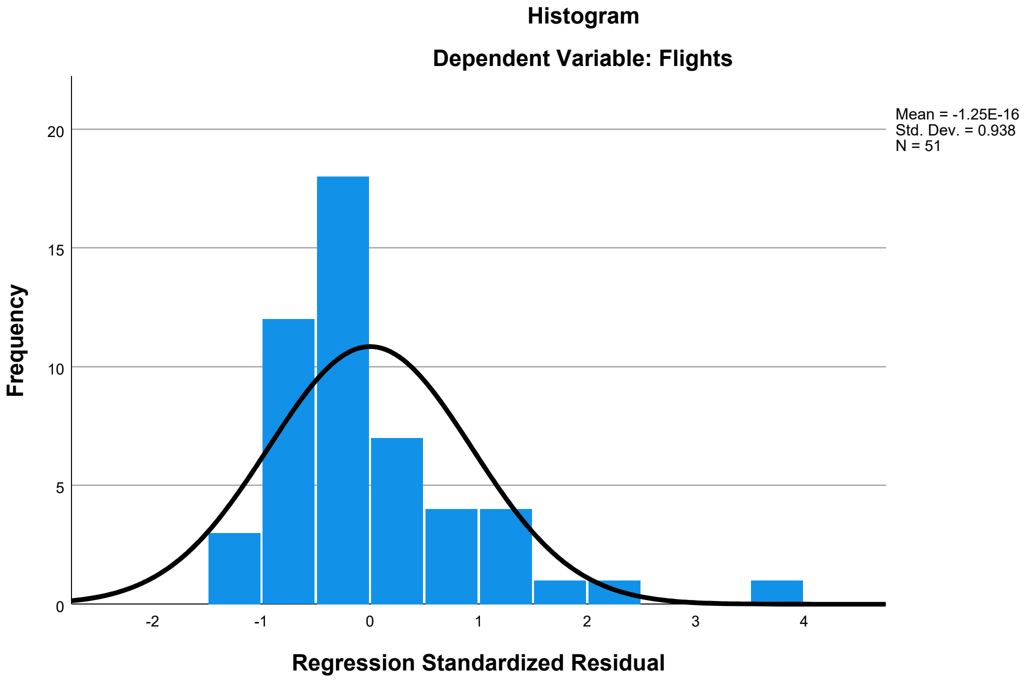
a. Dependent Variable: Flights

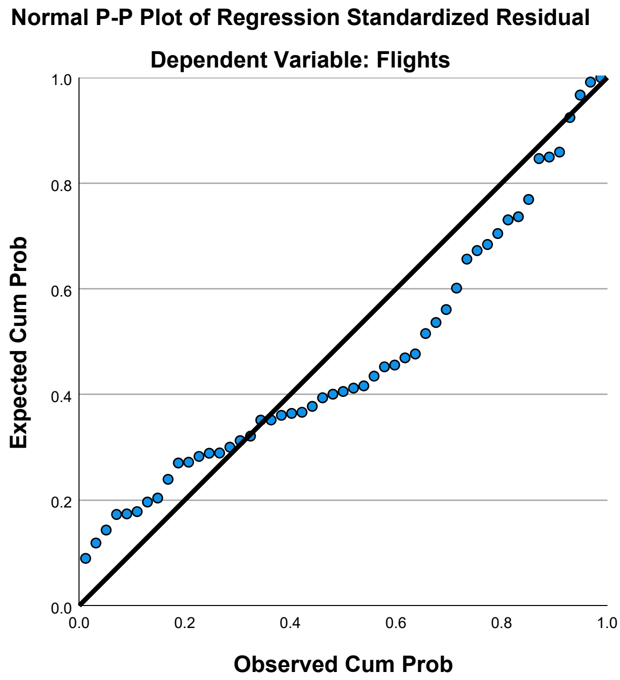
Residuals Statistics[a]

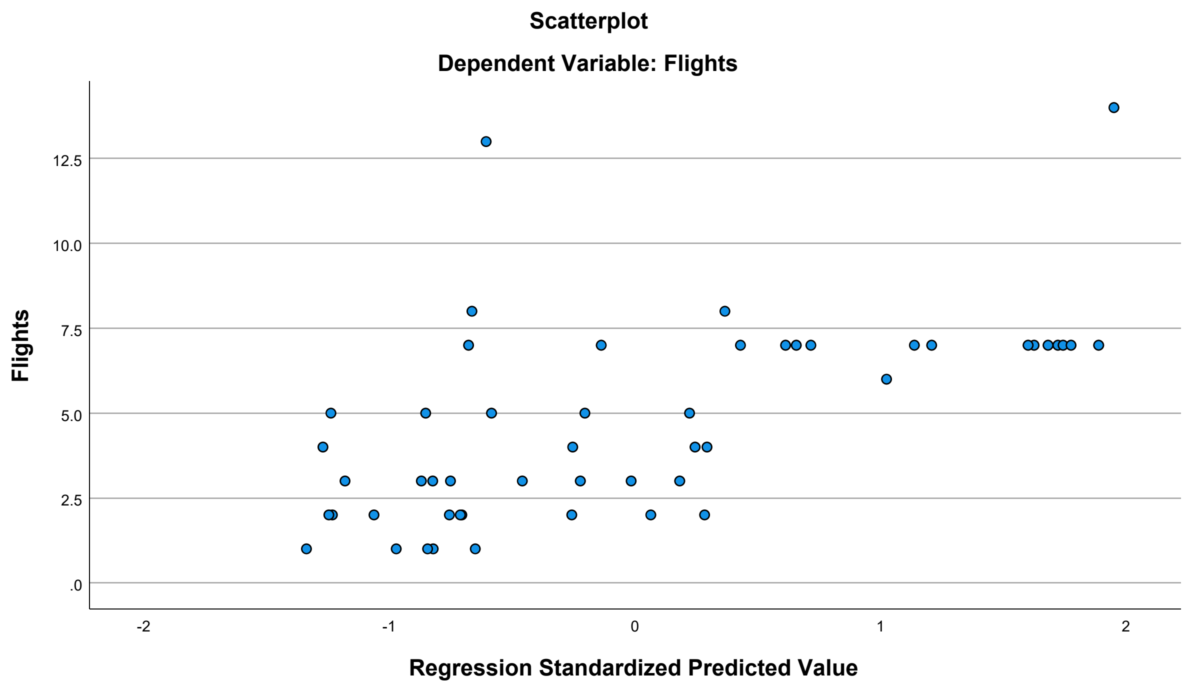
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.35	8.24	4.75	1.790	51
Residual	-3.252	9.341	.000	2.270	51
Std. Predicted Value	-1.339	1.950	.000	1.000	51
Std. Residual	-1.344	3.861	.000	.938	51

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean = -1.25E-16
Std. Dev. = 0.938
N = 51
Frequency
0
5
10
15
20
-2
-1
0
1
2
3
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.75	2.890	51
HomeConcentration	1.1059894118	1.7022085464	51
GJFK	.14	.348	51
PartnerConcentration	.49930211765	1.8838157131	51
Distance	3.79959	.680186	51
Ethnicity	.57621639	.769613241	51

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.482	.235	.086
	HomeConcentration	.482	1.000	.025	-.168
	GJFK	.235	.025	1.000	-.017
	PartnerConcentration	.086	-.168	-.017	1.000
	Distance	-.351	-.387	-.301	.141
	Ethnicity	-.099	.085	.036	.007
Sig. (1-tailed)	Flights	.	<.001	.049	.275
	HomeConcentration	.000	.	.431	.120
	GJFK	.049	.431	.	.453
	PartnerConcentration	.275	.120	.453	.
	Distance	.006	.003	.016	.161
	Ethnicity	.245	.276	.401	.482
N	Flights	51	51	51	51
	HomeConcentration	51	51	51	51
	GJFK	51	51	51	51
	PartnerConcentration	51	51	51	51
	Distance	51	51	51	51
	Ethnicity	51	51	51	51

Correlations

		Distance	Ethnicity
Pearson Correlation	Flights	-.351	-.099
	HomeConcentration	-.387	.085
	GJFK	-.301	.036
	PartnerConcentration	.141	.007
	Distance	1.000	-.230
	Ethnicity	-.230	1.000
Sig. (1-tailed)	Flights	.006	.245
	HomeConcentration	.003	.276
	GJFK	.016	.401
	PartnerConcentration	.161	.482
	Distance	.	.052
	Ethnicity	.052	.
N	Flights	51	51
	HomeConcentration	51	51
	GJFK	51	51
	PartnerConcentration	51	51
	Distance	51	51
	Ethnicity	51	51

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Ethnicity, PartnerConcentration, GJFK, HomeConcentration, Distance[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change
1	.602[a]	.362	.291	2.433	.362	5.113

Model Summary[b]

Model	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change
1	5	45	<.001

a. Predictors: (Constant), Ethnicity, PartnerConcentration, GJFK, HomeConcentration, Distance

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	151.327	5	30.265	5.113	<.001[b]
	Residual	266.360	45	5.919		
	Total	417.686	50			

a. Dependent Variable: Flights

b. Predictors: (Constant), Ethnicity, PartnerConcentration, GJFK, HomeConcentration, Distance

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	7.122	2.497		2.853	.007
	HomeConcentration	.765	.222	.451	3.446	.001
	GJFK	1.452	1.045	.175	1.390	.171
	PartnerConcentration	.296	.186	.193	1.592	.118
	Distance	-.831	.594	-.196	-1.399	.169
	Ethnicity	-.714	.460	-.190	-1.552	.128

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.829	1.207
	GJFK	.898	1.113
	PartnerConcentration	.963	1.038
	Distance	.724	1.381
	Ethnicity	.944	1.059

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	3.072	1.000	.00	.03	.02
	2	1.002	1.750	.00	.09	.02
	3	.830	1.924	.00	.04	.83
	4	.582	2.297	.00	.44	.00
	5	.504	2.469	.01	.22	.01
	6	.010	17.403	.99	.18	.12

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Distance	Ethnicity
1	1	.01	.00	.03
	2	.72	.00	.00
	3	.00	.00	.02
	4	.12	.00	.49
	5	.14	.01	.39
	6	.00	.99	.07

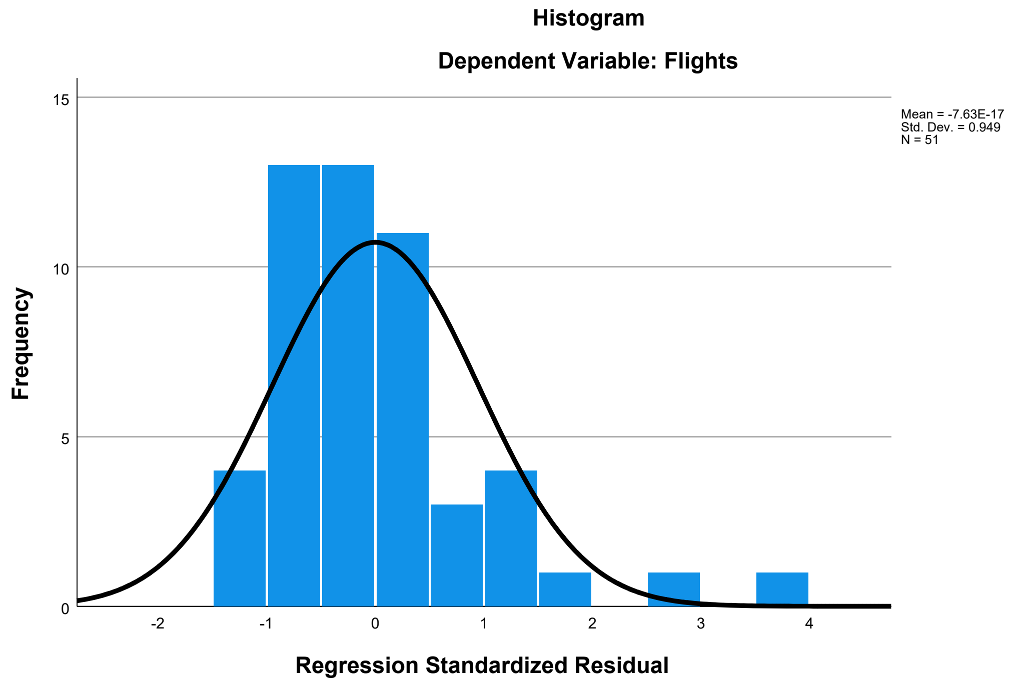
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.40	8.41	4.75	1.740	51
Residual	-3.121	9.186	.000	2.308	51
Std. Predicted Value	-1.349	2.107	.000	1.000	51
Std. Residual	-1.283	3.776	.000	.949	51

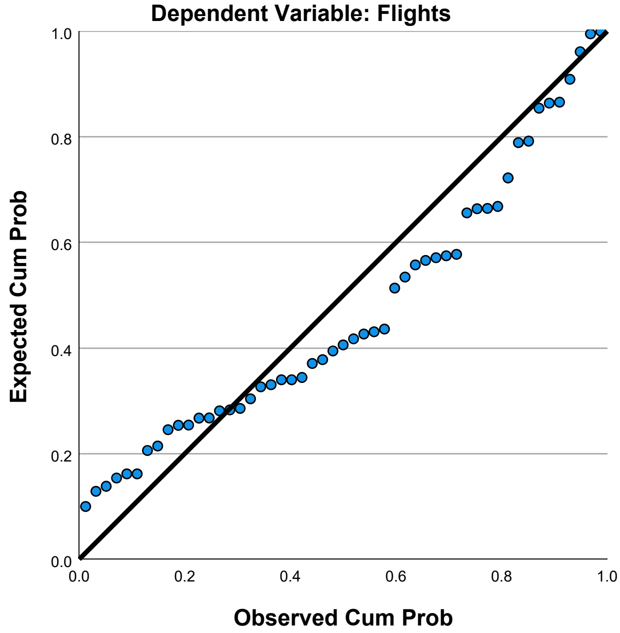
a. Dependent Variable: Flights

Charts



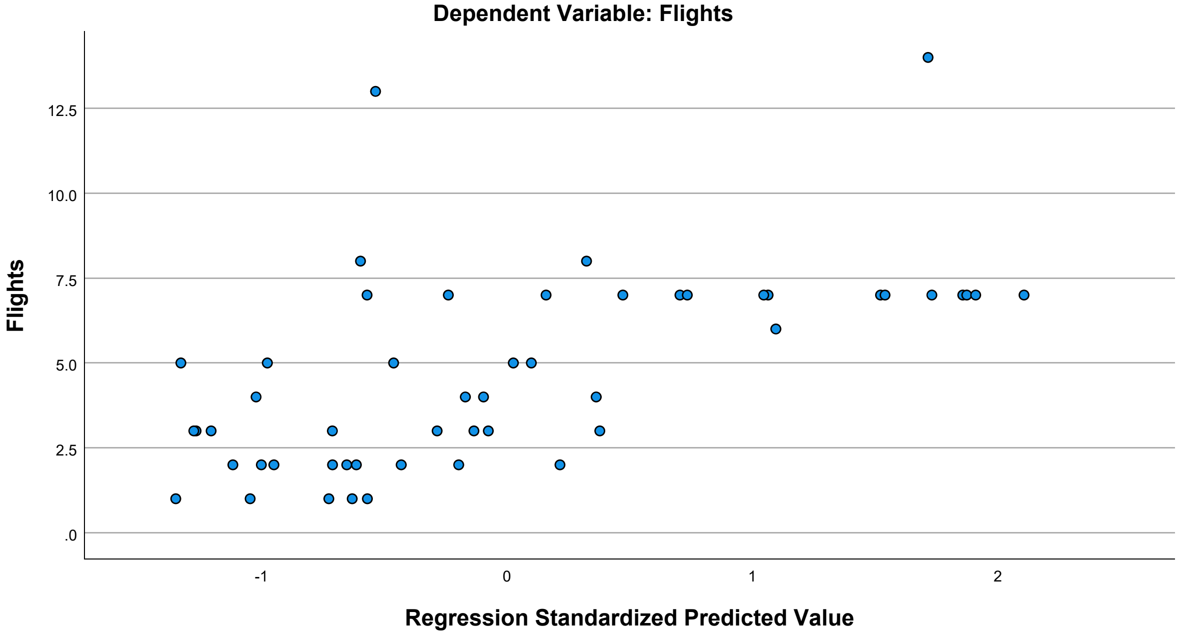
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.75	2.890	51
HomeConcentration	1.1059894118	1.7022085464	51
GJFK	.14	.348	51
PartnerConcentration	.49930211765	1.8838157131	51
Ethnicity	.57621639	.769613241	51

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.482	.235	.086
	HomeConcentration	.482	1.000	.025	-.168
	GJFK	.235	.025	1.000	-.017
	PartnerConcentration	.086	-.168	-.017	1.000
	Ethnicity	-.099	.085	.036	.007
Sig. (1-tailed)	Flights	.	<.001	.049	.275
	HomeConcentration	.000	.	.431	.120
	GJFK	.049	.431	.	.453
	PartnerConcentration	.275	.120	.453	.
	Ethnicity	.245	.276	.401	.482
N	Flights	51	51	51	51
	HomeConcentration	51	51	51	51
	GJFK	51	51	51	51
	PartnerConcentration	51	51	51	51
	Ethnicity	51	51	51	51

Correlations

		Ethnicity
Pearson Correlation	Flights	-.099
	HomeConcentration	.085
	GJFK	.036
	PartnerConcentration	.007
	Ethnicity	1.000
Sig. (1-tailed)	Flights	.245
	HomeConcentration	.276
	GJFK	.401
	PartnerConcentration	.482
	Ethnicity	.
N	Flights	51
	HomeConcentration	51
	GJFK	51
	PartnerConcentration	51
	Ethnicity	51

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Ethnicity, PartnerConcentration, GJFK, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.578[a]	.335	.277	2.458	.335	5.782

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	4	46	<.001

a. Predictors: (Constant), Ethnicity, PartnerConcentration, GJFK, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	139.747	4	34.937	5.782	<.001[b]
	Residual	277.939	46	6.042		
	Total	417.686	50			

a. Dependent Variable: Flights

b. Predictors: (Constant), Ethnicity, PartnerConcentration, GJFK, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.702	.510		7.264	<.001
	HomeConcentration	.881	.208	.519	4.238	<.001
	GJFK	1.914	1.001	.230	1.911	.062
	PartnerConcentration	.273	.187	.178	1.455	.152
	Ethnicity	-.574	.454	-.153	-1.265	.212

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.964	1.037
	GJFK	.998	1.002
	PartnerConcentration	.971	1.030
	Ethnicity	.991	1.009

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	2.286	1.000	.07	.06	.05
	2	.997	1.514	.00	.09	.01
	3	.817	1.673	.01	.08	.88
	4	.582	1.982	.00	.48	.00
	5	.318	2.681	.93	.29	.06

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Ethnicity
1	1	.02	.07
	2	.77	.00
	3	.00	.04
	4	.11	.56
	5	.10	.32

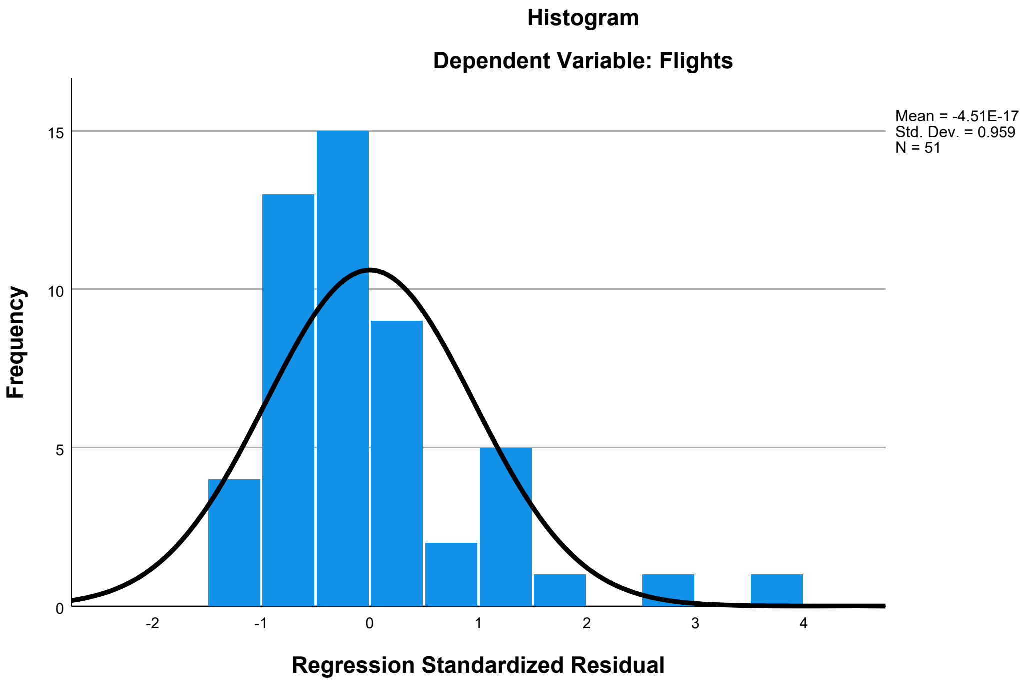
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.27	8.37	4.75	1.672	51
Residual	-3.073	9.088	.000	2.358	51
Std. Predicted Value	-1.480	2.168	.000	1.000	51
Std. Residual	-1.250	3.697	.000	.959	51

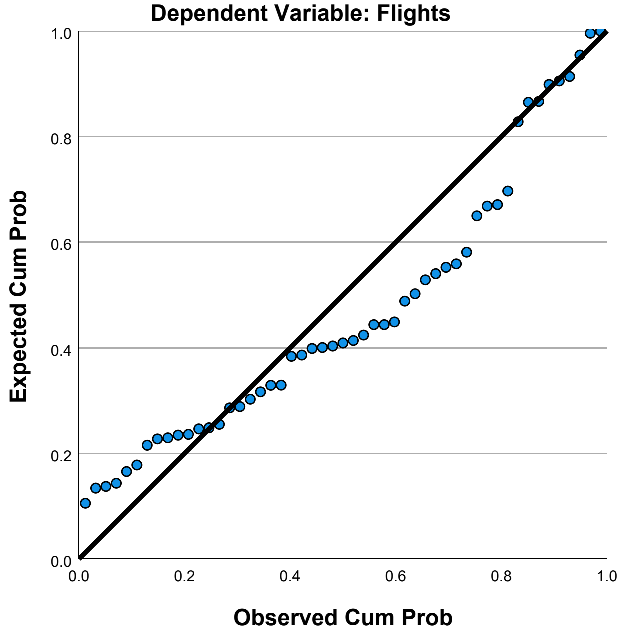
a. Dependent Variable: Flights

Charts



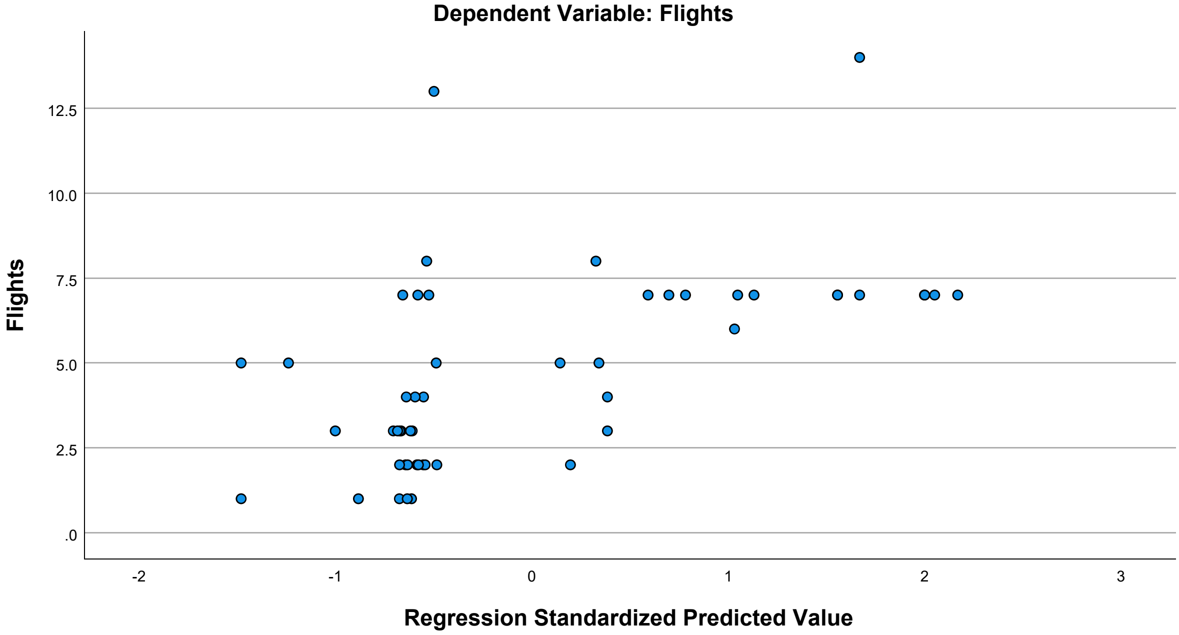
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.75	2.890	51
HomeConcentration	1.1059894118	1.7022085464	51
GJFK	.14	.348	51
PartnerConcentration	.49930211765	1.8838157131	51

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.482	.235	.086
	HomeConcentration	.482	1.000	.025	-.168
	GJFK	.235	.025	1.000	-.017
	PartnerConcentration	.086	-.168	-.017	1.000
Sig. (1-tailed)	Flights	.	<.001	.049	.275
	HomeConcentration	.000	.	.431	.120
	GJFK	.049	.431	.	.453
	PartnerConcentration	.275	.120	.453	.
N	Flights	51	51	51	51
	HomeConcentration	51	51	51	51
	GJFK	51	51	51	51
	PartnerConcentration	51	51	51	51

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	PartnerConcentration, GJFK, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.558[a]	.311	.267	2.474	.311	7.086

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	3	47	<.001

a. Predictors: (Constant), PartnerConcentration, GJFK, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	130.086	3	43.362	7.086	<.001[b]
	Residual	287.601	47	6.119		
	Total	417.686	50			

a. Dependent Variable: Flights

b. Predictors: (Constant), PartnerConcentration, GJFK, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.405	.455		7.480	<.001
	HomeConcentration	.859	.209	.506	4.117	<.001
	GJFK	1.870	1.007	.225	1.857	.070
	PartnerConcentration	.267	.188	.174	1.419	.162

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.971	1.029
	GJFK	.999	1.001
	PartnerConcentration	.972	1.029

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions GJFK
1	1	1.832	1.000	.13	.11	.10
	2	.997	1.355	.00	.10	.01
	3	.795	1.518	.02	.19	.80
	4	.376	2.206	.85	.60	.09

Collinearity Diagnostics[a]

Model	Dimension	Variance ... PartnerConcentration
1	1	.03
	2	.77
	3	.01
	4	.18

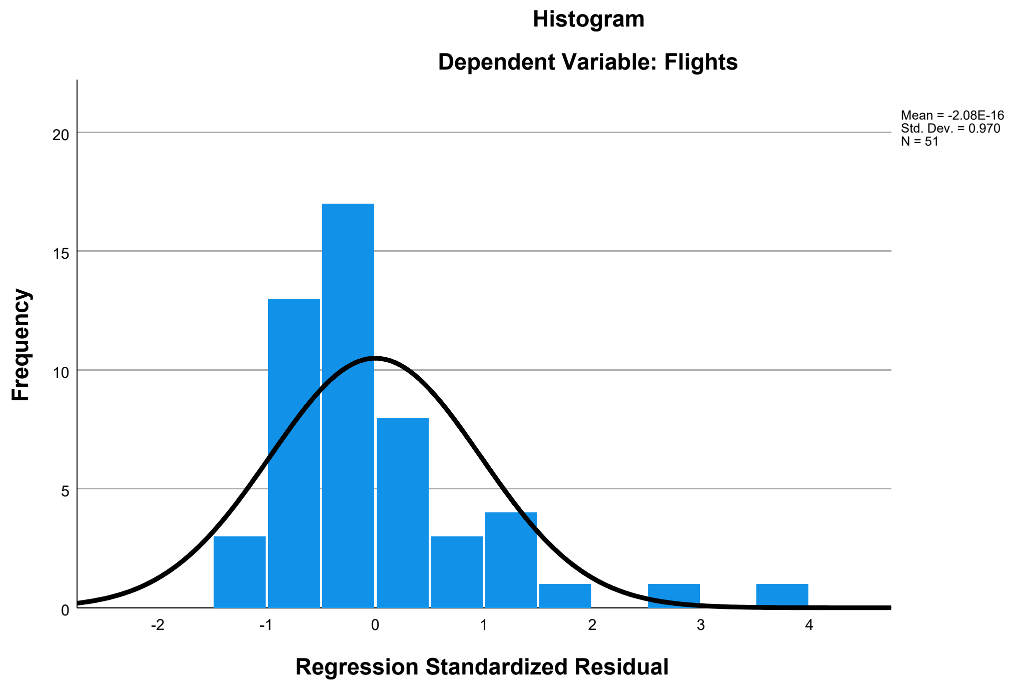
a. Dependent Variable: Flights

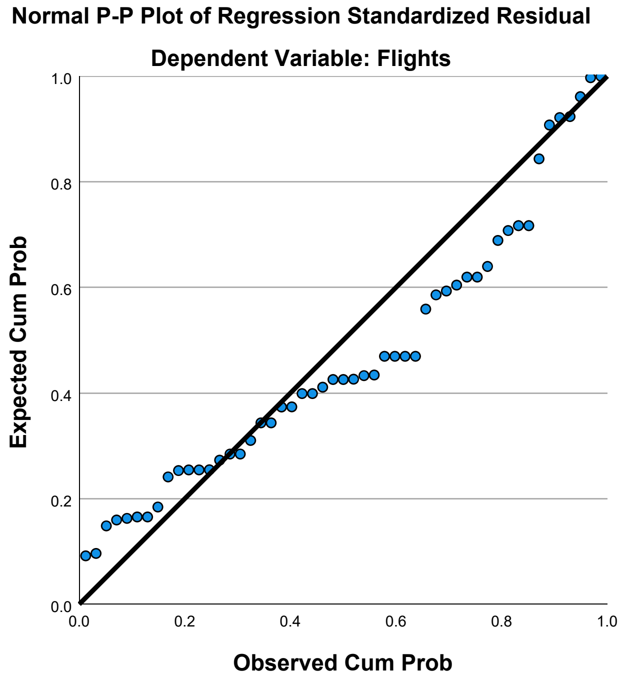
Residuals Statistics[a]

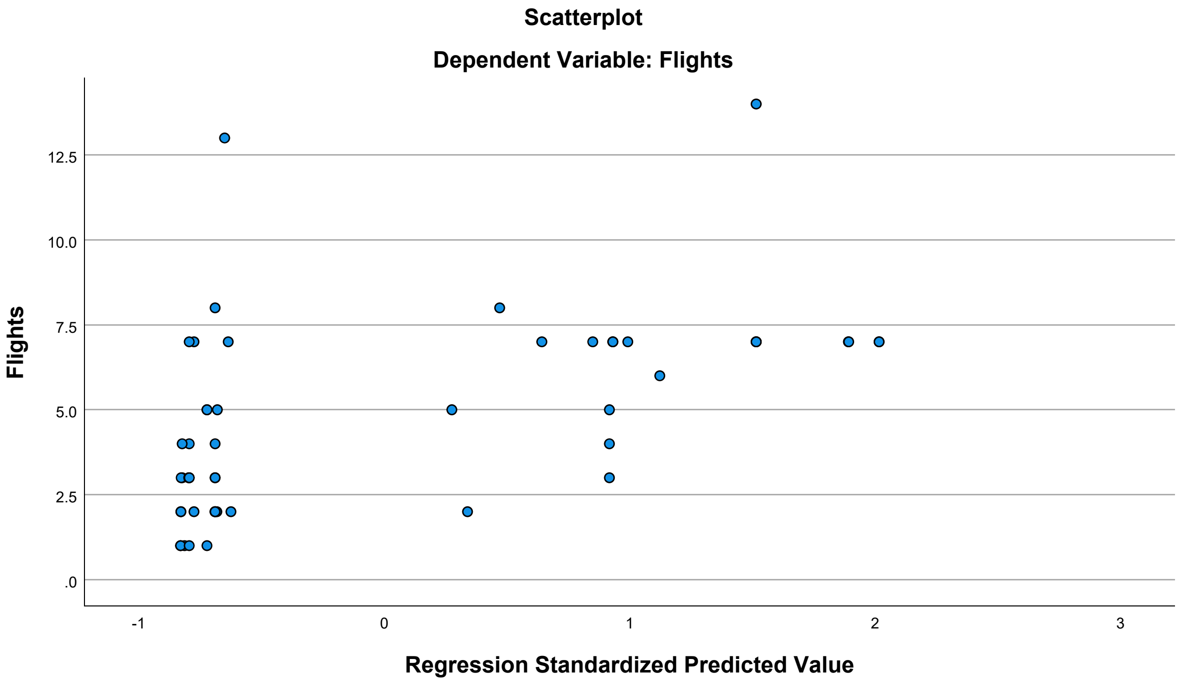
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.41	8.00	4.75	1.613	51
Residual	-3.293	9.304	.000	2.398	51
Std. Predicted Value	-.830	2.016	.000	1.000	51
Std. Residual	-1.331	3.761	.000	.970	51

a. Dependent Variable: Flights

Charts







Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.75	2.890	51
HomeConcentration	1.1059894118	1.7022085464	51
GJFK	.14	.348	51

Correlations

		Flights	HomeConcentration	GJFK
Pearson Correlation	Flights	1.000	.482	.235
	HomeConcentration	.482	1.000	.025
	GJFK	.235	.025	1.000
Sig. (1-tailed)	Flights	.	<.001	.049
	HomeConcentration	.000	.	.431
	GJFK	.049	.431	.
N	Flights	51	51	51
	HomeConcentration	51	51	51
	GJFK	51	51	51

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	GJFK, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.531[a]	.282	.252	2.500	.282	9.423

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	2	48	<.001

a. Predictors: (Constant), GJFK, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	117.760	2	58.880	9.423	<.001[b]
	Residual	299.926	48	6.248		
	Total	417.686	50			

a. Dependent Variable: Flights

b. Predictors: (Constant), GJFK, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.596	.440		8.181	<.001
	HomeConcentration	.809	.208	.476	3.894	<.001
	GJFK	1.852	1.017	.223	1.820	.075

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.999	1.001
	GJFK	.999	1.001

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions GJFK
1	1	1.777	1.000	.15	.14	.11
	2	.797	1.493	.02	.23	.77
	3	.425	2.044	.83	.63	.12

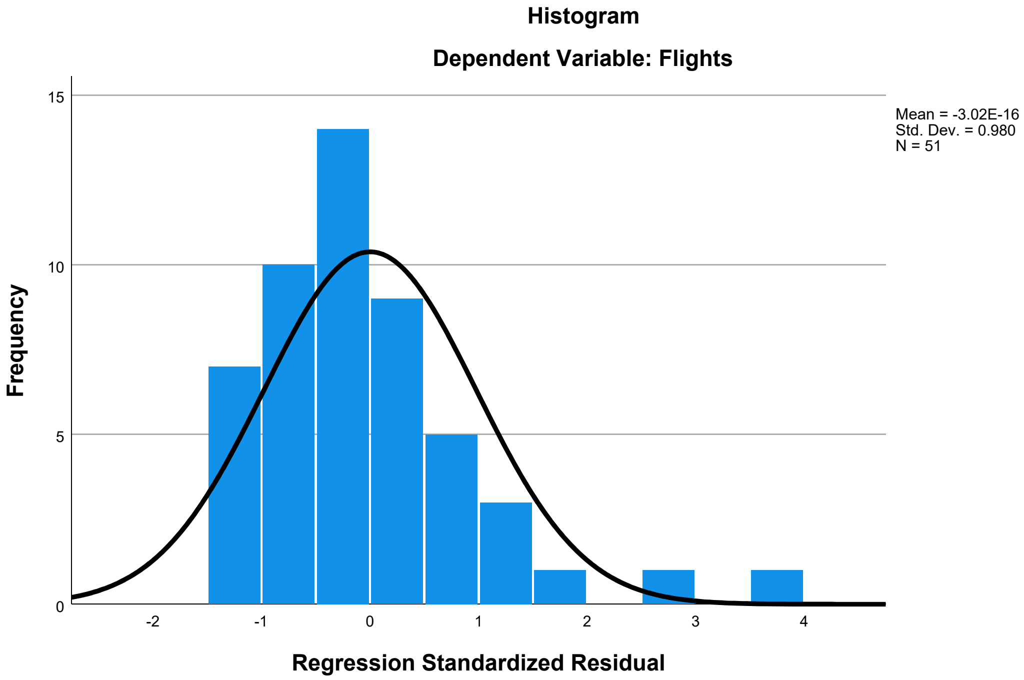
a. Dependent Variable: Flights

Residuals Statistics[a]

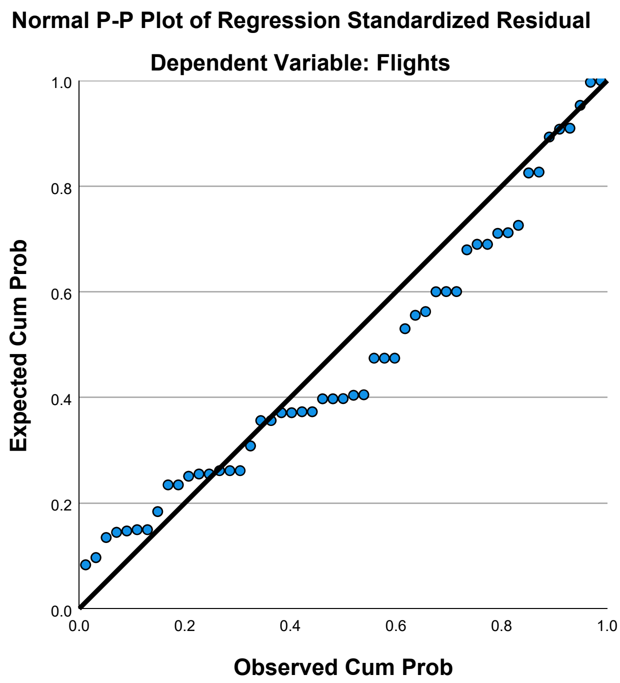
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.60	7.92	4.75	1.535	51
Residual	-3.464	9.352	.000	2.449	51
Std. Predicted Value	-.748	2.071	.000	1.000	51
Std. Residual	-1.386	3.741	.000	.980	51

a. Dependent Variable: Flights

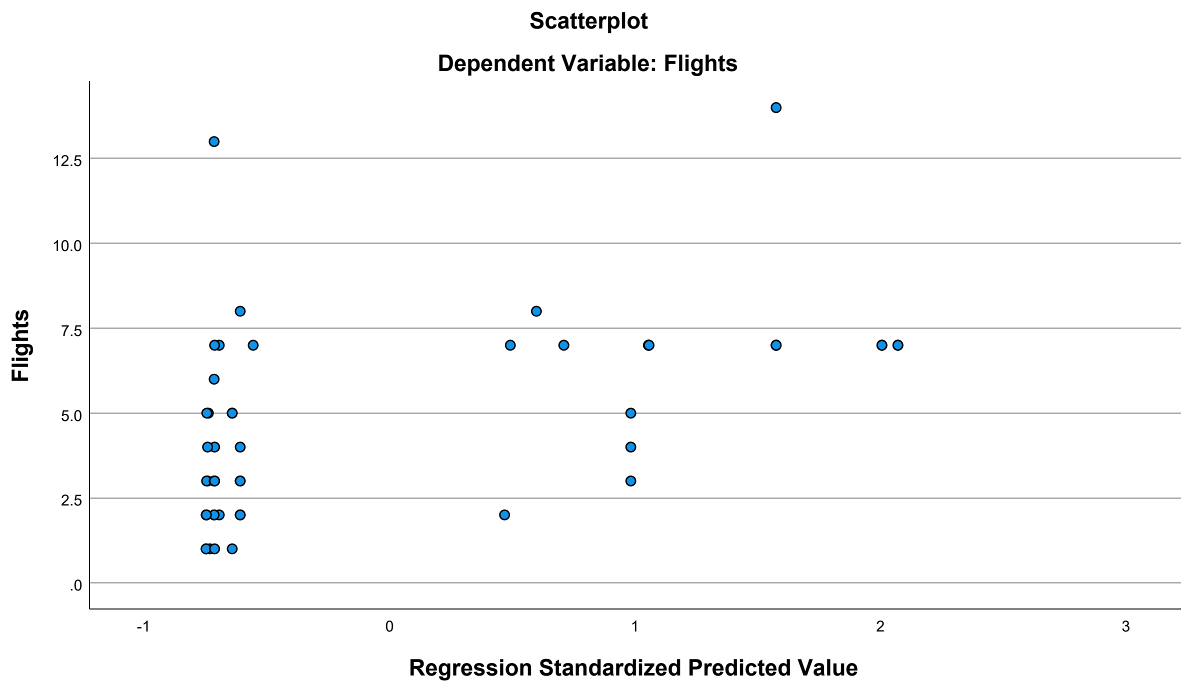
Charts



Histogram
Dependent Variable: Flights
Mean = -3.02E-16
Std. Dev. = 0.980
N = 51
Frequency
15
10
5
0
-2
-1
0
1
2
3
4
Regression Standardized Residual



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.75	2.890	51
HomeConcentration	1.1059894118	1.7022085464	51

Correlations

		Flights	HomeConcentration
Pearson Correlation	Flights	1.000	.482
	HomeConcentration	.482	1.000
Sig. (1-tailed)	Flights	.	<.001
	HomeConcentration	.000	.
N	Flights	51	51
	HomeConcentration	51	51

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.482[a]	.232	.217	2.558	.232	14.834

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	1	49	<.001

a. Predictors: (Constant), HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	97.064	1	97.064	14.834	<.001[b]
	Residual	320.623	49	6.543		
	Total	417.686	50			

a. Dependent Variable: Flights

b. Predictors: (Constant), HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.840	.428		8.963	<.001
	HomeConcentration	.819	.213	.482	3.851	<.001

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	1.000	1.000

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration
1	1	1.549	1.000	.23	.23
	2	.451	1.852	.77	.77

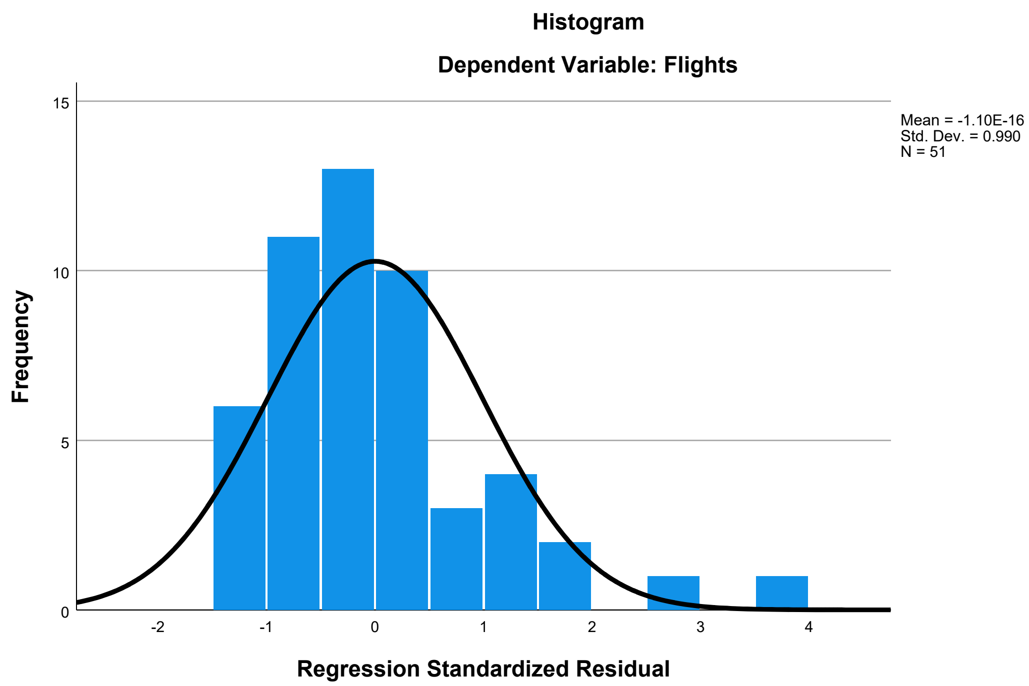
a. Dependent Variable: Flights

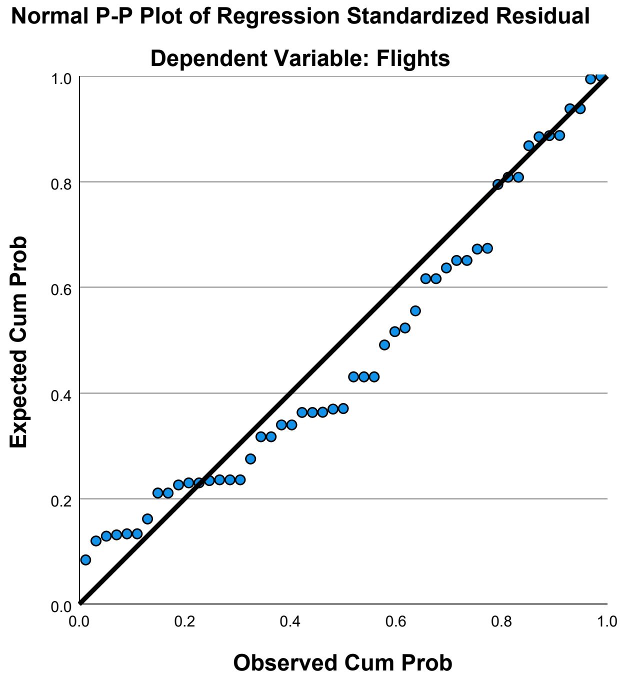
Residuals Statistics[a]

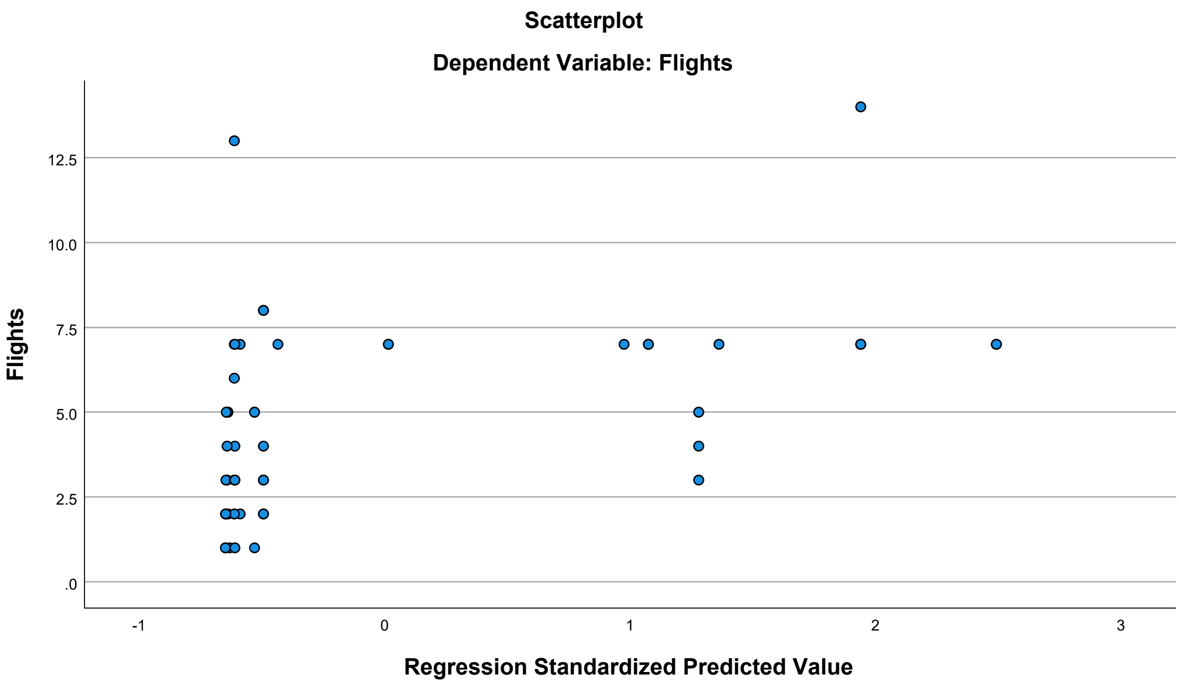
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.84	8.22	4.75	1.393	51
Residual	-3.528	9.108	.000	2.532	51
Std. Predicted Value	-.649	2.492	.000	1.000	51
Std. Residual	-1.379	3.561	.000	.990	51

a. Dependent Variable: Flights

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
.0
2.5
5.0
7.5
10.0
12.5
-1
0
1
2
3

Regression

```
[DataSet10] C:\Users\user\My Drive\PhD\Doctorate\Data\Modelling\Modelling Files\Final
Try\UK\2017 Winter - nonLON - Airline.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.27	2.102	11
HomeConcentration	1.9218618	2.13955624	11
GJFK	.18	.405	11
PartnerConcentration	1.7393401818	3.8106431382	11
Distance	3.59582	.504931	11
Language	7.23243464	3.527650546	11
Ethnicity	.83352900	.878021746	11
Urban	15.82	2.750	11

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.534	-.299	.184
	HomeConcentration	.534	1.000	-.103	-.437
	GJFK	-.299	-.103	1.000	-.222
	PartnerConcentration	.184	-.437	-.222	1.000
	Distance	.248	-.569	-.257	.709
	Language	-.618	-.110	.785	-.160
	Ethnicity	-.875	-.488	.081	-.133
	Urban	-.112	.601	.392	-.372
Sig. (1-tailed)	Flights	.	.045	.186	.294
	HomeConcentration	.045	.	.382	.089
	GJFK	.186	.382	.	.256
	PartnerConcentration	.294	.089	.256	.
	Distance	.231	.034	.222	.007
	Language	.021	.373	.002	.319
	Ethnicity	.000	.064	.407	.348
	Urban	.372	.025	.116	.130
N	Flights	11	11	11	11
	HomeConcentration	11	11	11	11
	GJFK	11	11	11	11
	PartnerConcentration	11	11	11	11
	Distance	11	11	11	11
	Language	11	11	11	11
	Ethnicity	11	11	11	11
	Urban	11	11	11	11

Correlations

		Distance	Language	Ethnicity	Urban
Pearson Correlation	Flights	.248	-.618	-.875	-.112
	HomeConcentration	-.569	-.110	-.488	.601
	GJFK	-.257	.785	.081	.392
	PartnerConcentration	.709	-.160	-.133	-.372
	Distance	1.000	-.534	-.244	-.733
	Language	-.534	1.000	.517	.606
	Ethnicity	-.244	.517	1.000	.069
	Urban	-.733	.606	.069	1.000
Sig. (1-tailed)	Flights	.231	.021	<.001	.372
	HomeConcentration	.034	.373	.064	.025
	GJFK	.222	.002	.407	.116
	PartnerConcentration	.007	.319	.348	.130
	Distance	.	.045	.234	.005
	Language	.045	.	.052	.024
	Ethnicity	.234	.052	.	.420
	Urban	.005	.024	.420	.
N	Flights	11	11	11	11
	HomeConcentration	11	11	11	11
	GJFK	11	11	11	11
	PartnerConcentration	11	11	11	11
	Distance	11	11	11	11
	Language	11	11	11	11
	Ethnicity	11	11	11	11
	Urban	11	11	11	11

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, PartnerConcentration, GJFK, Distance, HomeConcentration, Language[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change
1	.955[a]	.913	.709	1.133	.913	4.487

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	7	3	.122

a. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, GJFK, Distance, HomeConcentration, Language

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40.329	7	5.761	4.487	.122[b]
	Residual	3.852	3	1.284		
	Total	44.182	10			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, GJFK, Distance, HomeConcentration, Language

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	35.027	25.287		1.385	.260
	HomeConcentration	.408	.517	.415	.789	.488
	GJFK	12.529	9.989	2.411	1.254	.299
	PartnerConcentration	.940	.680	1.703	1.382	.261
	Distance	-6.885	6.166	-1.654	-1.117	.345
	Language	-2.200	1.727	-3.692	-1.274	.292
	Ethnicity	2.024	2.649	.845	.764	.500
	Urban	.223	.438	.292	.510	.645

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.105	9.531
	GJFK	.008	127.139
	PartnerConcentration	.019	52.255
	Distance	.013	75.474
	Language	.003	288.955
	Ethnicity	.024	42.120
	Urban	.089	11.278

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	GJFK
1	1	5.294	1.000	.00	.00	.00
	2	1.092	2.202	.00	.00	.00
	3	.898	2.428	.00	.03	.00
	4	.586	3.006	.00	.00	.00
	5	.117	6.713	.00	.10	.00
	6	.010	22.687	.00	.61	.06
	7	.003	42.886	.01	.11	.02
	8	8.566E-5	248.606	.99	.13	.92

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions PartnerConcentration	Distance	Language	Ethnicity	Urban
1	1	.00	.00	.00	.00	.00
	2	.01	.00	.00	.00	.00
	3	.00	.00	.00	.00	.00
	4	.00	.00	.00	.01	.00
	5	.02	.00	.00	.01	.00
	6	.02	.00	.02	.17	.03
	7	.00	.00	.04	.02	.52
	8	.94	1.00	.94	.79	.45

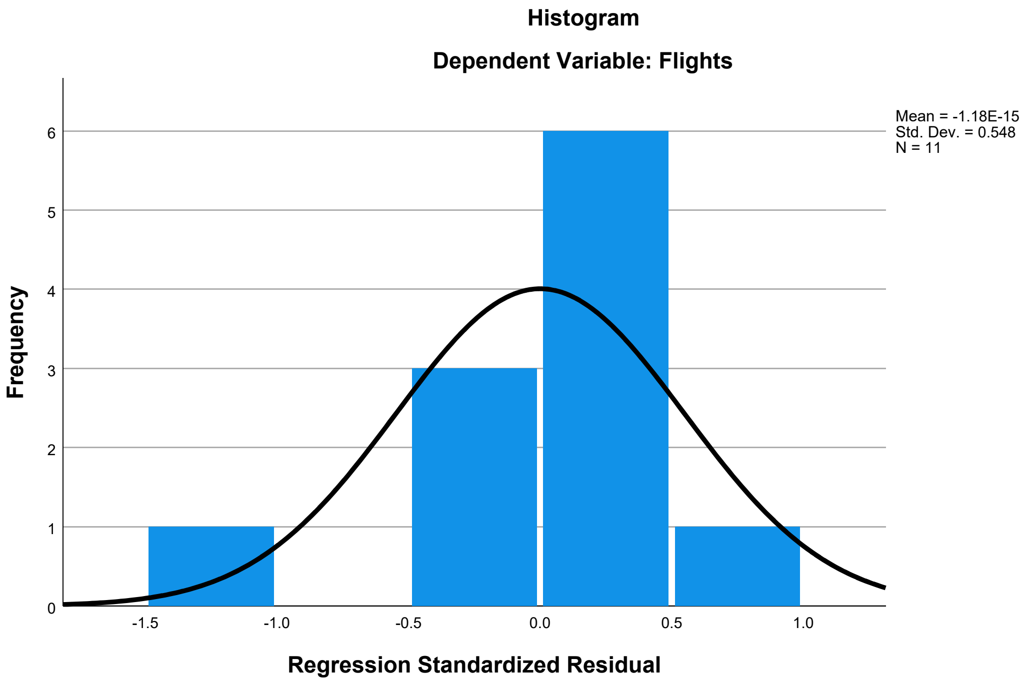
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.56	5.97	4.27	2.008	11
Residual	-1.487	1.029	.000	.621	11
Std. Predicted Value	-1.851	.846	.000	1.000	11
Std. Residual	-1.312	.908	.000	.548	11

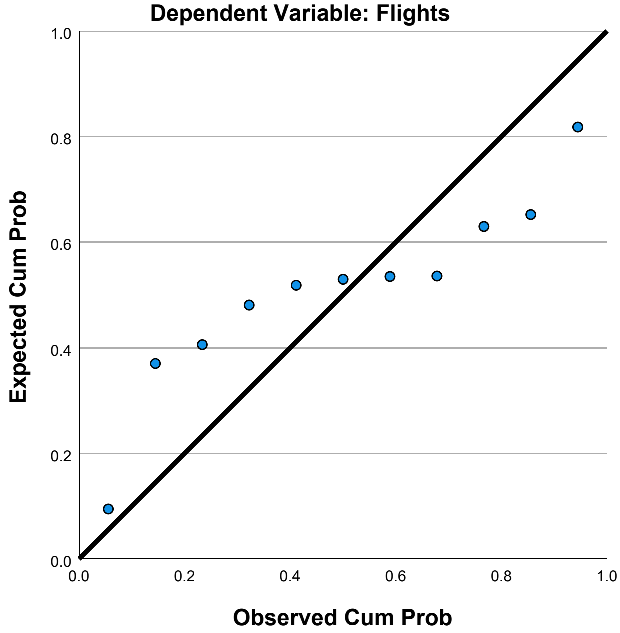
a. Dependent Variable: Flights

Charts



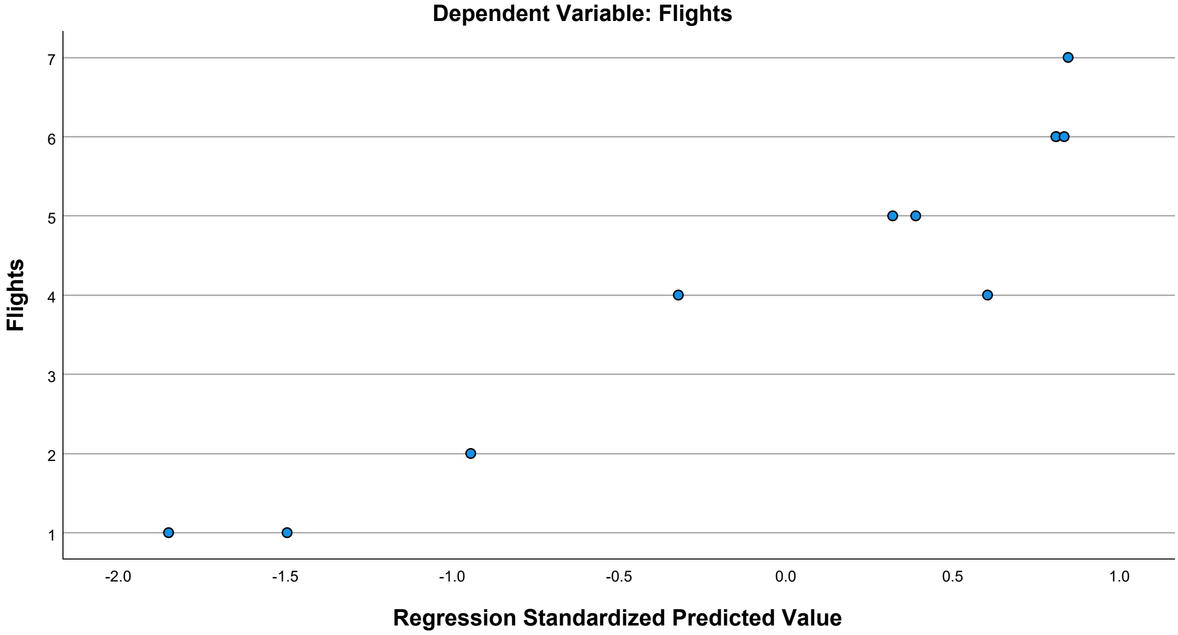
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.27	2.102	11
HomeConcentration	1.9218618	2.13955624	11
GJFK	.18	.405	11
PartnerConcentration	1.7393401818	3.8106431382	11
Distance	3.59582	.504931	11
Ethnicity	.83352900	.878021746	11
Urban	15.82	2.750	11

Correlations

		Flights	HomeConcentration	GJFK	PartnerConcentration
Pearson Correlation	Flights	1.000	.534	-.299	.184
	HomeConcentration	.534	1.000	-.103	-.437
	GJFK	-.299	-.103	1.000	-.222
	PartnerConcentration	.184	-.437	-.222	1.000
	Distance	.248	-.569	-.257	.709
	Ethnicity	-.875	-.488	.081	-.133
	Urban	-.112	.601	.392	-.372
Sig. (1-tailed)	Flights	.	.045	.186	.294
	HomeConcentration	.045	.	.382	.089
	GJFK	.186	.382	.	.256
	PartnerConcentration	.294	.089	.256	.
	Distance	.231	.034	.222	.007
	Ethnicity	.000	.064	.407	.348
	Urban	.372	.025	.116	.130
N	Flights	11	11	11	11
	HomeConcentration	11	11	11	11
	GJFK	11	11	11	11
	PartnerConcentration	11	11	11	11
	Distance	11	11	11	11
	Ethnicity	11	11	11	11
	Urban	11	11	11	11

Correlations

		Distance	Ethnicity	Urban
Pearson Correlation	Flights	.248	-.875	-.112
	HomeConcentration	-.569	-.488	.601
	GJFK	-.257	.081	.392
	PartnerConcentration	.709	-.133	-.372
	Distance	1.000	-.244	-.733
	Ethnicity	-.244	1.000	.069
	Urban	-.733	.069	1.000
Sig. (1-tailed)	Flights	.231	<.001	.372
	HomeConcentration	.034	.064	.025
	GJFK	.222	.407	.116
	PartnerConcentration	.007	.348	.130
	Distance	.	.234	.005
	Ethnicity	.234	.	.420
	Urban	.005	.420	.
N	Flights	11	11	11
	HomeConcentration	11	11	11
	GJFK	11	11	11
	PartnerConcentration	11	11	11
	Distance	11	11	11
	Ethnicity	11	11	11
	Urban	11	11	11

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, PartnerConcentration, GJFK, Distance, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.930[a]	.866	.664	1.218	.866	4.295

Model Summary[b]

Model	Change Statistics df1	df2	Sig. F Change
1	6	4	.090

a. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, GJFK, Distance, HomeConcentration

b. Dependent Variable: Flights

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38.245	6	6.374	4.295	.090[b]
	Residual	5.936	4	1.484		
	Total	44.182	10			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, GJFK, Distance, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.646	9.037		.514	.634
	HomeConcentration	.606	.530	.617	1.143	.317
	GJFK	-.074	1.477	-.014	-.050	.962
	PartnerConcentration	.096	.164	.174	.583	.591
	Distance	.675	1.796	.162	.376	.726
	Ethnicity	-1.178	.899	-.492	-1.309	.261
	Urban	-.198	.308	-.260	-.644	.554

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.115	8.669
	GJFK	.416	2.405
	PartnerConcentration	.378	2.642
	Distance	.181	5.539
	Ethnicity	.238	4.202
	Urban	.207	4.828

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	GJFK
1	1	4.373	1.000	.00	.00	.00
	2	1.074	2.018	.00	.01	.06
	3	.857	2.259	.00	.03	.17
	4	.586	2.732	.00	.00	.18
	5	.104	6.480	.00	.15	.04
	6	.006	27.855	.00	.78	.54
	7	.001	64.117	1.00	.03	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions			
		PartnerConcentration	Distance	Ethnicity	Urban
1	1	.00	.00	.00	.00
	2	.19	.00	.00	.00
	3	.00	.00	.02	.00
	4	.09	.00	.10	.00
	5	.41	.01	.21	.00
	6	.05	.10	.57	.69
	7	.26	.89	.09	.31

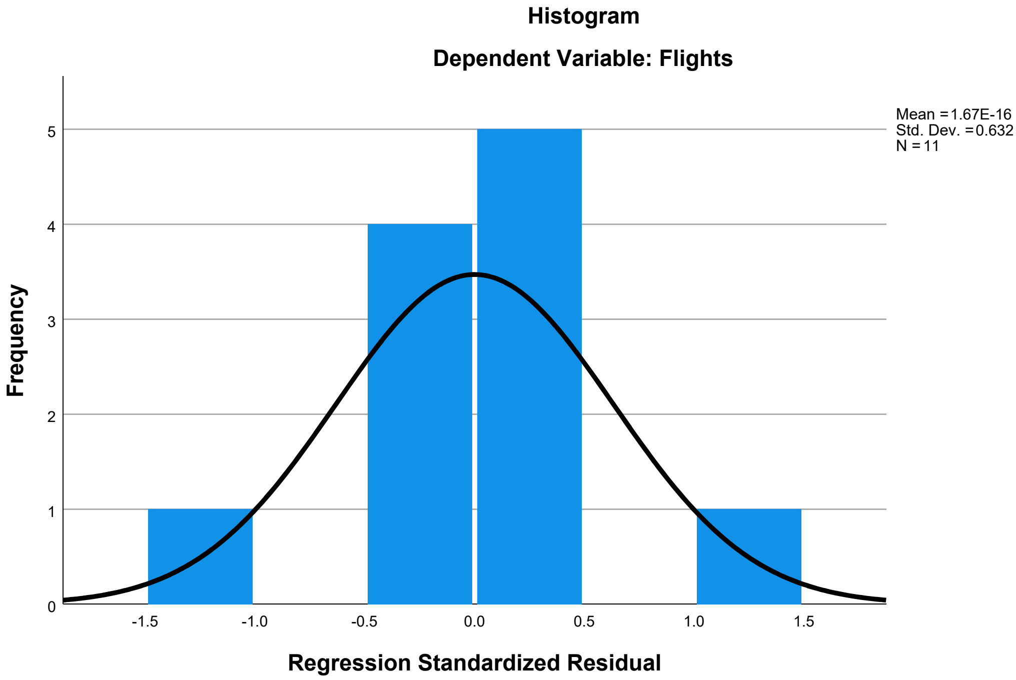
a. Dependent Variable: Flights

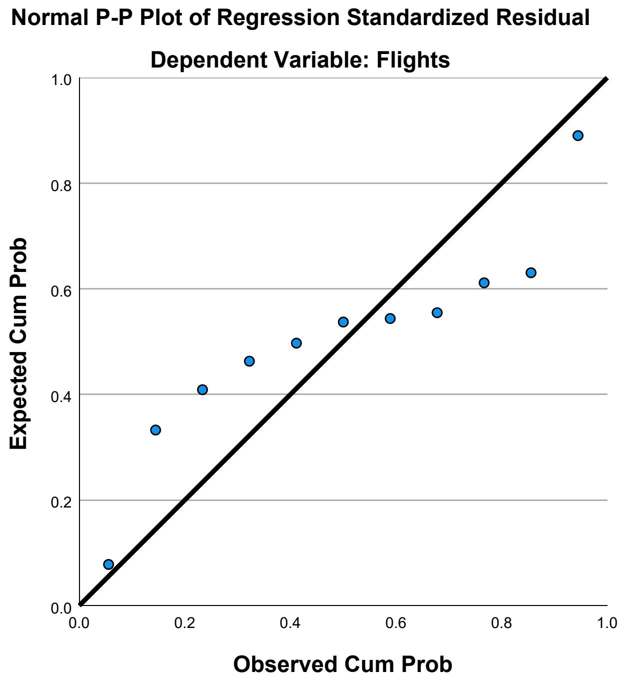
Residuals Statistics[a]

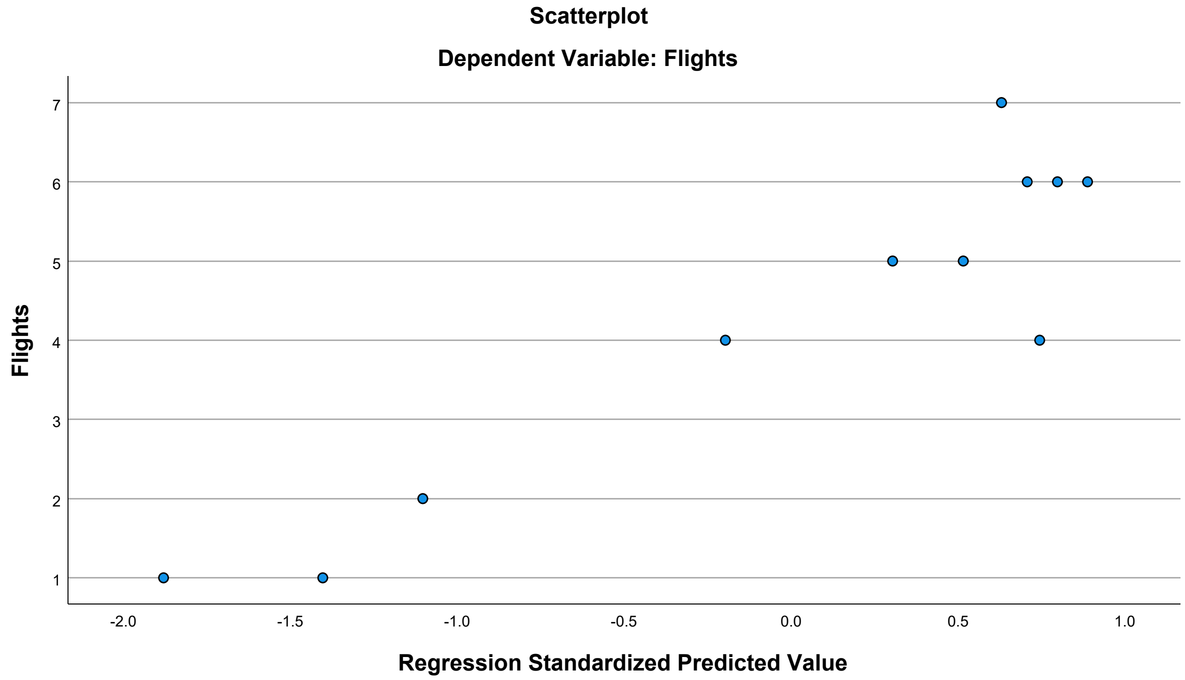
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.59	6.01	4.27	1.956	11
Residual	-1.729	1.495	.000	.770	11
Std. Predicted Value	-1.881	.888	.000	1.000	11
Std. Residual	-1.419	1.227	.000	.632	11

a. Dependent Variable: Flights

Charts


Histogram
Dependent Variable: Flights
Mean =1.67E-16
Std. Dev. =0.632
N = 11
Frequency
0
1
2
3
4
5
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.27	2.102	11
HomeConcentration	1.9218618	2.13955624	11
PartnerConcentration	1.7393401818	3.8106431382	11
Distance	3.59582	.504931	11
Ethnicity	.83352900	.878021746	11
Urban	15.82	2.750	11

Correlations

		Flights	HomeConcentration	PartnerConcentration	Distance
Pearson Correlation	Flights	1.000	.534	.184	.248
	HomeConcentration	.534	1.000	-.437	-.569
	PartnerConcentration	.184	-.437	1.000	.709
	Distance	.248	-.569	.709	1.000
	Ethnicity	-.875	-.488	-.133	-.244
	Urban	-.112	.601	-.372	-.733
Sig. (1-tailed)	Flights	.	.045	.294	.231
	HomeConcentration	.045	.	.089	.034
	PartnerConcentration	.294	.089	.	.007
	Distance	.231	.034	.007	.
	Ethnicity	.000	.064	.348	.234
	Urban	.372	.025	.130	.005
N	Flights	11	11	11	11
	HomeConcentration	11	11	11	11
	PartnerConcentration	11	11	11	11
	Distance	11	11	11	11
	Ethnicity	11	11	11	11
	Urban	11	11	11	11

Correlations

		Ethnicity	Urban
Pearson Correlation	Flights	-.875	-.112
	HomeConcentration	-.488	.601
	PartnerConcentration	-.133	-.372
	Distance	-.244	-.733
	Ethnicity	1.000	.069
	Urban	.069	1.000
Sig. (1-tailed)	Flights	<.001	.372
	HomeConcentration	.064	.025
	PartnerConcentration	.348	.130
	Distance	.234	.005
	Ethnicity	.	.420
	Urban	.420	.
N	Flights	11	11
	HomeConcentration	11	11
	PartnerConcentration	11	11
	Distance	11	11
	Ethnicity	11	11
	Urban	11	11

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, PartnerConcentration, HomeConcentration, Distance[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change
1	.930[a]	.866	.731	1.090	.866	6.438	5	5	.031

a. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, HomeConcentration, Distance

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38.242	5	7.648	6.438	.031[b]
	Residual	5.940	5	1.188		
	Total	44.182	10			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, HomeConcentration, Distance

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.673	8.071		.579	.588
	HomeConcentration	.625	.339	.636	1.841	.125
	PartnerConcentration	.099	.137	.179	.721	.503
	Distance	.691	1.583	.166	.436	.681
	Ethnicity	-1.152	.665	-.481	-1.732	.144
	Urban	-.208	.211	-.273	-.989	.368

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.225	4.437
	PartnerConcentration	.436	2.295
	Distance	.186	5.381
	Ethnicity	.348	2.872
	Urban	.354	2.827

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	PartnerConcentration
1	1	4.166	1.000	.00	.00	.00
	2	1.017	2.025	.00	.04	.22
	3	.690	2.457	.00	.03	.10
	4	.113	6.059	.00	.31	.40
	5	.012	18.459	.00	.53	.00
	6	.001	62.516	1.00	.08	.28

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Distance	Ethnicity	Urban
1	1	.00	.01	.00
	2	.00	.00	.00
	3	.00	.15	.00
	4	.01	.34	.00
	5	.06	.33	.54
	6	.93	.16	.46

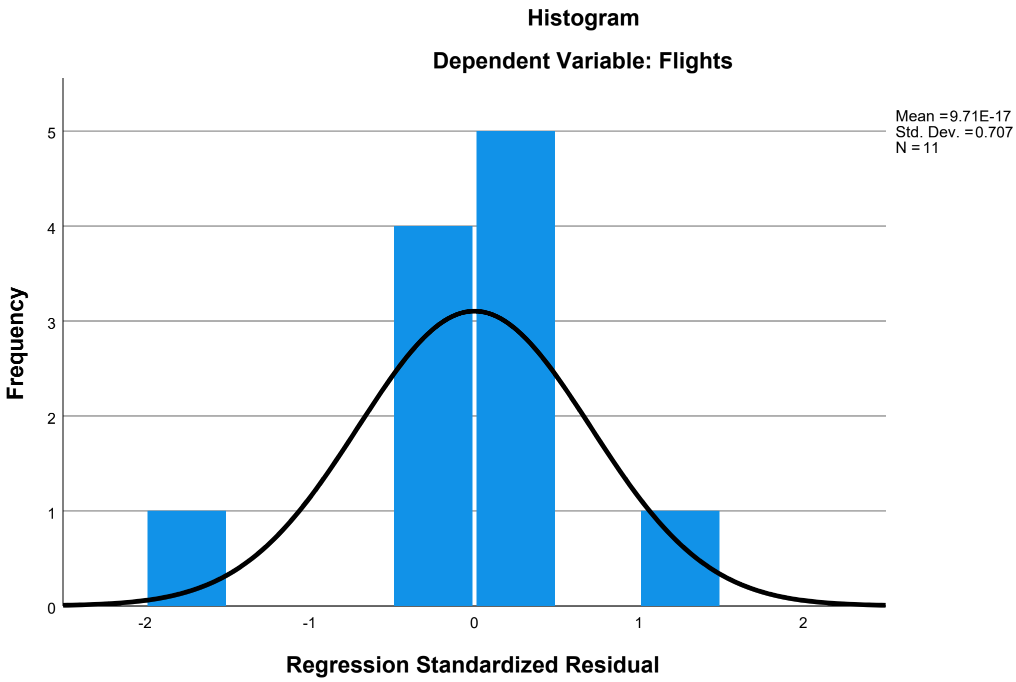
a. Dependent Variable: Flights

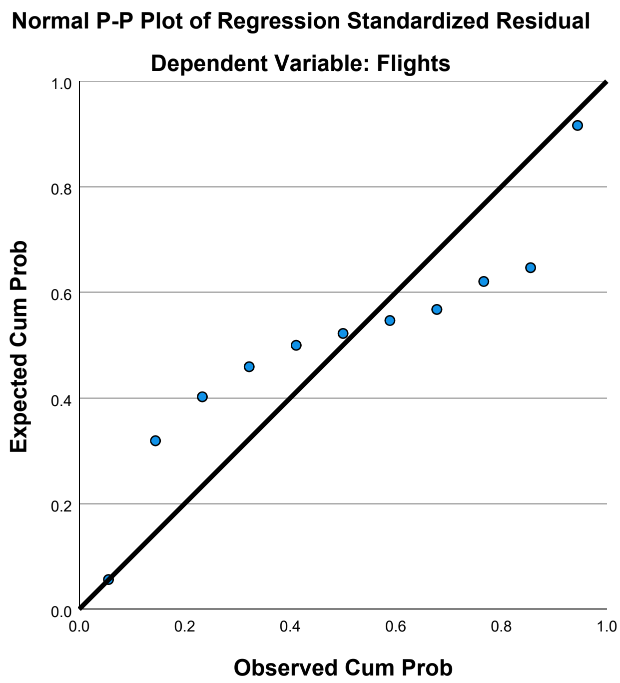
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.59	6.00	4.27	1.956	11
Residual	-1.731	1.504	.000	.771	11
Std. Predicted Value	-1.884	.883	.000	1.000	11
Std. Residual	-1.588	1.380	.000	.707	11

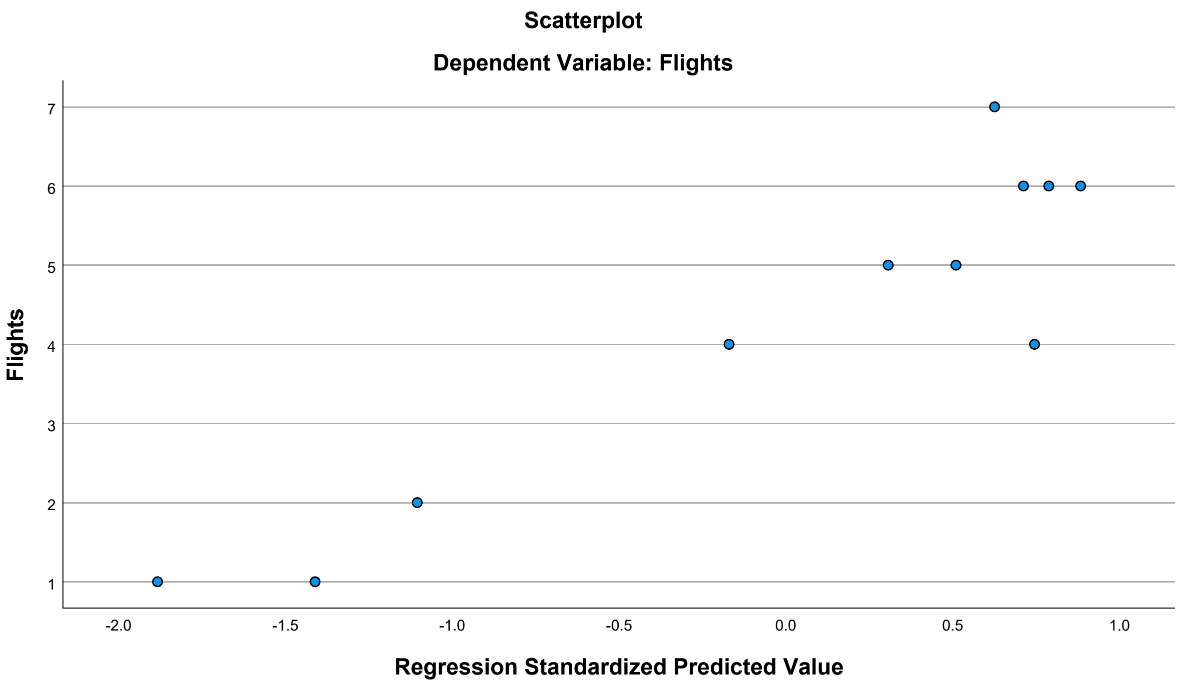
a. Dependent Variable: Flights

Charts





Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Flights
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0



Scatterplot
Dependent Variable: Flights
Flights
Regression Standardized Predicted Value
1
2
3
4
5
6
7
-2.0
-1.5
-1.0
-0.5
0.0
0.5
1.0

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.27	2.102	11
HomeConcentration	1.9218618	2.13955624	11
PartnerConcentration	1.7393401818	3.8106431382	11
Ethnicity	.83352900	.878021746	11
Urban	15.82	2.750	11

Correlations

		Flights	HomeConcentration	PartnerConcentration	Ethnicity
Pearson Correlation	Flights	1.000	.534	.184	-.875
	HomeConcentration	.534	1.000	-.437	-.488
	PartnerConcentration	.184	-.437	1.000	-.133
	Ethnicity	-.875	-.488	-.133	1.000
	Urban	-.112	.601	-.372	.069
Sig. (1-tailed)	Flights	.	.045	.294	<.001
	HomeConcentration	.045	.	.089	.064
	PartnerConcentration	.294	.089	.	.348
	Ethnicity	.000	.064	.348	.
	Urban	.372	.025	.130	.420
N	Flights	11	11	11	11
	HomeConcentration	11	11	11	11
	PartnerConcentration	11	11	11	11
	Ethnicity	11	11	11	11
	Urban	11	11	11	11

Correlations

		Urban
Pearson Correlation	Flights	-.112
	HomeConcentration	.601
	PartnerConcentration	-.372
	Ethnicity	.069
	Urban	1.000
Sig. (1-tailed)	Flights	.372
	HomeConcentration	.025
	PartnerConcentration	.130
	Ethnicity	.420
	Urban	.
N	Flights	11
	HomeConcentration	11
	PartnerConcentration	11
	Ethnicity	11
	Urban	11

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, PartnerConcentration, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	Change Statistics: F Change
1	.928[a]	.860	.767	1.014	.860	9.248

Model Summary[b]

Model	Change Statistics: df1	Change Statistics: df2	Change Statistics: Sig. F Change
1	4	6	.010

a. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38.016	4	9.504	9.248	.010[b]
	Residual	6.166	6	1.028		
	Total	44.182	10			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, PartnerConcentration, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	8.028	2.268		3.540	.012
	HomeConcentration	.565	.289	.575	1.958	.098
	PartnerConcentration	.133	.105	.241	1.266	.252
	Ethnicity	-1.291	.543	-.539	-2.378	.055
	Urban	-.253	.172	-.330	-1.471	.192

Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	HomeConcentration	.270	3.708
	PartnerConcentration	.644	1.553
	Ethnicity	.452	2.211
	Urban	.461	2.171

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	HomeConcentration	PartnerConcentration
1	1	3.217	1.000	.00	.01	.01
	2	1.008	1.786	.00	.05	.34
	3	.688	2.163	.00	.04	.16
	4	.080	6.361	.07	.54	.49
	5	.007	20.780	.93	.36	.00

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions Ethnicity	Urban
1	1	.01	.00
	2	.01	.00
	3	.19	.00
	4	.61	.01
	5	.18	.98

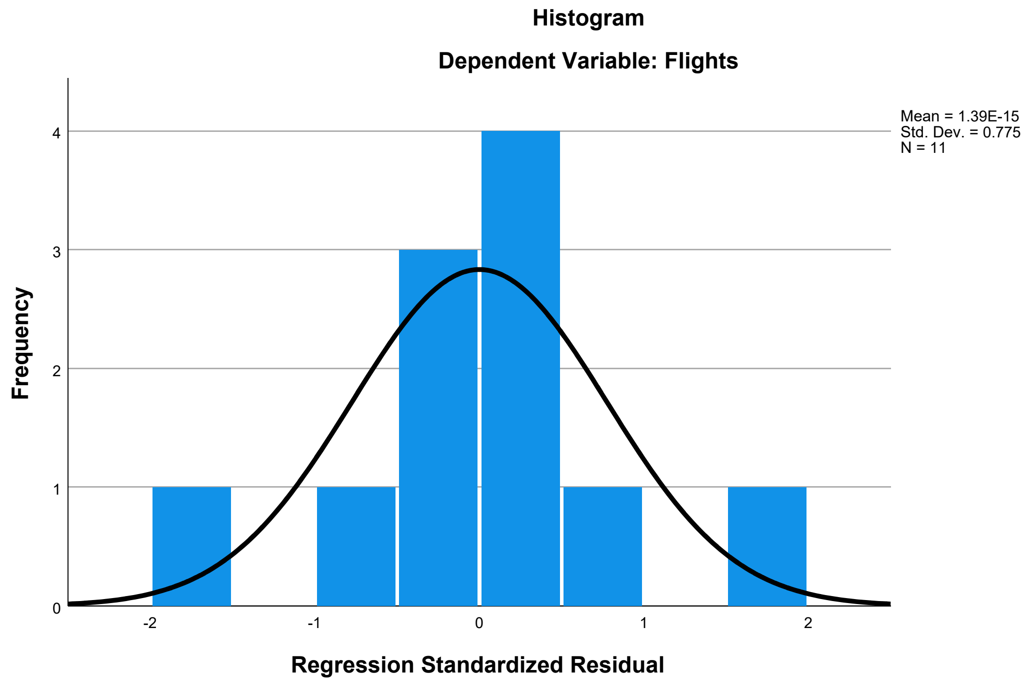
a. Dependent Variable: Flights

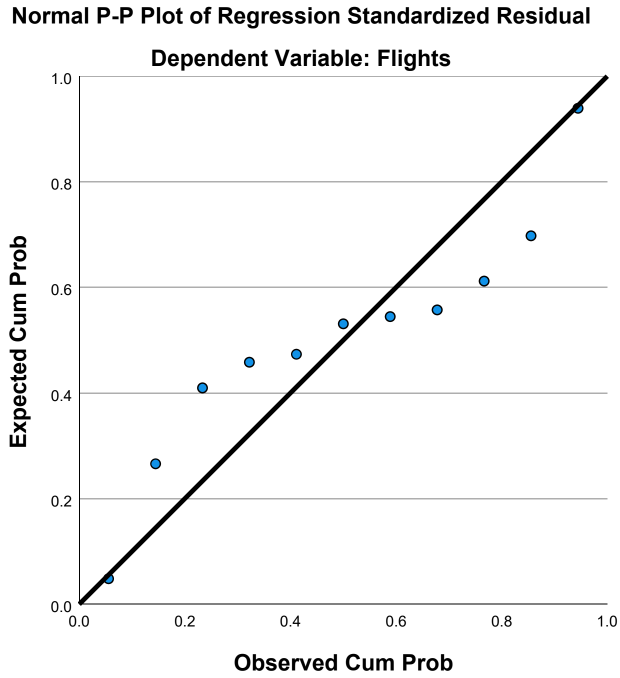
Residuals Statistics[a]

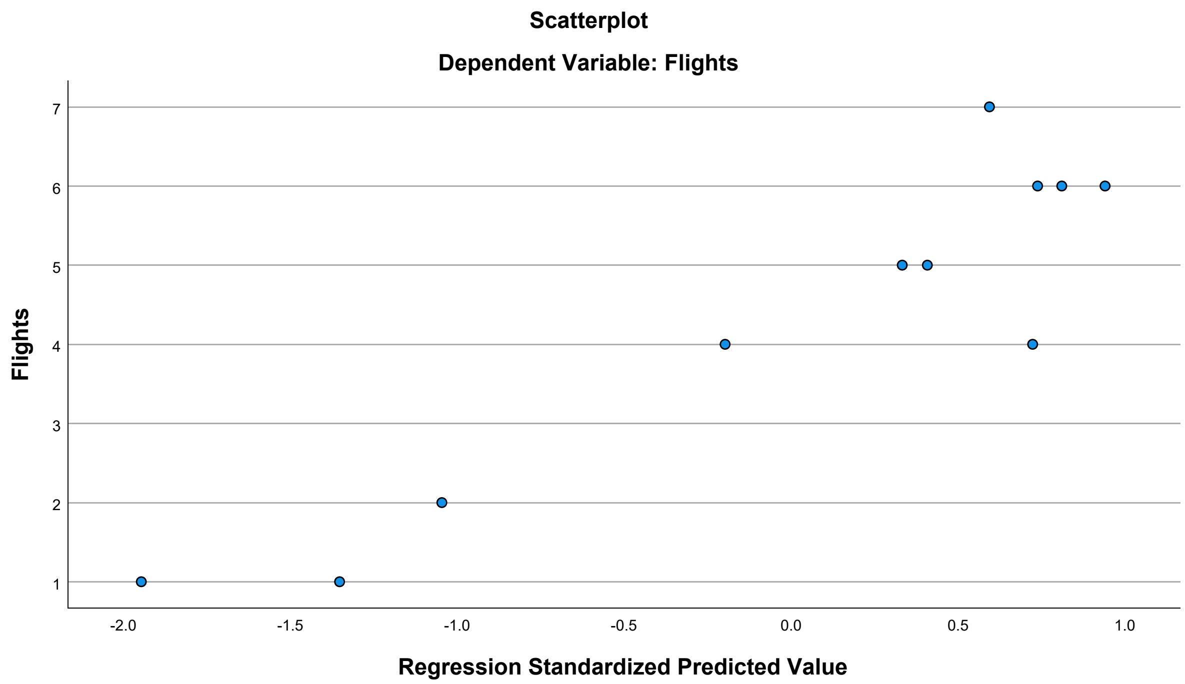
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.48	6.11	4.27	1.950	11
Residual	-1.683	1.569	.000	.785	11
Std. Predicted Value	-1.948	.940	.000	1.000	11
Std. Residual	-1.660	1.548	.000	.775	11

a. Dependent Variable: Flights

Charts







Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.27	2.102	11
HomeConcentration	1.9218618	2.13955624	11
Ethnicity	.83352900	.878021746	11
Urban	15.82	2.750	11

Correlations

		Flights	HomeConcentration	Ethnicity	Urban
Pearson Correlation	Flights	1.000	.534	-.875	-.112
	HomeConcentration	.534	1.000	-.488	.601
	Ethnicity	-.875	-.488	1.000	.069
	Urban	-.112	.601	.069	1.000
Sig. (1-tailed)	Flights	.	.045	<.001	.372
	HomeConcentration	.045	.	.064	.025
	Ethnicity	.000	.064	.	.420
	Urban	.372	.025	.420	.
N	Flights	11	11	11	11
	HomeConcentration	11	11	11	11
	Ethnicity	11	11	11	11
	Urban	11	11	11	11

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Urban, Ethnicity, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.907[a]	.823	.747	1.057	.823	10.859

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	3	7	.005

a. Predictors: (Constant), Urban, Ethnicity, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	36.367	3	12.122	10.859	.005[b]
	Residual	7.814	7	1.116		
	Total	44.182	10			

a. Dependent Variable: Flights

b. Predictors: (Constant), Urban, Ethnicity, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.497	2.332		3.644	.008
	HomeConcentration	.385	.262	.392	1.471	.185
	Ethnicity	-1.587	.511	-.663	-3.107	.017
	Urban	-.230	.178	-.301	-1.293	.237

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	HomeConcentration	.356	2.808
	Ethnicity	.555	1.802
	Urban	.465	2.148

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	HomeConcentration	Ethnicity
1	1	3.080	1.000	.00	.01	.02
	2	.769	2.001	.00	.12	.18
	3	.143	4.645	.04	.40	.59
	4	.007	20.330	.96	.47	.21

Collinearity Diagnostics[a]

Model	Dimension	Variance ... Urban
1	1	.00
	2	.00
	3	.01
	4	.99

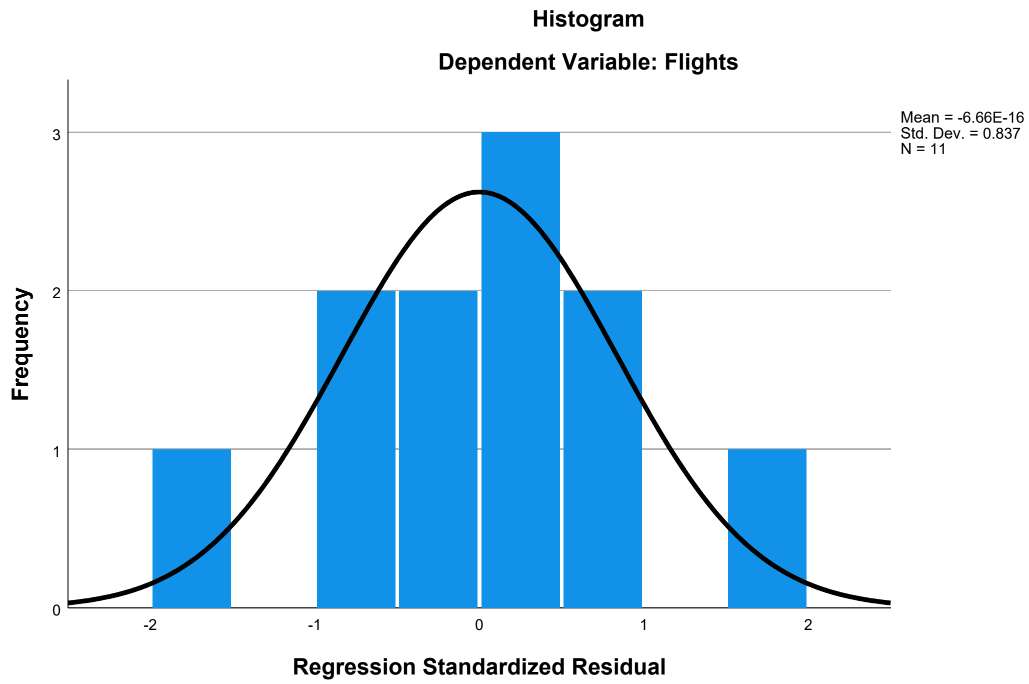
a. Dependent Variable: Flights

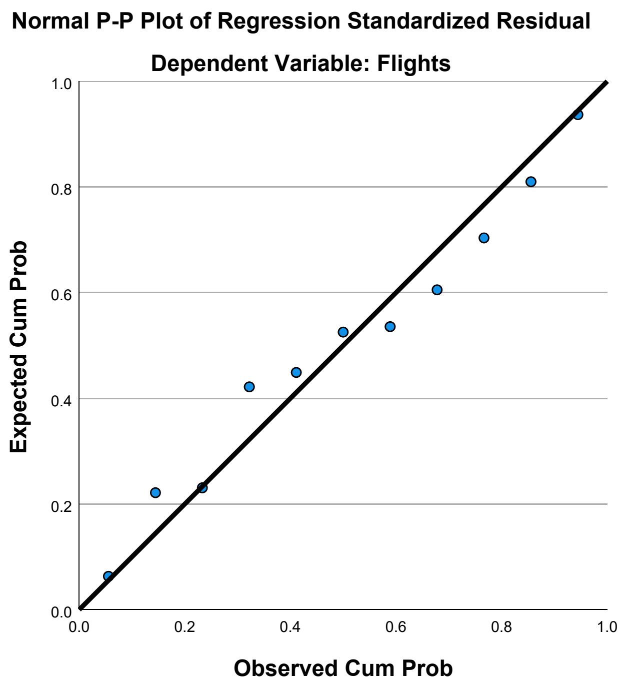
Residuals Statistics[a]

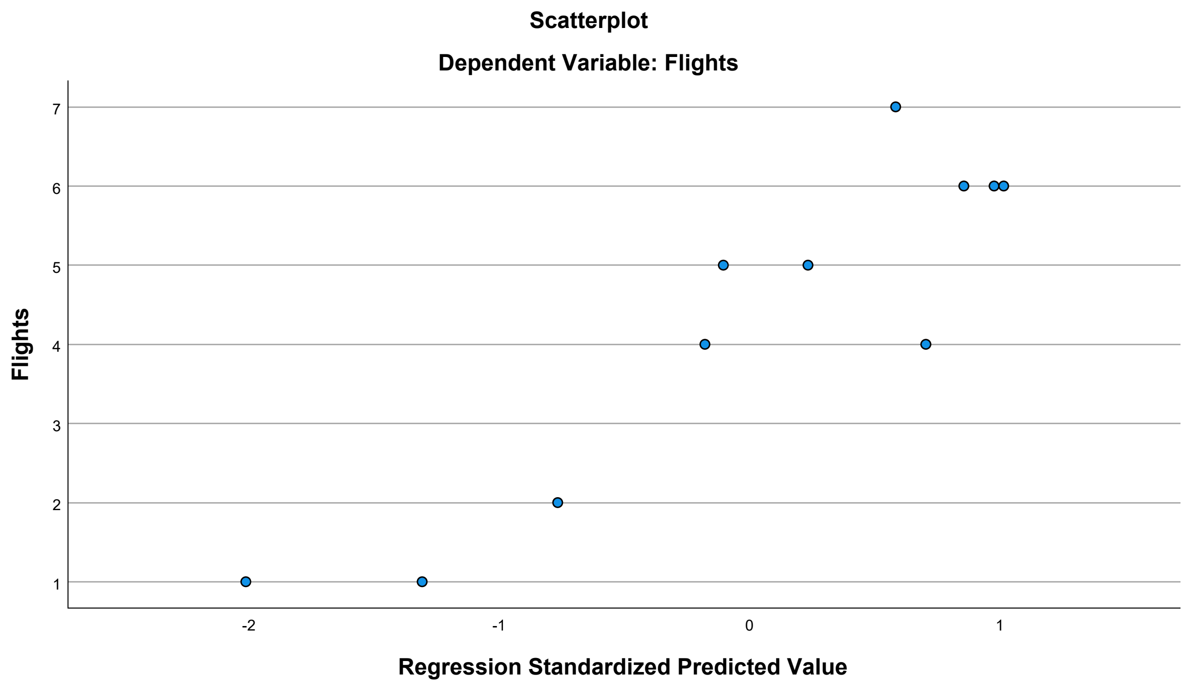
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.43	6.21	4.27	1.907	11
Residual	-1.616	1.614	.000	.884	11
Std. Predicted Value	-2.012	1.015	.000	1.000	11
Std. Residual	-1.529	1.528	.000	.837	11

a. Dependent Variable: Flights

Charts







Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.27	2.102	11
HomeConcentration	1.9218618	2.13955624	11
Ethnicity	.83352900	.878021746	11

Correlations

		Flights	HomeConcentration	Ethnicity
Pearson Correlation	Flights	1.000	.534	-.875
	HomeConcentration	.534	1.000	-.488
	Ethnicity	-.875	-.488	1.000
Sig. (1-tailed)	Flights	.	.045	<.001
	HomeConcentration	.045	.	.064
	Ethnicity	.000	.064	.
N	Flights	11	11	11
	HomeConcentration	11	11	11
	Ethnicity	11	11	11

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Ethnicity, HomeConcentration[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.884[a]	.781	.726	1.100	.781	14.257

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	2	8	.002

a. Predictors: (Constant), Ethnicity, HomeConcentration

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	34.502	2	17.251	14.257	.002[b]
	Residual	9.680	8	1.210		
	Total	44.182	10			

a. Dependent Variable: Flights

b. Predictors: (Constant), Ethnicity, HomeConcentration

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	5.617	.717		7.836	<.001
	HomeConcentration	.138	.186	.140	.741	.480
	Ethnicity	-1.931	.454	-.807	-4.253	.003

Coefficients[a]

Model		Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)		
	HomeConcentration	.761	1.313
	Ethnicity	.761	1.313

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions HomeConcentration	Variance Proportions Ethnicity
1	1	2.107	1.000	.04	.05	.05
	2	.768	1.656	.00	.27	.24
	3	.125	4.102	.96	.68	.71

a. Dependent Variable: Flights

Residuals Statistics[a]

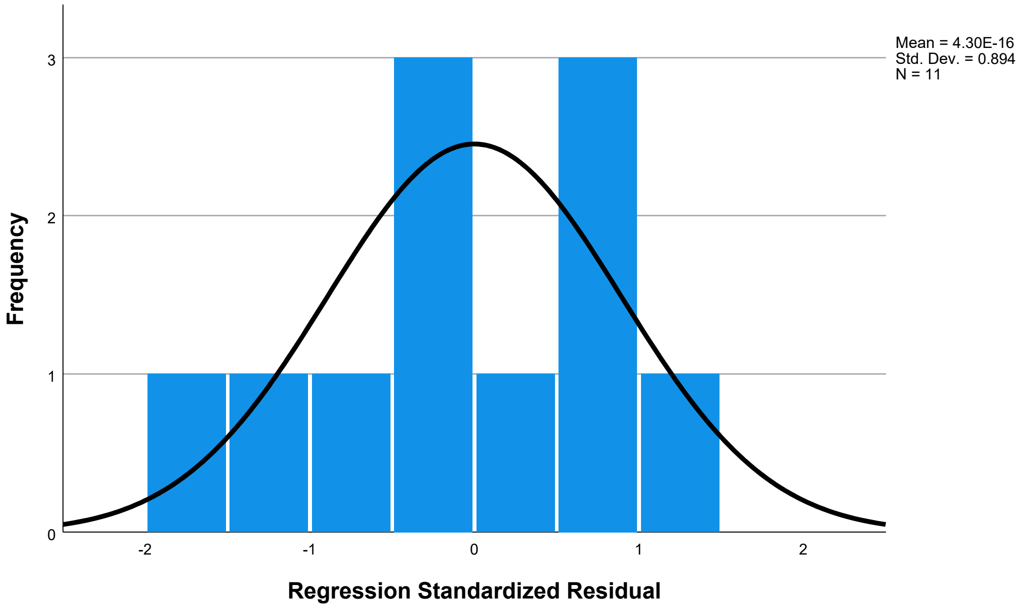
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.22	6.05	4.27	1.857	11
Residual	-1.733	1.583	.000	.984	11
Std. Predicted Value	-2.181	.957	.000	1.000	11
Std. Residual	-1.576	1.439	.000	.894	11

a. Dependent Variable: Flights

Charts

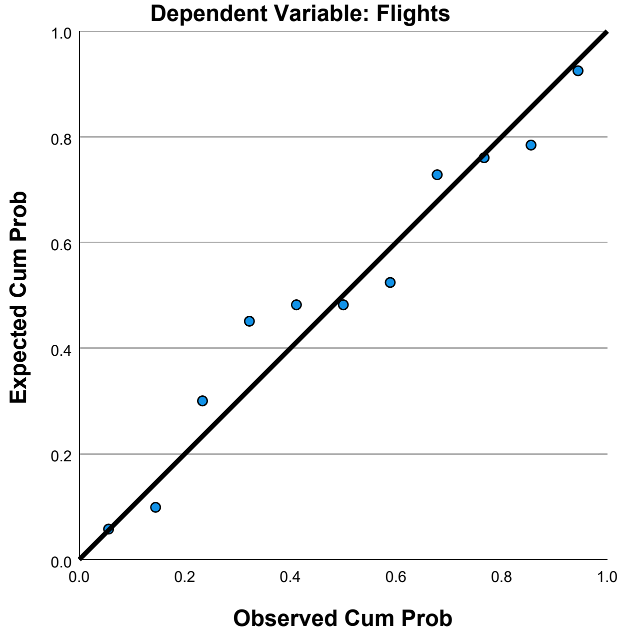
Histogram

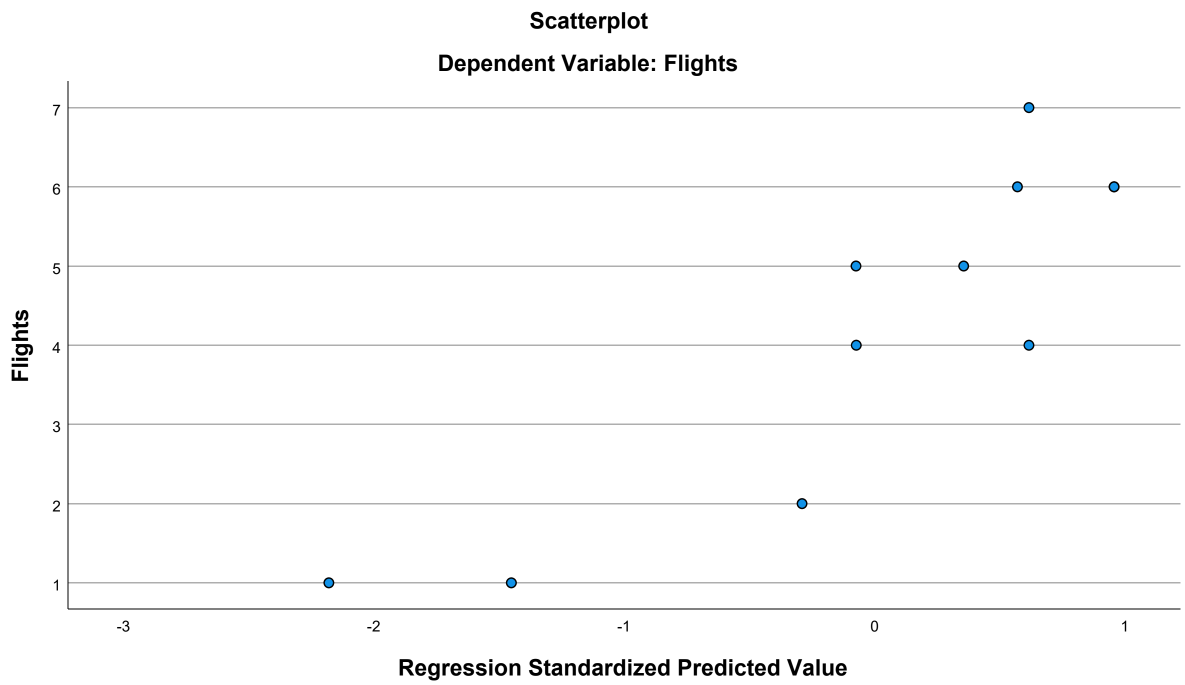
Dependent Variable: Flights



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights





Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Flights	4.27	2.102	11
Ethnicity	.83352900	.878021746	11

Correlations

		Flights	Ethnicity
Pearson Correlation	Flights	1.000	-.875
	Ethnicity	-.875	1.000
Sig. (1-tailed)	Flights	.	<.001
	Ethnicity	.000	.
N	Flights	11	11
	Ethnicity	11	11

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Ethnicity[b]	.	Enter

a. Dependent Variable: Flights

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.875[a]	.766	.740	1.072	.766	29.442

Model Summary[b]

Model	Change Statistics		
	df1	df2	Sig. F Change
1	1	9	<.001

a. Predictors: (Constant), Ethnicity

b. Dependent Variable: Flights

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.838	1	33.838	29.442	<.001[b]
	Residual	10.344	9	1.149		
	Total	44.182	10			

a. Dependent Variable: Flights

b. Predictors: (Constant), Ethnicity

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics
		B	Std. Error	Beta			Tolerance
1	(Constant)	6.019	.456		13.196	<.001	
	Ethnicity	-2.095	.386	-.875	-5.426	<.001	1.000

Coefficients[a]

Model		Collinearity Statistics
		VIF
1	(Constant)	
	Ethnicity	1.000

a. Dependent Variable: Flights

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Ethnicity
1	1	1.706	1.000	.15	.15
	2	.294	2.407	.85	.85

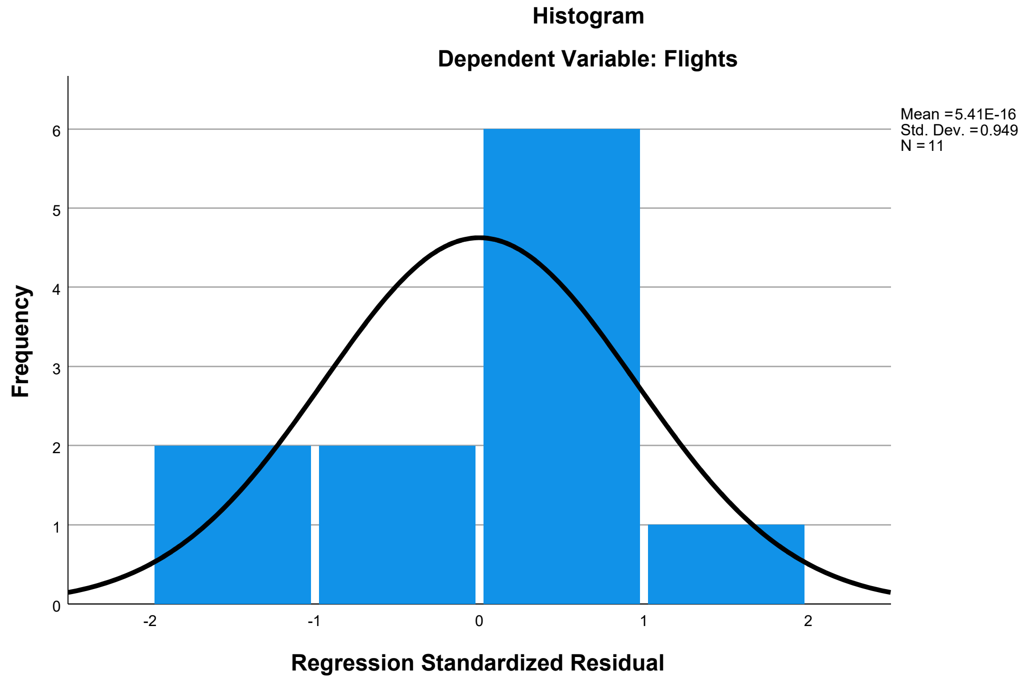
a. Dependent Variable: Flights

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.13	5.83	4.27	1.840	11
Residual	-1.972	1.858	.000	1.017	11
Std. Predicted Value	-2.250	.846	.000	1.000	11
Std. Residual	-1.840	1.733	.000	.949	11

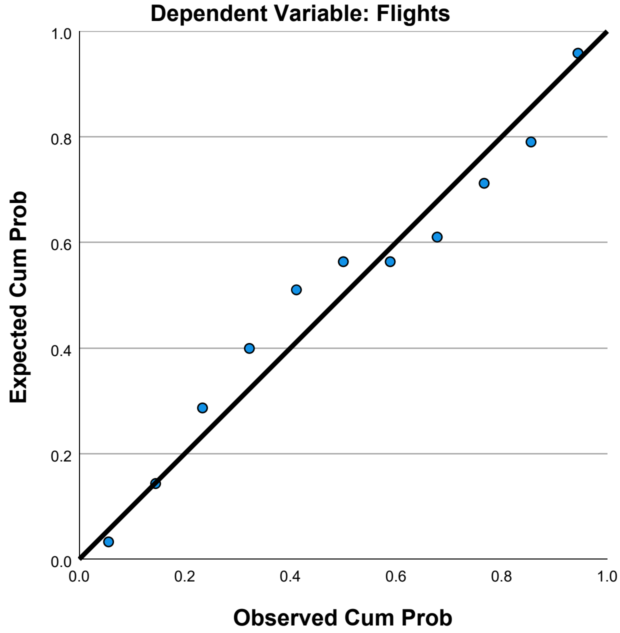
a. Dependent Variable: Flights

Charts



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Flights



Scatterplot

Dependent Variable: Flights