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CUSTOMER ORIENTED IDEATION AND ITS IMPACT ON CUSTOMER ADOPTION OF NEW SOLUTIONS

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CUSTOMER ORIENTED IDEATION AND ITS IMPACT ON CUSTOMER ADOPTION OF NEW SOLUTIONS

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Abstract

Customer adoption of new solutions is critical for the development of the modern business environment, and both academics and practitioners have been investigating this notion to uncover the customer adoption patterns to progress business and withstand competition. Despite the variety of marketing research techniques and practices commonly used to obtain customer data it has been said that the customers that "talk the talk" do not always "walk the walk" of innovation adoption. The challenge remains unchanged: making innovation accessible and easy to adopt in consumers' everyday lives.

This thesis is looking into the processes of creating new solutions to identify the key drivers within the ideation processes that facilitate adoption. The research inquiry is supported by the tendencies in the industry, where, despite the increasing number of new technologies and approaches aimed to develop better products, the success-to-failure ratios remain quite low. The aim of the study is to design an integrative theoretical framework, explaining the drivers of ideation, the impact of customer orientation within ideation, and the influence it has on innovation adoption.

The author used integrated methodology, combining the best practices of the deductive approach, commonly applied in conceptual works, and qualitative research methodology, where further insights were uncovered via interviews and a focus group. In this research project, the integrated methodology has been applied to combine the strengths of each of the research techniques and uncover insights into the complex notions and relationships under investigation.

The findings include the introduction of COI and the three-dimensional model, facilitating the solutions development practice, aiming to help achieve a more sustainable growth within the service industries. The author has introduced a novel notion of Customer Oriented Ideation (COI) that focuses on the use of customer insights within the solutions development process and its impact on the market success. The author has also developed a questionnaire for further quantitative investigation of the framework, and further refined it via a pilot study.

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Abbreviations

B2B	Business-to-Business
B2C	Business-to-Customer
BD	Big Data
C-level	Chief executive level
CIC	Customer as co-developer (creator)
CIS	Customer as an information source
CO	Customer Orientation
COI	Customer Oriented Ideation
COSE	Customer Orientation of Service Employees
CS	Customer Success
DC	Dynamic Capabilities
FFE	Fuzzy Front-End
IA	Innovation Adoption
IaaS	Infrastructure as a Service
IC	Interfunctional Coordination
IT	Information Technologies
LAN	Local Area Network
NPD	New Product Development
NSD	New Solutions Development
PaaS	Platform as a Service
PB	Product Backlog
PO	Product Owner
R&D	Research and Design
RBV	Resource-Based View
ROI	Return on Investment
RQ	Research Question
SaaS	Software as a Service
TCA	Thematic Content Analysis

VoC   Voice of Customer

VPN   Virtual Private Network

Chapter 1. Introduction

The Integrated Three-Study Approach

Customer adoption of a new product or service is critical, as understanding and driving adoption is the key to facilitating innovation. Despite the variety of marketing research techniques and practices commonly used to obtain customer data it has been said that the customers that "talk the talk" do not always "walk the walk" of innovation adoption (Arts et al, 2011). The challenge remains unchanged: making innovation accessible and easy to adopt in consumers' everyday lives.

Some of the key theoretical models used to explain customer innovation adoption are built on the key premises of Roger's innovation diffusion model (2003), the Technology Acceptance Model (Davis, 1989), the Theory of Reasoned Action (Fishbein and Ajzen, 1975) or the Theory of Planned Behaviour (Ajzen, 1985). According to Rogers, innovation adoption can be defined as the consumers' decision to make full use of an innovation (Rogers, 2013). This definition implies the focus on customers' purchase behaviour, but both purchase behaviour and purchase intent have been used to explain adoption (Jamieson and Bass, 1989).

The main body of literature in the domain of innovation focuses on investigating the customers' side of adoption, including the major drivers of the innovation adoption (Gatignon and Robertson, 1985; Meuter, et al., 2005; Rogers, 2003; Tornatzky and Klein, 1982), the characteristics of the adopter (Gatignon and Robertson, 1985; Rogers, 2003; Tornatzky and Klein, 1982), etc.; yet there is still a lack of comprehensive research explaining the corporate processes that lead to customer adoption. Despite the wide research background, there is still a need to further define the impact of customer orientation, as several researchers have come to contradictory findings regarding the impact it has on the final adoption (Atuahene-Gima, 1996; Bonner & Walker, 2004). The research gap has been identified based on the previous research on the subject, which highlighted a need for further research initiatives looking at the ways of improving the ideation processes to achieve more successful go-to-market initiatives (Barczak et al., 2009). The research inquiry is also supported by the tendencies in the industry, where, despite the increasing number of new technologies and approaches aimed to develop better products, the success-to-failure ratios remain quite low (Barczak et al., 2009; Schoenherr and Swink, 2015).

The author has generated four overall research questions based on a critical appraisal of the relevant literature which were further expanded into nine specific research questions. Table 1 provides an insight into the specific research questions covered in each of the studies, which will be elaborated on in more detail in the next sections.

Table 1. Overall research questions of the research project (Authors Own, 2020).

Overall Research Question	Research Questions	Studies
Overall Research Question 1: What are the key variables and influences observed within the ideation processes?	RQ 1: What are the key variables that customer orientation can be characterized with during the NSD projects? RQ 2: What is the impact of customer orientation on ideation in NSD?	Study 1
Overall Research Question 2: What are the moderators of the relationships in the conceptual framework?	RQ 3: What are the variables that have a moderating effect on the ideation processes within NSD?	Study 1
Overall Research Question 3: What is the definition of COI and how can the key relationships within the framework be described?	RQ 4: What is the most accurate definition of COI and what are the elements, levels and characteristics of the notion? RQ 5: Is the notion of COI facilitated by the notions of BD, VoC and COSE? RQ 6: Does IC act as a moderator of the following relationships: RQ 6a: VoC and COI;	Study 2

	RQ 6b: BD and COI; RQ 6c: COSE and COI. RQ 7: Does the notion of COI have a positive impact on IA of the new solutions?	
Overall Research Question 4: What the key questions are to be addressed in the questionnaire?	RQ 8: What are the key relationships to be further tested with the use of the questionnaire? RQ 9: What are the questions to be addressed in the questionnaire?	Study 2 + 3

It is worth to elaborate on the underpinning research philosophy of the proposed thesis. Any scientific search has a particular paradigm as its basis, a worldview or a set of assumptions about this world (Kuhn, 1962). The paradigms that are projected onto scientific process are defined by ontological positions (Sale et al., 2002): "Ontological positions describe what entities exist or can be said to exist and also what kind of relationships exists among basic categories of being (Slevitch, 2011, p. 74; Guba & Lincoln, 1989).

Those ontological positions further evolve to establishing the process of generating knowledge and the knowledge itself. Logically, epistemology is a theory of knowledge concerned with the nature and the scope of knowledge (Slevitch, 2011, p. 75). According to Guba and Lincoln (1994), epistemology addresses such fundamental questions as:

- How do we know what we know?
- What is the truth?
- What is legitimate knowledge?
- What is the nature of the relationship between the investigator and what can be known?

Finally, methodology, which is a theoretical and philosophical system that organises the way research is carried out (Guba, 1990). Each methodology is based on a particular system of theories, which specify (1) assumptions about reality, human nature, and society; (2) beliefs about what it

is consequential to investigate; and (3) assumptions about what comprises knowledge and data (Slevitch, 2011, p. 75). Quantitative and qualitative approaches originate from two different traditions of scientific philosophy. The fundamental discrepancy between the two approaches is within the issue of ontology and epistemology (Guba, 1987). The qualitative tradition is based on interpretivism and constructivism, both of which stem from the idealist outlook (Deshpande, 1983; Sale et al., 2002). Quantitative approach stems from positivism, which has realist orientation and is based on the idea of reality that can be described as it really is (Sale et al., 2002). The proposed thesis is developed on the basis of the idealism ontology, having as a major epistemological premise that there is no access to reality independent to our minds, expecting to follow the qualitative methodology route. Throughout the development of the thesis ideation, the methodology evolved, following the key premises of the mixed methods methodology (Tashakkori and Creswell, 2007).

The complexity of the phenomenon under investigation requires the design and integration of multiple studies that help a deeper understanding of the main drivers, relationships, and consequences of ideation within the New Solutions Development (NSD) projects. Therefore, the goal of the proposed research project is to investigate the impact of customer orientation and related notions on the ideation stage of the NSD processes and the influence it has on the future customer adoption of the new solutions. To generate insights on the described goal, three complementary studies have been designed and integrated in this thesis.

The first study is of a conceptual nature, developing and proposing a novel theoretical framework. A model outlining the relationships between the key processes within NSD, followed by two empirical studies investigating the proposed theoretical framework, deep diving into the suggested notions and relationships and testing the framework in the professional environment. The first study is also developing the novel notion of Customer-Oriented Ideation (COI) and analyses the relationships of the notion to various processes within the NSD practice. The integrated mixed methods methodology (Creswell, 2017) has been applied to validate the conceptual model. Mixed methods research is a rapidly expanding methodology in the social and human sciences worldwide, that employs the combination of quantitative and qualitative approaches (Cresswell and Cresswell, 2017). The following two studies provide a further explanation and description of COI, and, based

on the insights into the day-to-day routine of the professionals involved in the NSD processes, reveal the dimensions, facilitating factors, consequences, and benefits of the notion.

The integrated methodology, or mixed methods approach, has been discussed by Tashakkori and Teddlie (2003), who mentioned that it originated back in the mid-to-late 1990s, having as its aim to provide an alternative way of looking at the very philosophy of data collection. Despite the fact that it is common practice to classify the techniques to assess the validity and credibility of the theoretical models into qualitative and quantitative approaches, this philosophy is opposing to the idea that qualitative and quantitative methods are incompatible (Johnson and Onwuegbuzie, 2004). With the mixed methods approach researchers can combine and incorporate the various methods from both qualitative and quantitative worlds and analyse the results in their studies (Cresswell, 2017; Johnson and Onwuegbuzie; Tashakkori and Teddlie). In particular, incorporating this approach allows researchers to collect and analyse not only numeric data but also narrative data to better address the research questions. The key goals of the mixed methods approach are as follows (Williams, 2007, p.70):

> "The goal for researchers using the mixed methods approach to research is to draw from the strengths and minimize the weaknesses of the quantitative and qualitative research approaches (Johnson and Onwuegbuzie). Of course, the strengths and weaknesses associated with the various research approaches are not absolute but rather relative to the context and the manner in which researchers aspire to address the phenomenon under study. For example, if the researcher purports to provide in-depth insight into a phenomenon, the researcher might view selecting a small but informative sample, which is typical of qualitative research. The researcher might use inferential statistics to quantify the results, which is typical of quantitative research, as strengths worthy of combining into a single research study".

Some of the main benefits of applying the mixed methods approach can be seen below (Williams, 2007, p.70), based on the research by Carr, 1994; Cresswell, 2017; Johnson and Onwuegbuzie, 2004; Mingers, 2001; Sale, Lohfeld, and Brazil, 2002; Tashakkori and Teddlie, 2003:

"By having the ability to design research studies that combine data collection or data analysis methods from the quantitative and qualitative research approaches, researchers are now able to test and build theories. Researchers are also able to employ deductive and inductive analysis in the same research study. The mixed methods approach to research provides researchers with the ability to design a single research study that answers questions about both the complex nature of phenomenon from the participants" point of view and the relationship between measurable variables. Proponents of the mixed methods approach to research advocate doing „what works" within the precepts of research to investigate, to predict, to explore, to describe, to understand the phenomenon".

In this research project, the integrated methodology has been applied to combine the strengths of each of the research techniques. The quantitative methodology refers to the research design that can be used to test hypothesized relationships, while the qualitative research is aimed to explore the meaning, interpretation and construction of social reality by applying data in the form of words and ideas rather than numbers (Tuuli, 2009). To bridge the gaps in the weaknesses of each of the methods, it is recommended to combine the qualitative and quantitative approaches when possible. Even though the mixed methods research requires more time and dedication, it can improve the validity of the data and strengthen the causal inferences by providing an opportunity to observe data convergence or divergence in hypothesis testing (Abowitz and Toole, 2010). Researchers have been looking into the various examples of combined methodologies in an integrated study, and many have concluded that such triangulation of data is beneficial and provides a 360-degree view of the topic (Uwe, 2006). Using the integrated study approach enhances the credibility of the research outputs, making it more consequential for the progression of the research in the given domain. As stated by Abowitz and Toole (2010, p.113), referencing Fellows and Liu (2008):

"By using multiple methods to study the same problem, we can detect recurrent patterns or consistent relationships among variables, results that are independent of one particular data source or type of measurement and its inherent weaknesses. Triangulation, simultaneously using multiple research methods or measures to test the same hypothesis or finding, is a valuable strategy in the research process, but more so when we mix methods that have different but complementary strengths and weaknesses".

Furthermore, using integrated research methods for data collection is stated to be a broader form of triangulation, one that might be more time-consuming and costly, but provides a greater variety of use cases (Abowitz and Toole, 2010, p.114):

> "Mixing qualitative and quantitative methods allows us to combine research styles whose strengths and weaknesses are counterbalanced. If the methods chosen only partially overlap in style, a study using more than one method, applied either sequentially or simultaneously, will provide richer, more comprehensive, data."

Figure 1. Composition of the research project (Authors Own, 2020).
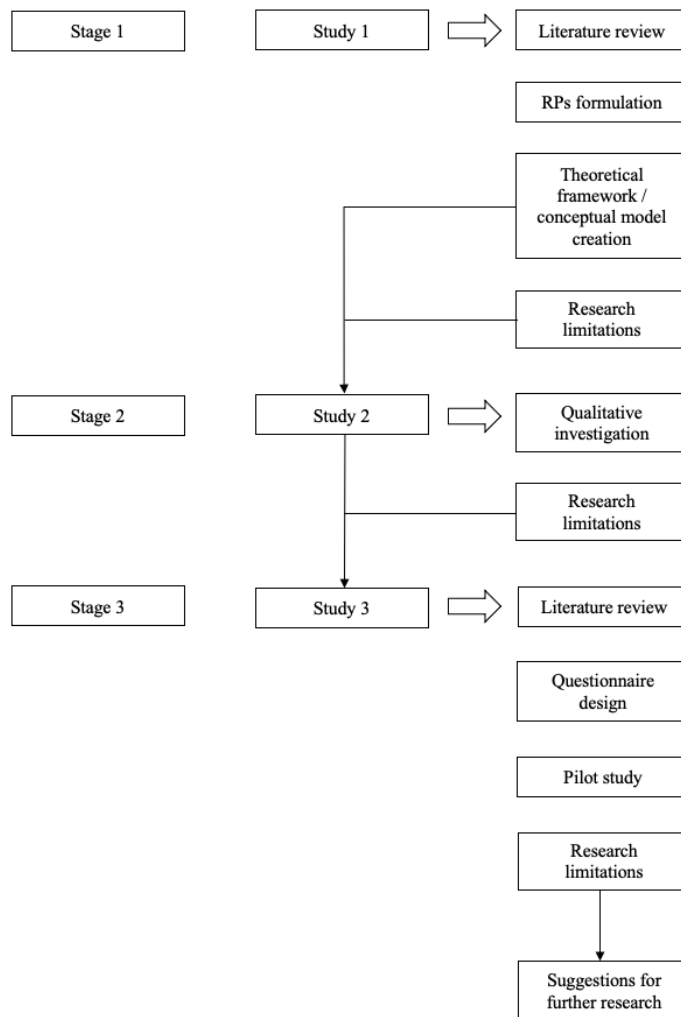
Despite some of the drawbacks of applying the integrated methodology (the cost and the increased time), mixing methods with different strengths and weaknesses facilitates better confidence in the results of the research. Hence, the integrated approach has been applied in this research project because it is most likely to provide more valid and reliable data to examine the theoretical assumptions and allow greater confidence in the conclusions (Abowitz and Toole, 2010). Summarising the above, there is a clear need to present more research initiatives incorporating the integrated methodology to demonstrate the compatibility of the qualitative and quantitative methods and the improved, fuller understanding of the phenomena that it provides (Carr, 1994).

Throughout the development of the research, the author has considered the trustworthiness implications of the investigative process. One of the key questions in terms of establishing trustworthiness is: How can an inquirer persuade his or her audiences (including self) that the findings of an inquiry are worth paying attention to, worth taking account of? What arguments can be mounted, what criteria invoked, what questions asked) that would be persuasive on this issue?

The four central inquiries for researchers to posit to themselves to ensure trustworthiness of their investigation have been formulated as follows:

1. "Truth value": How can one establish confidence in the "truth" of the findings of a particular inquiry for the subjects (respondents) with which and the context in which the inquiry was carried out?
2. Applicability: How can one determine the extent to which the findings of a particular inquiry have applicability in other contexts or with other subjects (respondents)?
3. Consistency: How can one determine whether the findings of an inquiry would be repeated if the inquiry were replicated with the same (or similar) subjects (respondents) in the same (or similar) context?
4. Neutrality: How can one establish the degree to which the findings of an inquiry are determined by the subjects (respondents) and conditions of the inquiry and not by the biases, motivations, interests, or perspectives of the inquirer?

It is worth to elaborate further on how author approached ensuring trustworthiness and validity of the research. The trustworthiness and validity of the research was ensured by:

- **"Truth value":**
  - Selecting coherent and appropriate research methods that have previously been used in similar research initiatives and are proven to be reliable.
  - Sampling approaches were validated throughout the review of the relevant literature. Regarding the sample saturation, which is the core principle used in qualitative research to determine whether the data collected is adequate to develop a robust and valid understanding of the phenomenon in question (Hennink and Kaiser, 2019), the author has used the pre-determined codes to re-ensure coherent data saturation. According to the researchers in the area (Walker, 2012; O'Reilly and Parker, 2013; van Manen et al. 2016) in the largely deductive approach the saturation refers to the extent the pre-determined codes or themes are represented in the data, which has been re-ensured in this project by projecting the coding framework (discussed in the next chapter) onto the collected data.
  - Coding approaches selected were reliable and widely used within similar research initiatives:
    - Constant comparative analysis with pre-defined and emerged codes;
    - Thematic content analysis with initial coding framework and final coding framework developed by the author and encrypted accordingly in NVivo.

- **Applicability:**
  - Was ensured throughout the transferable qualities of the selected sample, employed within the SaaS segment of the IT industry. The industry is characterised by transferrable qualities, which provides a reliable basis for the findings to be projected onto and applied in other industries and settings.

- **Consistency:**
  - Was ensured during the selection of the appropriate setting for the research project. The SaaS industry has been chosen as an appropriate environment for this project due to the following characteristics:

- the model suggested in the first study has been developed on the basis of the current developments in the services industries with the focus on solutions development; SaaS, as one of the most modern developments in the computer software industry, combines both the solutions and the services component, which makes this industry highly relevant to test the proposed model (Mäkilä et al., 2020).
  - IT industry in general and the SaaS segment, being one of the most current trends in the industry, can be described as highly innovative (Kim et al., 2013; Hai and Sakoda, 2009), making it an appropriate setting to investigate the most modern approaches to solutions development.
- **Neutrality:**
  - Consistent peer review and self-review.
  - Following all the key ethical stances for ethical and non-biased research (further elaborated on on page 325 of the proposed thesis).

Study One: Conceptual Model

Study 1 is a conceptual study investigating the impact of ideation on customer adoption, following the research by Cooper (2010) and his work on market-oriented ideation and the Voice of Customers (VoC). Ideation is one of the most consequential parts of the early-stage product development (Hirunyawipada and Paswan, 2013), and the organizational ideation capabilities are critical for the new product's success. In most publications on the subject, ideation is looked at as a primary point that starts the thinking process behind any product development effort (Riel et al., 2013). The lack of systematic approach and strategic planning during the ideation stage can lead to failure during the primary stages of the NSD (New Solutions Development) projects (Michaud and Llerena, 2006). The research gap identified in the previous research in the domain lies within the area of improving the ideation approaches to increase the success probability for the product launches (Barczak et al., 2009).

A strong customer focus (Grönroos, 2017) is one of the key drivers of the new product's success, and it is the understanding of the customers' needs and wants that drives it. According to the

seminal research by Cooper (2013, 2017, 2018, 2019), customer focus becomes even more impactful on the ideation stage – incorporating customer insights is what will lead to superior ideas (Cooper and Dreher, 2010). On the other hand, a failure to adopt a strong market orientation will lead to poor performance of solutions in the market. Cooper (2019) has introduced the notion of market-oriented ideation activities, based on thorough customer research. Cooper has also emphasized that these activities are often missing from the NSD processes, and the customer studies are sometimes omitted from the NSD projects. Further, Cooper identified that VoC can be used to achieve market-oriented ideation, which is said to be among the most effective methods of collecting customer data. The concept of VoC was developed by Griffin and Hauser (1993) and was conceptualized as the tasks of identifying, structuring them and providing priority to customer needs. VoC was further examined in the domain of marketing and advertising as a market research method. In more modern research, VoC is looked at as a process of capturing customers' requirements and insights and a product development technique that produces a detailed set of customer wants and needs (Gaskin et al., 2010; Gaskin, 2011).

Due to the challenge of staying on top of the competition, ideation has recently regained recognition in both practitioner and academic circles (Cooper, 2019). Ideation in NSD has been linked to establishing a strong competitive advantage from the corporate side, but there is a lack of research linking ideation capabilities and customer focus to customer adoption. The new wave of interest in ideation in NSD can be characterised by the following developments:

- The developments in the modern market forcing companies to develop competencies to innovate, design and introduce new products to the market quickly to sustain competitive advantage (Al-Alawneh, 2017).
- The challenge of creating brand-new solutions and offerings, which is a substantial factor for sustaining market success and facilitating further expansion (Balachandra and Friar, 1997).
- The importance of the strong customer orientation, which, despite being critical to the success of the new solutions, is often overseen in the NSD projects, with none or view customer studies carried out to support the NSD efforts (Cooper, 2019; Cooper and Dreher (2010).

In order to overcome the gaps in the academic knowledge around the impact of customer orientation on ideation within the NSD projects, the Research Questions (RQ) of the first study are:

- RQ 1: What are the key variables that customer orientation can be characterized with during the NSP projects?
- RQ 2: What is the impact of customer orientation on ideation in NSD?
- RQ 3: What are the variables that have a moderating effect on the ideation processes within NSD?

In order to answer the Research Questions, the following Research Objectives have been formulated. The Research Objectives of the first study are:

1. To introduce and describe the concept of customer-oriented ideation (COI).
2. To identify the variables that influence COI in this novel relationship.
3. To propose and new conceptual model identifying the several drawbacks in the current ideation research and expanding on the work of Cooper and incorporating the peculiarities of the up-to-date developments in the area.
4. To summarise the theoretical contribution of the conceptual model and provide the details on how it is contributing to the existing academic knowledge.

Therefore, complementing the existing knowledge on the market-oriented ideation and the VoC, as well as critically assessing the additional dimensions of this novel relationship, the study is beneficial for bridging the outlined research gaps. This study expands on Cooper's work around the market-oriented ideation, merging it with the VoC research to introduce a more specific and focused notion of customer-oriented ideation. Furthermore, in order to complement and expand the literature in the domain of NSD, the study also proposes a new three-dimensional integrative conceptual framework, incorporating the notions of Big Data, VoC and COSE, and proposing and describing a novel relationship they have with customer-oriented ideation and, further, customer adoption.

Study Two: Qualitative Investigation

The second study is focused on the theoretical framework developed in the first study and has as its goal to further examine and explain the notion of COI, as well as to refine the relationships outlined in the conceptual model in a qualitative setting. Based on the limitations outlined in the conclusions of the first study and the suggestions for future research, the second study is looking to bridge the described gaps and provide the evidence to support the propositions of the first study. The two studies are connected, with the second study being a logical continuation of the first one, creating an integrated research project aimed to link the gaps in the literature on ideation, customer focus in NSD and customer adoption. The second study is segmented into two components: a series of twenty interviews (Study 2.1) and a focus group with six research participants (Study 2.2).

The research questions (RQ) of Study 2.1 are as follows:

- RQ 4: What is the most accurate definition of COI and what are the elements, levels and characteristics of the notion?

- RQ 5: Is the notion of COI facilitated by the notions of BD, VoC and COSE?

- RQ 6: Does IC act as a moderator of the following relationships:
    - RQ 6a: VoC and COI;
    - RQ 6b: BD and COI;
    - RQ 6c: COSE and COI.

- RQ 7: Does the notion of COI have a positive impact on IA of the new solutions?

To meet the RQs, the Research Objectives of the second study are as follows:

1. To investigate the notion of COI in the professional environment, collect data on the opinions supporting the notions (or contrary, if applicable), and summarise the definition of the notion, its elements, levels, characteristics, facilitators, moderators and the consequences of applying this approach in the NSD process.

2. To interview the experts in the industry, and via open, semi-structured conversations reveal how COI is applied in the day-to-day practice of the NSD practitioners, how it affects their work and the future go-to-market of the newly introduced solutions.

3. To investigate whether there are any additional dimensions or angles that can be added to the framework based on the conversations with the industry practitioners.

4. To elaborate more on the relationships between the notions in the conceptual framework and test the framework in the professional environments.

5. To outline the contributions to both academia and industry.

To refine the variables and ensure the relations suggested in the first study are accurate, a series of in-depth interviews have been carried out to further investigate the conceptual framework and cross-check it against the experience of the product managers and teams.

Qualitative interviewing has been acknowledged as one of the most recognized methods in the social sciences (King et al., 2018). Further, qualitative research is known to have made a substantial contribution to theory building in the marketing and management literature (Eisenhardt, 1989; Weick, 1989; Yin, 1989, 1994). The rationale behind the choice of the research design and the selection of the positivist approach is based on the need to provide a deep understanding of the newly introduced notion of COI and investigate the variable within the conceptual model proposed in the first study. The majority of the research that deals with NSD and ideation from the corporate and managerial perspectives has been carried out via qualitative research methods. Further details on the chosen methodology are presented in the Methodology section of Study 2.1.

Following the outcomes of Study 2.1 and to meet the limitations outlined upon the completion of data analysis for Study 2.1, Study 2.2 addresses the following research question in detail:

- RQ 6: Does IC act as a moderator of the following relationships:
    - o RQ 6a: VoC and COI;
    - o RQ 6b: BD and COI;
    - o RQ 6c: COSE and COI.

To answer these Research Questions, below is the list of the Research Objectives accordingly:

1. To investigate and identify the moderating impact of IC on the specific variables of the conceptual framework.
2. To finalise the list of moderators for the theoretical framework by analysing additional factors and theories.
3. To finalise the list of the relationships within the theoretical framework that require further testing within Study 3.
4. To identify the final list of limitations for Study 2.
5. To formulate the ideas to be implemented within the questioning strategy for the questionnaire developed in Study 3.
6. To suggest recommendations for both academia and industry.

The use of focus groups is considered good practice in the social sciences, where it is commonly used to collect data from multiple research participants at the same time (Onwuegbuzie et al., 2009). Another positive aspect of applying the focus group research methodology is that it allows exploring participants' expertise in an interactive setting, where not only does the researcher ask questions in turn to all the participants, but also the participants themselves are encouraged to talk to one another by commenting, exchanging experiences or anecdotes, or asking further questions, as further elaborated by Kitzinger, 1995, p.299:

> "The method is particularly useful for exploring people's knowledge and experiences and can be used to examine not only what people think but how they think and why they think that way."

Focus groups are distinguished from other qualitative data collection methods due to its focus on applying group interaction to gather required data and insights (Kitzinger, 1995). Further details on the chosen methodology are presented in the Methodology section of Study 2.2.

The second study has been executed within the Software as a Service (SaaS) industry. SaaS, which is a new business model enabled via Cloud and Cloud Computing, is defined as a software

deployment model, where the software is provisioned as a service via Internet (Makila et al., 2010). The SaaS model services are not restricted to providing only software applications, but in many cases expand to consulting and business outsourcing. The software industry is extensively moving towards services and is growing by 40-50% annually (Makila et al., 2010; Pettey and Stevens, 2009). For example, some of the biggest SaaS companies in the UK and worldwide are Salesforce, Adobe, ServiceNow, Atlassian, Squarespace, and so forth. Because of the strong and ever-increasing market competition, even traditional on-premise players are creating SaaS offerings. Companies are striving to innovate to stay on top of the competition, and this is what makes the SaaS industry an appropriate context for this investigation. Further, as a maturing software business model (Churakova et al., 2010), SaaS has been described as having characteristics of an emerging market. That includes a high level of innovation through constant and consistent delivery of new features and frequent upgrades, giving all customers access to the latest version of service with the most recent customisations (Hai and Sakoda, 2009).

A plethora of definitions of SaaS have been previously outlined by the researchers; some of the key definitions of the term are presented in Table 8. The definition the author has chosen to apply in this study is presented below:

> "In the software as a service model, the application, or service, is deployed from a centralized data centre across a network - Internet, Intranet, LAN, or VPN - providing access and use on a recurring fee basis. Users "rent," "subscribe to," "are assigned", or "are granted access to" the applications from a central provider. Business models vary according to the level to which the software is streamlined, to lower price and increase efficiency, or value-added through customization to further improve digitized business processes." – Hoch et al., 2001, p.100.

The SaaS segment is growing rapidly, with more and more companies switching to this operating model every year (Tyrväinen et al., 2010, p.116):

> "Globally, the period during which SaaS model became well known and popular was in the mid 2000s. In 2005 ID predicted that 10 percent of enterprise software markets would

move to pure SaaS model by 2009. […] the SaaS industry is growing at 40-50 percent annually, the global SaaS market this year is estimated to be $6.6B, which is about three percent of total global software and related industry".

The SaaS industry has been chosen as an appropriate environment for this project due to the following characteristics:

- the model suggested in the first study has been developed on the basis of the current developments in the services industries with the focus on solutions development; SaaS, as one of the most modern developments in the computer software industry, combines both the solutions and the services component, which makes this industry highly relevant to test the proposed model (Mäkilä et al., 2020).
- IT industry in general and the SaaS segment, being one of the most current trends in the industry, can be described as highly innovative (Kim et al., 2013; Hai and Sakoda, 2009), making it an appropriate setting to investigate the most modern approaches to solutions development.

Study Three: Questionnaire Development

The focus of the third study is to bridge the gaps outlined in the limitations of the second study and create a questionnaire for testing the validity of the suggested conceptual framework. Some of the critical limitations mentioned in the second study refer to the limited sample of participants for the qualitative research and the geography of the sample, which can be addressed in future research initiatives using the questionnaire designed in Study 3. The questionnaire is refined within a pilot study featuring 30 research participants, to finalise and elevate the questions and the formulations used, to ensure the questionnaire is applicable in the chosen environment. The pilot study is not focused on gathering insights on the questionnaire questions, but on improving the format and the questioning strategy for further research initiatives.

In order to cover the full picture of the current market situation related to the use of COI within the NSD practices, the list of the Research Questions (RQs) for the third study is presented below:

- RQ 8: What are the key relationships to be further tested with the use of the questionnaire?

- RQ 9: What are the questions to be addressed in the questionnaire?

To answer the above RQs, the following Research Objectives have been formulated:

1. To create a questionnaire for further quantitative assessment of the key notions and relationships in the proposed theoretical framework

2. To bridge the limitations of the second study by creating a tool for testing the framework on a larger scale with a bigger sample.

3. To refine the created questionnaire by running a pilot study within 30 participants, to finalise the questions and the formulations used, to ensure it is applicable in the chosen environment.

4. To provide a tool for further qualitative validation of the framework.

5. To suggest recommendations for both academia and industry.

To further investigate the validity of the conceptual framework, a questionnaire will be developed. Some insights on the rationale for selecting the questionnaire as a method for further data collection and quantitative validation are provided further. One of the ways of looking at quantitative methods of data collection, frequently applied in business studies, is a collection of techniques for organising, presenting, summarising, communicating, and drawing conclusions from quantitative data, so it becomes informative (Morris, 2008). Moreover, quantitative research involves the collection of data so that information can be quantified and subjected to statistical treatment to support or refute "alternate knowledge claims" (Creswell, 2003, p.153). One of the key benefits of using the quantitative approach is the fact that it provides an objective measure of reality, which in the case of this study allows tackling the limitations of the second study that was carried out in a qualitative manner, where interviewees' subjectivity may have occurred and affected the outcomes of the research to a certain degree.

The questionnaire is among the most frequently used data collection tool for quantitative studies. When this research design is used, each respondent is required to answer the same set of questions that pre-defined in a specific order, making it one of the most effective ways of collecting data from a larger sample of the audience. Another benefit of using questionnaires is that it enables data to be collected and analysed easily in a structured manner. It is also known that questionnaires are not advised to be used in exploratory studies, where not all the issues are known to the researcher precisely (Ong, 2012). In the case of this research, the exploratory work has already been carried out in the second study, creating the perfect basis for applying the questionnaire methodology in the third study to provide the quantitative validation of the theoretical framework proposed in the first study. It is said that a good questionnaire should satisfy the two key criteria – relevancy and accuracy (Zikmund, 2003).

A reliable questionnaire should consist of questions that explicitly cover all the issues related to the research topic, and the design of the questionnaire must also ensure that the data collected are relevant, reliable and valid. A questionnaire is relevant when no unnecessary information that does not answer the research questions or relates to the research objectives is collected, and sufficient data are collected to answer the research questions. Further, the questionnaire can be considered valid when the responses are reliable and valid (Churchill, 1978; Ong, 2012). This research design is extremely beneficial for the purposes of this study as allows testing the existing data, which in the case of this research has been done in the first two studies; questionnaires will allow to test the framework at a larger scale and check its validity among a larger, more diverse group of research participants.

In order to meet the goals of this research, a pilot study has been carried out with a sample of 30 research participants. The project focused on the SaaS industry, which has gained recognition as one of the most impactful segments of the technology industry.

The technology industry is often regarded as innovation pioneers, having the ongoing introduction and testing of the new ideas to create new products and services, with the aim to facilitate customer adoption (Saran, 2020). Innovation is said to be a constant attribute of the processes of technology

companies, as it plays an important role in their competitiveness and survival (de Oliveira and Terence, 2018). The technology companies are also said to predominantly apply scientific and technical knowledge for the creation of innovative new solutions. With the impact of digitization, tech industry is becoming more and more influential every year (Saran, 2019). To emphasize on how the digital innovation are affecting the modern world, former Google CEO Eric Schmidt stated in the conference in London (Saran, 2019):

"[Technology] disruption will not slow down. Things will happen more quickly. Static industries are being changed by digitisation".

Due to the rapid and unpredictable technological change, tech companies are constantly going through a continuous transformation to survive in the ever-changing market environment (Mikalef and Pateli, 2017). It has also been found that the average life of technological innovation is declining, leading to the constant transformation of the competitive advantage of companies in the tech sector (Byun et al., 2018). The companies are therefore forced and stimulated to adapt to the changes in the industry, to maintain their dominating position and competitive advantage, which is facilitated by focusing on developing new, more modern solutions to meet the customers' expectations (Cardozo et al., 2019). To maintain this competitive advantage are said to develop a range of dynamic capabilities:

"IT companies seek the obsolescence of their own products before they are surpassed by their competitors. The ability of companies to adapt to external environments undergoing constant change requires the coordination of intangible assets that are difficult to replicate. This capacity is regarded as a dynamic capacity of the firm (Pelaez et al., 2008; Pisano, 2017; Teece, 2000). In the context of knowledge-intensive business services (KIBS) such as IT (Muller and Zenker, 2001), companies must therefore understand how to coordinate organizational knowledge (Grant, 1996) and use it to adapt and innovate their products and services".

Some of the external factors affecting technology companies and stimulating them to on their path to creating more innovative solutions are serious global competition, advanced technology

breakthroughs, rapid changes in customer expectations, mass customisation, and other complex phenomena that are reshaping modern businesses (Lin et al., 2008). Internally the teams are becoming more innovation-driven in this environment of accelerated change; from the managerial perspective, this results in enhancing the team's proactive behaviour and performance, which is the key to achieving business excellence (LaFasto and Larson, 1987; London, 1995; Malan, 1997; McEwan, 1997). All the aforementioned characteristics of the current trends in the technology industry make it an appropriate setting for carrying out the third study, with innovation-driven behaviour not only within the NSD projects but also in the processes across the various departments within the business being the key to the company's success.

Summing up, the proposed research design of the integrated three-study approach covers the three key pillars of the mixed methodology approach: a conceptual proposition in the form of a theoretical framework that was formulated on the basis of the secondary data review and authors own elaborations based on the current developments in the industry, followed by further qualitative exploration and validation via interviews and a focus group with the industry leaders to facilitate a better, more precise understanding of the applicability of the framework in the current business environment and in the day-to-day practice of the key NSD stakeholders, and finally, through developing a questionnaire for further quantitative validation on a larger scale, among the senior employees involved in NSD processes in the technology industry.

Chapter 2. Customer Oriented Ideation and its Impact on Customer Adoption. A Conceptual Model (Study 1)

Introduction

The first of the three-study structure is a conceptual study investigating the impact of ideation on customer adoption, following the research by Cooper (2010) and his work on market-oriented ideation and the Voice of Customers (VoC). Ideation is one of the most consequential parts of the early-stage product development (Hirunyawipada and Paswan, 2012), having that the organizational ideation capabilities are critical for the new product success. In the majority of publications on the subject, ideation is looked at as a primary point that kicks off the very thinking process behind any product development effort (Riel et al., 2013).

The lack of systematic approach and strategic planning during the ideation stage can lead companies to a failure during the primary stages of the NSD (New Solutions Development) projects (Michaud and Llerena, 2006), not to mention the future adoption. The research gap identified by the researchers lies within the area of improving the ideation approaches for an increased success probability for the new product development projects (Barczak et al., 2009). The aim of this study is to bridge the outlined gaps and provided further explanation on the impact of customer orientation in the ideation activities in the NSD practice.

Further, as highlighted by Nordin and Kowalkowski (2010), there is a strong need for more critical and theoretical investigations shedding light on the concept of solution, especially focusing on the development of conceptual frameworks. Fellow researchers in the area of solutions have also identified a lack of models explaining customer and market orientation (Matsuno and Mentzer, 2000; Noble et al., 2002). Hereof, Study 1 has as its aim to bridge the described gaps.

Research Questions and Objectives

The goal of this research is to examine the relationships of the key notions within the NSD projects leading to ideation, explore the impact they have on ideation and identify the impact of the customer orientation on future adoption of new solutions. To address these goals, the following Research Questions (RQ) have been outlined:

- RQ 1: What are the key variables that customer orientation can be characterized with during the NSD projects?

- RQ 2: What is the impact of customer orientation on ideation in NSD?

- RQ 3: What are the variables that have a moderating effect on the ideation processes within NSD?

To answer these Research Questions, below is the list of the Research Objectives accordingly:

1. To introduce and describe the concept of customer-oriented ideation (COI).
2. To identify the variables that influence COI in this novel relationship.
3. To propose and new conceptual model identifying the several drawbacks in the current ideation research and expanding on the work of Cooper and incorporating the peculiarities of the up-to-date developments in the area.
4. To summarise the theoretical contribution of the conceptual model and provide the details on how it is contributing to the existing academic knowledge.

Methodology

The research methodology selected for this research has as its basis the deductive approach (Kalof et al., 2008; Gulati, 2009; Reyes, 2004; Wilson, 2010); the suggested study is built on the premises of conceptual methodology and is positioned as a conceptual (theoretical) paper (Gilson and

Goldberg, 2015; Reyes, 2004; Whetten, 1989). Conceptual papers do not contain data, with their focus being directed at integration and proposing of new relationships among constructs. In this framework, the researcher is expected to develop logical and complete arguments for associations, rather than empirical testing (Gilson and Goldberg, 2015). Conceptual research is said to seek to bridge the gaps between the existing theories in new, creative ways, provide links and associations between different domains of knowledge, provide multi-level insights, and broaden the perspectives of the ways we look at various notions, constructs, and so forth (Cropanzano, 2009).

The research procedure carried out for this study has followed the key stages of the framework previously used for conceptual studies, as follows (Reyes, 2004; Whetten, 1989):

1. Problem identification;
2. Theoretical basis and variables identification;
3. Conceptual framework formulation;
4. Related literature and studies overview;
5. Organization of data;
6. Findings, analysis interpretation;
7. Generalization and report writing.

A conceptual framework is considered to be an important component of any research project. According to Reyes (2004, p.7), the term conceptual (or theoretical) framework can be described as follows:

> "The term theoretical framework is a detailed discussion of the organized body of knowledge or a set of propositions firmly based on a series of observed phenomena and empirical data that are duly supported by the thinking of well-known authorities on the subject. In the field of scientific research, the theoretical framework may be the basic anchor upon which the researcher is moored to gain a total critical perspective of the investigation he would like to pursue. It becomes the basis on which the legitimacy of his study is placed and as such identifies the academic discipline where he is conducting the study"

A theoretical framework is a facilitating factor helping the researcher gain an exclusive understanding of the phenomenon in question and gain a critical perception for further investigation. Moving on, using a theoretical framework allows creating an exact scope and structure of the research (Reyes, 2004, p.17):

> "The conceptual framework provides scope and delineation of the research activity, showing the extent of the parameters of the variables under investigation. Again, a well-defined framework provides the linkage between the relations of past researchers relevant to the present study by showing what variables have been excluded or have not been considered in the past, or what other factors have been missed out in past researchers but are now considered."

While some researchers incorporate already existing, well-developed theoretical models into their research, others choose to formulate a new theoretical paradigm in their proposed stud. Furthermore, a theoretical framework will help the author to focus on generating on the specific, exact knowledge and data that is aimed to generate as the outcome of the study. Structure-wise, a theoretical framework must contain structure, causal mechanism, and predictions. The structure consists of the relationships between the variables of the framework, while the causal mechanism indicates the set of the predicted results (Reyes, 2004). Three guide questions have been formulated to facilitate the formulation of a theoretical framework (as seen below; Reyes, 2004, p.7); these questions have been used by the author to guide and evaluate the theoretical framework formulation for the proposed study:

1. What are the existing specific facts, issues, and problems that are observed significant enough to merit investigation?
2. What theoretical basis can be evolved out of these facts, issues or problems for purposes of research?
3. Who are the authority sources that can be cited to support the researcher's developing theory?

The rationale behind using the selected method was to ensure the formulation of the new conceptual framework based on the alliance of the research directions. Some of the factors considered when judging and evaluating a conceptual paper are clarity of expression, impact on research, timeliness and relevance (Whetten, 1989). The approach undertaken in this study is problem-focused and problem-solving (Gilson and Goldberg, 2015), aiming to address some of the key criteria for the conceptual studies (Whetten, 1989, p.494), as follows:

- What's new? Does the paper make a significant, value-added contribution to the current thinking?
- So what? Will the theory likely change the practice of organizational science in this area?
- Why so? Are the underlying logic and supporting evidence compelling? Are the author's assumptions explicit? Are the author's views believable?
- Well done? Does the paper reflect seasoned thinking, conveying completeness and thoroughness? Are multiple theoretical elements (What, How, Why, When-Where-Who) covered, giving the paper a conceptually well-rounded, rather than a superficial, quality? Do the arguments reflect a broad, current understanding of the subject? Does it appear that the authors have developed these thoughts over an extended period of time, informed by extensive peer input?
- Done well? Is the paper well-written? Does it flow logically? Are the central ideas easily accessed? Is it enjoyable to read? Is the paper long enough to cover the subject but short enough to be interesting? Does the papers appearance reflect high professional standards?
- Why now? Is the topic contemporary interest to scholars in the area? Will it likely advance current discussions, stimulate new discussions, or revitalize new discussions?
- Who cares? What percentage of academic readers are interested in this topic?

To ensure the study described fits within the requirements for conceptual research, the following steps have been followed:

1. The research procedure carried out has carefully followed the seven stages for conceptual studies (Reyes, 2004; Whetten, 1989).

2. The guide questions for the valuation of the conceptual framework (Gilson and Goldberg, 2015; Reyes, 2004) have been applied to ensure the model proposed can be considered legitimate.

3. The key criteria for conceptual studies (Whetten, 1989) have been carefully evaluated and applied to the research.

Literature Review

New Solutions Development

Strategic Importance of NSD

Despite the notion of 'solution' gaining popularity quite recently – in the last 5-10 years – the importance of solutions to businesses has been apparent back in the 1970-s. Starting with the infamous quote by Theodore Levitt: "People don't want to buy a quarter-inch drill. They want a quarter-inch hole" (Levitt, 1960), marketers and academics have been emphasizing on the benefits customer-focused solutions bring to the business. And companies, in their turn, have been aiming to create the best solutions to fit customer needs and meet their expectations.

From the Service-Dominant Logic perspective, increasing the potential of value creation (Lusch et al., 2010) is gaining importance in the current business environment as it is strongly linked to improved competitiveness and profitability. To achieve this, companies are increasingly introducing 'solutions', described in the literature as a bundle of products, services and software (Wise and Baumgartner, 1999; Galbraith, 2002), which is aimed to solve customer-specific problems (Miller et al., 2002; Davies et al., 2006; Sawhney, Wolcott and Arroniz, 2006; Ceci and Prencipe, 2008) and are complex offerings, focused both around the technical integration and total usage context (Nordin and Kowalkowski, 2010; Shepherd and Ahmed, 2000; Tuli et al., 2007). Nordin and Kowalkowski (2010) have identified a number of shortcomings in the literature, when studying the solutions in the modern business environment. Based on their review, the existing literature gravitates towards descriptiveness and lacks a higher-level theoretical analysis, with some exceptions (Matthyssens and Vandenbempt, 1998; Tuli et al., 2007).

Nordin and Kowalkowski (2010) have carried out an in-depth literature overview and observed the key focus area within the solutions notion:
- Dimensions of solutions;
- Antecedents of solutions;

- Solutions process, and
- The outcomes of solutions.

Based on their overview, the authors have provided a summary of dimensions, antecedents, processes and outcomes of solutions and combined those into an integrative solutions framework, as featured below.

Figure 2. Solutions framework (Nordin and Kowalkowski, 2010, p.32).
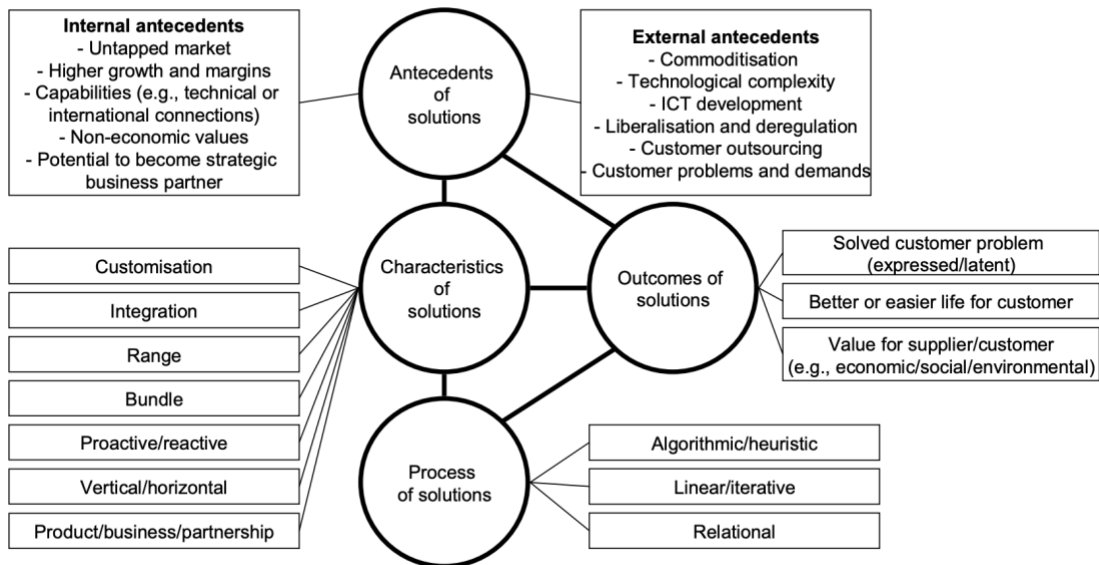
This research focuses on the development (or design) of new solutions, which for the purposes of this study has been abbreviated as NSD (New Solutions Development, or design). As there is a strong lack of literature on NSD in particular, the key premises of this literature review have been taken from the NPD (New Product Development) literature that combines both products and services. This body of literature is applicable for the development of new solutions as solutions coincide the features of both products and services, as well as software.

The impact of the New Solutions Development (NSD) processes on the companies' overall market performance cannot be overseen (Nordin and Kowalkowski, 2010). Developing new solutions (products and services) that consumers will find satisfactory and that would stand out among the

competition is one of the key competencies of the companies across the industries (Kazimierska and Grębosz-Krawczyk, 2017). Adding up, Hart (1996, p.9) emphasizes on the role NPD not only in the corporate world but for the society overall:

> "The subject of new product development is recognized as being vital to the economic success of companies and nations alike. New product development is the process by which the companies survive in the long term. Innovation may refer to successful developments, to products and services or to the process of manufacturing or delivery. Analysis of the industries abound, showing that industrial decline and success relate to the number of product innovations and/or process innovations".

The review of the literature in the subject area has identified that researchers currently separate a range of disciplines within the NSD subject, that are seen to have a great impact on the advancement of the aforementioned. Among those, it is said that the disciplines of marketing, industrial economics, engineering, design, R&D/technology management and production management, aligned with finance and purchasing disciplines, have not only contributed largely to the developments in the practitioner component of the NSD but have also added up to the academic knowledge in the area by advancing theoretical frameworks and paradigms (Hart, 1996).

In the modern business environment, with the ever-increasing solutions offered in the range of market areas, it has been crucial for companies to showcase strong NSD capabilities (Yang and Zhang, 2018). It has been stated that the modification of the current solutions offering, as well as the development of the brand-new offerings, is one of the substantial factors for sustaining companies' market success and further expansion (Balachandra and Friar, 1997). Investing internal resources into the development of the new solutions and the update of the existing solutions offering contributes largely to the firms' performance in the market and to ways of exploring new market opportunities. As far as the current marketplace has evolved during the last century, what has also gradually progressed are the concepts of competitiveness and performance. Researchers state that these are the features making a firm capable of surviving on the market and outperforming the competitors (Al-Alawneh, 2017; Marshall et al., 2015; Pisano et al., 2015). Further, it has been added that:

"In today's global market, cost, quality, deadline, flexibility, pro-activity, lower time-to-market, resource management, management skills, and manufacturing speed are not sufficient to stay ahead of the competition once the product reaches the maturity stage of its life cycle. World-class manufacturers understand that to sustain their competitiveness in the market, in addition to price, quality, and manufacturing speed, they must develop competencies to innovate, design, and introduce new products to the market quickly", – Al-Alawneh (2017, p.56).

The experience of corporate giants around the world has proven that the key to success in keeping up with the competition is the companies' capability to come up with innovative solutions ideas, integrated into the overall corporate strategy, and further developing these ideas through a number of internal stages prior the launch and in a timely manner (Al-Alawneh, 2017). Despite being a complex business process that involves multiple risks and uncertainties (Liu et al., 2015), efficient NSD projects are undoubtedly advantageous for the firms' performance: a range of modern industries are described as having an ever-increasing growth of competition, which results in the limitation of the new market opportunities. There is a considerable risk for the companies that rely solely on the existing product line to be overtaken by the competitors, therefore, investing time and resources into the NSD processes is inevitable for the healthy market performance and further growth.

Summing up, there is a number of important strategic and operational leverages of developing and introducing new solutions to the market before the competitors: it allows pricing a solution as a premium one, facilitates establishing stronger brand recognition, ensuring control of a greater share of the market and receiving the bottom-line profit (Al-Alawneh, 2017). Another important strategic benefit of a better competitive positioning is that it would make the new-comer competitors struggle when attempting to enter the market (Blackburn, 1991; Bayus, 1997; Franza and Lucas, 2000), which allows a well-established firm to secure an even stronger position. Therefore, it is said that dedication to NSD and constant effort to improve the processes is crucial for the companies across the industries.

Evolution of the Approach

Based on the review of the current academic knowledge, the approach to the NSD practices and processes has been going through some changes lately. Previously, a strictly sequential approach had been adopted in the majority of industries and sectors (Kazimierska and Grębosz-Krawczyk, 2018). Academics have specified that an NSD process is most commonly divided into four consecutive stages of concept creation, development, validation, and manufacturing (or, according to some researchers, the stages were three: concept, design that would incorporate both development and validation, and production). That approach dates back to the 1950s when the Fordist model of mass production has been largely popular across different industries. According to that approach, the process would begin with developing a concept for a brand-new item, followed by a detailed design straight after the concept has been finalized (Kazimierska and Grębosz-Krawczyk, 2018).

The design stage would encompass a range of product-defining elements, traits, and qualities. The next stage would incorporate transmitting the data on the item's technical design features to the production department, where the item is to be produced. One of the main limitations of adopting this approach is the emergence of the design errors that might have occurred during the prototyping – having the fact that this stage is already an advanced component of the NSD process, identifying and fixing the errors at this stage is a complex and timely process (Cimatti and Campana, 2016). Other disadvantage of the method is the overwhelming lack of communication within and across the departments of design and production, as well as between the involved stakeholders, which in the cases observed by the researchers predominantly led to reduced efficiency of the product development process – inadequate interaction and the absence of dialogue among the concerned parties resulted in the increased cost of the final product.

Thus, despite having a logical rationale behind it, the industry practicing the sequential approach has proven to have some considerable drawbacks: prolonged lead time, elevated product cost, extensive paperwork and overwhelming bureaucratic procedures that make the process highly ineffective (Cooper, 2009).

In order to reduce or eliminate the drawbacks of the sequential approach, a new approach has been introduced. The current approach to the new product development process is built upon the integration of the stages and does not necessarily require a strictly subsequent following (Cimatti and Campana, 2016). Current developments in the NSD area are said to have transformed the process into a more synchronized one (Cimatti and Campana, 2016, p.8).:

> "To improve the effectiveness and efficiency of the design process, the sequential approach has evolved into a more integrated and simultaneous one, where the different phases are not separated anymore, and the first product concept can be modified and improved through briefings and feedbacks in every stage of the process."

Moving on, based on the review of the current academic knowledge in the area, it is clear that NSD projects are crucial to the company's success; the activity has been described as a multifaceted process that combines a vast number of business processes and competences. The NSD processes have been characterized as having a cross-functional nature, therefore, requiring a greater level of collaboration and coordination (Krishnan and Ulrigh, 2001).

Front-End NSD Processes

Definition and Early Research Highlights

For a company that aims to withstand the market competition and outperform the competitors on the basis of innovation understanding and successfully implementing all stages of the NSD process is crucial (Khurana and Rosenthal, 2003). Yet, having the power of the top-management involvement making the final 'go/no-go decision', the processes before the management involvement are said to have the most potential to push the projects further idea wise and have a positive impact on the project and product success. It has been observed that the most improvement in the overall project performance can be achieved within the primary, front-end processes – "…product strategy formulation and communication, opportunity identification and assessment, idea generation, product definition, project planning, and executive reviews" (Khurana and Rosenthal, 2003).

The notion of the Fuzzy Front-End (FFE) of the new product development has been introduced by Smith and Reinersten (1991) and has defined the time spent on developing the idea or the concept prior to the first official meeting to discuss it**.** The first team meeting or official discussion of the project in academic literature is referred to as 'the start date of the team alignment'. Another angle that allows understanding the concept of the fuzzy front-end of the new solutions development has been provided by Cohen and Levinthal (1990); it defines the concept as a path that leads to an idea absorption on an organizational level for its further development. The discussion of the first stages of the new product development process has originated earlier – in the early 1980s – with scholars researching the 'up-front activities' within the NSD project (Crawford, 1980); however, the main body of research has been generated in the last decade.

The review of the existing academic knowledge to date has identified a number of research streams focusing on FFE and providing their take on the definition of the term – most of the seminal publications on the above took place in the late 1990s. To name a few, Khurana and Rosenthal (1997), Moenaert et al. (1995), and Reinertsen (1999) have led the way with their research on FFE that helped understand and formulate the concept for further application. A review of the seminal research on the subject can be seen in the table below.

Table 2. Seminal research on Fuzzy Front-End (FFE) (Authors Own, 2019).

Author	Focus
Khurana and Rosenthal (1997)	Define the fuzzy front-end as the stage of the project when the product concept is being defined and the decisions are made as to whether to invest in it or not. Describe the stages of the fuzzy front-end, which include product strategy formulation and communication, opportunity identification and assessment, idea generation, product definition, project planning, and early executive reviews, which typically precede detailed design and development of a new product. Provide an overview of the importance of having a well-structured strategy on the fuzzy front-end stage.
Moeneart et al. (1995)	Communication within the new product development teams and other parties involved in the product development projects for better concept development.
Reinertsen (1999)	Optimization of the processes within the fuzzy front-end by speeding up the screening and decision-making stages for increased chances of project success.
Urban and Hauser (2020)	Focused on expanding the knowledge on incremental innovations, i.e., product evolutions, improvements, adaptations; in these cases, the processes are more structured, controlled and monitored with corporate strategies forerunning the ideation stage.

Murphy and Kumar (1997), based on the previous works by Cooper (1988)	Defined the stages of the fuzzy front-end, as consisting of idea generation, product definition, and project evaluation.

The early research attempts have identified that there are early and late-stage activities within the fuzzy front-end of the new product development, regardless of the type of innovation – incremental or discontinuous. An overview of the early stages of the fuzzy front-end of NSD projects can be seen on the table below:

Table 3. Early stages of the Fuzzy Front-End (FFE) (Authors Own, 2019).

The structural element of NPD	Type of innovation	Components	Source
Early stages of the fuzzy front-end	Incremental innovation Discontinuous innovation	Problem/opportunity structuring; Identification/recognition; Information collection/exploration; Up-front 'homework.	Leifer at al., 2000; Urban and Hauser, 2020; March, 1991; Cooper, 1996.

It has also been mentioned that despite the research in the area of the early stages of the fuzzy front-end of NSD, the main notions are yet to be defined in more specific terms (Khurana and Rosenthal, 1997). The components of the late stages of the fuzzy front-end of the new product development projects can be seen in the table below:

Table 4. Late stages of the Fuzzy Front-End (FFE) (Authors Own, 2019).

The structural element of NPD	Type of innovation	Components	Source
Late stages of the fuzzy front-end	Incremental innovation Discontinuous innovation	Idea generation; Concept development; Continued information collection; Pre-screening; Initial fund allocation for exploring a new idea.	Cooper, 1996; Urban and Hauser, 2020; Cooper, 1996; Crawford, 1980; Crawford and Di Benedetto, 2003; Cooper, 1990; Cooper and Kleinschmidt, 1995).

Going back to the definition of the term, FFE is the "time and activity prior to an organization's first screen of the new product idea" (Reid and Brentani, 2004, p.170). It is said that despite being one of the key components to the success of NSD projects, especially for the firms and companies focusing on the discontinuous new products innovation (when a completely new product is being launched which is comprehensively different from the existing products, leading to a change of consumption habits and customer behaviour), a full understanding of the processes and tendencies within the fuzzy front end of the NSD are yet to be clarified and fully understood by academics and industry practitioners. Researchers outline that effective management of the upfront, or Fuzzy Front-End (FFE) NSD, is not only one of the most important processes for the innovation managers to be fully involved in and focuses on, but also one of the most challenging (Kim and Wilemon, 2002).

The FFE begins when the product idea is first taken into consideration to then be reviewed and taken further. Researchers in the area define the FFE as the part of the new product development process that starts when an idea is considered worth for further development and ends when the decision is made regarding the future of the idea – whether it is going to be invested in (e.g.,

Cooper, 1993; Khurana and Rosenthal, 1998; Smith and Reinertsen, 1991). Hence, the fuzzy front-end would take place between the points of idea consideration and final conclusion on its worthiness for future development (Kim and Wilemon, 2001). Another definition of the fuzzy front-end has been provided by Nobelius and Trygg (2002) who have defined it as activities performed before the actual start of the project.

Moving on, the researchers in the area have observed that the effectiveness of the FFE in the new product development projects can be linked directly to the success of the new product in the market (Cooper, 1988, 1998; Dwyer and Mellor, 1991; McGuinness and Conway, 1989; Kim and Wilemon, 2002). Among other benefits of implementing a successful knowledge based FFE strategy is an opportunity to achieve a largely decreased time to market at a lower cost (Smith and Reinerstein, 1998). On the other hand, achieving the launch of an NSD project might also be quite challenging during the FFE stage due to a number of stages an idea has to come through to qualify, i.e. embellishment and testing of an idea, formulation of plans for its development, and justification of its business prospects (Khurana and Rosenthal, 2003). Also, having the fact that the FFE of the new product development, as well as the activities and decisions made during this stage, comprise the starting point of any NSD project, they also determine the whole path of the project. Therefore, a better, more precise understanding of these processes and more knowledge backed-up decisions made during the primary stages of the NPD lead to an increased competitive advantage. In addition to that, according to the previous research in the area, out of all the actions firms can possibly take to improve their NSD processes those taken during the front-end result in the most substantial financial savings with the least expense (Smith and Reinersten, 1991).

Processes within the Fuzzy Front-End

With the recognition of the importance of the first steps within the NSD processes also comes the understanding of the challenges linked to it, including the management of these processes. This is due to the fact that at the FFE level there are more opportunities for generating a number of potential ideas at a relatively low cost, as compared to the cost of actually implementing any one idea (Urban and Hauser, 2020). Furthermore, a number of studies have been looking at the connection between the performance of the new products and the time invested in the up-front or

front-end activities, proving the direct link between the two notions (Cooper and Kleinschmidt, 1995; Urban and Hauser, 2020). Academics researching the FFE have also been looking at the different stages within this part of an NSD exercise. An academic argument to date has at its core the question of whether all stages of the FFE can be put into one model or framework, or whether the 'fuzzy' character of the early development does not allow summarising the learnings and projecting them onto one framework. Below is an overview of the publications defining the stages of the FFE, as well as a contradicting view stating that all the stages should be more fluid and project specific.

One of the first models aiming to define the different processes within the early stages of the new product development has been published in the USA in the early 1970s, as mentioned in one of the seminal publications on the subject by Cooper. Cooper (1994) has also put together his framework that defined the three steps of the so-called pre-project stage (i.e. the FFE of NSD): Idea generation, Preliminary assessment and Concept definition. This model, despite being quite straightforward and considerably simple, still remains one of the most referenced in the current academic publications. According to Cooper (1994), the first stage of Idea generation is related to the first attempts to conceptualize and verbalize the idea. On the Preliminary assessment stage, the 'winning', or potentially the best performing idea is selected and progressed for further reflection. This logically brings us to the Concept definition stage, where the likelihood of market success is being estimated, as well as the development opportunities.

The term FFE was introduced in 1985 by Reinersten and later used in the innovation management theory by Reinersten and Smith (1988 and 1991) to refer to the early stages of a new product development project; the authors have also suggested their framework of the stages, or processes, that constitute the FFE of NSD, which is not dissimilar to the approach suggested by Cooper. The authors have also emphasized on the fact that the activities carried out within the FFE are quite often overseen due to a range of factors, including the lack of resources, of involvement on the top-managements side in the cases when the business objectives have not been specified well enough, of focused time allocation and distribution on the project management level hence the lack of resources. On another note, it has also been said that the activities carried out on the early stages of the product development attempts should be intensified for better outcomes and paid

more attention to on the market research and technology levels for a more professional and high-quality result. This is related to the fact that on the early stages of the new product development project the product cost is usually defined, and so is the cost of usage for the prospect clients which, when conducted right, would lead to a smoother and more successful introduction of the product to the market.

In addition to that, one other attempt to define the stages of the fuzzy front-end of NSD was by Griffin (1997); according to the researcher the fuzzy front-end of the new product development can be sub-divided into just two further stages, as follows:

- Project evaluation stage – when the idea has been expressed and taken for further discussion.
- Project introduction stage – when the target market and audience have been finalized and agreed on and the idea has been approved for further specification.

Among the latest attempts to define the processes within the FFE, research has been carried out by Khurama and Rosenthal. Their case study involved researching internally at 11 companies in the USA and Japan that have been involved in incremental innovation. By analysing the structure of the projects and the approaches to the FFE the researchers came up with a framework that classifies the stages and processes within the FFE as project-specific and non-project-specific and highlights the interrelations between those. The foundation on the project is usually set at the very beginning of the Front-End process and does have a tendency to become less rigid as the project evolves. According to Khurama and Rosenthal, the project-specific stages within the Front-End stage are as follows:

- Preliminary opportunity identification;
- Product concept and definition;
- Project planning.

The academic knowledge to date provides quite an extensive overview of the FFE processes for the incremental new product situations. In these cases, organizational involvement in the NSD processes is usually initiated at the primary stages of the project. On the other hand, there is still more to be uncovered in relation to discontinuous innovation (Reid and Brentani, 2004). Overall, despite the fact academics have come up with a number of frameworks and approaches to define the stages that construct the FFE, the notion still lacks a finalized academic conclusion as it also said that applying one model to different project may not be fully relevant due to different contextual restrictions, i.e., language, industry, product type, etc. (Nobelius and Trygg, 2002). In addition to that, the importance of the strategic planning input in relation to the opportunity recognition cannot be overseen. To summarize, the existing academic publications on the subject can be synthesized in one model consisting of the following elements:

- Mission statement;
- Concept generation/screening/definition;
- Business analysis;
- Project planning.

These particular stages, as defined by Nobelius and Trygg (2002), can be seen as a synthesis of the existing academic knowledge as they have been identified and highlighted during auditing multifaceted and varied new product development projects. In addition to that, the model proposed by the researchers is relevant as it combines the elements of the majority of existing frameworks with an exclusion of Khurama and Rosenthal (as this model provides a different, project-specific angle to the subject). Further to the attempts to define the structural elements of the FFE, it is worth noting that researchers in the area have also been looking at the ways of optimizing the processes within the fuzzy front-end of the new product development. Reinersten (1990) looks at the fuzzy front-end from the perspective of the financial value it can generate for the company; hence the optimization of the processes in this case would be based on increasing the economical sufficiency of the project, as follows (Reinersten, 1990, p.25):

"Like any subprocess, the FFE can be described in terms of its economics, which is the key to optimizing its profit impact. We can achieve optimization by identifying measures of performance for the FFE and then assessing how changes in these measures affect profits. This permits us to assess the profit impact of Front-End process design choices."

The financial performance results projected onto the FFE, as according to the author, add clarity to the review and optimization of the aforementioned. More precisely, on the optimization side, Reinersten (1990) has highlighted the three key metrics that effectively have an impact on the performance and can be viewed as parameters for measuring its outcomes, as below:

- The expense to screen an opportunity;
- The time to screen an opportunity;
- The effectiveness of the screening process.

The first two measures can easily be quantified to provide an objective basis for the following review process, whilst the third notion is less quantifiable (Reinersten, 1999, p.26):

"The first two measures are obvious, but the third is more subtle. The screening process can make two types of errors, either incorrectly rejecting a good idea or incorrectly accepting a bad idea. Incorrect acceptance has a cost because it can trigger an investment that later proves worthless. In contrast, an incorrect rejection has little cost when an organization has more good opportunities than resources, which is typical of most development organizations."

Summing up, this chapter has been looking at the key stages within the process of FFE, as well as at the key tendencies and research developments. The next section focuses on the ideation stage/component of the FFE by reviewing the body of research.

Service- and Customer-Dominant Logics

The Development of Customer-Dominant Logic

Throughout the early 2000s, both researchers and academics have been looking at the underlying "logics" in the service setting, which are said to be driving the business forward, with some of the early research carried out by the likes of Edvardsson, Gustafsson and Roos 2005; Grönroos, 2006; Holbrook, 2006; Gummesson, 2007; Vargo and Lusch, 2004, 2008; Vargo, Maglio and Akaka, 2008. The research has been largely contrasting the goods-dominant logic, opposing it to a service-dominant logic, with the roots of this academic debate originating from the marketing domain, with some of the seminal publications by Grönroos, 1982; Normann, 1984; Normann and Ramirez, 1993. The debate has been further developed by Vargo and Lusch (2004, 2006, 2008), who have added some further comments and suggestions on the topic. The said discussion remained largely philosophical, lacking substantial empirical data, focusing on separating the service in terms of process (service-dominant logic) and service in terms of outcome (good-dominant logic) (Heinonen et al., 2010).

The sequential evolution in the domain of marketing from the goods-focused to service- and interaction-focused approaches of the service-dominant logic was a logical switch (Vargo and Lusch, 2004, 2008), which facilitated a better understanding of the marketing function. Despite the move to service-dominant logic being a step forward, it is still largely focused on and production and interaction, while lacking further focus on the customer (Heinonen et al., 2010). Through the lens of the service-dominant logic, service is predominantly viewed as "co-creation dominated by and from the perspective of the service provider" (Heinonen et al., 2010, p.3). That being said, with the researchers emphasizing on the overall goal of facilitating and reinforcing customer value (Heinonen et al., 2010), the approach described above can only facilitate an incomplete understanding of customer's interaction with the service.

The existing perspectives of consumption practices (Holt, 1995; Korkman, 2006) and activity chains (Sawhney, Balasubramanian and Krishnan, 2004) provide a detailed overview of the specific applications of the service, but do not cover the angles of mental and emotional

experiences, which also bring additional value (Heinonen et al., 2010). This gap in the understanding of a customer's interaction with the service has facilitated the development of a customer-dominant logic, which is positioned in contrast to a provider-dominant logic (Heinonen et al., 2010).

As a notion, focusing on the customers has existed since early 1960s, with some of the seminal publication on the subject drawing attention to the importance of understanding customers' needs and wants and the impact it has on driving the business forward (Levitt, 1960). Levitt's seminar article discussed the production process focus of the organisations, which at that time were largely lacking the orientation towards customer satisfaction. Levitt has also highlighted the facts that it is necessary to identify the way of achieving customer satisfaction, and further build the business and production processes to achieve this satisfaction (Levitt, 1960). Following on, another seminar article highlighted that customer is indeed in the centre of the business and should define what the business is, starting with the needs, realities and values of the customers (Drucker, 1974).

These studies by Levitt (1960) and Drucker (1974) have identified the need in the switch of the managerial thinking and re-focusing the accent on the importance of the customer. Despite facilitating progression in the marketing domain, these studies have been criticized for assigning a largely passive role to the customer, focusing primarily on their experience of purchasing and consuming the offering (Heinonen et al., 2010, p.4):

> "Interest in the customer's life beyond direct service use has, until now, mainly been the domain of sociology-based approaches, such as consumer culture theory (Arnould and Thompson, 2005; Sherry and Fischer, 2009). From a service management perspective these approaches are difficult to apply to practice, as they almost exclusively focus on consumption as meaning-creation and ignore the structural fit between a service and a customer's life".

The focus in the more recent developments of the academic though on the subject (Vargo and Lusch, 2004, 2008) has been majorly on the active customer and the value created by the customer, though being criticised for representing the customer as employed by the company or as a co-

creator (Heinonen et al., 2010). Further, more recent works on the customer focus on co-creation and interaction (Grönroos, 2006; Vargo, 2008):

> "Firm's activity is best understood in terms of input for the customer's resource-integration, value-creation activities rather than it are in terms of its own integration of customer resources for the 'production' of valuable output." – Vargo, 2008, p.214.

Other works by the likes of Grönroos (2008), Holbrook (2006), Peñaloza and Venkatesh (2006), and Schembri (2006) focus on the customers perspective and how value emerges for customers and the process of how customers construct their experience of value, which serves as a basis of customer-dominant marketing and business logic (Heinonen et al., 2010), as further defined by Heinonen et al. (2010, p.5):

> "The customer's logic is proposed as the foundation of a customer-dominant marketing and business logic. Consequently, the centres of interest are not exchange and service as such, but how a company's service is and becomes embedded in the customer's contexts, activities, practices and experiences, and what implications this has for service companies. We argue that the process-outcome and provider-customer dimensions denote different business logics. Both the goods-dominant and service-dominant logics represent a provider-dominant logic, whereas a customer-dominant logic is separate from these perspectives. By business logic we mean a strategic mindset or mental model. The term marketing logic has been used in previous research (e.g., Grönroos 2006) but with the currently multiple understandings of the term marketing (currently still denoting a function in companies) and the attempts to reposition marketing as a strategic issue in companies, we emphasise that customer-dominant logic is a strategic issue, and not only a concern for marketers in the traditional sense."

In their article on the topic of customer-dominant logic, Heinonen et al. (2010) have contributed to the conversation regarding the mental models and logics contributing to the managerial understanding of the processes of conceptual analysis, required to implement the move from provider-dominant logic to the concurrent customer-dominant logic. The authors also look at the

mechanisms of value-in-use for the customers and the customer's experience of service. Currently, the discussion of the value perspective in the existing marketing research is ontologically thin (Voima, Heinonen and Strandvik, 2010). The essence of the marketing perception has developed from being objectivistic and production-oriented to the perspective of resource, where is stated that value is co-created, rather than delivered:

> "Value in use has passed over the traditional value in exchange and a focus on production attributes has been overridden with an emphasis of mutual value creation, the so-called co-creation. Value is no longer seen as embedded in units of output and exchange but rather realised through the experience when the customer activates and uses the service provider's offering and resources." – Voima, Heinonen and Strandvik, 2010, p.2.

In their paper exploring value formation from the CDL perspective, Voima, Heinonen and Strandvik (2010, p.3) also make the following conclusions:

> "First, value cannot be considered to be always actively and mutually created; instead, value is seen as formed in the cumulated reality of the customer. Second, value is not restricted to a cognitive or even a resource perspective, value is also socially interpreted and experienced in an experiential-phenomenological manner. Third, value needs to be seen in a longitudinal and multi-contextual perspective, encompassing multiple different personal and service-related value frames. Fourth, value is not isolated, since the reality of the customer is interconnected to the realities of others. Value is therefore always to some degree collective and shared, being multi-personal to its nature."

With that in mind, it becomes critical to understand that within the CDL the persona of the customer is seen through the lens of value-creation, taking the co-creation perspective a step further. With the multitude of value forms developed by customers throughout time, the very nature of value is ever developing and changing, based on the context and reality frames, fully integrated into the customers' current context.

Definition and Related Terms

The term "dominant logic" is applicable in both theory and practice. In strategic setting, the term has been discussed as an information filter (Prahalad, 2004) that directs managers and researchers to focus on a specific notion, such as service (Vargo and Lusch, 2004), networks (Ford and Håkansson, 2006), solutions (Nordin and Kowalkowski, 2010) or cultures (Arnould and Thompson, 2005). While presented in the literature as pure "ideal" types of marketing and business approaches, when used by managers, the perspectives are not ideal and may often be presented as a mixture of many types.

Based on the current understanding of the term, customer-dominant logic (CDL) is defined as perspective of the business and marketing efforts, based on the primacy of the customer:

> "Adopting this view means shifting the focus from how (systems of) providers involve customers in their processes to how customers in their ecosystems engage different types of providers. In other words, emphasizing how customers embed service in their processes rather than how firms provide service to customers. Acknowledging CDL highlights the parallels and differences of marketing perspectives in existing research and practice. Perspectives are important in academic research and business practice. A business is driven by a prevailing perspective, a dominant logic, which is "a mind set or world view or conceptualization of the business and the administrative tools to accomplish goals and make decisions in that business." – Heinonen and Strandvik, 2015, p.2.

The described perspective/dominant logic is stored as a cognitive map or a set of schemes, shared across the organisation. Subsequently, the perspectives are exhibited in concepts and models, and have an impact both on the thinking and the actions taken (Strandvik et al., 2014). The key service perspectives that have emerged in the service filed, namely the service-dominant logic (SDL), the service logic (SL) and the CDL, explain the characteristics of service in society and business nowadays:

"SDL focuses on systems and the co-creation between generic actors on a societal level (Vargo and Lusch, 2004; Lusch and Vargo, 2014), whereas SL emphasizes the interaction between the provider and the customer (Grönroos, 2006). CDL focuses on customer logic and the customer's constellation of activities, actors, and experiences and the role of providers in this context (Heinonen et al., 2010)." – Heinonen and Strandvik, 2015, p.2.

It is clear that within the framework of CDL, understanding customers' needs and wants is seen as critical for companies to improve their performance, especially in increasingly competitive markets. Despite the established comprehension and awareness of the customers, a lot of business stills struggle with embedding this philosophy into their business processes and implementing the role of customer as an important part of the company strategy (McGovern et al., 2004; Strandvik et al., 2014). It is therefore critical to point out that there is a significant gap in the academic knowledge, facilitating a better understanding of achieving customer-dominant logic in the business environment and embedding it into the business strategy.

Customer Orientation in NSD

As mentioned before, NSD stands among the most crucial business processes for the companies across industries and sectors – researchers highlight the fact that it is vital for the company's healthy performance in the market compared to the competition and the overall survival of the firm (Chen et al., 2016; Brown and Eisenhardt, 1995). Having said that, the development of new products, despite providing a wide range of strong benefits to the company, including the opportunity to further grow and expand, has also been associated with a number of risks, e.g., overwhelming cost, unsuccessful projects, bad market reputation due to unsuccessful launches, etc. Despite this, it is still a valuable activity for every company, thus, companies are in a constant search for ways to minimize related risks.

Researchers in the area have pinpointed that the current market tendency of NSD becoming more customer-cantered and consumer-oriented has so far helped to deal with the risks of the NSD. The involvement of the target audience and the final users of the product into the NSD processes has already become a strong trend among the firms in various industries (Schweitzer et al., 2014).

When talking about the users of the solution, in the academic literature the latter are usually being referred to as "individuals who could benefit from a new product by using or consuming it" (Schweitzer et al., 2014, p.155; von Hippel, 2005; Piller and Walcher, 2006). In addition to that, user engagement in the NSD processes is not exclusively an industry practitioner tendency – the impact of involving customers in various stages of the NSD has also been recognized by the academics in the field of innovation science and practice (Füller et al., 2012). Previously, the tradition of user integration in the new product development processes has been facilitated by the means of marketing research techniques (Tidd et al., 200). Now, having the diverse technological developments, the user involvement strategies are inclining towards engaging with users as with co-creators capable of providing new ideas and coming up with concepts for the new products (Kristensson et al., 2002; Vargo and Lusch, 2016).

The notion of customer orientation has been introduced by the scholars in this area to highlight and describe the trend that has been observed in both academia and practitioner circles for already a decade (Hillebrand et al., 2011). As said, the notion has previously been defined by the academics in the domain (Yang and Zhang, 2018, p.560):

> "Customer orientation refers to the degree to which the firm utilizes information from customers and develops a strategy to satisfy customer needs. It is a company-wide philosophy that the customer's wants and needs are the first priority of all management practices".

Some of the most current academic developments have posited that the firms that apply customer orientation in their NSD practices are more likely to perform better than competitors, as this approach helps to utilize customer insights regarding their requests and requirements (Yang and Zhang, 2018). The crucial advantage of the customer orientation is in the way it facilitates applying the unique knowledge of the company's target audience and projects it onto the products that are to be developed (Joshi and Sharma, 2004). Further, an additional asset of the customer orientation that has previously been noticed by the academics is that it enhances the effectiveness of the NSD processes, invigorating the speed of the market launch (Feng et al., 2012). Despite the wide research background and the multiple developments on the subject, there is still a need to finalize

and further define the impacts of the customer orientation as a number of researchers have come to contrary findings (Atuahene-Gima, 1996; Datar et al., 1997; Campbell and Cooper, 1999; Bonner and Walker, 2004; Ernst et al., 2011). The research projects mentioned above have identified that such an approach may have certain negative consequences, leading to bigger spending and may also create confusion within the NSD teams and processes. Therefore, more research needs to be done in the area to come up with a more precise understanding of the phenomenon.

In order to provide a better understanding of the notion, a number of academics have been looking at the structure, components, and objectives of incorporating this concept. One of the schools of thought in the area has stated that customer orientation as such cannot be linked directly to a range of clear improvements in the NPD practices; however, it is more likely to help clarify the strategic orientation and goal setting, which, in order, has a positive impact on the overall project development (Afonso et al., 2008; Wong et al., 2011). Additionally, the structure of the project teams in relation to the customer orientation and the complexity and newness of the project have been looked at, together with the involvement of the top management and their support. It worth noting that, despite the discrepancy in the academic views on the subject, it is so far clear that incorporating the customer involvement strategy into the NSD processes can lead to a range of positive outcomes, such as optimization of the knowledge management, improved data supervision and operation, as well as advancing of creativity and resourcefulness, which, undoubtedly, are significant benefits for any company or firm (Yang and Zhang, 2018). The more capable the company is of converting the acquired consumer information and the more effective the team and management are at putting it into work, the more benefits the collected data is said to have (Tseng, 2009).

Along with the customer orientation, as said, the researchers have also looked at the practice of customer participation, which is currently being used widely by companies to improve the NSD processes. Researchers claim that across a wide range of business areas companies are becoming more inclined towards turning the representatives of their target audience into experts that can provide valuable insights to improve the product development advantage (Coviello and Joseph,

2012). It has now become a standard for the companies to engage with the end-users of the product on the various stages of NSD (Duschenes et al., 2012, p.984):

> "ISO 9241 (Ergonomics of human-system interaction) on part 210 (Human-centred design for interactive systems) recommends that user involvement be a common practice in companies that design interactive products and systems".

Likewise, researchers have proved that, despite the professional knowledge of the Research and Development themes, the success of the NSD projects is to a certain degree related to user engagement and integration into the processes, as well as incorporating the user-centred approach. This is said to strengthen the projects with meaningful customer insights on their perceptions, preferences and requirements (Schweitzer et al., 2014). The only risk of user integration as identified by the researchers in the area has been linked to failing to identify users that are capable of making substantial input to the projects; that have historically resulted in over-spending and multiple unsuccessful product launches.

Therefore, in the realities of the current business environment, customer involvement in the NSD processes has been said to add up extensively to the value co-creation (Chen et al., 2016, p.13):

> "…academics claim that the integration of customers into the NPD process as a basis for value co-creation is at the core of emerging reality."

This consequential switch in the approach to NSD has been recognized and developed further by the researchers in the area: as NSD processes are becoming more customer-centred, it has become a trend for companies to engage in actively integrating end consumers into the process (Cui and Wu, 2016). Across industries and sectors, companies are becoming more and more inclined towards involving customers in the NSD processes and hearing out the voices of the customer representatives: among the corporate giants that have already successfully integrated consumers into the NSD process are Boeing, Hilti and Unilever, just to name a few – brands not only seek for consumers feedback, they actually work with the selected groups of knowledgeable representatives

from the target audience to co-create products together with the internal teams (Condit, 1994; Enkel et al., 2005; Needham et al., 2010).

Moreover, customers have long acted as valuable sources of information that can provide priceless insights for the NSD teams to develop better products and meet the needs of the audience better; nowadays, it has become more common for the companies and brands to choose to cooperate with their consumers directly and involve them into problem-solving activities (Cui and Wu 2016, p.60):

> "Different from the traditional form of customer involvement where customers serve as an information source, this new approach allows customers to participate in the NPD process as co-developers and engage in joint problem solving with internal employees to generate product solutions".

Academics in the area note that the discussion on the results of this approach is an on-going subject with new academic developments changing the knowledge background every year, and the conclusions on its impact on the new product development are yet to be finalized (Alam, 2002; Kristensson et al., 2004). Among the benefits of the direct customer involvement researchers name the following:

- A better diversity of creative ideas (Nishikawa et al., 2012);
- An improved performance of the end product (Lau et al., 2010);
- As well as a more diverse product range (Al-Zu'bi and Tsinopoulos, 2012).

Another benefit of the user-centred approach is that it is meant to accentuate on the problem-solving techniques which facilitate meeting the customer requirements more precisely, coming up with new innovative ideas and using the existing market opportunities more effectively (Brown and Young, 2008; Ulrich, 2003; Verganti, 2009); that is seen to be a positive stimulus for breakthrough innovation and market advancements, as is highlighted in some of the academic developments in the area (Leonard and Rayport, 1997; Mascitelli, 2000; Schrage, 2000). Nevertheless, some researchers argue that the positive outcomes of customer involvement in the

NSD processes are yet to be proven (Carbonell et al., 2009; Gruner and Homburg, 2000). Some of the academics that have investigated the question have even noted that such involvement may have negative consequences for the outcomes of the NSD process (Knudsen, 2007). Therefore, the impact of direct and indirect customer involvement is yet to be clarified and proved by further research efforts.

Moving on, researchers have identified two approaches to customer involvement in the new product development processes. The two approaches were named, accordingly, – customer as co-developer (CIC) and customer as an information source (CIS) (Fang, 2008; Jeppesen, 2005; Nambisan, 2002) – and are said to both have their pros and cons. There is a number of reasons companies might not choose the active customers' involvement approach for the new product development, such as an extended process, risk of the information overload, as well as the complications of managing such project (Brockhoff, 2003; Hoyer et al., 2010; Nambisan, 2002). These consequences are yet to be academically proven with more extensive research and the means of overcoming these challenges for leveraging the benefits are to be finalized (Fang, 2008; Hoyer et al., 2010). Moreover, researchers in the area have also highlighted that having the fact both approaches are based on the utilization of the customer information and share the exact same goal of enhancing both the product and the process of the product development, the CIS and CIC methods can be successfully combined which will have a substantial contribution to the outcomes of the project.

The CIS approach is based on collecting valuable data from the customers – previously, classic methods of marketing research have been applied, such as interviews, focus groups and market surveys that have been applied to gather information about the needs of the target audience (Griffin and Hauser, 1993). The main rationale behind this was to ensure customers have their say and express their opinions and preferences about the product that is to be developed. Further, the data collected would be put into work by the teams engaged in the NSD process, and they were responsible for interpreting the data and ensuring the information collected is incorporated into the product, and the end result meets the consumer expectations. This approach can be described as an indirect integration and involvement of the customers (Cui and Wu, 2016, p.62):

"The CIS approach requires that firms transfer need information from customers to the NPD team before such information can be applied to product development. As the traditional approach of utilizing customer information, CIS is widely used, although some firms may engage in CIS activities to a higher degree than others".

On the other hand, the CIC approach implies direct customer involvement in the process of developing new product – customers join efforts with the internal NSD teams of experts and contribute to the process with their ideas: over the project development, "they [customers] engage in joint problem solving with the NPD teams and directly contribute to the product design. Customers are also involved in making various decisions together with the NPD employees, for example, regarding design of product features, specification of product interface requirements, and establishment of development process priorities and metrics" (Cui and Wu, 2016, p.62).

It is worth noting that the two ways of customer involvement may as well be used simultaneously -– having collected customer data via marketing research or other methods of data collection which will be looked at further in this paper, firms can also integrate direct communication with the representatives of the target audience into the process, and the degree of the integration and engagement can vary. As the data collection techniques evolve, more and more companies would choose to apply Big Data technologies as compared to the classic marketing research techniques.

Summing up, researchers have previously identified the characteristics of the projects that come under the user-centred category, as follows (Alejandro and Colin, 2012).

Table 5. Characteristics of the projects that come under the user-centred category (Alejandro and Colin, 2012).

• Gathering data and coming up with the customer profile that incorporates precise understanding of the consumers' lifestyle and the context of their daily routine linked to their interaction with the product that is being developed;
• Appropriating the activities within the process of the new product development between the end users and the technological features of the product; this implies that the requirements the customers have toward the product and the usability of the technologies that are being used are analysed and taken into consideration;
• Involving customer feedback into design and prototyping stages of the new product development, which is said to have a positive impact on the end design solution.

Likewise, the main advantages of applying the user-centred approach to new product development come under the domain of collecting and applying unique primary customer data, and the academic knowledge in the area has proven that to be of a great value to the NSD teams, as seen in the table below.

Table 6. The value of the user-centred NPD projects (Alejandro and Colin, 2012, p.1006).

1	User-centred development is collaborative and is used when professionals participate in a different area related to the process.
2	It studies with a systemic view the user's interaction with objects during the development of activities in specific application environments.

3	It studies the capabilities, limitations, and needs of users in their physical, cognitive, emotional, social dimensions based on the understanding of the user's activities with such products.
4	It allows getting information for making decisions, based on the needs, goals, attitudes, motivations, capabilities, and limitations of users.
5	It integrates end-users in various stages of project development.
6	It evaluates the results of those designed products.

In the outcome, the user-cantered way of developing products as a system is more effective compared to the non-user-cantered approach; it has also been mentioned that customers tend to express a more favourable attitude to the products that have been developed with the end-user's involvement. Further, applying a user-cantered concept is beneficial for eliminating the negative consequences of the customer objectification, such as, 'frustrations, accidents, injuries, cumulative stress and waste of time and/or, as a number of diversified features of the end-users are being acknowledged, examined and recognized by the development teams, including: "the physical differences of users, their motivations, expectations, previous experiences, the type of activities carried out, the characteristics of the objects that mediate their activities and the specific environment in which such activities are carried out' money" (Alejandro and Colin, 2012, p.1006).

Furthermore, having the apparent benefits of incorporating the user-centred philosophy, together with customer orientation and customer integration approaches, that are said to be largely applied across industries and sectors, it is already almost impossible for companies to maintain their market position and further expand without putting into use the advanced technologies of collecting, compiling and analysing customer data. The current advancements in the innovation-related literature have been looking at the success of the NSD projects and new product launches in close relation to the internal corporate capabilities that allow the latter to take place (Molina-Castillo et

al., 2011). One of the key components of the success of an NSD exercise is a successful idea development which is critical for the further stages of the project. Idea generation is the key asset and a starting point of the NSD activity and is said to take place at the FFE of the NSD projects.

Ideation and COI

Introduction to Ideation

Having the complexity of the new product development processes, as discussed earlier, the academic views on the structure of those differ. What researchers do agree on is the fact that the new product ideas would always originate within the primary stage of the new product development – the fuzzy front-end. Hence, the notion of ideation is included in the structure of FFE (Koen et al., 2002). Researchers also agree that ideation often named among the most important parts of the early-stage product development (Hirunyawipada and Paswan, 2012), where the organizational idea generation capabilities are often playing a critical part in the new solutions success – the improvements made at the product ideation stage have a great impact on all next stages of NSD (Montoya-Weiss and O'Driscoll, 2000; Toubia, 2006). Processes wise, it has been stated that the main pool of ideas that are being generated during the ideation does not fully convert into further stages and make it to the further stages (Girotra et al., 2010). Researchers in the area have previously looked at specifying the conversion rate between the ideas generated and the ones that qualified for further development: for instance, Griffin (1997, p.448) has summarised that out of "100 ideas lead to 15.2 successes."

Furthermore, predominantly across the numerous publications on the topic, ideation is being looked at as a stand-alone notion – the primary point that kicks off the very thinking process behind any product development effort (Riel et al., 2013). It has been highlighted that the unstructured nature of the FFE, where the idea creation, further discussion, and clarification, selection and commercialization take place, can create various complications for the successful project management, including cost restraints, time frames and deadlines and other resource-related issues. This is why it becomes increasingly important to quality control and monitor the ideas generated at this stage – the effectiveness of the evaluation methods and screening processes cannot be overseen. Industry-wise, it has been said that the lack of systematic approach and strategic planning during the ideation stage can lead companies to failure during the primary stages of the NSD projects (Michaud and Llerena, 2006). The research gap identified by the researchers lies within the area of improving the knowledge generation approaches and outcomes, as well as

the knowledge management for an increased success probability for the new product development projects – and that, as proven by the latest developments in the area, is linked strongly to the idea generation processes (Barczak et al., 2009).

Further, Riel et al. (2013) have been looking at the ideation stage from the structural perspective. The authors have identified a research gap in the area related to ideation and the way this process can be structured for improving the outcomes of the new product development projects overall (Riel et al., 2013, p.107):

> "The fuzzy front-end can be seen as the very beginning of all processes in a company, as any design is rooted in one or more ideas. Current NPD research results attempting to propose a systematic, manageable structure for new product development activities assume that such ideas are already available and accepted for implementation. The same applies to management sciences dealing with the economic aspects of innovations. Social sciences focus on creativity without taking into account the elaboration of ideas and their propagation in the process to the gate into the NPD process".

This perspective is also interesting as it highlights the different flows of thought across academic schools and the perceptions of ideation. It is worth noting that both a creative angle and a systematic approach contribute to the overall success of the project and the character of the ideation process is highly related to the specific case. The authors' research has been based on the combination of the secondary data sources analysis and the review of the key publications on the subject and the primary qualitative data collected from the expert interviews, which have been summarized into best practices that highlighted the main success indicators for the ideation process, as can be seen below:

"1. Ideation starts at the top management. The explicit call for ideation activities and the clear commitment to them by the top management is the absolutely essential prerequisite that must be clearly visible for all employees. Any secret ''underground'' ideation activities carried out by employees are poised for failing at the latest as soon as they necessitate the involvement of

colleagues from other departments. Employees must not feel doing something 'forbidden' when they work on ideas.

2. Ideation needs a clearly defined focus. The systematic analysis of the company's total situation and environment for the identification of the focus areas of ideation increases the effectiveness during the generation and selection of ideas. Employees and external stakeholders have to be guided in a way that they can use their creativity and experience to contribute to innovation in the areas and directions determined by the corporate strategic objectives.

3. Ideation happens in networks. The company's innovation and ideation activities have to become a subject of every employee. Active contribution to these activities has to be made part of the company's organizational culture. Targeted integration of internal and external stakeholders in the ideation and innovation process increases the innovation potential thanks to the involvement of different points of view from the very early phases of innovation. This integrated product/system design principle is totally in line with the modern open innovation paradigm and represents one of the biggest challenges for classical organizations which have made innovation a well-protected subject of mostly a few selected heads only.

4. Ideation demands creativity. The promotion of creativity and its integration into the corporate processes enhances the quality and quantity of ideas. There are several ways of leveraging creativity on an individual and organizational level. Common to them all, however, is that they allocate time to people for being creative. In process-driven companies, employees are obliged to stick to processes. Any activity that is not part of those processes is not considered productive and relevant to be accounted for. Thus, time, space and tools for ideation activities have to be introduced to the corporate processes.

5. Ideation needs entrepreneurship. Idea generation is an intrinsic objective of the ideation process. It is, however, not sufficient to contribute to innovation. Idea contributors have to stand in for their ideas and market them within their organization. This requires elaborating ideas and developing stories in order to ''sell'' them to gain promoters and convince decision-makers. The effective implementation of all the previously mentioned success factors is the main prerequisite for them to be able to do this. The rest is rather a matter of entrepreneurship skills, most notably enthusiasm, persuasion, leadership, personal accountability, goal orientation, and interpersonal skills. Furthermore, in most of the investigated companies, the cultivation of a reasonable amount of

competition among idea contributors has turned out to be a significant factor raising not only the number of ideas but also their level of maturity and quality.

6. Ideation requires organizational orientation. A target-oriented transparent process for the pursuit, the selection, and the conversion of ideas is an essential element of an organisational culture that leverages ideation. It has to be clear to every employee which way she/he has to go in the hierarchy in order to communicate and promote an idea, and to get feedback and guidance for the subsequent steps. Quick response times are vital to keep idea contributors motivated and the dynamics in the process", – Riel et al. (2013, p.108).

Voice of Customers

As mentioned before, a deep understanding of the customers' needs and wants is an essential component of the new solutions success (Cooper, 2013, 2017, 2018), which has been supported by the majority of the research projects in the area. On the other hand, failure to adopt a strong market orientation will lead to poor performance of solutions in the market. Voice of Customers (VoC) is among the most effective methods of collecting customer data for various business purposes, including NSD. The term is widely used in academic literature, which emphasizes the importance of understanding and reflecting customers' needs and wants when developing new solutions. The researchers that have been looking at the impact of VoC on the success of the new solutions and have identified that using the VoC better new solutions performance (Cooper and Dreher, 2010).

One of the most cited definitions of the VoC has been put together by Gaskin (2018, p.3):

> "The Voice of the Customer (VOC) is a term used in business to describe the process of capturing customers' requirements. The Voice of the Customer is a product development technique that produces a detailed set of customer wants and needs which are organized into a hierarchical structure, and then prioritized in terms of relative importance and satisfaction with current alternatives."

In his article "Voice of Customers" (2018) Gaskin outlines the importance it has for NSD and outlines a range of benefits for NSD teams in particular (Gaskin, 2018, p.3):

> "A detailed understanding of the customer's requirements; a common language for the team going forward; key input for the setting of appropriate design specifications for the new product or service; a highly useful springboard for product innovation."

Another researcher that has looked at the VoC in multiple articles highlighting its importance as a driver of the new solutions performance is Cooper. In their article 'Voice-of-Customers methods: What is the best source of new product ideas?' Robert G. Cooper and Angelika Dreher have analysed 150 companies to identify which methods of ideation are the most popular, and, most importantly, the most effective. According to their research, the VoC methods are counted among the most effective (or, as the researchers originally described, the strongest) methods for ideation. Cooper and Dreher (2019) map the eight methods within the VoC: ethnography, community of enthusiasts, customer brainstorming, customer advisory board, customer helps design product, lead user analysis, focus groups, customer visit teams).

Based on the research by Cooper and Dreher (2019), the VoC methods were rated very highly amongst the participants of the research in terms of effectiveness and constitute the top 5 methods for ideations. Unfortunately, it has been observed that marketing activities can be largely overseen in the NSD process, with attention focused on more technical stages – engineering, design, R&D, and so forth. According to one of the seminal publications by Griffin and Hauser (1996), the focus on the market should be one the primary focuses for the involved stakeholders, all throughout the process of NSD.

Ideation stage is particularly important for the customer focus in NSD. Cooper (2019) has introduced the notion of market-oriented idea generation, which is vital for determining customers unmet needs and problems they might be encountering. Adopting market-oriented idea generation has been said to lead to superior product ideas – the best ideas come from the customers and this methodology helps to project that onto the solution (Cooper, 2019).

Customer-Oriented Ideation

Undeniably, customer focus is an essential component of the new solutions' success, and understanding customers' needs and wants is a consequential part of any NSD activities (Cooper, 2013, 2017, 2018, 2019). Customer insights needs to be deeply embedded within all the stages of the NSD projects, and more particularly, should be used on the ideation stage to create better, more relevant ideas (Cooper, 2019). In order to emphasize on the importance of the NSD teams' ability to determine customers' unmet needs and wants the notion of market-oriented idea generation has been introduced by Cooper and Dreher (2010), on the basis of the market orientation notion (Lewrick, 2011) which is said to have a positive impact on business success (Greenley, 1995; Hooley et al., 2000; Langerak, 2001; Kahn, 2001; Cano et al., 2004; Zhuo et al., 2005; Gainer and Padanyi, 2005; Kara et al., 2005; Hult et al., 2005). The author has not elaborated on the definition of the notion, but stated that such activities can include focus groups, ethnography and site visits (as well as other VoC methods).

So, concluding on the key finding from Cooper's work (2019) and Cooper and Dreher (2010), it can be stated that best ideas come from the customers, and market focus should prevail throughout the entire NSD project, and on the ideation stage in particular. Based on the theory behind market-oriented idea generation activities (Cooper, 2019) and the VoC research (Cooper and Dreher, 2019; Gaskin, 2011; Griffin and Hauser, 1993; Katz, 2001) that is said to facilitate the success of the market-oriented idea generation, this study proposes the notion of Customer-Oriented Ideation (COI). COI actualizes the market-oriented idea generation activities and provides a more detailed understanding of the ideation activities that can be described as customer oriented. In modern practice, the focus remains particularly on the customer and not market in general. While understanding the market is beneficial for NSD teams, it is the customers' insights that make creation of better, more innovative products possible and facilitate higher adoption levels.

In modern practice, the focus remains particularly on the customer and not market in general. While understanding the market is beneficial for NSD teams, it is the customers' insights that make creation of better, more innovative products possible and facilitate further higher adoption levels. Therefore, COI can be defined as a practice of generating, analysing, interpreting and

incorporating a wide range of customer data at the ideation stage of NSD projects. It is also suggested that as a continuation and logical development of the market-oriented ideation notion, COI encompasses its key qualities therefore leading to the success of the new solutions in the market. Adopting market-oriented idea generation has been said to lead to superior product ideas – best ideas come from the customers and this methodology helps to project that onto the solution (Cooper, 2019). This article proposes that using COI improves and enhances this capacity. Further elaboration on NSD can be found in the Results and Discussion chapter.

Research Proposition 1

Summing up, the researchers that have been looking at the impact of VoC on the success of the new solutions have identified that adopting VoC leads to superior product ideas and facilitates market-oriented ideation – best ideas come from the customers and this methodology helps to project that onto the solution (Cooper, 2019; Cooper and Dreher, 2010; Gaskin, 2018; Griffin and Hauser, 1996). Having that COI is suggested to enhance the ideation capabilities embedded originally in the notion of market-oriented ideation, and the capacity of VoC to reinforce the above capability, the following research proposition has been formulated:

Research Proposition 1: VoC facilitates COI within the new solutions development projects.

Big Data

Introduction to Big Data

The concept of Big Data has recently become quite popular both among academics and practitioners, as well as in the popular culture and media. Since the late 2000s, popular media platforms have started a public discussion on the aspects of Big Data that would appeal to wider audiences. Lev Manovich (2011), one of the most recognized authors on the new media theories, has mentioned a couple of notable journalistic publications that contributed to putting the Big Data concept into the spotlight in his seminal paper "Trending: The Promises and the Challenges of Big Social Data":

> "In June 2008, The Wired magazine opened its special section on "The Petabyte Age" by stating: "Our ability to capture, warehouse, and understand massive amounts of data is changing science, medicine, business, and technology. As our collection of facts and figures grows, so will the opportunity to find answers to fundamental questions." – Anderson, 2008, p.1.

> "In February 2010, Economist started its special report "Data, data everywhere" with the phrase "the industrial revolution of data" (coined by computer scientist Joe Hellerstein) and then went to note that "The effect is being felt everywhere, from business to science, from government to the arts." – Hellerstein, 2010, p.1.

 It is clear that the amount of data produced nowadays by far surpasses the quantity of information available from the previous centuries, and the trend is seen to have an immense impact on societal norms and developments, including innovation, productivity, and growth (Moorthy et al., 2015). Multiple publications have been made on the future of data science and the impact it will have on most of the industries that deal with consumer products and services (Cappella, 2017; Gepp et al., 2015; King, 2011; Ragueso, 2018; Schoenherr and Speier-Pero, 2015). As the Internet keeps expanding from being solely a source of information and a platform for interpersonal communication, and in the light of its expanding commercial value and increased business

application, a need has been identified to collect, classify and further interpret the information produced in the online environment (Jobs et al., 2016). Eagle and Greene (2014, p.9) have outlined the current background of global digitalization in their seminal work "Reality Mining: Using Big Data to Engineer a Better World":

> "Never before has it been easier to collect so much daily data about ourselves. Technologies that track our habits, our location, our purchases, our routines, our social interactions, and our sentiments abound, from smartphones to downloadable software to galvanic skin monitors and wearable cameras. Indeed, the ease with which the 'data exhaust' is emitted and can be captured in the wake of our daily behaviours present researchers with new opportunities not only to gain insight into those behaviours but also to use these insights to better design systems to reflect how people actually behave".

Subsequently, the notion of Big Data emerged, as an outcome of the large quantities of information produced via digital sources – social media, blogging platforms, video content platforms, lead generation stand-alone landing pages and websites together with the digital marketing campaigns carried out by firms and agencies have become a source producing most precise data about individuals, their preferences, tastes and behaviours (Boyd and Crawford, 2012), that can be effectively put into work for marketing purposes. Further, researchers agree that the concept behind Big Data is even broader, as it includes multifaceted formats of information output from numerous sources, and the quantity of useful data is striking (Davenport et al., 2013, p.23):

> "[…] big data [...] encompasses everything from call centre voice data to genomic and proteomic data from biological research and medicine. Every day, Google alone processes about 24 petabytes (or 24,000 terabytes) of data."

A number of academics and practitioners have approached defining Big Data, some of them criticized for too broad and generic definitions, some being said to be too technical. The table below provides an overview of the existing definitions of Big Data and the approaches taken by the researchers. In this research, we are inclined towards supporting the point of view of Boyd and

Crawford (2012), who not only describe the notions but also highlight the cultural, technological and scholarly sides to it, which are critical for this research.

Table 7. Definitions of Big Data (Authors Own, 2019).

Definition Approach	Authors
Big Data is a term applied to datasets whose size is beyond the ability of commonly used software tools to capture, manage, and process the data within a tolerable elapsed time. Big data sizes are a constantly moving target currently ranging from a few dozen terabytes to many petabytes of data in a single data set.	Manovich (2011)
Big Data applies to "information that can't be processed or analysed using traditional processes or tools.	Zikopoulos et al. (2012)
Big Data is the collected bits of information collected from the interactions that people and objects have with the digital, networked world.	Eagle and Greene (2014)
Big Data is a complex phenomenon that has cultural, technological and scholarly sides to it, as well as a number of impacts and consequences. The key aspects of Big Data are: Technology, that stands for employing software and algorithms for accurately analysing large sets of data; Analysis, which implies making conclusions based on the above to support or discredit economic, social or technical developments;	Boyd and Crawford (2012)

| Mythology, as representing the belief that higher intelligence and knowledge can be extracted from greater amounts of data, given its objectivity and accuracy (Boyd and Crawford, 2012). | |

Big Data in NSD

The philosophy behind the Big Data (BD) movement originates from the idea that objective and precise data extracted from digital sources would allow apprehending social and behavioural trends, recognize complex relations and interconnections, while also being capable of providing information for decision-making and businesses need from the strategic perspective (Jobs et al., 2016). Businesses around the world have acknowledged the opportunity and proceeded to leverage on the benefits of having accurate data on customer behaviours and trends, focusing on applying these data to the new product development projects to come up with more market-relevant ideas for products.

And there's more and more data every minute – academics have identified the online data expansion trend and stated that in the decades to come the tendency will keep growing further, accumulating unstructured data available publicly (Shaw, 2014), having no formal restrictions imposed on its consumption and interpretation. Currently, Big Data sounds like a media buzzword and is yet to be used to its full potential (Davenport et al., 2013). It is clear though that for businesses, one of the key advantageous opportunities for the application of BD technologies for companies is its application for innovation and new product development (Davenport et al., 2013).

Some of the key developments in the area of NSD and Strategic Innovation have highlighted the fact that the means of BD are central to the advancement of the new product development practices in any modern organization (Bharadwaj and Noble, 2017); this is related to the fact that by acquiring unique customer insights and projecting those onto the products that are being developed, BD facilitates meeting customer needs with the newly introduced products (Chuang et al., 2015; Marhsall et al., 2015). In addition to the above, the key corporate value of incorporating

big volumes of diverse information types to the new product development procedures is that this has a positive impact on the future market positioning of the new products and the product portfolio improvement and expansion (Citrin et al., 2007; Ganesan et al., 2005; Kim et al., 2013).

The more advanced the company's ability of making use of the IT capabilities (Big Data technology in this case) is, the better, faster and smoother the introduction of the product to the market is said to be (Akgun et al., 2006; Atuahene-Gima, 2005; Ganesan et al., 2005). Furthermore, it is known that collecting and implementing consumer knowledge has always been critical for the success of the new product development projects and has been used by multiple companies and brands across business areas; researchers and academics have been observing and describing the cases of applying this approach in the last decade (during the period between 2006 and 2018) (Ganesan et al., 2005).

Concluding the above, the review of the academic sources has highlighted that the so-called BD revolution has had a consequential impact on the ways of collecting data, especially for the purpose of developing new products: the notions of shaping up business intelligence and improving the decision-making processes within the NSD projects are now supplemented by excessive volumes of customer data collected via Big Data technologies (Erevelles et al., 2005; Davenport, 2014).

Research Proposition 2

Collecting customer data has always been critical for the success of NSD projects, as it serves as a source of objective quantitative data to back up the decisions made (Akgun et al., 2006; Atuahene-Gima, 2005; Ganesan et al., 2005). As mentioned before, making informed decisions is even more important on the ideation stage of NSD, and, subsequently, Big Data allows to get the valuable customer insights to facilitate COI.

This allows us to make the following research proposition based on the literature review above.

Research Proposition 2: Big Data facilitates COI.

Customer Orientation of Service Employees

Customer Orientation (CO) has been around since the 1980s and ever since used extensively in the service marketing literature. One of the first publications examining CO was by Saxe and Weitz (1982), who introduced Selling Orientation – Customer Orientation scale. Further, a plethora of publications has further developed the subject via various conceptual models (Brown et al., 2002; Deshpande et al., 1993; Narver and Slater, 1990). Having such wide range of published articles on the topic, it has been hard to summarise the definition of the notion, and differentiate it from the concept of market orientation, that, in turn, has two different approaches to it (Kohli and Jaworski, 1990; Narver and Slater, 1990, accordingly).

Further on, Customer Orientation of Service Employees, or COSE, as defined by Henning-Thurau (2004) is a characteristic of a service employee that can be described as having skills to identify, understand and satisfy the needs of a client; and is focused on achieve that with his actions (Mediano and Ruiz-Alba, 2019). There are four characteristics that describe COSE (Morales and Ruiz-Alba, 2019; Henning-Thurau, 2004):

- Technical skills;
- Social skills;
- Motivation;
- Decision-making authority

The technical skills are important as they allow the service employee to meet the customers' requirements; motivation is related to the employee's personal incentive to work towards meeting those needs; and, finally, the decision-making authority describes the employee's capability of having freedom to do what it takes to fulfil customers' needs (Morales and Ruiz-Alba, 2019; Henning-Thurau and Thurau, 2003). Henning-Thurau and Thurau (2003) have also introduced the three factors that are part of the employee's personality: extrovertedness, agreeableness, and adjustment. All of these personality traits are said to be affecting COSE and contributing to the successful interaction with the customer. These four dimensions were proven to be beneficial for achieving customer satisfaction, commitment and retention (Henning-Thurau, 2004). These three

outcomes of COSE, in turn, were considered important for the services companies' success and overall market performance of the business. The model introduced by Henning-Thurau (2004) has been further tested and validated within 15 empirical investigations across different industries and sectors.

Moving on, a range of other constructs have been used in the services industries (Ifie, 2014); Kelley, 1992). Some of the researchers in the area have also been looking at the consequences of CO (Ha and John, 2010; Homburg and Stock, 2005; Sussking et al., 2003, and so forth); while providing a good description of the notion, these publications do not provide a multidimensional framework for COSE, and the model by Henning-Thurau and Thurau (2003) remains the most impactful model to describe the notion within a range of relationships and influences (Morales and Ruiz-Alba, 2019).

Research Proposition 3

In this study, COSE was identified as one of the key variables affecting customer orientation within the ideation processes, based on the publications by Morales and Ruiz-Alba (2019), Henning-Thurau and Thurau (2003), and Henning-Thurau (2004). The authors have highlighted the impact of COSE on customer orientation. Based on the review of the literature and the proposed characteristics of COI, the following research proposition has been made:

Research Proposition 3: COSE can facilitate COI.

Interfunctional Coordination

Interfunctional Coordination (IC) is considered to be among the key constructs within the market orientation (Narver and Slater, 1990), which is a higher-level construct and can be described as "a dynamic capability based on its role in acquiring and using market knowledge and deploying firm resources to create value for both the customers and the company itself" (Ruiz-Alba et al., 2019). Market orientation has been in the centre of the research in the domain starting from the 1990s and was linked to the firms' overall profitability (Kohli and Jaworski, 1990; Narver and Slater, 1990).

IC is named among the three main pillars with a behavioural component that are said to support market orientation, together with customer orientation and competitor orientation (Narver and Slater, 1990), with the latter two notions being broadly investigated by the researchers. IC, in turn, has not received the same amount of attention, despite its importance and a tendency to adopt a multifunctional approach to marketing (Lambert and Enz, 2012; Ruiz-Alba et al, 2019). Wooldridge and Minsky (2002) have proposed companies with the highest IC have the highest performance.

Kohli and Jaworski (1990) have also contributed to the conceptualization of market orientation by highlighting the key three activities: generation of market intelligence, intelligence dissemination and response to intelligence. The authors have considered IC as an antecedent to market orientation. Based on the existing academic knowledge, IC can be described as harmonization of all internal functions and processes in a company (Kanovska and Tomaskova, 2012), and refers to the degree of cooperation between the different functions or departments within the organization (Tay and Tay, 2007). Moving on, IC has been described as consisting of two parts: corporate culture and information coordination. Regarding the elements of IC, sharing information has been named as an important component, as well as formulating and implementing strategies, and developing business plans (Deng and Dart, 1994; Altinay, 2010).

For example, researchers have been looking at the coordination of the sales and marketing departments and concluded that open communication and information exchange is linked to increased effectiveness of the firm and overall enhanced business performance (Arnett and

Wittmann, 2014; Rouziès et al., 2005). The departments of IT, sales and marketing are said to be working more closely together (Payne and Frow, 2005), and the discontent can lead to poor performance. But the IC research should not be limited to the aforementioned functions and should be extended to other business units to be more inclusive and representative (Lambert and Enz, 2012).

Some of the seminal publications on the subject have named IC among the barriers to achieving market orientation (Slater and Narver, 1995; Harris, 1996; Lafferty and Hult, 2001, and so forth). The barrier has also been divided into two groups: firm culture and information coordination, with sub-groups accordingly (Tomaskova, 2009), as can be seen in the figure below.

Figure 3. Interfunctional coordination connected barriers (Tomaskowa, 2009).
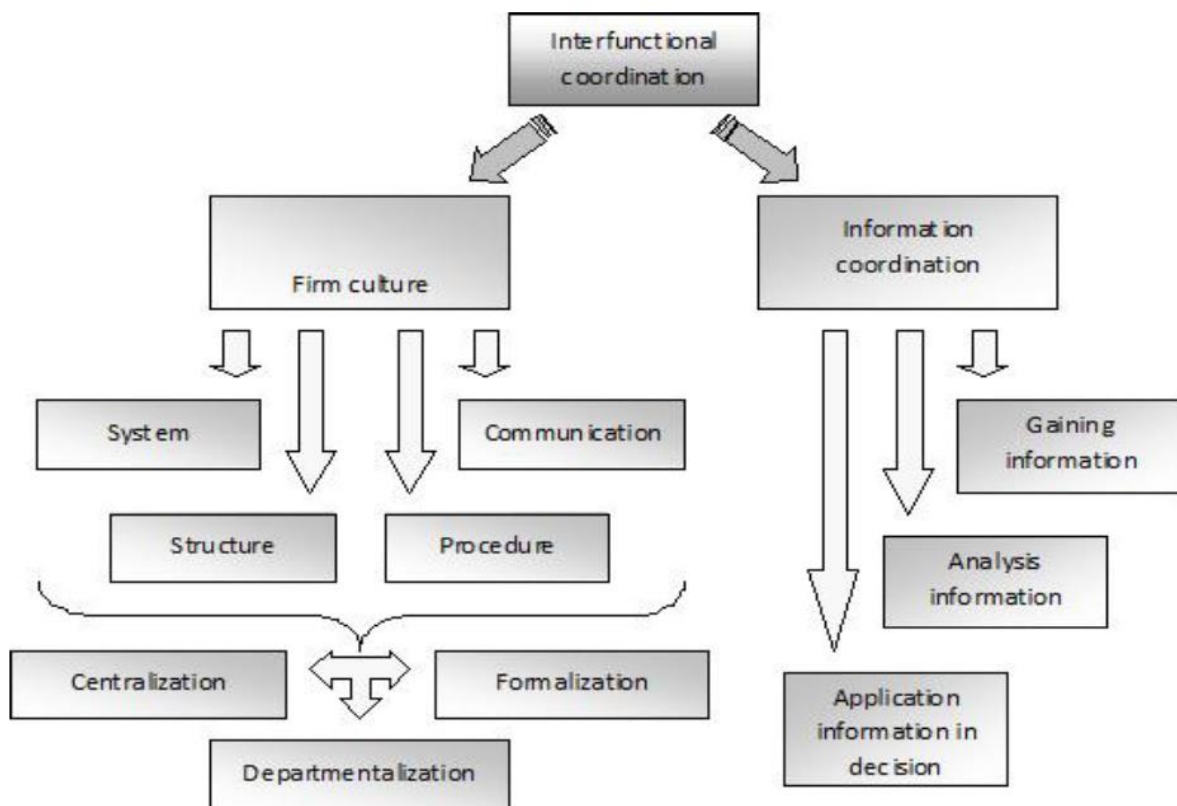
According to Tay and Tay (2007), there are several ways to achieve effective IC:

- Customer orientation, when every unit within the company is aimed at providing superior customer service.
- Establishing interfunctional dependencies, which helps each business unit benefit from closer cooperation.
- Interfunctional cooperation, when it's deeply embedded in the corporate culture and includes responsiveness to every department of the company, their needs and wants.

It has been observed that the impact of IC within the NSD processes is strong, as it facilitates meeting customer needs through effective deployment of customer information sourced from the different business units, allowing aligning objectives and establishing communication between the business units. It facilitates creating the information sharing culture and drive within the organisation and foster knowledge sharing. IC drives organisations forward, helping to accommodate the different interests and to disseminate and consume the required information about the customers. Further, IC has been previously observed for its mediating role in the relationships leading to improved innovation and adoption, bringing the functions of the business together and helping to form improved organisational intelligence (Lin et al., 2019). Previous research in the B2B sector has identified that IC facilitates the co-creation processes, hence leading to more profitable buyer-seller relationships (Lambert and Enz, 2012). It has also been observed that IC have a positive impact on the implementation of organizational change and the role of manager in coordinating business processes and responding to change (Kennedy et al., 2003; Ruiz-Alba et al., 2019; Tsai et al., 2017).

Research Propositions 4 (a, b, and c)

Based on the review of the key developments in the area of IC, and having its strong impact on the coordination, communication and information exchange between the different units of the business, the following research propositions have been made:

Research Propositions 4a: IC can moderate the relationship between COSE and COI.

Research Propositions 4b: IC can moderate the relationship between VoC and COI.

Research Propositions 4c: IC can moderate the relationship between BD and COI.

Based on the Research Propositions outlined from the literature review, the relationships that have been observed and investigated by the academics and supported by acknowledged publications, the author has suggested the conceptual model summarising these relationships and putting together a rigid structure describing how the key notions perform and interlink with each other, as well as the consequences this leads to.

Innovation Adoption

Establishing a new solution in the current competitive market environment can be challenging, which is why primary research aimed to understand customers has become so important. For decades, researchers have been investigating success stories and failures within new product and solutions launches to find what makes customers adopt innovation. Still, academia is yet to answer this question (Rogers, 2003, p.7):

> "Many technologists think that advantageous innovations will sell themselves, that the obvious benefits of a new idea will be widely realized by potential adopters, and that the innovation will therefore diffuse rapidly. Unfortunately, this is very seldom the case. Most innovations, in fact, diffuse at a surprisingly slow rate."

The market research methods have been used extensively as the common practice to obtain insights into customers' behaviours, attitudes and perceptions towards innovation, as well as their purchase intent. Though, there are some drawbacks of this approach – the customers that express their intent to adopt the new solution, in many cases do not actually rush to be among the first consumers.

In the last decades, a large body of literature has been developed within the domain of marketing that shed light on innovation adoption (Hauser et al., 2006; Rogers, 2003). But only recently have researchers started observing the differences between the customer adoption levels across the different stages of the adoption process (e.g., Alexander et al., 2008; Wood and Moreau, 2006). It has also been pointed out that further research on the antecedents of the consumer adoption will be highly beneficial to form a better understanding of the notion (Arts et al., 2011).

One of the most cited definitions of the innovation adoption is by Rogers (2003), which describes it as consumers' decision to make full use of innovation. This definition is built around purchase behaviour, but across other academic sources both purchase intention and behaviour have been used to explain adoption. From the theoretical perspective, a range of angles has been used to provide a better explanation for consumer innovation adoption, mainly focused on the Roger's innovation diffusion theory (2003), but also the Technology Acceptance Model (Davis, 1989), the

Theory of Reasoned Action (Fishbein and Ajzen, 1975) or the Theory of Planned Behaviour (Ajzen, 1985).

Further, Arts et al. (2011) have specified the differentiation between the adoption intention and adoption behaviour. Adoption intention refers to customers' expressed willingness to purchase a new solution in the nearest future. Adoption behaviour, on the other hand, is used to describe the trial purchase of an innovation (Rogers, 2003). Previous research on customer adoption has mainly been focused on the customers that have already made the purchase, as opposed to the non-adopters with ranging adoption intentions and those who have low or no awareness of an innovation (Arts et al., 2011). Some of the key drivers of innovation adoption as commonly described in the innovation literature are characteristics of the (potential) adopter and perceived characteristics of an innovation. A lot of researchers have been looking into the consumer traits that make them more likely to make a purchase, hence why there is a large number of adoption characteristics variables. Adopter characteristics can be defined as those characteristics that represent the personal traits of the (potential) adopter of an innovation, usually segmented into demographic and psychographic traits.

The academic knowledge to date has identified and used a wide range of socio-demographic variables to explain innovation adoption (Gatignon and Robertson, 1985; Rogers, 2003; Tornatzky and Klein, 1982). Some of the most common demographic variables include age, level of education, income, household size, gender, and family lifecycle. The psychographics most commonly used to describe adopters include innovativeness, opinion leadership, media savviness and involvement. Some of the less frequently used characteristics within the psychographic portrayal are price consciousness, brand familiarity, self-confidence, and dogmatist (Art et al., 2011). Further, innovation characteristics are defined as attributes consumers use to evaluate innovation. In the majority of academic publications on the subject, the innovation characteristics are represented by consumers' perceptions of the relative advantage, compatibility, complexity, trialability, observability, and uncertainty of risk of the innovation (Rogers, 2003; Hoeffler, 2003; Ostlund, 1974).

To further explain customer adoption, Hall (1974) have put together a Concerns Based Adoption Model, which summarises the eight discrete levels of use of an innovation that a customer can showcase. The levels proposed by the authors range from a complete lack of awareness about the innovation, to an active, sophisticated and highly effective use of it, and to active searching for superseding innovation. The authors have also introduced the levels of use dimensions that describe the various behaviours of the users of innovation – from orienting, to managing and integrating the use of innovation. Hall (1974) have also pointed out that before the actual use of the innovation, the (potential) customers first familiarise themselves with the innovation and increase knowledge about it. The first use experience is usually disjointed and use management issues may appear. The advanced levels of use are not achieved just via repeated use of an innovation in several cycles – experience makes a user more prone to achieve sophistication but is not always sufficient.

While the body of literature on the adopter characteristics and the customer side of adoption is extensive, studies on innovation adoption on an organizational level are scarce (Damanpour and Schneider, 2009). Some of the key publications on the subject have been examining the antecedents and consequences of the adoption of innovation in organizations (Boyne et al., 2003; Osborne and Gaebler 1992; Tidd et al., 1997; Walker, 2004).

One of the prominent publications looking at explaining innovation adoption on organizational level by Damanpour and Schneider (2009) has proposed a conceptual framework, explaining the association between the innovation characteristics and innovation adoption. The authors have suggested that in addition to internal and external factors (e.g., size and workforce unionization, and population growth and economic health, accordingly), the characteristics of an innovation (cost, complexity, relative advantage, or impact) also influence innovation adoption. Further, the authors have posited that due to the impact managers and leaders have on encouraging innovation on an organizational level, manager's characteristics are also influencing adoption (see the conceptual framework below).

Figure 4. Conceptual model (Damanpour and Schneider, 2009, p.496).
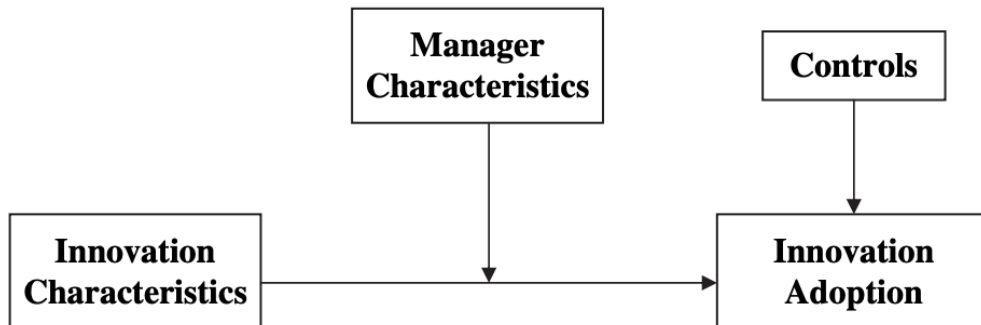
To summarise, despite customer adoption being a well-researched domain, there are very little studies looking at the corporate processes and linking them to increased customer adoption of a new solution, which highlights a clear research gap for the project carried out in this paper.

Research Proposition 5

Building on the conceptual model by Damanpour and Schneider (2009) that highlights the importance of the innovation characteristics for IA, it is proposed that incorporating COI into the NSD processes has a positive impact on adoption. This study suggests that based on the discussed traits of COI it can be considered a substantial characteristic of an innovation, hence impacting IA. On this ground, the following research proposition has been made:

Research Proposition 5: COI can have a positive impact on IA (Innovation Adoption).

Findings and Discussion

The key variables of the suggested conceptual framework have been identified and further refined and summarized via the extensive literature review presented in the previous section of the paper. The literature review allowed identifying the interrelations between the notions, and the consequences of those relationships, which were further interpreted in the conceptual framework. The authors have adopted some of the variables previously used in the frameworks by Damanpour and Schneider (2009) and Nordin and Kowalkowski (2010), adapted them based on the literature review and presented the new conceptual 3-D framework incorporating those notions and the newly introduced notion of the COI based on the up-to-date research reviewed in the previous section of the paper.

Conceptual Framework

The integrative conceptual framework highlights the key variables within the process of ideation for the creation of new solutions on three levels (customer, employee, and firm levels) and proposes the key moderator (IC) that regulates the relationships within the framework. It expands on the existing literature on customer orientation, ideation and customer innovation adoption in the services industry and proposes an explicit vision of the processes leading to customer adoption of new solutions. The framework also introduces the novel topic of Customer Oriented Ideation (COI) and, by incorporating it within the framework, outlines and explains the relationships it has and the impact it has on the business.

Using the research propositions, the following integrative conceptual 3D-model has been developed. The suggested model is complementary to the solutions framework proposed by Nordin and Kowalkowski (2010) and featured previously and is expanding on the antecedents of solutions and the outcomes of solutions variables. In more detail, the suggested model improves the solutions model (2010) on three levels:

- **Antecedents level (internal).** The solutions model does not mention IC within the antecedents of solutions on an internal level, while based on this research it acts as the key

moderator facilitating successful solutions development. The internal antecedents are presented on a descriptive level, and the model proposed in this research helps to further refine the parameters and elaborates on the impact of IC on the process, specifying the relations it moderates.

- **Antecedents level (external).** The suggested framework provides further development of the external antecedents of solutions by integrating the notions of VoC, BD and COI accordingly to better explain the customer's needs and wants from the solutions framework (2010). The proposed model, using the notion of COI, is strengthening and structuring the ways of embedding and taking advantage of the customer data into the solutions development, and using its full potential to understand and meet customers' problems and demands.

- **Outcomes of solutions.** The solutions framework (2010) describes the outcomes of solutions as solved customer problems, better or easier life of customers, and value for supplier/customer. Another dimension that is suggested to include among the outcomes of solutions originating from the proposed theoretical framework is the customer adoption, which is facilitated by COI. It explains the 'solved customer problems' variable, as those solved problems would mean the customers are using the solutions, which leads to increased adoption.

Further, the conceptual framework proposed in this study is also complementary to the conceptual framework by Damanpour and Schneider (2009), previously referenced in this paper, that has observed the organizational level influences on innovation adoption. The framework suggested in this study has a two-fold contribution to the model by Damapour and Schneider (2009):

- **On an organizational level**, introducing Interfunctional Coordination between business units, teams and managers as a moderating factor facilitating adoption.

- **On an employee level**, incorporating customer knowledge of employees (including managers) via BD and VoC as a variable impacting adoption.

Figure 5. The COI conceptual framework (Authors Own, 2020).
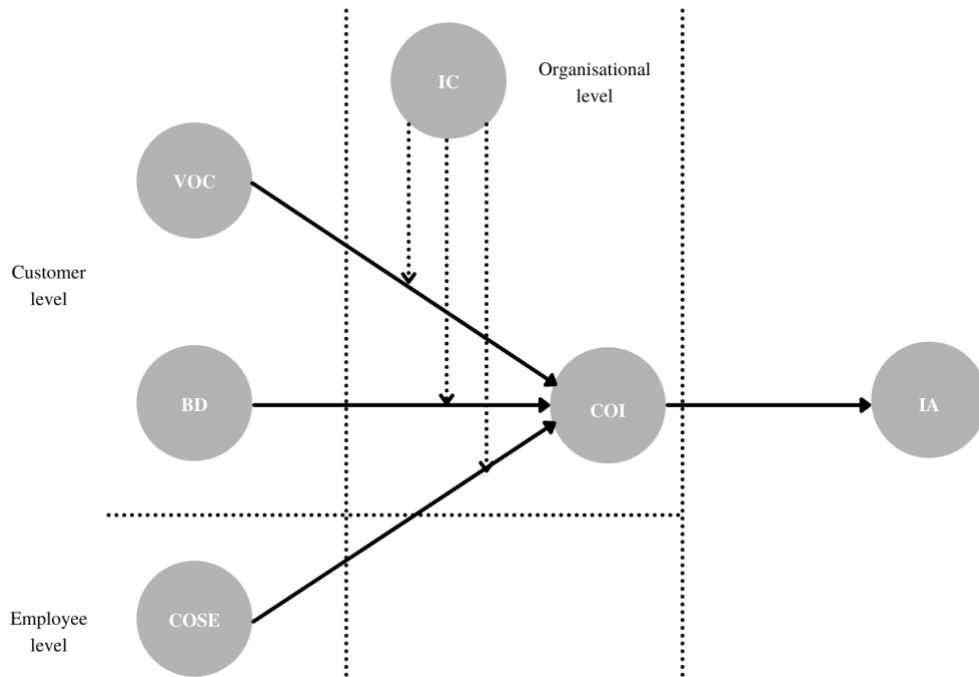
According to the author's observations and on the basis of the analysed secondary research, the following relationships can be observed within the NSD processes, summarised as follows:

- COI is the notion describing the incorporation of the customer data in the ideation processes and the strong customer focus of an organization at the ideation stage across the NSD initiatives.
- VoC can facilitate COI, providing the qualitative information on the customer's perceptions, wants and need.
- BD can facilitate COI, acting as a source of objective quantitative data reflecting customer behaviour (i.e., usage data).
- COSE can have a positive impact on COI, meaning that when the employees across the different departments of the company are customer oriented, such corporate ethos results in more customer-oriented ideation activities.

- COI can facilitate IA, as the solutions developed with an orientation on customers and basing the decisions on the customers' insights, are said to be better adopted by the customers.

Regarding the moderators, IC has been notably aiding all the key relationships outlined in the model:

- IC can moderate the relationships between VoC and COI, and BD and COI.
- IC can moderate the relationship between COSE and COI.

Conclusions

Based on the observations of the secondary data analysis and the research propositions formulated accordingly, a theoretical framework describing the impact of ideation within the solutions development process has been proposed in this study. The study has also introduced the notion of COI – Customer Oriented Ideation, which is a critical component of the NSD processes across the different organisations and sits in the very centre of the proposed theoretical framework.

The newly introduced notion of COI can be defined as a practice of generating, analysing, interpreting and incorporating a wide range of customer data at the ideation stage of NSD projects. It is also suggested that as a continuation and logical development of the market-oriented ideation notion, COI encompasses its key qualities therefore leading to the success of the new solutions in the market.

The findings from the literature review that have been summarised by the author and used as a basis of the theoretical framework are presented below:

- COI is the notion describing the incorporation of the customer data in the ideation processes and the strong customer focus of an organization at the ideation stage across the NSD initiatives.
- VoC can facilitate COI, providing the qualitative information on the customer's perceptions, wants and need.
- BD can facilitate COI, acting as a source of objective quantitative data reflecting customer behaviour (i.e., usage data).
- COSE can have a positive impact on COI, meaning that when the employees across the different departments of the company are customer oriented, such corporate ethos results in more customer-oriented ideation activities.
- COI can facilitate IA, as the solutions developed with an orientation on customers and basing the decisions on the customers' insights, are said to be better adopted by the customers.

Regarding the moderators, IC has been notably aiding all the key relationships outlined in the model:

- IC can moderate the relationships between VoC and COI, and BD and COI.
- IC can moderate the relationships between COSE and COI.

Contributions

While it is acknowledged that the areas of innovation adoption, NSD and ideation have been well-researched, there is still room for contribution and more up-to-date research projects to contribute to the existing body of literature. The contribution of this research project is two-fold: it's beneficial on both academic and practitioner levels.

Academic Contributions

On an academic level, the expected contributions sit within the development of the novel notion of COI, built on the successful work by Cooper and his notion of market-oriented ideation.

Further, in this study COI has also been incorporated into a conceptual model, which was built on the key premises of the work by Nordin and Kowalkowski (2010) and Damanpour and Schneider (2009). The model describes both the key variables within the new solutions developments process and the ideation stage in particular, and the relationships of those notions. The framework posits the key moderator regulating those relationships, IC in particular, between the different business units involved in or contributing to new solutions developments processes. From the theoretical perspective, the notion of COI and the suggested theoretical framework is aimed to contribute to the Customer-Dominant Logic, with the COI facilitating customer orientation within the company strategy.

Managerial Contributions

On the practitioner level, the conceptual framework proposed in this study can provide a practical guide to those involved in the new solutions development process. The several contributions this project can offer to the Product Owners and Managers in the SaaS industry are as follows. Firstly, the conceptual framework outlines the key relationships within the business processes that can facilitate customer adoption, so, when practically applied, this model could be beneficial for

developing better products that meet customer needs and wants. Secondly, the notion of COI introduced in this research, highlights the impact of customer focus across the different departments within the business and can bring to light the impact it has on the future adoption of the solution. And, lastly, the moderating factor of IC proposed in this study, can be consequential for companies to incorporate in the NSD processes to achieve better outcomes and drive a more customer-focused culture business-wide, facilitating the process of open learning and knowledge exchange.

Limitations and Further Research

Based on the characteristics of the study and the research carried out to support it, a number of limitations has been identified. Most of those limitations are due to the conceptual format of the research, and even though a range of primary data collection activities has been implemented to support the research propositions, a more in-depth qualitative and quantitative analysis can be considered beneficial to support the key premises of the theoretical framework.

To further develop this research area, future research can focus on investigating the notion of COI and the impact of the proposed conceptual framework in the SaaS industry of the services sector and in other related services. The novel notion of COI and the new perspective of the relationships within the ideation process focused on the customer could benefit from further empirical testing and validation, in both qualitative and quantitative manner. The qualitative route will help outline further dimensions and characteristics of COI via further interviews and focus groups with the "product people" – product owners (POs) and product managers in SaaS industry and NSD teams and professionals in other services industries, where applicable. The quantitative methodology can be used to collect data on the customer perceptions and generate proof of validity of the proposed relationships and their strength. A questionnaire needs to be developed for the infolding of the third study in order to collect quantitative data on a larger scale across a wider selection of industries, to answer the RQs of the third study.

To summarise, this research can serve as a basis for a multitude of future research projects and attempts. The projects can be looking into the notion of COI and its practical application across industries and businesses to define its characteristics, features and dimensions. The theoretical framework presented in this study could be applied in related investigations in the areas of ideation, NSD and customer adoption, and also as a subject of future improvements and developments.

Chapter 3. Adopting Customer Oriented Ideation in the Professional Environment. A Case of the SaaS Industry (Study 2)

Study 2.1: Semi-Structured Interviews

Introduction

Study 2.1 is focused on the theoretical framework developed in the first study and has as its goal to further examine and explain the notion of COI, as well as to investigate the relationships outlined in the conceptual model. Based on the limitations outlined in the conclusions of the first study and the suggestions for future research, Study 2.1 is looking to bridge the described gaps and provide the evidence to support the propositions of the first study. The two studies are connected, with Study 2.1 being a logical continuation of the first one, creating an integrated research project aimed to link the gaps in the literature on ideation, customer focus in NSD and customer adoption.

To then investigate the variables and analyse the suggested relations from the first study, a series of in-depth interviews have been carried out to further investigate the conceptual framework and cross-check it against the experience of the product managers and teams.

Qualitative interviewing has been acknowledged as one of the most recognized methods in the social sciences (King, Horrocks and Brooks, 2019); further, qualitative research is known to have made a substantial contribution to theory building in the marketing and management literature (Eisenhardt, 1989; Weick, 1989; Yin, 1989, 1994). The choice research design is based on the need to provide a deep understanding of the newly introduced notion of COI and investigate the variable within the conceptual model proposed the proposed in the first study. Using semi-structured intensive interviewing the author aimed to provide a more detailed understanding of the notion of COI and its practical application in the NSD practice.

Research Questions and Objectives

The key goal of the Study 2.1 is, following the suggestions made in the limitations section of the first study, to bridge the gaps outlined predominantly from the methodology perspective, with the first study being built around the conceptual approach. In particular, the Study 2.1 is focused on a further examination of the notion of COI in the professional environment in order to provide qualitative validation of the notion and its applicability in the business world. Further on, the Study 2.1 will be testing the relationships between the notions suggested in the conceptual model in the first study to provide the qualitative proof of validity the aforementioned, also looking into identifying any additional dimensions or angles that can be added to the framework to ensure that it reflects the current state-of-art in the industry precisely.

Thus, based on the limitations outlined in the conclusions of the first study and the suggestions for future research, the Study 2.1 is looking to bridge the gaps and provide the evidence to support the propositions of the first study in a qualitative manner.

With the objective to address the outlined goals of this investigation, the research questions (RQ) are as follows:

- RQ 4: What is the most accurate definition of COI and what are the elements, levels and characteristics of the notion?

- RQ 5: Is the notion of COI facilitated by the notions of BD, VoC and COSE?

- RQ 6: Does IC act as a moderator of the following relationships:
    - RQ 6a: VoC and COI;
    - RQ 6b: BD and COI;
    - RQ 6c: COSE and COI.

- RQ 7: Does the notion of COI have a positive impact on IA of the new solutions?

In order to answer the RQ proposed above, the following research objectives of the second study have been formulated:

1. To investigate the notion of COI in the professional environment, collect data on the opinions supporting the notions (or contrary, if applicable), and summarise the definition of the notion, its elements, levels, characteristics, facilitators, moderators and the consequences of applying this approach in the NSD process.

2. To interview the experts in the industry, and via open, semi-structured conversations reveal how COI is applied in the day-to-day practice of the NSD practitioners, how it affects their work and the future go-to-market of the newly introduced solutions.

3. To investigate whether there are any additional dimensions or angles that can be added to the framework based on the conversations with the industry practitioners.

4. To elaborate more on the relationships between the notions in the conceptual framework and test the framework in the professional environments.

5. To outline the contributions to both academia and industry.

In the next section of this paper, an outline of the research methodology is provided, with the aim to meet the aforementioned research questions and objectives.

Methodology

Qualitative Investigation

The investigation described in this study is to be implemented with the help of the qualitative research methodology. In order to formulate the research method that meets the objectives of this research in the most precise manner, existing academic data has been scrutinized. As comes from the inquiry, the majority of research in the area has been carried out with the help of the tools and practices available for the qualitative investigations. In addition to that, the important feature of the proposed method is its capability to highlight the experiences of the research participants.

The qualitative methodology is known for its rigorous contribution to theory building in business studies and management. Qualitative research is also known for opening the 'black box' of the organizational processes, providing the valuable insights into how, who and why these processes are ran and with what outcomes. This methodology allows providing in-depth descriptions of the processes, allowing to avoid the limitations of the single-lens theoretical view on the problem. This research design is highly relevant to the suggested study as it allows providing the definitions of notions and outlining its relationships with other phenomena (Doz, 2012, p.584):

> "First, by providing rich, thick descriptions of real phenomena and action instances (or streams) they stimulate deeper thought (Weick, 2007). They provide a safeguard against the "seeing what you are already believing" risk of semi-structured empirical research and allow richer and stronger conceptualization. New theory is shaped progressively, in the mind of the researcher, over time, in an iterative "constant comparison" and recursive interplay between rich data and emerging conceptual insights that can be related to existing theories and also allow one to create new theoretical insights. They provide the substance of the disciplined imagination process so central to theory building (Weick, 1989).

The proposed research design is built around the strong sides of the semi-structured interviews methodology, in this case aiming to get the valuable insights into the day-to-day routine of the involved stakeholders.

- Semi-structured interviews have been chosen based on the previous research experiences in the related areas – they have proven to be facilitative to provide valuable insights via communicating with the stakeholders of the process and to contribute to an in-depth understanding of the studied phenomenon (Brinkmann, 2014; Chaurasia and Rosin, 2017; Drever, 1995; Harrell & Bradley, 2009).

- This type of interviews is also seen to be applicable to describe constructs and notions, as well as to highlight the relations between those notions, which is relevant to the objectives of the described study (Gill et al., 2008). Another component of the semi-structured interview approach is the flexibility that it provides to the researcher: "Semi-structured interviews consist of several key questions that help to define the areas to be explored, but also allows the interviewer or interviewee to diverge in order to pursue an idea or response in more detail" – Gill et al., (2008, p.291).

Another technique that has been applied in this study is intensive interviewing, which has been considered among the most useful data collection methods in a wide range of qualitative research types. Intensive interviewing can be described as directed conversation (Lofland & Lofland, 1984, 1995), which allows an in-depth exploration of a particular topic or experience. The main difference of intensive interviewing compared to other forms of interviewing (i.e., informational interviewing) is that it fosters elaboration on the experience of each individual participant. In this case the interviewer aims to create an understanding of the interview participants' experience on the relevant subject by asking them to address question on their everyday life and reflect upon the common occurrences in their practice (Fontana & Frey, 1994; Seidman, 1997). In this scenario the interviewer acts as an observer, encouraging the research participant to respond, while the interviewee does most of the talking in the conversation (Charmaz, 2006).

Regarding the questioning strategy, within the intensive interviewing method it has been advised to incorporate a few broad, open-ended questions, aimed to focus the interview questions to invite

the detailed discussion of the topic. Using open-ended, non-judgemental questions facilitates an open, thought-provoking conversation, leading to unanticipated statements and stories that might emerge throughout the interview (Charmaz, 2006). The important objective of the questioning strategy for intensive interviewing is reinforcing the balance between open-ended questions and focusing on significant questions. The intensive interview may consist of loosely guided exploration topics and semi-structured focused questions; its main characteristic is the specific etiquette it follows (Charmaz, 2006, p.26):

> "The researcher should express interest and want to know more. What might be rude to ask or be glossed over in friendly agreement in ordinary conversation-even with intimates-becomes grist for exploration. Research participants often expect their interviewers to ask questions that invite reflections about the topic. […] In your role as an interviewer, your comments and questions help the research participant to articulate his or her intentions and meanings. As the interview proceeds, you may request clarifying details to obtain accurate information and to learn about the research participant's experiences and reflections. Unlike ordinary conversation, an interviewer can shift the conversation and follow hunches. An interview goes beneath the surface of ordinary conversation and examines earlier events, views, and feelings afresh".

Some of the undoubtable benefits of intensive interviewing are outlined below (Charmaz, 2006, p.26):

- Intensive interviewing allows the researcher to go beneath the surface of the described experience(s).
- Stop to explore a statement or topic.
- Request more detail or explanation.
- Ask about the participant's thoughts, feelings, and actions.
- Keep the participant on the subject.
- Come back to an earlier point.
- Restate the participant's point to check for accuracy.
- Slow or quicken the pace.

- Shift the immediate topic.

- Validate the participant's humanity, perspective, or action.

- Use observational and social skills to further the discussion.

- Respect the participant and express appreciation for participating.

There is also a range of the benefits from the research participant's perspective, with the intensive interviewing questioning strategy allowing them to follow a more conversational tone, focus on what they think is important and deep dive into their experiences (Charmaz, 2006, p.26):

- When intensive interviewing is used, the research participants can break silences and express their views.

- Tell their stories and to give them a coherent frame.

- Reflect on earlier events.

- Be experts.

- Choose what to tell and how to tell it.

- Share significant experiences and teach the interviewer how to interpret them.

- Express thoughts and feelings disallowed in other relationships and settings.

- Receive affirmation and understanding.

The above description of the research methodology provides an explicit understanding of the relevance of the chosen methods to the purposes of the study and the research objectives. Using the combination of intensive interviewing and classis semi-structured interviews would allow to answer the research questions and generate in-depth insights in order to validate the proposed theoretical framework. The researcher has complied with the Covid-19 restrictions and the social distancing policy in the UK by carrying out the interviews via video conferencing on Zoom.

Questioning Strategy

To meet the goals of the research project and answer the research questions, the following questioning strategy has been formulated, in accordance with the intensive interviewing and semi-structured interviews frameworks/approaches.

Table 8. Questioning strategy (Authors Own, 2020).

	Interview Question	Research Question
	Initial Opening Question	
1	Could you please start by briefly telling me about your role and the things you do on a day-to-day basis?	Exploration: break-the-ice question, used to set up the tone of the conversation
	Intermediate Questions	
2	Would you say you are customer-oriented in your work?	Exploration
3	How is this customer orientation projected on your day-to-day work?	Exploration
4	Can you please elaborate on the following statement: Customer orientation helps me generate new solutions ideas?	RQ 4
5	What are the different types of customer information you use in your work?	RQ 5
6	Can you please describe the methodologies you use to source this information?	RQ 5

7	How exactly do you use the information about your audience and customers when you are developing your product ideas?	RQ 4 and 5
8	Can you please elaborate on the following statement: Big Data helps me generate new solutions ideas?	RQ 5
9	Do you use Voice of Customers in your ideation work? Please elaborate.	RQ 5
10	Does the Voice of Customers help you generate new solutions ideas?	RQ 5
11	Would you say that employees' and team members' customer focus help generate new solutions ideas?	RQ 5
12	[Introduce COI] Is the notion of COI something you have observed in your day-to-day practice? Please elaborate on your experience.	RQ 4
13	What, if anything, did you know about COI?	RQ 4
14	What impact does COI have on customer adoption of the new solutions (or, innovation adoption)?	RQ 7
15	Would you say you have observed an improved customer adoption of the new solutions when using customer data while working on the new ideas? Please describe the impact it had based on your experience.	RQ 7
16	Do you think that coordination between the different departments in your company has facilitated your work of generating new product ideas?	RQ 6

	Ending Questions	
17	After having the experiences of using COI, what advice would you give to someone who has just discovered this phenomenon?	RQ 4
18	Is there anything else you think I should know to understand COI better?	Exploration
19	Is there anything you would like to ask me?	Closing question

As can be seen in the detailed description of the questioning strategy, some of the questions overlap intentionally to gain more information. The researcher has also allowed for follow-up questions when some important topics were mentioned in order to deep dive into some of the highly relevant insights from the research participants experience, following the strategy and guidance for intensive interviewing (Charmaz, 2006).

The interviews were planned to be carried out in person, but due to the restrictions implemented in the UK as a consequence of the Covid-19 virus spread and the social distancing and isolation of the UK population, the interviews were carried out online, via Zoom online video conferencing service. The interviews were recorded in order for the researcher to gain full attention to the research participant. Notes have also been taken during the interview and used to remind on the earlier points and suggest how to frame the follow-up questions.

Research Sample

Sampling is among the key practices in the qualitative research (Robinson, 2014). In the majority of cases, the sample in the qualitative methods is smaller, than the one used in quantitative methods

(Dworkin, 2012). This is since the main objective of the qualitative research is collecting in-depth insights into the phenomenon (Dworkin, 2012, p.1320):

> "[…] qualitative research methods are often concerned with garnering an in-depth understanding of a phenomenon or are focused on meaning (and heterogeneities in meaning) - which are often cantered on the how and why of a particular issue, process, situation, subculture, scene or set of social interactions."

The study described has been carried out using semi-structured interviews, which is among the methods that have as their primary focus providing detailed explanation and understanding of a notion, issue, process, and so forth, and is not concerned with making generalizations to a larger population; it also does not rely on hypothesis testing and is "more inductive and emergent in its process" (Dworkin, 2012). Charmaz (2006) has also emphasized on the importance of triangulation and assessing the collected data to evaluate whether it is rich enough to answer the research questions. The below questions have been suggested by Charmaz (2006, 18) as a checklist for researchers to help evaluate the data. This checklist has been performed by the research in order to ensure the data collected is liaised with the best practices in the field.

- "Have I collected enough background data about persons, processes, and settings to have ready recall and to understand and portray the full range of contexts of the study?
- Have I gained detailed descriptions of a range of participants' views and actions?
- Do the data reveal what lies beneath the surface?
- Are the data sufficient to reveal changes over time?
- Have I gained multiple views of the participants' range of actions?
- Have I gathered data that enable me to develop analytic categories?
- What kinds of comparisons can I make between data? How do these comparisons generate and inform my ideas?"

As highlighted by Robinson (2014), there are four steps that need to be carried out in order to set up a rigid sampling framework:

1. Setting the sample universe;
2. Selecting a sample size;
3. Devising a sample strategy;
4. Sample sourcing.

The researcher has followed the aforementioned steps in order to come up with the sampling strategy for this research project, as explained below in more detail.

Setting a Sample Universe

The first step in the four-step approach is identifying the sample universe (also referred to as 'study population' or 'target population'). This consists of the total number of people whose cases may legitimately be sampled for an interview study; where the delineation of a sample universe being comprised by the set of inclusion and inclusion criteria (Luborsky and Rubinstein, 1995; Patton, 1990; Robinson, 2014, p.2):

> "Inclusion criteria should specify an attribute that cases must possess to qualify for the study (e.g., a study on domestic violence that specifies that participants must be women who have suffered partner violence that was reported to the police or social services), while exclusion criteria must stipulate attributes that disqualify a case from the study (e.g., a study on exercise that stipulates that participants must not be smokers). Together, these criteria draw a boundary around the sample universe."

For this study, the following inclusion criteria have been applied:

1. Research participants to be employed within the focus industry (see next chapter for more detail).
2. The company the research participants are employed in is to be highly involved in the NSD activities and is focused on constant innovation.
3. Research participants to be working specifically within the NSD function of a given company.

4. Research participants to be working within the NSD function for a reasonable time period in order to generate necessary insights on the research question (3+ years).

5. Research participants to be in a senior position to have an insightful view on the strategic approaches to NSD.

6. Research participants to be working directly with both strategy and practice of customer data collection for NSD activities.

Moving on, the following exclusion criteria have been applied to draw the boundaries around the sample universe:

1. Based on the preliminary conversations with the potential research participants those unwilling to elaborate on the suggested subject have been excluded.

2. Professionals employed within the desired sector, in the relevant job function but not having relevant experience to facilitate a better understanding of the key phenomena of the research (i.e., not dealing directly with customer data and insights), have been excluded based on the preliminary investigation.

LinkedIn professional network has been used to source the sampling universe. The researcher has incorporated the functions of the LinkedIn Prime account in order to apply the inclusion criteria to the search and come up with the list of the potential research participants, as can be seen in the figures above.

Figure 6. Appling the research inclusion criteria on LinkedIn Pro (Authors Own, 2020).
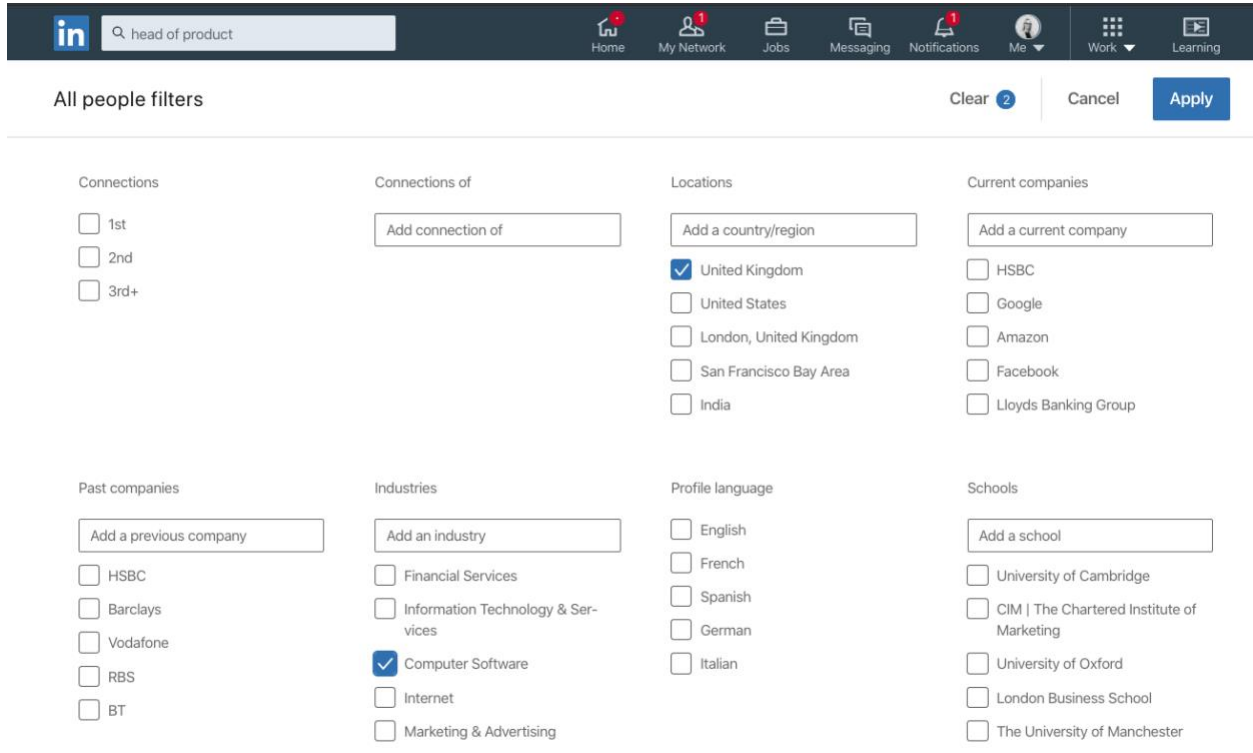
Some of the inclusion criteria were applied via LinkedIn Pro search filtering, others required the researcher to get in touch with the participants to find out more about their role and experience, and whether they would be willing to take part in the research.

Based on the search outcomes on LinkedIn the sample universe has been set at 11,000 total potential participants, which can be seen in the figure below:

Figure 7. The sample universe based on the LinkedIn Pro search outcomes (Authors Own, 2020). The names and avatars have been anonymised for the privacy purposes.

Deciding on the Sample Size

The intensive interviewing and semi-structured interview methodologies are best facilitated by the sample that is sufficiently small for individual cases to have a locatable voice within the study, and for the intensive analysis of each of the cases to be conducted (Robinson, 2014). Focusing on a smaller sample size range allows the researcher to develop cross-case generalities, while not being overloaded with data, and allows the individuals within the study to be given a defined identity.

Rather than remaining an anonymous part of the larger whole (Robinson and Smith, 2010). Based on the recommendation for the sample size for the intensive interviewing and semi-structured interview methodologies and keeping in mind the total number of the potential research participants from the sample universe, it has been decided to interview 20 people, that have passed the check of both the inclusion and the exclusion criteria. The firms' characteristics with the research participants details can be found in Table 9.

Regarding the sample saturation, which is the core principle used in qualitative research to determine whether the data collected is adequate to develop a robust and valid understanding of the phenomenon in question (Hennink and Kaiser, 2019), the author has used the pre-determined codes to re-ensure coherent data saturation. According to the researchers in the area (Walker, 2012; O'Reilly and Parker, 2013; van Manen et al. 2016) in the largely deductive approach the saturation refers to the extent the pre-determined codes or themes are represented in the data, which has been re-ensured in this project by projecting the coding framework (discussed in the next chapter) onto the collected data. Based on this analysis, the saturation of the data representation for the pre-set codes has been satisfactory.

Selecting the Sample Strategy

The next question to address after selecting the sample universe and identifying the approximate sample size is the strategy behind including the potential research participants in the final sample of the research project. Some of the strategic approaches that can be applied are random/convenience sampling and purposive sampling (Robinson, 2014). In this research project, due to the very specific nature of the research questions and the topical focus of the interview design, purposive sampling has been applied. Purposive strategy implies the use of the researchers a-priori technical knowledge of the subject to identify the certain categories of individuals that may have a "unique, different or important perspective on the phenomenon in question" (Robinson, 2014, p.7), and their perspective has to be taken into consideration and included in the research project (Mason, 2002; Trost, 1986). Some of the sampling methods used to carry out the purposive strategy are stratified, cell, quote and theoretical sampling.

For this study, the quota sampling strategy has been used. The process for this strategy is more flexible and allows setting out a series of categories and the minimum number of cases for each of the categories; as the sample is being gathered it is important to monitor whether the selected criteria are being met (Mason, 2012). For the study described in this paper, the following categories have been created:

1. At least 10 participants with 10 years of experience in the field;
2. At least 5 participants from the C-level of the organisation;
3. At least 5 participants from senior tier of the organisation;
4. At least 10 participants that are well-known and recognised as industry leaders and experts.

Sourcing the Sample

The final part of the sampling process is the hands-on part of the participants sourcing. In this study, direct LinkedIn outreach has been used to get in touch with the potential research participants, find out more about how relevant their experience and background is to the research project's objectives, and identify their willingness to take part in the research. The participant recruitment has been carried out by sending out a standard templatized outreach message and follow-up conversations, which helped to recruit 15 participants. The remaining five participants of the research project have been recruited via study advertising on the LinkedIn platform. The researcher has created an advertising message that was then published in the relevant professional networks. Other 10 research participants have engaged with the advertising message, and out of 10, five participants have matched the quota and the inclusion criteria. In total, 20 participants have been selected to take part in the research project, with the participant names anonymised as Participant A-T for the privacy reasons. The firms' characteristics with the research participants details can be found in the table below.

Table 9. Firms' characteristics and participant details (Study 2.1) (Authors Own, 2020).

Firms Characteristics		Participant Details					
Sector	Size	Age	Gender	Years of Experience	Years in the Company	Level	Department
IT/SaaS	SME	33	M	7	5	Middle	Product development
IT/SaaS	SME	45	M	12	6	Senior	Product development
IT/SaaS	SME	45	F	12	7	Senior	Product development
IT/SaaS	SME	34	F	10	5	Senior	Product development
IT/SaaS	SME	44	F	20	10	Management	Management
IT/SaaS	SME	39	F	10	5	Senior	Product development
IT/SaaS	SME	29	M	8	1	Middle	Product development
IT/SaaS	SME	44	M	19	2	Management	Product development
IT/SaaS	SME	47	M	22	5	Management	Management
IT/SaaS	SME	39	M	15	5	Senior	Product design
IT/SaaS	SME	48	M	20	10	Senior	Product design
IT/SaaS	SME	37	M	12	1	Senior	Marketing
IT/SaaS	Start-up	29	F	5	3	Middle	Product design

IT/SaaS	Start-up	40	M	15	4	Senior	Product design
IT/SaaS	Start-up	35	F	10	2	Middle	Product design
IT/SaaS	Start-up	28	F	5	5	Senior	Product design
IT/SaaS	Start-up	29	M	7	7	Senior	Marketing
IT/SaaS	Large corporation	60	M	30	10	Management	Product development
IT/SaaS	Large corporation	54	M	20	12	Senior	Product development
IT/SaaS	Large corporation	49	M	22	4	Senior	Product development

Research Industry Setting

Moving on, the research described has been implemented in range of companies and firms in the Software as a Service (SaaS) industry, via collecting data from the research participants working directly within the NSD functions and dealing with ideation and related notions on a day-to-day basis. The research is to focus on an individual level and is aimed to drive conclusions from the data collected directly from the participants and stakeholders involved in the NSD function. The second study has been executed within the SaaS industry. SaaS, which is a new business model enabled via Cloud and Cloud Computing, is defined as a software deployment model, where the software is provisioned via Internet as a service (Makila et al., 2010). The SaaS model services are not restricted to providing only software applications, but in many cases expand to consulting and business outsourcing. Software industry is extensively moving towards services and is growing by 40-50% annually (Makila et al., 2010; Pettey and Stevens, 2009). Because of the strong and ever-increasing market competition even traditional on-premise players are creating SaaS offerings.

Companies are striving to innovate to stay on top of the competition, and this is what makes the SaaS industry an appropriate context for this investigation. Further, as a maturing software business model (Churakova et al., 2010), SaaS has been described as having characteristics of an emerging market. That includes a high level of innovation through constant and consistent delivery of new features and frequent upgrades, giving all customers access to the latest version of service with the most recent customisations (Hai and Sakoda, 2009).

The SaaS industry has been chosen as an appropriate environment for this project due to the following characteristics:

- the model suggested in the first study has been developed on the basis of the current developments in the services industries with the focus on solutions development; SaaS, as one of the most modern developments in the computer software industry, combines both the solutions and the services component, which makes this industry highly relevant to test the proposed model (Mäkilä et al., 2020).
- IT industry in general and the SaaS segment in particular, being one of the most current trends in the industry, can be described as highly innovative (Kim et al., 2013; Hai and Sakoda, 2009), making it an appropriate setting to investigate the most modern approaches to solutions development.

Literature Review

Introduction to Software-as-a-Service

Cloud computing is one of the recent advancements in the world of technology that resulted in significant changes in the way software application are designed, built and delivered, as well as in the introduction of the novel business models (Bibi et al., 2012). The term cloud computing became popular in 2007, and is used to describe virtual servers, distributed hosting and shared resources available over Internet, hosted in large data centres. Among the advantages of cloud computing are the following: decreased cost, pay-as-you-go pricing models, quick time to market and overall

economy of scale. There are three key types of cloud systems solutions: software-as-a-service (SaaS), platform-as-a-service (PaaS) and infrastructure-as-a-service (IaaS). Speaking about the SaaS type of service, the consumer makes a paid subscription to some software, while all or some of the consumer's data and the managing code reside in the remote servers. And finally, IaaS delivers virtual machines on-demand to provide scalability to the running software (Bibi et al., 2012).

The SaaS segment is growing rapidly, with more and more companies switching to this operating model every year (Tyrväinen et al., 2010, p.116):

> "Globally, the period during which SaaS model became well known and popular was in the mid 2000s. In 2005 ID predicted that 10 percent of enterprise software markets would move to pure SaaS model by 2009. […] the SaaS industry is growing at 40-50 percent annually, the global SaaS market this year is estimated to be $6.6B, which is about three percent of total global software and related industry".

Software-as-a-Service has been gaining more and more recognition in the last decade, with an exceptional number of successful adoptions across the variety of industries. SaaS is a software application in the essence, is delivered vis Internet and is charged for on a per-unit basis. Among other characteristics of SaaS is that it contains valuable business data and logics which on many occasions are required to integrate with other applications deployed by a SaaS subscriber (Sun et al., 2007).

There is a plethora of definitions of the SaaS industry, with some of the key highlights presented in the table below.

Table 10. Definitions of SaaS (Authors Own, 2020).

Source	Definition
Hoch et al. (2001)	In the software as a service model, the application, or service, is deployed from a centralized data centre across a network - Internet, Intranet, LAN, or VPN - providing access and use on a recurring fee basis. Users "rent," "subscribe to," "are assigned", or "are granted access to" the applications from a central provider. Business models vary according to the level to which the software is streamlined, to lower price and increase efficiency, or value-added through customization to further improve digitized business processes.
Sääksjärvi et al. (2005)	Software as a Service is time and location independent online access to a remotely managed server application, that permits concurrent utilization of the same application installation by a large number of independent users (customers), offers attractive payment logic compared to the customer value received, and makes a continuous flow of new and innovative software possible.
Microsoft (2007)	Software as a service (SaaS, typically pronounced 'sass') is a model of software deployment whereby a provider licenses an application to customers for use as a service on demand. SaaS software vendors may host the application on their own web servers or upload the application to the consumer device, disabling it after use or after the on-demand contract expires. The on-demand function may be handled internally to share licenses within a firm or by a third-party application service provider (ASP) sharing licenses between firms.

Campbell-Kelly (2009)	In this form of computing, a customer runs software remotely, via the Internet, using the service provider's programs and computer infrastructure.
Choundhary (2007)	SaaS is different from traditional software licensing, which involves the buyer's purchasing a perpetual use license from the software publisher and then making additional investments for hardware, installation, and maintenance. In contrast, in the SaaS model, users buy a subscription to the software and the software publisher (seller) runs and maintains the software on his own hardware. Users with current subscriptions can obtain access to the software using the Internet.
Sun et al. (2007)	Software as a Service (SaaS) is a software delivery model, which provides customers access to business functionality remotely (usually over the internet) as a service. The customer does not specially purchase a software license. The cost of the infrastructure, the right to use the software, and all hosting, maintenance and support services are all bundled into a single monthly or per-use charging.
Huang and Wang (2009)	SaaS is defined as a model of software deployment via the Internet whereby the SaaS provider licenses an application to customers as a service based on usage or periodic subscription payments. SaaS software vendors typically host the application on their own web servers or enable customers to download the application to consumer devices via the Internet.
Choundhary (2007)	Under SaaS, the software publisher (seller) runs and maintains all necessary hardware and software and buyers obtain access using the Internet.

The above table provides the variety of views on the definition of SaaS. There are five distinctive characteristics that echo through all of the angles, as outlined below (Mäkilä et al., 2010):

1. Product is used through a web browser.

2. Product is not tailor made for each customer.

3. The product does not include software that needs to be installed at the customer's location.

4. The product does not require special integration and installation work.

5. The pricing of the product is based on actual usage of the software.

Agile Organizational Structure

One of the most recognised and applied methodologies in the SaaS industry is the Agile software development methodology, or Agile. The question of how to meet the challenge of creating a new way of organising software development activities has emerged back on the 1970s, when software engineering emerged as an independent scientific discipline. Since then, "the mechanistic view of software development prevalent in earlier phase-based linear approaches has been replaced by an understanding of development activities as a dynamic process characterized by iterative cycles and the active involvement of all stakeholders" (Brhel, 2012). This was reflected in the Agile Software Development methodology, which relies on people and their creativity rather than processes and focuses exclusively on activities that add value for the customer. The origins of the Agile methodology stem from the car industry in Japan, where Toyota and Honda were the first two companies that implemented lean management and just-in-time (JIT) processes in their production; this philosophy, in turn, influenced the ideas behind the Agile movement (Sverrisdottir et al., 2014).

The Agile software development movement originated in 2001, with an aim to create an alternative to document-driven, rigorous software development processes that were being used at that time. The meeting on February 11-13, 2001 in Utah, where 17 representatives from Extreme Programming, Adaptive Software Development, Crystal Methods, Feature-Driven Development, Pragmatic Programming and others have produced a document that has had an undeniable impact on the industry in whole – The Manifesto for Agile Software Development, also known as Agile Manifesto (Highsmith and Highsmith, 2002). The Agile Manifesto created and agreed on by a

group of 17 well-known and recognized software development 'gurus' was aimed to uncover the better ways of developing software solutions and helping others to do so.

The key points of the Agile Manifesto can be seen below (Agile Manifesto, 2001):

"We are uncovering better ways of developing software by doing it and helping others do it.

Through this work we have come to value:

Individuals and interactions over processes and tools;
Working software over comprehensive documentation;
Customer collaboration over contract negotiation;
Responding to change over following a plan.

That is, while there is value in the items on the right, we value the items on the left more".

Below can be seen the list of the twelve key principles of the Agile Manifesto (Agile Manifesto, 2001):

1. Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.
2. Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.
3. Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.
4. Businesspeople and developers must work together daily throughout the project.
5. Build projects around motivated individuals. Give them the environment and support they need and trust them to get the job done.
6. The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.
7. Working software is the primary measure of progress.

8. Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.

9. Continuous attention to technical excellence and good design enhances agility.

10. Simplicity – the art of maximizing the amount of work not done – is essential.

11. The best architectures, requirements, and designs emerge from self-organizing teams.

12. At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behaviour accordingly.

One of the key benefits of using the Agile methodology is that it is said to be the best methodology to solve the problems characterised by change, speed, and turbulence (Highsmith and Highsmith, 2002, p.22):

> "As the level of change caused by rapidly evolving technology, business models, and products increases and the need for delivery speed accelerates, ASDEs' (Agile Software Delivery Ecosystems) effectiveness increases quickly over rigorous methodologies."

The Agile methodology is based on the concept of Agility. This concept, as any other complex notion, has a variety of definitions; for the purposes of this study, the following definition of Agility has been incorporated, due to its clear focus (Highsmith and Highsmith, 2002, p.23):

> "Agility is the ability to both create and respond to change in order to profit in a turbulent business environment."

Incorporating this approach results in the following features to the Agile organizations:

- In the times of change, they harness and embrace this change;
- They are better at responding to changing conditions than the competitors;
- They are good at creating change that the competitors cannot respond to adequately;
- Companies themselves determine what level of agility they require to remain competitive.

Since the introduction of the methodology, the agile methods have now become mainstream even for large-scale organisations, with software being developed on time and in budget, with the focus on meeting the customers' demands (Brhel, 2015). The Agile methods are built around developing useful software, "with customer value being understood as primarily driven by providing an appropriate functional scope" (Brhel, 2015, p.164). Usability has now become crucial for economic success in highly competitive markets and can be used to differentiate the product from the competitors. Some of the examples of the methods that can be considered Agile are eXtreme Programming (XP), Scrum, Crystal Clear, Feature Driven Development (FDD), Lean Software Development, Dynamic System Development Methodology (DSDM) and Kanban. Some of the latest research developments in the area have summarised that the majority of the Agile organisations apply the Scrum methodology (52% of the cases) (Pricewaterhouse Cooper, 2012; Versionone, 2011). The visual representation of the split in use of the various Agile methodologies can be seen in the figure below.

Figure 8. Assessing the use of Agile methods (Sverrisdottir et al., 2014)
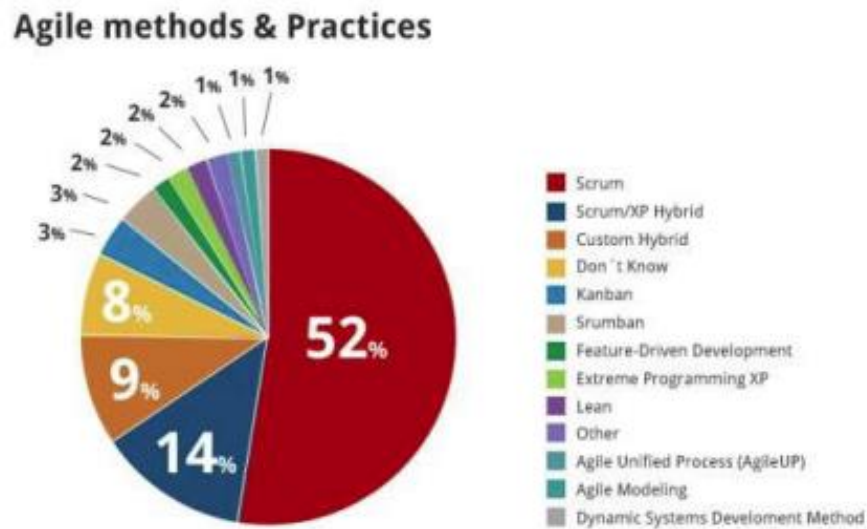
According to the common practice, the senior management of an Agile organisation would comprise of the C-level stakeholders (CTO, CIO, IT Director) and the Chief Technical Architect. The next level of the organization would be represented by the role of the Product Director or Head

of Product or the Product Manager, depending on the size of the organization. It is to be mentioned that due to the self-organizing nature of the Agile teams and the Agile company structure as a whole, these roles are fluid and can vary across the different organizations.

An example of the Agile organizational structure can be seen in the figure below.

Figure 9. The structure of an Agile enterprise (Cottmeyer, 2014).
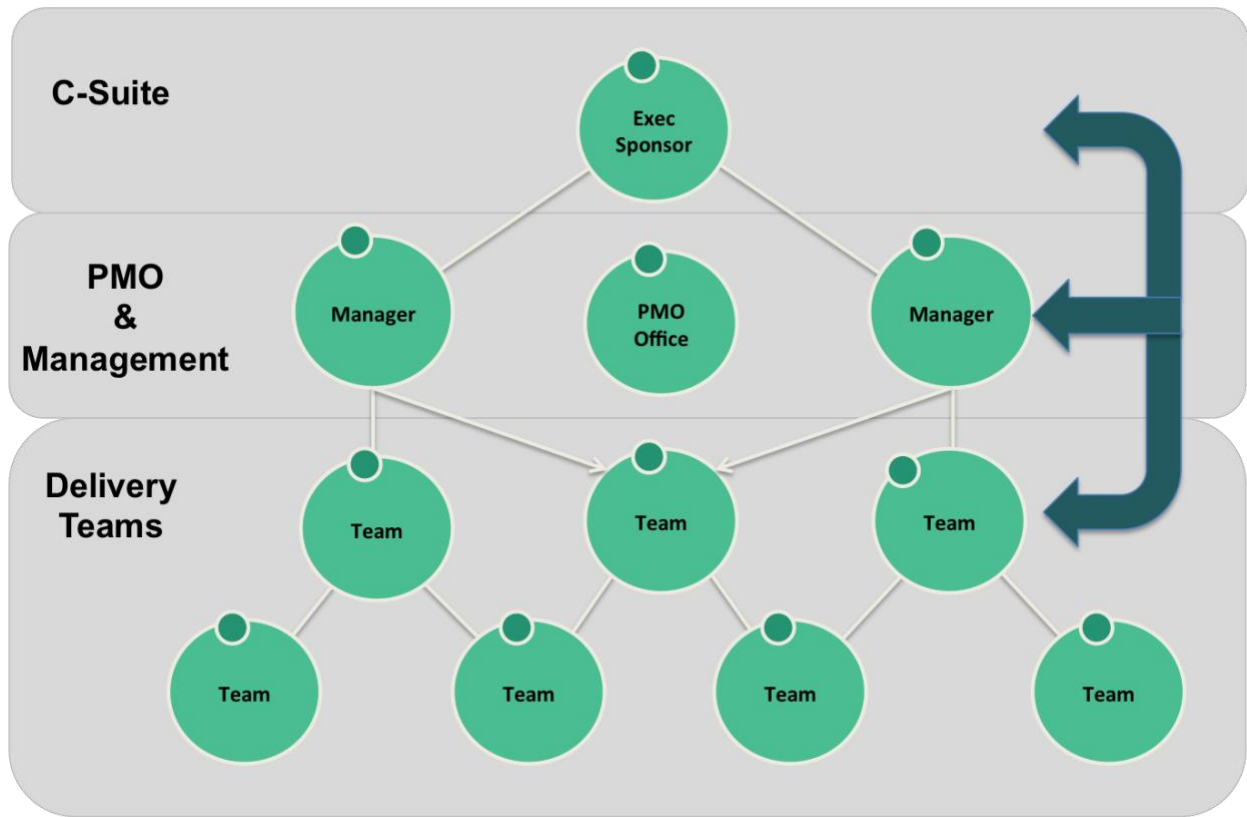
Based on the structure of the Agile organizations, it the Product Owner, Product Director or the Head of Product role that has the most impact and involvement in the NSD processes in the organizations, hence why these particular roles have been selected for further analysis.

The Role of the Product Owner

Based on the review of the selected industry for the proposed research, a range of roles within the target companies has been carried out in order to identify the stakeholders involved in the NSD processes which will be the best fit as the participants of the interviews. The literature review identified that it is the Product Owner (Manager or Director) that fits the requirements of the sampling methodology (both inclusion and exclusion criteria). The following section of the literature review provides a deep dive into the role of the Product Owner and explains some of the key characteristics of the roles, responsibilities and practices that compose the day-to-day work routine of the PO, which were further discussed and elaborated on in the interviews, with the conclusions presented in the Findings section of this paper accordingly.

Achieving Customer Satisfaction

As discussed in the previous section, Agile as a general concept can be used for different methods of software project management and development. Modern research, assessing the impact the methodology has had on the businesses in the modern competitive market environment, has suggested that Agile can be considered a link between the business management and software development (Sverrisdottir et al., 2014). Depending on the specific type of methodology within the Agile philosophy that is applied in a company (i.e., Scrum, Canban, XP, and so forth), the senior stakeholder actor involved in the solutions development processes can be referred to as Product Owner, Product Manager, Product Director, VP of Product (referred to as Product Owner in this paper for generalisation purposes), and so forth, which all sit with the product ownership function of a company. As a notion, product ownership plays a central part in the software development process overall, with the Product Owner being the key communicator of the customers' needs and wants in the form of ideas, solutions or features, to the development teams, which are then bringing these ideas to life. As previously discussed, creating benefits for the customers and the achievement of customer satisfaction is central to the Agile methodology, which makes the role of the Product Owner even more important in this context (Agile Manifesto, 2001; Sverrisdottir et al., 2014).

As a complex role, individuals working as a PO of an organization are required to possess the breadth and depth of knowledge in the domain, as well some critical characteristics outlined below (Pichler, 2010, p 3).

> "The Product Owner is a new, multifaceted role that unites the authority and responsibility scattered across separate roles, including the customer or sponsor, the product manager, and the project manager. Its specific shape is context-sensitive: it depends on the nature of the product, the stage of the product lifecycle, the size of the project and other factors. For example, the product owner responsible for a new product consisting of software, hardware and mechanics will need different competencies than one who is leading the effort to enhance a web application."

The list of characteristics was presented by Pichler (2010) based on his research and experience of working on Scrum projects. Desirable characteristics of a PO include:

- Visionary and doer;
- Leader and team player;
- Communicator and negotiator;
- Empowered and committed;
- Available and qualified.

Product Owner (PO) within the organisation is a single person, not a group of people, who is a senior stakeholder playing a critical part in the NSD processes, and often having to make some of the most difficult decisions regarding the new solutions (Raithatha, 2007). One of the key responsibilities of the PO is defining the vision of the solution, which explains and reflects the motive for a specific project and the desired end state (Schwaber, 2004). Researchers have summarised that the vision should contain a concise description of the core functions of the solution, as well as the goals and objectives it is aimed to fulfil. An important component of the vision is the description of the customers, their needs and wants and how the solution aims to meet their requirements (Pichler, 2010). It is important for the PO to stay in charge of maintaining the

solution vision throughout the project, being in constant touch with the key stakeholders involved in the NSD processes (Pichler, 2010, p.24):

> "The vision acts the overarching goal, galvanizing and guiding people, and is the product's reason for being. […] the vision selectively describes the product at the coarse-grained level, capturing the product's essence – the information considered critical to develop and launch the winning product. Demoing the product increments to customers and users in the sprint review meetings and releasing software early and frequently validates and refines the vision."

The vision of the product is said to answer the following questions to be considered effective (Pichler, 2010):

1. Who is going to buy the product? Who is the target customer? Who is going to use the product? Who are its target users?
2. Which needs will the product address? What value does the product add?
3. Which product attributes are critical for meeting the needs selected and therefore the success of the product? What will the product roughly look like and do? In which areas is the product going to excel?
4. How does the product compare against existing products, from both competitors and the same company? What are the product's unique selling points? What is its target price?
5. How will the company make money from selling the product? What are the sources of revenue and what is the business model?
6. Is the product feasible? Can the company develop and sell the product?

Moving on, it is crucial the vision communicates the essence of the product consistently and in a logical manner. It should include the shared goal that provides the direction for the team but is also broad and allows for creativity. Some of the desired product vision characteristics are listed below (Pichler, 2010):

- Shared and unified;
- Broad and engaging;

- Short and concise.

Further, except for coming up with the product vision, the PO has a wide range of responsibilities during the lifecycle of the project, including the financing of the project and creating the requirements and objectives for the new solution (Sverrisdottir et al., 2014). Another important role of the PO is maximising the output of the team and the output of specific tasks, aligning them to the ROI. The formula for the ROI has been defined by Milanov and Njegus (2012), whose simple formula has been used to calculate the project feasibility ever since. The formula is *ROI = Business value/Effort*. Business Value and Effort can be identified upon the assessment and reflection of the tasks in the product backlog (Schwaber, 2004). The PO is responsible for developing and maintaining the product backlog, which can be described as a list of the user stories that define the requirements of the project (Bass, 2013). Based on the aforementioned responsibilities, the PO therefore has a very clear role in relation to the profit or loss of a specific solution, and its performance in the market (Sverrisdottir et al., 2014, p.260; Deemer et al., 2012):

> "The ROI of projects depends on many variables, such as quality of the product, the features, the services and the content of the product. Also, market assessment, good market strategy, contracts, marketing etc. The PO therefore has a clear role regarding profit or loss from a direct product. On the other hand, if the product is a software to be used within the organisation, ROI is less important, and the PO takes the client role. He is nevertheless supposed to maximise the value of the tasks at hand during each phase, maximising the value for the lowest number of working hours."

Moving on, as described before, it is critical for the PO to have a clear and detailed understanding of the needs and wants of the customer (Pichler, 2010, p.6):

> "The Product Owner is the voice of the customer, communicating customer needs and requirements and bridging the gap between *the suits* and *the techies*."

Undoubtedly, customers (i.e., people purchasing the solution) determine the market success of the solution, or its failure. The solution will only be successful if enough customers make the purchase

and find the solution useful and applicable for the goal it pursues. It is important to highlight that the customer and the user may not be the same person or entity and may not have the same needs. In the B2B cases the customer is often represented by an organization, while the user might be either their client or an employee (Pichler, 2010). In the case of this research, SaaS industry is predominantly B2B, hence the researcher has been interviewing the research participants both about the end users of the solutions and the B2B customers, as both play an important part in the solution's market success and adoption. Collecting data about both audiences ensures an intimate understanding if the customer and user needs, and the ways of meeting those needs best (Pichler, 2010, p.10):

> "The best way to do this [develop an understanding of the customer and user needs] is to involve customers and early users early and continuously in the development process. Asking customers to provide feedback on the prototypes, inviting customer representatives to sprint review meetings, and releasing software early and frequently are great ways to learn from customers. Teams should bear in mind that the product is only means to an end – to help the customer and to generate the desired benefits for the company developing it, not an end itself. […] It is only when we focus on the customer that we develop the best possible solution."

Managing Product Backlog

Moving on, an important component of the PO's role is managing the Product Backlog (Schwaber, 2009, p.5):

> "The Product Owner is the one and only person responsible for managing the Product Backlog and ensuring the value of the work the team performs. This person maintains the Product Backlog and ensures it is visible to everyone".

Product Backlog (PB) is an ordered list of everything that is known to be required in the product, a single source of requirements and specifications, as well as all the changes to be made to the product. Essentially, PB can be compared to a list of tasks prioritized in a queue (Larman and

Vodde, 2009). The PB serves as a basis for the PO's collaboration with other stakeholders involved in the NSD process, which is why the PB has to be constantly reviewed, updated and analysed (Sverrisdottir et al., 2014). The PB is one the of the most common artefacts in the modern software projects. Predominantly, the PB consists of the user stories, bugs (issues with the software that need to be solved), chores and other project-related items; it also includes a description, a priority, and an estimation of the workload (Seikola, 2010). It is used by software teams to coordinate work that needs to be done. Further, PB is sorted in the order of priority (Seikola, 2010), i.e. the items listed first are those that need to be implemented soonest. The topmost items should be described in a detailed manner, while the items at the bottom of the list can have a less specified description, as they are not to be implemented in the nearest sprint (Schwaber, 2007, 2009).

Sedano and Péraire (2019) have carried out a research project investigating the impact of the product backlog and the process behind it and concluded that it can't be divided into separate stages (Sedano and Péraire, 2019, p.201):

> "Generating, refining, and sequencing solution concepts, features, stories, and eventually the backlog appears to be one large, tightly-interconnected process that cannot be divided into neat phases. However, we can divide our observations into interrelated practices and obstacles that resonate with participants and then abstract them into a more transferable theory of the backlog."

Sedano and Péraire (2019) have also identified the list of the activities that are included in the management of the PB; from the review of the table below it is clear that customer focus and ensuring the customer needs and wants are included in the process is an important component of every project.

Table 11. Practices related to Product Backlog (Sedano and Péraire, 2019, p.203).

Name	Brief Description
Balanced teams	Balancing team composition with experts in business, product design, and software development.
Dual track agile	Organizing the work into two "tracks." Track 1 typically includes research, negotiating with stakeholders, drawing user interface mockups, and writing user stories. Track 2 typically involves building, testing, architecting, refactoring, deploying, and maintaining the product.
Stakeholder mapping	Drawing a diagram of individuals who are interested in the success of the product.
Interviewing	Semi-structured discussions with stakeholders (e.g., users, product sponsor).
Persona modelling	Creating fictional users (character sketches) to reason about who will use product features.
Affinity mapping	Organizing data from user interviews or ideation sessions to generate insights.
Design studio	Converging on a product concept by iterating between generating and discussing design ideas.

Sketching /mockups	Drawing informal models of graphical user interfaces.
Usability testing /validation testing	Reviewing mock-ups with users.
Writing user stories	Writing brief, informal descriptions of some aspects of a software system.
Story showcase	Building a shared team understanding of upcoming user stories.
Backlog grooming	Refining and resequencing user stories.
Accepting stories	Evaluating delivered work.

Based on the table above, some of the key practices in the management of the product backlog that ensure the understanding of the customer's needs and wants has been generated, conveyed and communicated across the stakeholders involved in the NSD processes are stakeholder mapping, interviewing, persona modelling, affinity mapping, usability testing/validation testing, writing user stories, story showcase, and backlog grooming. The user stories are the short descriptions of functionality told from the user perspective, that are valuable to either the user of the software or the customer (Cohn, 2004). User stories (US) are a starting point for creating specific requirements for the software being created. The adoption of the US methodology keeps evolving to higher levels. The US get developed and distributed to the development teams that further refine the US into several backlog items (3-6), which are the specific tasks for developer to execute during the sprints (Muter, 2019). It is crucial for the US to provide a multifeatured and multilevel understanding of the of the customer demands (Seikola, 2010, p.17):

"The proper user stories include multiple perspectives, recognize the variation of the customer demands, involve common attributes to all customers, clarify the common goal with the customer, and focus on the users instead of the system attributes."

Findings and Discussion

Thematic Content Analysis

The process of thematic content analysis (TCA) has been used to identify the themes and categories that emerge from the data, and to further interpret the findings to then link them back to the research questions. (Burnard et al., 2008, p.430) has provided a clear description of the thematic analysis approach:

> "This [thematic content analysis] involves discovering themes in the interview transcripts and attempting to verify, confirm and qualify them by searching through the data and repeating the process to identify further themes and categories".

Therefore, thematic content analysis is based on creating labels or codes, that are then applied to data in order to structure and segment data into meaningful categories for further analysis and interpretation. The method is loosely informed by the elements of the Grounded Theory (Glaser and Strauss, 1967; Strauss and Corbin, 1998) and Phenomenological Analysis (Giorgi, 1985), and is most commonly applied to examine how individuals construct their realities through words. Thematic content analysis is applied to generate a clear understanding of the text (i.e. interview transcripts) and is one of the most fundamental of the qualitative procedures (Anderson, 2007, p.1):

> "A satisfactory TCA portrays the thematic content of interview transcripts (or other texts) by identifying common themes in the texts provided for analysis. TCA is the most foundational of qualitative analytic procedures and in some way informs all qualitative methods. In conducting a TCA, the researcher's epistemological stance is objective or objectivistic".

The important component of the thematic content analysis is grouping and distilling a list of recurring themes and topics from the texts to provide an understanding of the common views

within the different voices of the research participants (Anderson, 2007). It is critical for the researcher to draw and apply the names of the themes from the words of participants; grouping of the themes in a way that is absolutely accurate to the text as a whole. A considerable amount of interpretation is required in order to sort and name the themes, it is highly advised to keep it to minimum, as the researcher's thoughts, feelings and perceptions of the themes can be highly irrelevant to the carried-out TCA. The further analysis and interpretation of the identified themes by the researcher is presented later on in the report, in the Discussion section (Anderson, 2007).

The described approach is highly relevant to the research project due to its structured and logical approach, allowing to identify the tendencies and interrelations between the notions, which is well suited for testing the key relationships in the conceptual model. The researcher has carried out TCA on the collected qualitative data from the interviews using the Word Software. The interviews have been transcribed by the author manually, and the transcripts were anonymised and stored safely in the University-owned protected cloud environment. In this section of the paper, a detailed description of the data analysis, approaches to coding the data, as well as the conclusions and outcomes of the data are presented. The total of 38,400 words have been transcribed. For the purposes of triangulation and to ensure the accuracy of the transcripts, five research assistants and volunteers have been employed to carry out the cross-checking of the interview content. The volunteering group have reviewed 10 randomly picked interview transcripts (50% of the overall transcripts) and confirmed the accuracy of the transcripts. The transcripts reflected 98% of the content of the interviews, which makes the presented data eligible for further analysis.

Coding the Data

As mentioned before, data was examined using qualitative thematic content analysis. In order to identify the primary approach to coding the data, the researcher have come up with the framework segmenting the discussed topics, variables within the conceptual framework that describe particular topics and the levels within the business those topics correspond to, based on the levels identified in the 3D model. Once the initial coding framework has been finalised (as presented in the table below), the author has proceeded to the coding of the interview content.

Table 12. Initial coding framework (Author's Own, 2020).

Discussed topics	Variables describing the topic	Levels within a business
• Customer focus within the ideation activities; • Different approaches to ideation; • Methods, rituals, techniques used to promote customer focus within the ideation activities; • Top-to-bottom customer focus prioritisation.	COI	Employee level; Organizational level
• Coordination between the different business departments or units within the business; • Communication between the different departments that have access to customer data; • Open access to information across the business (in particular, customer data and insights obtained from various sources); • Methods, rituals, techniques and solutions used to exchange the customer data across the different business units.	IC	Organizational level
• Customer focus of the employees in SaaS industry;	COSE	Employee level

• Customer orientation of the Product teams; • Customer focused business; • Customer focused company ethos.		
• Qualitative customer data; • Customer focus groups; • Customer data collected via interviews; • Testing sessions involving the customers.	VoC	Customer level
• Quantitative customer data • Product usage data; • Big Data generated across the different sources (social media, etc.).	BD	Customer level
• Customer adoption; • Innovation adoption; • Measuring adoption; • Customer adoption KPI.	IA	Customer level

Further, upon the completion of the primary coding of the interview scripts on the basis of the initial coding framework, the framework has been further revised and refined in order to come up with the final coding template with the reduced number of relevant codes that are to be applied to the scripts.

Table 13. Final coding framework (Author's Own, 2020).

Initial codes	Revised Codes	Final codes
• Customer focus within the ideation activities; • Different approaches to ideation; • Methods, rituals, techniques used to promote customer focus within the ideation activities; • Top-to-bottom customer focus prioritisation.	> Customer Oriented Ideation	> Customer Oriented Ideation
• Coordination between the different business departments or units within the business; • Communication between the different departments that have access to customer data; • Open access to information across the business (in particular, customer data and insights obtained from various sources); • Methods, rituals, techniques and solutions used to exchange the customer data across the different business units.	> Coordination between the business units > Open communication	
• Customer focus of the employees in SaaS industry; • Customer orientation of the Product teams;	> Customer Orientation of Service Employees > Customer	> Customer Orientation of Service Employees

• Customer focused business; • Customer focused company ethos.	focused company ethos.	
• Qualitative customer data; • Customer focus groups; • Customer data collected via interviews; • Testing sessions involving the customers.	> Voice of the Customer > Qualitative customer data	> Voice of the Customer > Qualitative customer data
• Quantitative customer data • Product usage data; • Big Data generated across the different sources (social media, etc.).	> Big Data > Quantitative customer data	> Big Data > Quantitative customer data
• Customer adoption; • Innovation adoption; • Measuring adoption; • Customer adoption KPI.	> Adoption	> Adoption

Findings

Features, Levels and Characteristics of COI

Based on the interview findings, the notion of COI is deeply embedded in the NSD practice within the analysed industry. The vast majority of the research participants have expressed their strong position as being customer-focused within their ideation work. The research participants have also agreed that COI is a tool that facilitates creativity in the ideation work, provides a better, more precise understanding of the customers' pain points and helps to come up with ideas on how to solve these problems. A Head of Product from a London based SaaS company has highlighted how important it is to make sure the product his team is working on is relevant to the customer, and the product itself has the necessary capabilities to solve these problems:

> *"Customer focus and understanding the customer data is incredibly important for ideation. We focus on understanding the problem-solving potential of our product and the improvement of the customers lives that it can provide. When we speak to people, we are aiming to find out the pushes that push them towards purchasing the product, the things that are driving them towards the product, any anxieties they might have about purchasing it, etc. And this is what helps us achieve the product to market success."*

Another research participant has emphasized that customer focus in ideation can also act as a tool for boosting the creativity of the team:

> *"[I am very customer focused] in ideation. Being in a creative industry and being an enterprise product [customer focus is] also a creative tool. There is a lot of customer focus both in terms of business as well as in terms of the user."*

Moving on, another interviewee, who is a Senior Product Manager, has agreed with the point, and has also emphasized on how customer focus **helps generate ROI and allows the company to be more financially sustainable** in general:

> *"We are 100% **customer focused** in our **ideation** work. There is no point for us building anything if it's not going to be suitable for the customers. It's very expensive to build a tool no one is going to use. We are focused on what they [customers] need from us."*

Another research participant agreed with this statement, also highlighting the strong link between the customer focus, adoption and revenue:

> *"We are very **customer focused** and if anything, we are becoming even more customer focused. Especially in this time we need to be able to serve more real customer needs. Obviously, revenue is nice, but **we can only get good revenue through customer experience and adoption**."*

The interviews have identified the high level of COI in the SaaS industry, with interview participants being very enthusiastic and knowledgeable about the proposed notion. Interestingly enough, some of the interview participants have mentioned that they were managing their teams with the COI ethos in mind, ensuring that all the team members are on the same page regarding their approach to ideation. Moving on, the interviews have also helped to specify the elements, levels and characteristics of COI.

Based on the outcomes of the interviews, the **elements of COI** can be summarised as follows:
1. Mentality and mindset;
2. Processes and rituals;
3. Contextual knowledge;
4. Company culture and ethos.

Drilling down into the elements of COI, provided below are the key descriptions and quotes supporting the key ideas behind the elements' selection.

A vast majority of the research participants mentioned the importance of the customer focused **mentality and mindset** of the product person, who acts as a customer representative internally and can be considered a so-called 'internal customer':

*"I am very much on the client side **and I am the voice of the customer** and I want my team to be also the voice of the customer - have an informed idea of the possible future. Advising, explaining, inspiring other product people [...] with these ideas to understand if there are innovative ideas between them."*

The interview participants have also expressed their point of view on the importance of **advocating** the customers' needs and wants on a daily basis, as pinpointed by one of the interviewees:

*"I am hugely **customer focused** on the ideation work. In fact, I call myself the custodian of the customer. My job is to **advocate the customer** as hard as possible at a senior level. At board meetings, senior meetings my job is to really bang about what the customer wants and my job going down the chain is to be a lot more pragmatic about it. I fight for the customer, but I have to be realistic at the end of the day."*

When speaking about the **processes and rituals**, the interview participants have mentioned that following these allows structuring the ideation work and ensuring that customer focus is deeply embedded in both team's mindset and the actual practical process of ideation. Having a set of processes and rituals allows generating customer insights continuously and integrating the new ideas and features to the solution on an ongoing basis. There are various rituals mentioned by the interview participants, including team brainstorming sessions, focus groups, meeting up with the customers to engage them in a meaningful conversation, and so forth.

*"It is always a good idea to **brainstorm with a group of people internally** to come up with a product idea and then develop it and launch then see if the customers will buy. So what I'm doing in my day to day work is first and foremost I talk to customers and prospects and understand their needs and realise how they are measured in terms of their performance and then look at our competitors and what they do in the direction of what we are thinking. Then we define our project vision and proposition."*

Another important ritual mentioned by the majority of the participants is workshops, which are helpful to understand a customer problem in detail and boost the creativity of the team while trying

to solve the identified problem. Below in an example description of a typical ideation workshop described by one of the research participants:

> *"Some of [the workshops] could be design led, but [the majority are] product led workshops (and product is obviously product management and design as well.) But every time we've done a workshop it's really around a question like "How might we achieve a specific objective?".* ***They are based around a primary concern, maybe it's a concern for the business, and that concern aligns very strongly with user problems as well as the company vision.*** *So, it might be, how can we increase same day conversion from A to B, and it's kind of like throwing all of the ideas to the wall for 15 mins. Don't think about feasibility, don't think about resources, if you could do anything to solve this issue: what would it be? Everyone throws an idea on the wall, and the people who are invited come from every department of the company. And once we do that, we do the mapping and the matrix, where it's like what's high impact, high risk vs low impact, low risk and we have a discussion on resourcing. But it's more of getting clarity on ideas, why they think this idea will work, what thought process they came up with to come up with this idea. And I'd say the evaluation happens when all of the other stakeholders are out of the room because it's more for the delivery team."*

Moving on, among the rituals mentioned by the interview participants are the team whiteboarding session, which unfortunately were not taking place since the beginning of the lockdown due to the Covid-19 pandemic. Below is an example of the whiteboarding session described by one of the research participants who is a Director of Product Management:

> *"I really like group whiteboard sessions, which [we were not able to do since the pandemic]. It's the one thing that we can't really do now. The process should start with working out a problem, a problem flow. So, a business workflow that somebody has to go through and look at, and then mapping that stuff out and then debating how we can support that better is probably my favourite way of doing things."*

Another point that was observed in the majority of the interviews is that the techniques, processes and rituals should not be too strict and rigid, and should leave space for creativity and improvisation:

> *"There's a lot of those traditional kinds of project management techniques, Agile techniques. One of those things I've always been keen **to try to avoid is having a very rigid way of working**. So, making sure that brainstorming sessions, white boarding sessions, 1-1 sessions, 1 on many. It just depends on the need. You don't want to have too many people in the room but making sure you have the right people in the room so that you're making the right decisions and the right people know exactly what's going on."*

Contextual knowledge is one of the elements of COI and a powerful factor impacting ideation activities, as it equips the stakeholder with a holistic view of the company, market and customer base, making them a domain expert in a particular subject matter. This contextual knowledge makes the PO one of the most influential people in the company in terms of the customer knowledge; understanding and communicating this knowledge is the key. Having an informed opinion about the context around the solution, company and the market as a whole is what allows creating new solutions in a customer-focused manner.

Contextual knowledge is **hugely beneficial in the times of change**, as it helps adapt ideation activities to the changes in the business environment. One of the interviewees has mentioned the impact that the Covid-19 pandemic had on their company and how customer insights are helping them adapt:

> *"I spend a lot of my time with client-based activities and just trying to help with our position in thought leadership and also just **understanding the product trends in the industry that are taking place.** For instance, everything going on with the pandemic, there are a lot of transitions for our customers who are typically under tight confidentiality and security. With the shift to everyone working from home, looking at the ongoing trends, what are the things we can do? Can we pivot some of the work that we are doing to help facilitate for our clients?"*

Moving on, as one of the interview participants highlighted, having the holistic view of the context facilitates the so-called 'light-bulb moment':

> **"New information really helps provide context**. One of the most powerful factors is that you are one of the few people who have a very **holistic view** of an entire company, market and customer base. Sometimes it's just that you know so much about things, you might not be an expert, but you can see across so many different departments, different meetings you will be involved in and suddenly you will get that light bulb moment where you know what's actually it and what will solve the problem."

Another important component of the contextual knowledge is the knowledge around the context across the different departments within the business that generate customer knowledge:

> "I feel part of the product is having **that holistic view across** departments as something that might be affecting operations might have affected marketing or sales or another department and kind of picking up through your relationships and channels all the issues you have to prioritise."

Understanding the customer segments the company is focusing on is critical, and having contextual knowledge about who your customers are, what they like, what they do on a day-to-day basis, what media channels do they read, etc. is a very important component of ideation, as described by a Product Owner in a student loan company:

> "For me it's more just reading the news, being on social media. We're really targeting millennials and Gen-Z and they're always on the internet. So, **if you're targeting a customer segment the first thing is really understanding where they are and where they communicate**, and for our specific customer they're pretty much always on the internet. So, how they're digesting the news, how they're interacting with other people online, how different products appeal to them, I think these are all things we're trying to think of, even in the redesign of our applications or anything like that we're looking at what technologies

people have really loved. So, I think it's taking notes of what people our age or younger will find appealing. Kind of working on that or just leaving it in the back burner also got a huge confluence document of just ideas."

Contextual knowledge is also one of the key mechanisms for informed decision making within the COI processes, which allows combining the domain knowledge and creativity and merging those into a holistic vision for the new solution in development:

*"You know innovative new ideas when you're going into a story about the vision. Vision is nothing more or nothing less than having an **informed opinion about possible futures**. It's about having your firm's opinion and this opinion is from having done market research, understanding the competitor landscapes, keeping up with market trends talking to customers and understanding where they are going. This is where you build ideas about the possible future. This is what a product leader should bring and will bring if they are customer centric."*

Regarding the **company culture/ethos**, the majority of the interview participants have said it plays an important part in promoting COI across the organisation and teams. COI that is deeply embedded in the corporate culture/ethos allows aligning multiple stakeholders, teams and individual employees with one common goal and objective:

*"The **company culture** is a big part of that [COI]. Everywhere there is a focus, a focus on how we are helping the customers. There are other challenges too with engineering work. It's our ethos to think about our customers and have high expectations for customer service and that goes everything. Product management team is also quite involved with helping with customer requests and always designing things for customers and maximising customer value."*

Furthermore, not only does the company culture ad ethos promote a strong COI capability, it allows driving the relationships with the customers that make the company successful:

*"On an average month I spend 10-25% of my time in conversations with customers or potential customers. I'd say we have a lot of time to have open conversations with our customers about things we don't have. We are keeping our cards close to our chest. **It is the proximity to the customers and the relationship we have with them driven by the company culture that allow us to succeed.**"*

Based on the research highlights, *the levels of COI* have also been observed based on the practices in the organisations that have been under the investigation. The research participants have highlighted the following levels of COI:

1. **Individual level** – observed in situations when particular individual showcases high COI capabilities.
2. **Team level** – observed in a group of individuals working closely in a team that can be characterised by a high COI capability.
3. **Business unit level** – observed in a particular business function across all teams within the business unit that showcase a high COI capability.
4. **Company/organization level** – observed across the whole organisation, when the COI capability is strong across the business functions and units, with all the individuals, teams, and business units can be characterised by a strong COI capability.

It has also been observed that the levels of COI across the organisations are consecutive, therefore you cannot achieve a higher level without ensuring the strong presence of the previous level: i.e. high team COI level cannot be achieved without a strong individual COI level across all the individuals on the team.

Furthermore, the interviews have also allowed identifying some of the characteristics of COI. The individual that showcases a strong COI capability can be described by the following characteristics:

1. **Deep understanding of the customer**, their preferences, needs and wants via data sourced from a variety of reliable, cross-referenced sources.

2. Using **customer knowledge as a creative tool**.

3. Actively **advocating customers' needs and wants** internally.

4. **Educating other internal and external stakeholders** about the customers and the COI.

5. **Promoting open communication and open access to customer information** across the organisation.

6. Ensuring **best practices have been implemented in regard to the privacy and data safety**, including the ethical ways of collecting, storing and using customer data.

Moving on, the next section of the Findings chapter speaks about the various ways COI is integrated into the NSD process and the practical application of the notion in the day-to-day routine of the product team.

The Practical Application and Integration of COI in the NSD processes

The interviewees have agreed on the fact that COI is deeply embedded into their work processes, some of them comparing it to 'brushing their teeth', which shows how integrated the notion is in the NSD practice. All of the interviewees have emphasized on the importance of maintaining and promoting customer focus on the ideation stage, across the NSD teams and other units of business involved in the process, also identifying that this customer orientation is facilitating ideation. Some of the quotes showcasing this statement can be seen below (all quotes from different participants working in solutions development):

> *"Analysis and behaviour of the customers are very important components of my day-to-day work. We are customer-focused in our work, and **customer orientation and focus are definitely facilitating our work when generating new ideas**."*

Some of the research participants have stated that COI is one of the most critical drivers of ideation in their company:

> *"**Customer data is one of the most important drivers of ideation**; especially for those product development teams focused on customers (including ours)."*

Another important point was raised by one of the research participants who mentioned how impactful is having a 360-degree loop within the ideation process, as well as the informed decision making, supported by customer data sourced via wide variety of reliable data channels:

> *"We have **continuous 360 feedback on everything that we do**. So, we work in quarters predominantly, which are focused around **OKR (Objectives and Key Results)**. Objectives come from **direct customer feedback** for internal stakeholder feedback and key performance indicators, the measurements and the key results are all outputs of whether they are product analytics. In terms of how users are actually using our products or the qualitative feedback or basically a lot of things through usertesting.com or through direct*

access to our end users. We do a lot of stakeholder interviews within those systems as well.
So, everything that we do is informed through data from the end users."

Speaking about the application of the notion, the main focus of COI is helping to identify and understand the problems and pain points of the customer that the solution that is being developed can solve:

*"We are incredibly customer-focused within our product development work. **Customer focus definitely helps us generate new product ideas**, as it helps us understand what problems and pain points to focus on."*

The majority of the interviewees have expressed strong agreement with the fact that **customer focused is deeply embedded in the ideation processes** and they cannot imagine ideation activities carried out without having the customer in mind, as described in one of the examples from the interview outtakes below:

*" I think **[being customer focused in ideation] a bit like brushing your teeth**. Obviously, everybody's supposed to be. It constitutes the customer groups that we think about. So, we're focused on the needs of the 400,000 authors who submit papers to us. Two and a half million unique researcher visits of the researchers who come to look at the content and then download it for their research or obviously very important as well. But we've got a less intimate relationship with them. Most people simply are Googling for research and we find a paper on our site. You've got to do some stuff to get them engaged, to become more than just somebody passing through. And we then have about 70 people who work within the business who are monitoring the research and classifying and processing and we give them software tools. And so, we look at them as internal customer groups."*

Further, a research participant who is the Director of Product in a travel marketplace, has identified that customer focus can be observed **across the various business models, both B2B and B2C**, and in the environments when the product team focuses on an internal customer – people within the company that will use the solution:

*"I would say every product manager at [company] is customer focused. It's not just unique to my role. I think that's essential too, being in a product role. Even though I do believe even in a B2B product management role, there is a customer focus there and the customer is the business. It may not be the traditional sense of customer, even the business itself is a customer and there are people in that business who're going to use your product. These are individual customers. So, I do believe that **whether it's B2B or B2C, there's always customer focus.**"*

One of the interviewees, working as a Head of Product in a London-based SaaS, summarised it is not only important to maintain high levels of COI, but it is also crucial to be able to interpret and understand the customer data:

*"It is very important to **know and understand your user data** when you are approaching ideation. We believe that collecting data about customers and customer profile and persona updating should be an ongoing process, as people's tastes and preferences are not static and keep changing. So, our understanding of the customer and the data we collect should be constantly evolving. **This has a massive impact on future adoption**."*

Another research participant has highlighted that having high levels of COI in the organisation allows understand the industry context better, but the challenge here is in qualifying and digesting the information correctly:

*"**Customer data and insights are an important part of the innovation and ideation processes**, as it gives you relevant information and helps establish the right context. The challenge is to digest and use the information in the right way."*

The key to creating an integrated customer-oriented approach in the ideation activities is making sure that the product teams faces the user data constrains they might have and adapt the mix of the data sources to the solution that's being developed, the context and the current business environment. One of the research participants mentioned being constrained in terms of the

qualitative data due to security reasons, but managing to obtain large amounts of qualitative data to bridge the gaps:

> *"One of the key aspects **that we are constrained by is our software on our clients' side**. We **don't have continuous streams of user data to inform what we are doing**. [Instead, we do] a lot of travel, a lot of user interviews, statistical sort of exercises of surveys, some prioritisation type exercises that we perform with the advisory council. We try to build a good cross section of customers. There are industry events that normally take place, conventions and conferences where we can gather a number of clients together and run sort of research sessions with the teams. We ask them to come in prepared with their latest feedback and what their business priorities have driven. Then we sort of gather a metric of priorities, the things that people want to shout about the loudest and things that people give most frequent commentary and do a lot of prioritisation."*

Finally, it is important to point out that not only does COI have to be deeply integrated into the NSD processes, but it also has to be implemented in a well-planned, strategic manner:

> *"I would certainly that for any product in the world the most important, number one thing is your customer, your users. And if you don't know who they are and if you don't understand, then there's a problem there. Six months ago, we didn't have any sort of formal user research. It was just anecdotal stuff that would come back from a sales meeting or a conversation someone at. I think for us to now be in a position where we've got a **strategy** and a set of questions for how we intervene specifically who and which customer profile they fit into, if it is sort of quite a big shift for us and a positive one."*

The Facilitating Factors Affecting COI in the NSD Practice

The majority of the research participant have described the customer data collection process as segmented in two important flows: ***qualitative*** and ***quantitative*** data collection, where the former reflects the thoughts, perceptions and points of view directly from customers, and the latter is focused around extracting large data sets from various sources: corporate social media, solution usage data, and so forth. A good example of such segmentation was provided by one of the participants:

> ***"Customer data can be segmented into two buckets****: qualitative data from the user interviews and quantitative data sourced from the product usage data and activity data."*

Using a wide variety of data and combining various sources allows creating a precise understanding of the customers' needs, wants, day-to-day life, their pains and the possible solutions to them. The vast majority of the research participants have mentioned that understanding customers has really facilitated their ideation process, as can be seen in this example below:

> ***"We use a plethora of data about the customers****, including qualitative competitor data collected via secondary data collection, user reviews, even some articles related to the subject, analytics tools (quantitative data). It is also important to carry out user research sessions and user testing sessions which help collect the qualitative data and see the user side of the story. This has a great impact on ideation and helps come up with ideas that really reflect what customers need and want."*

Another research participant has also emphasized on the fact that it is critical for the product team to constantly work on coming up with new ways of obtaining customer data, improving the processes around the data collection techniques and identifying new reliable sources:

> *"We are constantly working on creating new ways of obtaining customer data. Analytics and behaviour data, product usage data are the sources of **quantitative data**. Competitor*

*analysis and user reviews are the sources of **qualitative data**, together with the user research and testing sessions.”*

Adding up to that point, a lot of the research participants have mentioned that they are dedicated to data triangulation – cross-checking and referencing data from a multitude of different sources, which is a process that allows ensuring the accuracy of data. It also provides a deeper understanding of the issues the customers might be having and the problems they have that need to be solved with a solution in development:

> *“We do what we call **data triangulation**. So, it is not just a single source of data. We mash to get our quantitative data, which is the information that is in our database, in our session logs, use user tracking behaviour and so forth. So that's quantitative. We use qualitative data as well and your qualitative data comes from talking to the customers directly, the user testing. There's a bunch of different tools that add up to quality data. And you, when you look at each one of them, of course you take qualitative data with a grain of salt because your sample size is limited. And there could be bias there. I think the qualitative data is a little more unbiased than qualitative. But one thing that the qualitative is going to tell you is more what the emotional side of it. It’s going to tell you more about the mindset of the customer. But the qualitative data tells you the outcome of all of those things. Qualitative gives you a little more insight into why the users behave that way.”*

Summing up, it is important to understand that having access to the wide variety of data allows identifying the problem which can be solved with the product, or a problem in the product, a feature that can be changed or improved. Using COI in ideation allows seeing what is wrong now or what can potentially go wrong, and stimulates the creative process of solving these problems, as expressed in an example below:

> *“**Ideas come from everywhere.** If you try to make a list, that list is going to be huge. It's the product managers job to come up with ideas. Product manager brings the skills, the ideas originating from it will bring the skills to refine and go deep into those ideas and understand what the problem is and put that in your framework. **[The ideas] definitely***

come from the data. A lot of times I look at the data and I see some critical information about users missing out *more than half of the time. So why are their users not giving us that information? That is a problem. The data expose that problem, but at the same time, customer service. Customer service is a great source. It's a great proxy talking to the customers because customers, when they have a problem, they call the customer service. If you get out and talk to the customer, talk to the customer service, and they will tell you what the customers are saying. You know, look at the forums, look at the market research, you know, it's not, I'm not the only one who has an eye in the market and tries to understand the problems.”*

VoC and COI

Using qualitative customer data in the ideation work was described as an important component of the PO's role by the majority of the interview participants. Based on the insights generated from the interviews, it is clear that VoC and the practice of generating qualitative customer insights facilitates ideation by providing an understanding of the customer needs that can be further projected onto possible solutions. When generating VoC, the key is to focus on specific customers that are known to be the best fit for the solution, in order to ensure the relevance of the VoC:

> *"When we are speaking to the customers we aren't interested in the individual details of that person. We are very much interested more in the functions of that role, what they're trying to do, the jobs they're trying to do, the problems they're trying to do. **The qualitative discussions with them about that and ideating of the possible solutions to that**, and we'll take that back to the team and work out what we can build and what we can't."*

Some interview participants have mentioned that they have some IT solutions used regularly or specifically designed processes like customer councils in place to facilitate generating VoC, which links back to the process element of the COI:

> *"Regarding the **qualitative data**, we have the feedback management system we designed internally. The feedback can come from various sources: customer interviews, people within the business sharing their ideas, etc."*

An innovative way of obtaining qualitative customer information as described by one of the interview participants is customer councils. The Director of Product for a London-based SaaS company providing solutions for people in creative industry (artists, graphic designers, motion designers, etc.) has explained how they engage with the 'star customers' that represent the category to get their feedback on the solution and the new features that are being designed:

> *"We tend to use a lot of **qualitative data**. We have customer councils. Likewise, we also have artists (customers) act as superusers who advise us as well. We do quite a lot of*

customer readings. We are lucky we are quite a mature product so we aren't pitching as much as using a roadmap of dates to treat them like a focus group and what we should be solving. So, there's that kind of high-level guiding and direction. We have quite a good group of Alpha Beta testers that we share designs with."

One of the classic, most commonly mentioned means of obtaining customer insights and generating VoC is running client interviews. Below is one example mentioned by a Product Director in a London-based data analytics company:

*"We do a lot of **interviews** with clients. We are a B2B business, so we don't deal with consumers as much, so we work with big manufacturers house and FMCG companies and work with users within those companies to kind of make sure we are serving their means. So, we do a lot of discovery with users to identify the kind of problems and jobs to be done. Then that's how we work internally to identify how we best fix those and solve those with our data."*

One of the research participants, who is the head of Product in a London-based SaaS start-up has described a project his team has carried out, focused on customer interviews and extracting the VoC from the qualitative data about the target audience's day-to-day life:

"Our junior product manager was tasked with running user interviews. He was to figure out what sort of questions would you ask? And so, we worked together on the strategy and then with the help of our CTO who would be able to find the potential people to interview. We decided not to talk about your product; you don't ask them, you know, do you like this screen? Do you like this page plan deck? You don't even talk about it, it's not interesting. It's much more about understanding that person's day to day job. What do they do, what makes them happy, what makes them sad? What social pressures they have, there is a whole theory behind it. The interviews then need to feed all of that research back into the product. So, making sure that you know everything he's learned, he then tells us, communicate to everyone when we make some product decisions with that persona is like, you know, central to how we made those decisions."

Moving on, another important component of the user interviews is making sure the data is kept up-to-date, constantly updated with new insights and shared and communicated across the business that would help ensure the stakeholders are on the same page regarding the current target audience for the solution in development:

> *"We have a process of putting together **the customer profiles**. [Our junior product manager is tasked with] communicating them through the business. He needs to come up with an innovative way of making sure that every two weeks or month or whatever, he's re-publishing them and telling people about the latest insights. And they just need to be front and centre of everyone within the team where they're not really developers building a feature. They should see, I'm building this for a delivery manager by building this. It means that their morning call is going to be less shit for them or whatever it is."*

Another source of qualitative customer data is the customer support or customer success teams. These are the account managers that work with the customers every day and as part of their routine they obtain data and feedback from the people using the solution. A lot of interview participants have identified the communication with the customer success (CS) team as one of the very important sources of information that, nevertheless, comes with its challenges. The key challenge is establishing the communication with CS and coming up with ways of exchanging the information openly and continuously. One of the observations in this regard is that in start-ups and smaller companies maintaining this communication is easier, while in bigger organisations business units quite often operate in silos, which means the access to data is limited.

> *"If you get out and talk to the customer, talk to the customer service, and they will tell you what the customers are saying. You know, look at the forums, look at the market research, you can read articles, you can read research you can look it up, look at other competitors. What are they prioritizing, what problems are they solving? You're always looking out for any new information wherever that is."*

In bigger organisations such exchange of information across the different departments in the business is often troubled or compromised due to the business units operating in silos, with teams having different objectives and KPIs they work towards, as explained in an example below:

> *"Part of the problem is you end up with these different silos of customer success and sales and product or whatever it may be. And **they each have a very diverse set of metrics they're trying to hit**. It's not so much, you can't share that and share as much data as you'd like is where that data is consumed and actually acted upon. So, well, I would expect a product manager to be sharing plenty of data. We share tons of data about the customer, but how many people in sales look at that data and that leads to some change in behaviour is questionable, and that's down to how people are targeted and how they're incentivized."*

A great way of avoiding this siloed communication is putting in place a robust process for open communication and information exchange across the different units in the business:

> *"You need to put in place **a systematic way for that [open communication and information exchange can be carried out]** and you need to set expectations in a certain way. Having customer success and support are the ones who are on the front line and therefore your eyes and ears and you need to have a systematic way in which they capture data and an expectation that they will as well. We have a Slack channel that we use for collecting customer insights. I'm not sure if that's enough. I think it could be more systematic."*

Summing up, from the review of the data obtained via interviews, it is clear that VoC is deeply integrated into the NSD processes. VoC, as a qualitative component of the COI, allows establishing a clear and detailed understanding of the customers' mindset and provides the 'why' that is often hidden behind the quantitative data. Some of the most popular ways of obtaining VoC that were mentioned by the research participants are interviews and focus groups, but some of the interviewees have also mentioned some more creative ways like customer councils. Communication with the Customer Success team has also been names among the impactful

sources of qualitative data, with the challenge being the lack of communication between the departments, little or no established process for open information exchange and operating in silos. Overall, the key challenges of obtaining VoC via qualitative research methods is the financial and time investments, which is why the research participants from bigger companies have expressed a more extensive experience of such research, while the ones working in start-ups have less opportunities to implement it, though still expressing how important it is in ideation.

Qualitative data on the customer behaviour collected via multitude of different sources is an important component of establishing a 360-degree understanding of the target audience. As discussed by the majority of the research participants, Big Data allows seeing the trends, tendencies and performance of the different features and solutions in the market, as well as getting a well-rounded picture of the business environment as a whole. In the SaaS industry in particular, such data can be gathered via a wide variety of analytics tools that allows observing product usage data or a number of platforms that integrate with the solutions to provide the insights on how the users navigate around a given platform.

One of the examples highlighted the variety of different data sources that can be used to get the necessary quantitative insight is provided below:

> *"The different types of data that we use are the **quantitative data** – the app usage data, API usage, integration, connections, UI engagements, daily and monthly overall users, etc. We look at the overall adoption of the product within the businesses we work with."*

One of the research participants, who is a Product Manager in student funding platform start-up, has mentioned that due to the small size of the company they have a very limited access to the qualitative data, mostly due to financial constraints. These data require a substantial funding to be gather, interpret and analysed in a professional manner. As opposed to that, Big Data technologies are widely accessed online and are easy to learn and use. This makes such technologies an important tool in the toolkit of the product team in start-ups. Some of the metrics that are being looked at are the customer sessions, return sessions and the full stories of the user interaction with various touch points across the user journey, as described in the quote below:

> *"I would say that we have tons of **different tools in our toolkit**. The first really obvious one is let's watch **how customers are interacting with our site**. So we use things like full story to kind of go through a **customer session, their return session, and full stories** that are really good comprehensive suite of I guess tooling and observations so you can see*

when like people are thrashing their cursor, when people are clicking out or going back (kind of getting stuck in a loop), so watching their interactions with anything we release has often been the most eye opening experience because, as you can tell in you research I'm sure, the way that customers interact with a product is not often how you'd envision them to interact with it."

Another research participant has elaborated on the plethora of various KPIs set by the management and the product team in order to track the customer data and set objectives for the team/ Some of the interesting metrics mentioned are download and content consumption metrics, active users and sign-up flows, as described in an example below:

*"We've got a lot of different places where we go to try and figure out what's going on and **we've got a huge focus on analytics**. We've got KPIs that we've got to hit that are partly set by us, partly set by the business. We use Adobe analytics and we're also incredibly interested in understanding user behaviour and user segments on the site. We're interested in metrics around download and consumption of content. We're interested in metrics around retention. We're interested in active users. We're interested in the signup flows and where we're looking all the time at the different day signals that our users are giving us on the site. So that there's a big source of truth about usage."*

Another research participant has supported the thought about the focus on quantitative data for smaller companies. In smaller businesses, the product teams have a challenge of ensuring the management buy-in before launching a VoC data collection initiative in order to generate the required funding. Big Data can be sourced online without a substantial investment and allows understanding the issues faced by customers while using the product and facilitates the COI activities that help to solve these issues:

*"I think we are a lot more quantitative at this point, I also think that the qualitative aspect comes in when you have really owned into the issue. I think sometimes you can have a hunch on what the issue is and then you may **gather more data to support it**. Or you've got all this data based on your traffic, your system performance and all that, and then you go*

deeper, and you call people, and you get their ideas, and you do these zoom interviews, we've done a ton of those. So, I would say that right now we are more focused on quantitative, but that isn't to say that we don't do qualitative research. I think that it just sometimes comes a little bit later, or it's more like when the problem is not quite clear."

To summarise, it has been observed that Big Data is a strong tool facilitating COI – it allows identifying the problem and forming an objective opinion about it, which then leads to an improved COI capability. The research participants have agreed on the fact that BD is more widely used exclusively in start-ups due to the lack of funding for the VoC research initiatives, while in bigger organisations both VoC and BD are used equally. In bigger companies the BD collection practice is usually well-established, strictly processual with KPIs attached to the key metrics observed by the teams and evaluated by the management. Some of the key metrics mentioned by the research participants are the product usage data, website analytics metrics like number of sessions, session duration, return sessions and so forth, as well as some more advanced metrics like solution adoption across the customer organisation, content usage and consumption data and so forth.

COSE and COI

Customer orientation of Service Employees (COSE) has been described as one of the essential features facilitating COI. COSE is deeply embedded in the majority of service organisations and is an integral part of the majority of key processes, including ideation. The majority of the research participants have mentioned that the customer orientation or customer focus is inseparable from the product role, as expressed in the example below:

> *"The idea that being any sort of product management that isn't customer focused for me, it'd be somewhat bizarre. I don't know how that's possible."*

One of the research participants has highlighted the importance of promoting COSE across the whole organization and the different departments in the business, also mentioning that one of the challenges of having this culture in the organization is the different priorities employees might have:

> *"Our current CEO uses the language of saying we should look at everything through the eyes of the customer, **as if I was standing in a customer's shoes**. And she's clearly using the language and communicating that to everyone. It's what you're trying to get everybody to do. Obviously, the challenge is that people get caught up in other incentives that are not aligned with the customers and you get unhappy customers. I think [my company] is very data driven, very research driven and grouping. It's got a large sales organization and it's very aware of what's going on for its customers."*

One of the ways of establishing a strong COSE in the organisation, especially across the senior management, is direct communication with the customer and customer facing activities. The majority of senior people within the product teams spend a lot of their time being customer facing and carrying out extensive conversations with customers in order to identify the issues they encounter on a day-to-day basis, as expressed in the example below.

"I spent pretty much all my time talking to externals, since it's either current customers or prospective customers, trying to ascertain what they're doing, what the parallels are and what they're doing."

Moving on, another way of approaching COSE and ensuring its projected onto the ideation process is trying to imagine yourself 'in the shoes' of the customer and trying to understand what value the solution brings and what problems can it solve. The example below describes this value creating method:

"[My approach is] to start with looking at what the value is that you're bringing the customer in your solution, which a lot of people don't take. In other words, fundamentally to me it's about putting yourself into the shoes of the customer, assessing the value of what you're bringing from that perspective, which seems obvious."

Finally, it is to be mentioned that COSE has a strong impact on the ideation capability, and on the COI in particular. The vast majority of the research participants have strongly agreed that customer focus is an impactful facilitating factor, contributing to their ideation activities, as expressed in the example below:

*"**[Customer focus helps generate new product ideas]** specifically because it helps us understand what problem to focus on next. It doesn't, we don't use customers to tell us what to build, but we use them. So, to identify the key pain points to focus on."*

Summing up, COSE has been mentioned as a strong facilitating factor to ideation by the majority of the research participants. The interviewees have predominantly expressed their agreement with the fact that COSE in the product team is an important component of all the processes and plays an important part of the teams' performance, incentivising ideation and allowing the involved stakeholders understand the customers' perspective and 'walk in their shoes'. Some of the ways of achieving COSE in the ideation activities and successfully implementing it into the processes is open communication with customers face-to-face (for more senior, customer facing employees)

and different techniques that allow deep diving into the customers everyday life and evaluating the value that the solution can potentially bring to the customers' lives.

Relationship between COI and IA

One of the key observations regarding adoption has highlighted the fact that despite having a very deep understanding if the metric and its importance in the solutions development practice, not all of the stakeholders from the interviewed organisations had processes in place to measure and evaluate adoption and the factors that affect the adoption levels in their organisation. Measuring adoption has also been said to be a complex process that varies across the different types of solutions and platforms that are being developed; it is especially hard to measure the adoption levels of new features of one solution. Despite the complexity of the notion and the issues related to measuring it, the majority of the research participants have agreed that being customer-oriented in their ideation and addressing specific customers' needs helps improve the future adoption.

Depending on the size of the organization, the measurement of adoption may also suffer. Smaller businesses might not have financial capabilities to purchase expensive analytics solutions to track the user behaviour on their platform, hence why adoption cannot be measured precisely. To the contrary, in bigger companies there are mechanisms and tools in place that help evaluate adoption; furthermore, there are specific KPIs attached to the adoption levels of the product as a whole, as well as separate features of the product that the NSD teams are being measured against.

Moving on, it has also been observed that carrying out the ideation activities in a customer-oriented manner facilitates adoption. The research participants from the larger organisations have observed a positive impact of COI on the adoption of the solution, as expressed in the example below:

> *"I think listening to customers and understanding what their challenges are, explaining these things back to people delivering a project, explaining it to engineering and design has a positive impact on **customer adoption**. New information really helps provide context. It helps come up with better solutions to what your problem might be. The more information we know the better the decisions will be made. I think it's really important to the success of a business."*

A few of the interview participants have highlighted the fact that adoption as a KPI and metric is predominantly present in larger companies due to the fact it's a complex metric and is not easy to measure for some of the solutions. In addition to that, the measurement might be very time consuming and might require the people-hours and financial resources that smaller companies might not have available. One of the interview participants working in a student loan company has mentioned having a bird's eye view on adoption:

> *"I think that we do look at [customer adoption] more from a bird's eye view. For our three main verticals I'll just give a brief overview, we've got the in-school business finance for people who need to borrow money for school, we've got refinance for people who want to refinance student loans. Then on our enterprise side we are offering student loan payment benefits to employees through their employers. So that enterprise product is still in a very, very early adoption stage, whereas refinance is definitely mainstream, and in school is a late market, like everybody knows how to do that. I think at a bird's eye view we can understand that, but we don't technically do a lot of product development or product research around the actual uptake of our products, not intentionally I don't think."*

Adding up to the fact that the notion of adoption can differ for different solutions due to the technicalities and peculiarities of their design, some of the research participants have also mentioned that the ways of measuring adoption may vary based on the objectives that are being set, as can be seen in the quote below:

> *"Most of the time when we're measuring adoption, which can be anything from the number of customers who are building solutions on a platform, an amount of uptake and consumption of a cloud service. There are many ways you can measure [adoption]. It just depends on what it is you want to measure. Mostly what I've done [in my career] is driving adoption of some sort of technology."*

To summarise, the outcomes of the research have highlighted that adoption is a complex metric that is costly and time-consuming to measure and is predominantly measured in larger companies that have funding to purchase expensive analytics tools. In smaller companies, the adoption

characteristics are measured less frequently and the factors affecting adoption are not analysed in a systematic manner. Further, based on the experiences of the POs in the big organisations that have been interviews, COI has been described to be linked to IA. COI is also adopted as a best practice for ideation activities.

The Moderating role of IC

IC or coordination between the different departments of the business has been said to have a strong impact on the activities within the NSD process. The research participants have predominantly observed the impact of the coordination and communication between the different business departments involved in the solutions development, especially on the level of sharing experience and knowledge about the customers, as expressed in the examples below (all quotes from different research participants):

> *"Coordination between the different business departments and teams, collaborative environment, and open communication is extremely important to facilitate the creation of new ideas. We have specific rituals and processes that facilitate coordination and bring the teams together to work on new ideas."*

> *"One of the key things facilitating ideation is the coordination between the different units within the business – communication and collaboration to make sure all the departments are on the same page and have the same access to data."*

> *"Coordination between the different departments of business is extremely important and facilitates both communication and ideation processes. We do a lot in terms of communicating our [customer] research across the business and engaging people. Everyone can come and contribute to our feedback sessions and the research initiatives that we run. On the other hand, the feedback management system we have in place and there is a good engagement from other departments."*

The majority of the research participants have strongly agreed with the fact that coordination links the numerous processes with the solutions development and, as a result, fuels better ideation:

> *"Coordination between the different departments of the business is really the key to better ideation, and, in turn, better ideas. This is because when the departments are all on*

the same page, share the same level of knowledge on the customer and are given incentive to grow this understanding, they work better together and produce better outcomes."

Moving on, IC provides the required capability for the various involved stakeholders to stay on the same page and remain aligned toward their objectives, with robust customer insights sourced from the variety of reliable sources of data backing up the decision-making process:

> **"Communication should be facilitated between the departments benefiting from a better understanding of the customer and the customer data.** *Everyone has to be on the same page and work together, aligned. In many businesses, marketing, IT, sales and other departments are disjointed, while they should be working together on the final solution.* **There needs to be data in place to back decisions."**

Another important factor is keeping your hand on the pulse of the company in terms of coordination. It is an ongoing, fluctuating process, and even in the companies with high levels of coordination there is still space for improvement, especially in communication and having open access to information:

> **"Customer success, engineering, development, operations are all very well coordinated***; they function in the same centralised system so that information flows from one to the next. But we are not set up in such a way that day by day. Blow by blow marketing knows the status. They can look at the dashboard and look at the status of each one of these. So that does kind of require more hand-held communication and specific meetings. I would say that we are focused on being transparent and communicating as clearly as possible. Like any company I would say there are opportunities to improve it."*

Some of the research participants have noticed that the level of **IC is highly dependent on the size of the organization: the larger the organization, the harder it is to maintain IC across the different departments** within the business as they tend to work in silos. To the contrary, the level of IC in smaller organizations and start-ups tends to be higher as stakeholders across different

departments are easily accessible and the communication between the different business units tends to be better. Below is an example of the coordination overview in a small start-up:

> *"I think that **I'm in a pretty lucky position because our company is small, it might be different in a larger organization,** but in the two start-ups that I have worked at we were a pretty small team, and it was super easy to just send someone a slack message or an email and ask them a question or give them an update. I've never noticed that there was a barrier in communication. I think that sometimes the biggest thing that I have noted: if roadmaps change or priorities shift it is even more important to communicate that than we normally would just to make sure that every stakeholder involved is more up to date."*

On the opposite side, it is way more difficult to maintain IC in larger organizations:

> *"I think you know, **the smaller the businesses, the easier it is to coordinate**. And obviously that's certainly a huge organization, 30,000 people, you know, it's incredibly difficult to coordinate. **There are problems with silos between the products**. There were problems with silos within the products between sales, marketing. You're constantly fighting a losing battle to try and get everything lined up. The organizer, the organizational alignment method that we are using and have been using the last three or four years is OKRs. A big problem is that you don't understand what other people are doing and their OKRs. I would say this is just a constant tension between edge to centre. That's just what it's like to run a big organization. There's no fixing it."*

Summing up, it is clear that IC plays a consequential part in the NSD activities – it can be described as fuel that stimulates the majority of the processes in the organisation, including ideation. Some positive stimulating impact of IC can be observed between the notions of VoC and BD that facilitate COI, with IC supporting open access to information and the exchange of data, as well as allowing to tackle siloed departments that do not have processes for communicating and aligning objectives. Regarding the influence IC has on COSE, it has been observed that customer orientation can suffer in larger organisations with different departments, teams or individual

employees experiencing a lack of focus. When this happens, the coordination between individuals, teams and business units becomes a protagonist and led by the company management, allows to re-align the business to common goals and objectives, including reinforcing the customer orientation.

Despite the fact that some positive impact of IC has been observed on the key variables of the theoretical framework, it is suggested that some further research is required to uncover this notion in full. The data that has been gathered from the interviews with the industry professionals covers some basic-level notions, but further, more in-depth look into the moderating effect of IC will be necessary to strongly position the conceptual framework.

Limitations and Further Research

Despite author's effort to ensure the overarching impact of the described research project and the adequate representation of data and findings, the research, nevertheless, comes with a small number of shortcomings, as discussed below.

It is worth noting that the participants for the interviews were selected based on the relevance of their job title and role to the subject of the research. They have proven to be capable of providing relevant insights and were extremely helpful for testing the variables of the theoretical framework in detailed individual interviews. Despite that, the shortcoming that has been observed is the market the participants are working in. The majority of individuals that contributed to this project are based in the UK. Even though the UK market has proven to be the most developed and significant in the area of NSD, hence why the industry leaders in the UK are often considered trendsetters, making the finding of this research even more innovative for other markets, a research of other geographic regions can be interesting to understand the differences of approaches in other regions.

Moving on, another limitation that is worth mentioning is the size of the companies the research participants are employed in. The majority of the research participants work in smaller organisations (SMBs) or start-ups, and only a few of the interviewees work in larger organisations or corporations. Based on some of the highlights of the research, there are significant differences in the performance of the suggested theoretical framework in the companies of different sizes: for instances, the moderating factor of IC is much stronger in start-ups while it is way less impactful in larger organisations with various business units operating in silos. In this light, further research focused on investigating the differences between the performance of the theoretical framework in the organisations of different sizes will be beneficial and will contribute to the academic knowledge on the subject.

Further, the expertise of the research participants and the size of the sample can also be considered a limitation of the research. With twenty research participants that have been interviewed for the

project, not all of them had relevant experience to contribute to the project – some due to the size of the organisation, some due to the character of the company or the practices that are in place in their company. These factors may have affected some of the answers: for example, some of the research participants that work in smaller companies do not have mechanisms in place to measure adoption, therefore they were unable to contribute to the following question. Some of the aspects that have been affected by the aforementioned limitation are the impact of COSE on COI, characteristics of COI and levels of COI. Further research on the aforementioned notions will be beneficial to the establishment of the theoretical framework in the academia. A research project with an expanded sample size would also be helpful to improve the understanding of the framework; it is also suggested that a quantitative study would add up to the data that has been collected in the described paper.

Moving on, during the process of carrying out the individual interviews and upon finalisation of the research outcomes from the second study, a need for additional data supporting some relationships within the variables and the moderator within the conceptual framework has been observed. While the results of the individual interviews with the industry experts have provided a strong case of supporting data regarding the relationships between the variables of the conceptual framework, further data supporting the moderating effect of IC on an organisational level was seen as requisite. Therefore, to fulfil the need for further data to support the proposed moderator (IC) or propose a new moderating variable, an additional data collection activity is advised, further discussed in the next section.

Concluding the above, the key limitations of the described research project are related to the fact that it is carried out in a restricted market (UK, SaaS industry) with a limited number of research participants due to the qualitative character of the research. Based on that, the following recommendations for further research have been formulated:

1. A research project investigating the impact of the theoretical framework outside the UK and in a different industry setting.
2. A research project expanding the sample size and providing a quantitative validation of the proposed framework.

3. A research project expanding more on the following notions: customer adoption, the impact of COSE on COI, characteristics of COI and levels of COI.

4. An additional research project evaluating the moderating impact of IC and deep diving into the impact it has on the variables within the proposed conceptual framework.

Conclusions

COI, as a key notion introduced in this research project, can be defined as a practice of generating, analysing, interpreting and incorporating a wide range of customer data at the ideation stage of NSD projects. As a continuation and logical development of the market-oriented ideation notion, COI encompasses its key qualities therefore leading to the success of the new solutions in the market. Adopting market-oriented idea generation has been said to lead to superior product ideas – best ideas come from the customers and this methodology helps to project that onto the solution. Based on the research findings, the notion of COI is deeply embedded in the NSD practice within the analysed industry.

Based on the outcomes of the interviews, the **elements of COI** can be summarised as follows:

- Mentality and mindset;
- Processes and rituals;
- Contextual knowledge;
- Company culture and ethos.

The levels of COI have been identified based on the practices in the organisations that have been under the investigation. The research participants have highlighted the following levels of COI:

- **Individual level** – observed in situations when particular individual showcases high COI capabilities.
- **Team level** – observed in a group of individuals working closely in a team that can be characterised by a high COI capability.
- **Business unit level** – observed in a particular business function across all teams within the business unit that showcase a high COI capability.
- **Company/organization level** – observed across the whole organisation, when the COI capability is strong across the business functions and units, with all the individuals, teams, and business units can be characterised by a strong COI capability.

It has also been observed that the levels of COI across the organisations are consecutive, therefore you cannot achieve a higher level without ensuring the strong presence of the previous level: i.e. high team COI level cannot be achieved without a strong individual COI level across all the individuals on the team.

Furthermore, the interviews have also allowed identifying some of the characteristics of COI. The individual that showcases a strong COI capability can be described by the following characteristics:

- Deep understanding of the customer, their preferences, needs and wants via data sourced from a variety of reliable, cross-referenced sources.
- Using customer knowledge as a creative tool.
- Actively advocating customers' needs and wants internally.
- Educating other internal and external stakeholders about the customers and the COI.
- Promoting open communication and open access to customer information across the organisation.
- Ensuring best practices have been implemented in regard to the privacy and data safety, including the ethical ways of collecting, storing and using customer data.

Moving on to the next topic of the practical application of the COI in the NSD practices. All of the interviewees have emphasised on the importance of maintaining and promoting customer focus on the ideation stage, across the NSD teams and other units of business involved in the process, also identifying that this customer orientation is facilitating ideation. It has also been observed that for the majority of the research participants COI is one of the most critical drivers of ideation in their company. Further, it has also been observed that the main focus of COI is helping to identify and understand the problems and pain points of the customer that the solution that is being developed can solve. COI also allows for a better understanding of the market and the industry context.

The majority of the interviewees have expressed strong agreement with the fact that customer focused is deeply embedded in the ideation processes and they cannot imagine ideation activities

carried out without having the customer in mind, which is true for various business models - both B2B and B2C. It has also been highlighted that it is not only important to maintain high levels of COI, but it is also crucial to be able to interpret and understand the customer data.

Regarding the facilitating factors of COI, it has been found that the variables of the theoretical framework have a strong impact on the notion. VoC, BD and COSE have all proven to be consequential contributors to the establishment of COI in an organisation.

VoC facilitates ideation by providing an understanding of the customer needs that can be further projected onto possible solutions. VoC allows establishing a clear understanding of the customers' mindset and provides the 'why' that is often hidden behind the quantitative data. Some of the most popular ways of obtaining VoC that were mentioned by the research participants are interviews and focus groups, but some of the interviewees have also mentioned some more creative ways like customer councils. Communication with the Customer Success team has also been names among the impactful sources of qualitative data, with the challenge being the lack of communication between the departments, little or no established process for open information exchange and operating in silos. Overall, the key challenges of obtaining VoC via qualitative research methods is the financial and time investments, which is why the research participants from bigger companies have expressed a more extensive experience of such research, while the ones working in start-ups have less opportunities to implement it, though still expressing how important it is in ideation.

Big Data is a strong tool facilitating COI as it allows identifying the problem and forming an objective opinion about it, which then leads to an improved COI capability. BD is more widely used in start-ups due to the lack of funding for the VoC research initiatives, while in bigger organisations both VoC and BD are used equally. In bigger companies the BD collection practice is usually well-established, strictly processual with KPIs attached to the key metrics observed by the teams and evaluated by the management. Some of the key metrics mentioned by the research participants are the product usage data, website analytics metrics like number of sessions, session duration, return sessions and so forth, as well as some more advanced metrics like solution adoption across the customer organisation, content usage and consumption data and so forth.

COSE has been mentioned as a strong facilitating factor to ideation by the majority of the research participants. The interviewees have predominantly expressed their agreement with the fact that COSE in the product team is an important component of all the processes and plays an important part of the teams' performance, incentivising ideation and allowing the involved stakeholders understand the customers' perspective and 'walk in their shoes'. Some of the ways of achieving COSE in the ideation activities and successfully implementing it into the processes is open communication with customers face-to-face (for more senior, customer facing employees) and different techniques that allow deep diving into the customers everyday life and evaluating the value that the solution can potentially bring to the customers' lives.

Moving on to the notion of Innovation Adoption and the observed impact of COI on the notion within the NSD processes. It has been identified that adoption is a complex metric that is costly and time-consuming to measure and is predominantly measured in larger companies that have funding to purchase expensive analytics tools. In smaller companies, the levels of adoption are measured less frequently and the factors affecting adoption are not analysed in a systematic manner. Further, based on the experiences of the POs in the big organisations that have been interviews, it is clear that COI has a positive impact on IA and is adopted as a best practice for ideation activities.

The moderating effect of IC has also been investigated in the research with the findings highlighting that IC plays a consequential part in the NSD activities – it can be described as fuel that stimulates the majority of the processes in the organisation, including ideation. The positive stimulating impact of IC can be observed between the notions of VoC and BD that facilitate COI, with IC supporting open access to information and the exchange of data, as well as allowing to tackle siloed departments that do not have processes for communicating and aligning objectives. Regarding the influence IC has on COSE, it has been observed that customer orientation can suffer in larger organisations with different departments, teams or individual employees experiencing a lack of focus. When this happens, the coordination between individuals, teams and business units becomes a protagonist and led by the company management, allows to re-align the business to common goals and objectives, including reinforcing the customer orientation.

Summarising all the above conclusions, it is clear from the qualitative validation of the theoretical framework that the key relationships identified by the author of the stage of literature review and further conceptualisation of the model have proven to be effective in the professional environment. The theoretical framework has received a very positive feedback from the professional community with interesting findings being made and innovative suggestions for further research outlined in the paper accordingly.

Contributions

A need for further research in the chosen domain has been identified in the Study 1 of this thesis, on the basis of the research gap outlined previously. This study is beneficial on both academic and practitioner levels and serves as an important basis for further research in the area.

Academic Contributions

As previously discussed in the Study 1 of this thesis, the introduction of the notion of COI based on Cooper's work on ideation is an important contribution to the current knowledge on the processes within NSD. The introduced notion of COI is adjusting the market-oriented ideation to the modern business environment and based on the collected qualitative data from the individual interviews, meets the requirements of the current practitioners and better reflects the day-to-day work they do on the customer data collection that is further incorporated in the ideation process.

Moving on, the qualitative validation of the theoretical framework has allowed to outline some of the important interrelations of the notions within the NSD processes, such as the following:

- VoC has been described to facilitate COI, providing the qualitative information on the customers perceptions, wants and need.
- BD has been described to facilitate COI, acting as a source of objective quantitative data reflecting customer behaviour (i.e., usage data).
- COSE has been described to facilitate COI, meaning that when the employees across the different departments of the company are customer oriented, such corporate ethos results in more customer-oriented ideation activities.
- COI has been described to facilitate IA, as the solutions developed with an orientation on customers and basing the decisions on the customers' insights, are said to be better adopted by the customers.
- IC can moderate the relationships between VoC and COI, and BD and COI.

- The correlation of IC in moderating the relationship between COSE and COI is to be further tested.

These interrelations are valuable as this experience can be transferred to other industries and markets to systematise the knowledge to reinforce better outcomes of the processes. An important academic contribution also sits within the fact that IC has been used in the theoretical framework as a moderator, and this premise can be further incorporated and projected on other areas of research.

Managerial Contributions

On the practitioner level, the contribution of the study is two-fold: it provides a practical guide for the NSD teams to apply in order to improve the adoption level of the new solutions, and some of the practical observations and experiences described by the research participants that can be applied in a range of processes leading to better outcomes of the solutions development.

The qualitative validation of the theoretical framework has demonstrated that the key relationships gathered via secondary data collection and the review of the existing academic developments on the subject. By incorporating the practices outlined in the model and following the step-by-step approach suggested in the model, the practitioners in the industry will be able to achieve better results, faster and more effective go-to-market and improve the level of adoption of the solutions in development.

Further, some of the observations of the research, taken from the practical day-to-day life of some of the most influential people in the SaaS industry working in solutions development, have allowed coming up with a range of best practices in regard to the notions of the theoretical framework. The Findings section of this paper, as well as the Conclusions, present a range of important practices, tools, methodologies and insights that, additional to the key findings of the theoretical framework, facilitate more effective and efficient solutions development.

Study 2.2: Focus Group

Introduction

Study 2.2 has been introduced to the research project in order to meet one of the key limitations of Study 2.1, which is the lack of supporting data providing the proof of the moderating impact of IC on the variables of BD, VoC and COSE and the notion of COI, as outlined in the Limitations section of Study 2.1. Therefore, the key aim of Study 2.2 is to bridge the gap identified upon the completion of Study 2.1. It has been concluded that in order to successfully fulfil the research project and achieve the desired outcome of the clearly formulated integral theoretical framework supported by substantial data, it is critical to uncover the real potential of the moderating impact of IC on the said variables.

Study 2.2 is a logical continuation of Study 2.1, clarifying the limitation of the moderating impact of IC by making further observations through communicating with the industry experts in order to finalise the organisational level component of the conceptual framework. Study 2.2 is integrated in the composition of the research project (as seen in Figure 1).

Research Questions and Objectives

The goal of Study 2.2 is to look into the moderating effect of IC on an organisational level of the conceptual framework in more detail, to uncover the impact it has on the key variables. In addition to that, the Study 2.2 will also be aiming to finalise the list of the limitations for the second study in order to facilitate the formulation of clear research objectives for Study 3.

Furthermore, it is also critical for the supplementary research project to be implemented as answering the above research questions and meeting the research objectives will facilitate the creation of the questioning strategy for the Study 3 questionnaires.

To address the goals outlined above, Study 2.2 addresses the following research question:

- RQ 6: Does IC act as a moderator of the following relationships:
  - RQ 6a: VoC and COI;
  - RQ 6b: BD and COI;
  - RQ 6c: COSE and COI.

To answer the Research Question, below is the list of the Research Objectives accordingly:

1. To investigate and identify the moderating impact of IC on the specific variables of the conceptual framework.
2. To finalise the list of moderators for the theoretical framework by analysing additional factors and theories.
3. To finalise the list of the relationships within the theoretical framework that require further testing within Study 3.
4. To identify the final list of limitations for Study 2.
5. To formulate the ideas to be implemented within the questioning strategy for the questionnaire developed in Study 3.
6. To suggest recommendations for both academia and industry.

Details on the proposed research methodology aiming to meet the research objectives can be seen in the next chapter.

Methodology

To begin with, the key goal of the Study 2.2 is discovering further information about a topic already covered to some extent in Study 2.1, where data was collected via interviews with the industry practitioners. The purpose of the Study 2.2 can be summarised as exploring the variables of the framework further (Corbin & Strauss, 2008). Therefore, the approach selected for this research project is qualitative.

Research Context and Sample

The supplementary research project has been carried out in the context of the SaaS industry in the UK, following the success of the Study 2.1 that has already been ran in this setting. The industry fit has been discussed in detail in the Literature Review section of Study 2.1. To reinsure the successful implementation of the supplementary study, high-level executives working within the SaaS segment have been selected due to their ability to contribute to the research questions to a full extent, having their expertise and knowledge. The research participants can be named as experts in the domain of new product and solutions design and are well-established in their line of work. For the purposes of the Study 2.2, five research participants have been selected, both from start-ups and bigger companies, which will contribute to a more precise, in-depth understanding of the topic.

The sampling strategy for the Study 2.2 followed the successful experience of the Study 2.1, using the LinkedIn platform to identify and select the participants, whose expertise would be most beneficial for the research project. The firms' characteristics with the research participants details can be found in the table below.

Table 14. Firms' characteristics and participant details (Authors Own, 2021).

Firms Characteristics		Participant Details					
Sector	Size	Age	Gender	Years of Experience	Years in the Company	Level	Department
IT/SaaS	SME	37	M	12	5	Senior	Product development
IT/SaaS	SME	28	M	8	4	Senior	Product development
IT/SaaS	SME	33	M	10	1	Middle	Product development
IT/SaaS	SME	48	M	20	4	Management	Management
IT/SaaS	SME	33	F	11	5	Senior	Product development
IT/SaaS	Start-up	42	M	12	2	Senior	Product marketing

Focus Groups Methodology

The research methodology selected for the Study 2.2 is the focus group methodology. Traditionally, focus groups are referred to as:

> "a way of collecting qualitative data, which – essentially – involves engaging a small number of people in an informal group discussion (or discussions), 'focused' around a particular topic or set of issues." (Wilkinson, 2004, p.177).

Another definition of the focus group methodology describes it as:

> "a form of group interview that capitalises on communication between research participants in order to generate data," – Kitzinger, 1995, p.299.

The use of focus groups is a common occurrence in the social sciences and business research domains, where it is predominantly applied to gather data from multiple research participants at the same time (Onwuegbuzie et al., 2009). Another strong benefit of applying focus group research methodology is that it allows to dive deeper into and explore participants' expertise in an interactive setting, where not only does the researcher ask questions in turn to all the participants, but also the participants themselves are encouraged to talk to one another by commenting, exchanging experiences or anecdotes or asking further questions, as further elaborated by Kitzinger, 1995, p.299:

> "The method is particularly useful for exploring people's knowledge and experiences and can be used to examine not only what people think but how they think and why they think that way."

The idea behind the development of the modern focus groups methodology is based on the concept of group interaction, which is said to help people express and explore their views in a way that would not be feasible in one-on-one interviews. Focus groups are distinguished from other qualitative data collection methods due to its focus on applying group interaction to gather required data and insights (Kitzinger, 1995). In addition to that, focus groups are said to be a more comfortable environment for many research participants, allowing them to feel less threatened and making them more prone to discussing their perceptions, opinions and thoughts (Krueger and Casey, 2000; Wilkinson, 2004). Furthermore, focus groups are also said to be an economical, fast, and efficient way of collecting data from a group of research participants (Krueger and Casey, 2000), allowing to increase the number of research participants per given study, while also saving time and resource (Krueger, 2000).

To summarise, focus groups have been widely applied by researchers in various domains for the last 80 years, with the key objectives achieved through the use of the method being generating more detailed and elaborate qualitative data on the given topic via leveraging from the research participants expertise revealed in a comfortable group environment, while also achieving the peripheral objective of the identification of the further research questions, in particular for surveys

(Morgan, 1998). In conclusion, all the above characteristics and benefits of using the focus groups research method makes it a good fit for the purposes of the suggested supplementary study, as outlined in more detail below:

- Focus groups allow gathering additional insight on a given topic, that was not feasible to obtain via interviews. This fits well with the purpose of the supplementary study, which is aimed to fill the research gaps from interviews carried out in the frames of Study 2. A supplementary focus group will help to further investigate the relationships of the conceptual framework that required a more detailed analysis post interview.
- Focus groups are often used to identify the appropriate survey questions to be used in further research on a given topic. This objective of the focus groups links well to the objective of the supplementary study to create the survey questions for Study 3.
- Focus groups are an economical and quick method of collecting data from multiple research participants. Having that the current academic and business environment is affected by the Covid-19 outbreak, with UK now being in the state of full lockdown, it is critical for the researcher to carry out the project as efficiently as possible.

The points outlined above summarise the rationale for the choice of the research strategy for the supplementary study. It is critical to take into consideration the current environment, with researchers and industry practitioners being affected by the Covid-19 related restrictions, hence the decision has been made to carry out the focus group in an online environment, as having a face-to-face meeting with over two people (even in a socially distanced manner) is prohibited by the current governmental guidelines for the UK.

The Role of the Moderator

The role of the moderator is critical in the focus group environment. The researcher in this case takes up on the role of the moderator, whose purpose within the study is best described as regulatory (moderation) and creative (generating ideas) (Breen, 2006). The moderator should also aim to create a comfortable environment for all the participants of the focus group, make sure the

purpose and the format of the focus group are clear and straightforward, and re-ensure the participants of the focus group are communicating and collaborating at ease (Gibbs, 1997).

Further, moderator's role is also contributing to the unfolding of the debate, which is achieved by asking open questions, challenging the participants, probing for further details on an interesting topic and move the conversation forward when the topic starts to drift (Gibbs, 1997). It is critical for the moderator to ensure the session remains focused and follows the questioning strategy and make sure the group dynamics are in harmony:

> "Focus group moderators serve as discussion leaders. The moderator is responsible not only for guiding the participants through the discussion, but also for looking after the group dynamics to ensure all participants join in the discussion. When some participants dominate the discussion, the moderator should address questions to individuals who are reluctant to talk, in order to balance out participation", – Wong, 2008, p.258.

In bigger research teams, the role of the note taker is usually taken up by a separate researcher. In the case of the described research project, due to the Covid-19 restrictions, the research team consist of one researcher, acting both as a moderator and a note-taker:

> "The note-taker will have to capture what was said and expressed, noting the tone of discussion, the order in which people spoke (by participant number or name), as well as phrases or statements made by each participant. It is extremely important for the note-taker to capture the information from the discussion as accurately as possible", – Wong, 2008, p.259.

The notes have been carefully taken during the focus group by the researcher and have been used during the transcription and data analysis, to ensure the information is matched and presented correctly.

Online Focus Group

In order to meet the research objectives and answer the research questions, an online focus group has been designed. Based on the previous observations and the existing academic knowledge in the domain, online focus groups are said to be as effective and have the same validity as the classic face-to-face approach (Reid and Reid, 2005). Online focus groups were introduced as a novel method of qualitative data collection with the wave of rising Web 2.0 technologies and the introduction of new online platforms and tools. One of the key benefits of online focus groups includes the fact that they allow researchers to reach more potential research participants around the world, create new groups with participants from various locations, avoiding the time- and resource-consuming need to travel and the use of innovative collaborative and brainstorming tools. Using the online focus group methodology also allows avoiding one of the key limitations of the classic face-to-face approach: the need for time and a dedicated space to carry out the project (Stewart and Shamdasani, 2017). In addition to that, virtual focus groups are carried out on an anonymous basis, which makes research participants more willing to express their opinions and perceptions more openly (Stewart and Shamdasani, 2017).

Having the exponential growth of Internet and the ever-increasing reach of the online environment worldwide, more and more researchers are inclined to use the online focus group methodology (Stewart and Shamdasani, 2017), leveraging from the undeniable benefits of this approach:

> "Use of virtual groups greatly expands the pool of potential participants and adds considerable flexibility to the process of scheduling an interview. Busy professionals and executives, who might otherwise be unavailable for a face-to-face meeting, can often be reached by means of information technologies. Virtual focus groups may be the only option for certain types of samples." – Stewart and Shamdasani, 2017, p.50.

Three key categories of online focus groups have been observed by the researchers in the area (Stewart and Shamdasani, 2017):

1. Asynchronous – carried out within a period of time, ranging from hours to days.
2. Synchronous – takes place in real-time.

3. In virtual world – is implemented in a computer simulated environment.

Due to the current quarantine and lockdown restrictions in the UK, the online focus groups methodology is among the very sparce research methods of qualitative data collection that can still be implemented without breaking the governmental regulations. The decision was made to focus on the asynchronous data collection, as it gives the research participants more time to think about the questions and reply when it is convenient to them, allowing for more detailed answers (Stewart and Shamdasani, 2017). With the Coivd-19 outbreak affecting businesses across various industries, senior employees are experiencing the lack of time for out-of-office activities (based on the feedback from Study 2), hence why it was critical to make the research project more adjusted to the current realities. In addition to that, the chosen methodology was considered relevant for the supplementary study as it has previously been used to investigate the notion of IC in more detail (Ruiz-Alba et al., 2019).

In order to implement the Study 2.2, an online tool called Padlet was used to create, run and facilitate the discussion threads. The researcher has used the corporate Padlet account provided by the University of Westminster. This corporate account allowed creating a secret link, only accessible by the research participants via encrypted link. The participants were asked to express their opinion using text boxes, locating them under specific columns, each representing a particular research question. The link was available and accessible for 24 hours, allowing the participants to answer the questions in the time of their convenience, following the asynchronous manner. The research participants were also briefed to collaborate and interact with other research participants' comment boxed and respond to the additional questions and comments from the research moderator. The process of identifying and selecting the participants of the research project was based on ensuring the scale of saturation within the company sizes, ranging from start-ups to big corporations, and the job titles represented (Corbin and Strauss, 2008).

Questioning Strategy

The focus group questioning strategy was developed on the basis of the previously identified research questions and objectives. In order to meet the goals of the described research project, the

following topics have been identified and proposed for use within the focus group (see the table below). Within the questioning strategy utilized during the focus group research project, the three key types of questions commonly used on the focus groups discussions have been included: opening questions, introductory questions, transition questions, key questions and exit (or ending) questions (Krueger, 1997). As recommended, the researcher has taken into account the probing period of the focus group implementation, using the first part of the focus group to open up the topic, introduce the researcher and the topic, and following up with transition question. The final two thirds of the time allocated to the focus group project have been dedicated to the key questions and the exit questions, based on the good practice for the selected research method (Breen, 2006).

Table 15. Focus group questioning strategy (Authors Own, 2021).

Research question	Focus group topic	Aim	Type of question
N/A	Greetings. Foreword regarding the research project and why has the focus group been gathered.	To outline the purpose of gathering the participants to take part in the research project.	Opening question
N/A	A more detailed introduction to the research project, introduction to the researcher and the participants. Breaking the ice. Any questions regarding the focus group format or purpose the participants might have,	To provide a detailed introduction to the research project and introduce the researcher. To re-ensure the research participants feel comfortable and understand the purpose of the focus group.	Introductory question

N/A	An outline of the key rules of the focus group and the guidelines regarding the interaction with the content of the focus group (in the Padlet software) and with other research participants. Reassurance that the research participants are ready to start.	To transition from the opening and introductory questions and reinsure the participants are happy to start the focus group.	Transition question
RQ 6a	The role of the interaction and coordination between the different business units within the process of analysing and implementing VoC during the ideation processes.	To discover the impact IC has as a moderator of the relationship between VoC and COI.	Key questions
RQ 6b	The role of the interaction and coordination between the different business units within the process of analysing and implementing BD during the ideation processes.	To discover the impact IC has as a moderator of the relationship between BD and COI.	Key questions
RQ 6c	The role of the interaction and coordination between the different business units within the process of analysing and implementing COSE during the ideation processes.	To discover the impact IC has as a moderator of the relationship between COSE and COI.	Key questions
RQ 6	The impact of the VoC, BD and COSE on the ideation process within the organization and the	To uncover the strengths of the variables of the conceptual	Key questions

	influences these variables have on creating a well-rounded understanding of the customers to be further used in ideation processes.	framework in more detail and test them in a focus group environment.	

Findings and Discussion

The results of the focus group did not require transcribing, due to being delivered in the text format online. In order to analyse the data collected via online focus group, NVivo 12 software has been applied, which is a widely used tool to be used in analysis and interpretation of qualitative data. Various versions of the NVivo software are commonly used for computer-assisted qualitative analysis for qualitative research (Schmieder, 2014), as it can be described as an effective solution to work with big sets of qualitative data in a convenient and time-saving manner (Talanquer, 2014).

Constant Comparative Method

The Constant Comparative Analysis is among the most popular and widely used methods of qualitative data analysis, developed by Glaser and Strauss (1967). Despite the fact that data collected via qualitative research is not quantifiable, the approach to the data collection and analysis is nonetheless strict and systematic. The analysis of the data generated with the help of the qualitative methods is not performed via grouping the responses according to the pre-defined categories, but vice versa, the categories derived from the data, using the inductive reasoning approach. According to Glaser and Strauss (1967), the method of constant comparative analysis involves segmenting the collected data into specific incidents, which are then coded into categories. The categories are most commonly segmented into two types (Lincoln and Guba, 1985):

1. Categories used by the research participants to describe their own experiences.
2. Categories that the researcher identifies as important to the subject of enquiry.

The analysis of the content and the creation of the categories is an evolving process, with the understanding of the categories, their properties and the relationships between properties developed over the course of the analytical process (Taylor and Bogdan, 1984). The content and definition changes can be summarised as follows:

> "In the constant comparative method, the researcher simultaneously codes and analyses data in order to develop concepts; by continually comparing specific incidents in the data, the researcher refines these concepts, identifies their properties, explores their relationships to one another, and integrates them into a coherent explanatory model." – Taylor and Bogdan, 1984, p.126.

The statement above re-emphasises on one of the critical elements of the qualitative research, being that in the case of the qualitative data analysis, the main tool of the analysis is the researcher. While the appropriate facilitating software applied for the data analysis, does not analyse the data for the researcher, but rather the researcher uses the software to assist the analysis (Denzin and Lincoln, 2005):

> "Computer software tools are capable of assisting the qualitative researcher with multiple types of analyses, so that the underlying theories and relationships in the data can emerge." – Leech and Onwuegbuzie, 2011, p.71.

Based on the above, the researcher has carried out the coding and the analysis of the data collected during the focus group using the constant comparative method, with the key observations and findings presented in the next chapter.

Coding Framework

Based on the chosen method of analysis, the specific coding framework has been developed in order to meet the objectives of the research and answer the research questions accordingly. Following the two types of code segments discussed earlier (Lincoln and Guba, 1985), the first category has been devised by the researcher (displayed in the table below as code 1. Identified by

the researcher), on the basis of the importance of the key notions of the research, critical to the understanding of the findings and the further projection of those onto the research queries. Further, the second category of the codes has been developed while analysing the data researcher (displayed in the table below as code 2. Categories introduced by the research participants) and in order to cover all the insights provided by the research participants on the subjects that have been discussed. The coding framework has then been reviewed and finalised and presented in the table below, linking the queries and categories of search to the research objectives accordingly.

Table 16. Coding framework (Authors Own, 2021).

Category	Type of code	Research question
Impact	1. Codes identified by the researcher	RQ2
• VoC on COI	1. Codes identified by the researcher	RQ2
• BD on COI	1. Codes identified by the researcher	RQ2
• COSE on COI	1. Codes identified by the researcher	RQ2
Coordination	1. Codes identified by the researcher	RQ1
Departments	2. Categories introduced by the research participants	RQ1
Coordination strength	1. Codes identified by the researcher	RQ1
• VoC and COI	1. Codes identified by the researcher	RQ1a
• BD and COI	1. Codes identified by the researcher	RQ1b

• COSE and COI	1. Codes identified by the researcher	RQ1c
Coordination outcomes	2. Categories introduced by the research participants	RQ1
• Support	2. Categories introduced by the research participants	RQ1
• Learning and sharing learnings	2. Categories introduced by the research participants	RQ1
• Innovation and new releases	2. Categories introduced by the research participants	RQ1
• Alignment between the departments	2. Categories introduced by the research participants	RQ1
Dynamic and evolving capabilities	2. Categories introduced by the research participants	RQ1 & RQ2
• Knowledge as a capability	2. Categories introduced by the research participants	RQ1 & RQ2
• Dynamic knowledge	2. Categories introduced by the research participants	RQ1 & RQ2

Moving on, the coding framework has been subsequently applied within the NVivo 12 environment, with the nodes created according to the coding framework, and the tree nodes devised accordingly. The screenshot presented below showcases the overview of the nodes and the trees of nodes, as devised and displayed within the NVivo software used for the analysis of the data collected from the focus group.

Figure 10. Nodes and node trees (screenshot from NVivo) (Authors Own, 2021).
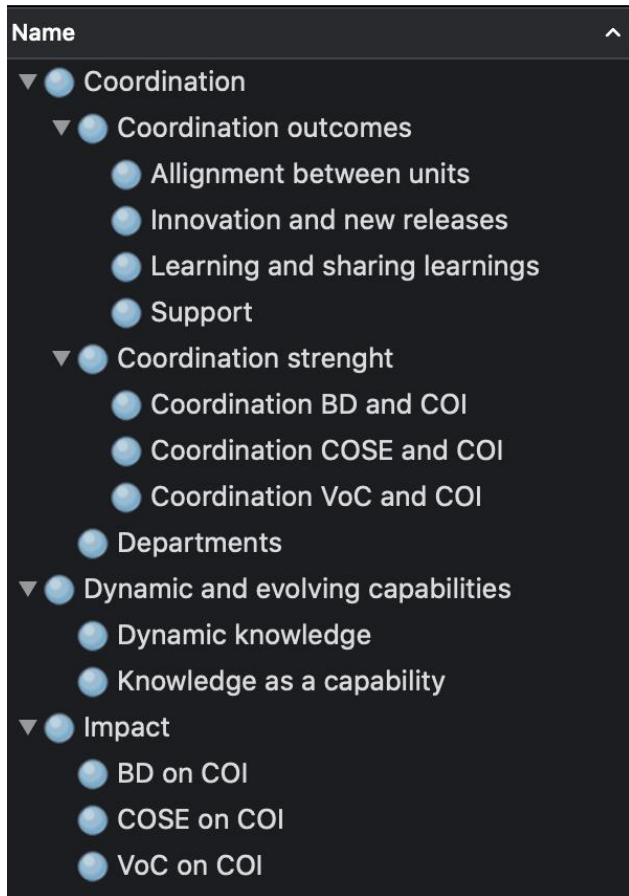
Node Sets

The tool used for advancing the described research in order to facilitate the uncovering of the insights to answer the set research questions is the sets. The sets, as one of tools available in the NVivo software, is commonly used and considered a valuable approach to theory building:

> "[…] the sets [are used] to cluster nodes together into broader concepts based on potentially meaningful relationships. They represented a useful exploratory tool because by grouping project items into sets we were not changing the node structure or duplicating items, but simply saying that these items may belong together in some way." – Hutchison et al., 2010, p.294.

In this study, the sets have been applied to group specific nodes together, based on the potential meaningful outcomes of their interrelations. The created sets facilitate future exploration of the queries set for this research initiative, while avoiding making changes to the existing structure of the nodes and creating duplicates of the items. The key purpose of this tool is to help display the items that can be perceived together on a particular basis, and this is the approach that has been applied for the analysis of the data collected via the focus group. The structure used to create and group the sets within the NVivo software can be seen in the table below.

Table 17. NVivo sets (Authors Own, 2021).

Sets	Contained nodes
Coordination	- Coordination outcomes - Coordination strength
COSE and COI	- Coordination strength/Coordination COSE and COI - Impact/COSE and COI
Customer data and COI	- Coordination strength/Coordination BD and COI - Coordination strength/Coordination VoC and COI - Impact/BD and COI - Impact/VoC and COI
Moderators	- Coordination/Coordination outcomes - Coordination/Coordination strength - Dynamic and evolving capabilities
Variables	Coordination strength/Coordination COSE and COI

	• Coordination strength/Coordination BD and COI
	• Coordination strength/Coordination VoC and COI
	• Impact/COSE and COI
	• Impact/BD and COI
	• Impact/VoC and COI

Based on the coding framework and upon the thorough analysis of the node trees and sets, the findings have been reviewed and presented accordingly in the next chapter.

Findings

The Moderating role of IC On the Variables' Relationships Within the Conceptual Framework

The Observed Level of IC

During the conversation regarding the role of the IC that took place within the described focus group, the research participants have stated that from their experience the coordination between the various business departments involved in the ideation process has been weak, drawing from the current company they are working for and the previous work experiences. The research participants have agreed that this area could be improved, with communication being the weak point. Some of the research participants have also mentioned that they believe that the level of dysfunctionality in terms of communication vary in the different organisations they have worked in, with a certain low level of coordination present in all of them.

The lack or weak coordination between the different business departments within the business has also been said to be one of the most common recurring problems observed by the research participants. Some of the research participants have mentioned that, despite the fact the coordination is improving in their company due to the initiatives ran by the management and the new rules and rituals being introduced in their work routine, the coordination is still far from perfect.

Some of the quotes from the research participants, displaying the overall dissatisfaction with the level of coordination in the companies are displayed below:

> *"The coordination between the different business departments involved in the ideation processes is currently better than it was, but not perfect",* – as expressed by the senior product manager that took part in the research.

"I think the coordination between the different business departments working on ideation is one of the areas we can always be better at", – stated the Head of Product in one of the London-based SaaS companies.

"It varies from one company to another but it all of the cases could be better. It's one of the most common problems actually", – as described by the product consultant who works with different tech companies on some of the most critical ideation and product development tasks.

"Can always be better, communication is always a sticky point and making sure everyone is engaged and understands the product and its use cases is particularly important when relying on stakeholders to bubble up at-risk accounts or repeat support issues", – as highlighted by one of the research participants, currently working as a Product manager, who emphasized on the lack of communication and alignment between the various business departments.

Finally, one of the research participants, with a recognised history of working on senior Product positions in the tech industry, has stated:

"[I have observed] varying levels of disfunction across the companies I've worked with and for in the past, but all of them have some level of it. I've often seen product/tech uses as a delivery factory to deliver their needs rather than a partner."

It is therefore clear that in all of the businesses, represented by the research participants for the purposes of this study, the level of coordination between the various business departments involved in ideation processes is quite low and there is definitely a space for improvement.

Processes Moderated by IC

When discussing the existing level of coordination between the business departments and the specific goals it helps achieve, the research participants have highlighted several processes,

including establishing a better understanding of the customers, becoming more aligned internally in terms of the customer orientation and sharing customer insights and suggestions to inform the product strategy and roadmap.

> *"Having the relationships [with different business departments and units] means we can learn about the customers from a different perspective. It also provides opportunities to talk to customers that might not come through our traditional channels (User Research, Direct Feedback, etc.) and gain additional insights, helping to guide and direct our product development efforts",* – summarised the Head of Product during the conversation regarding the current moderating impact of IC.

> *"[Coordination helps achieve] alignment, further knowledge on expectations, and actually bridging the gap between them (management and tech), along with communicating TO them any recent learnings,"* – specified another research participant.

> *"[Coordination is very important for] helping with understanding customer requests and pain points, collaboration around product releases",* – added the Head of Product during the conversation.

> *"[Some of the processes moderated by coordination help us achieve alignment, further knowledge on expectations, and actually bridging the gap between them (management and tech), along with communicating TO them any recent learnings",* – as added by another research participant.

The overall perception of the focus group participants regarding the moderating impact of IC can be summarised as the alignment of the business units and educational impact, helping to achieve deeper and more insightful understanding of the customers, their needs and wants, as well as establishing an integral customer orientation within the ideation processes. It is also critical to understand that, when not communicated effectively, the transmitted data may lose the initial colour and be translated and applied to work from the wrong perspective, hence the importance of coordination and communication.

"I think if feedback and problems are communicated well (unbiased and also ideally with the right context and also scale), they can kick off great opportunities for further validation and changes. However, what often happens instead is that certain findings from customers are then "translated" through a sales lens for example and the end result may or may not actually be great", – specified one of the research participants.

'[Coordination largely facilitates establishing] an agreed strategy with buy-in across departments, with aligned OKRs. Regular insight provided between teams, and collaboration on specific features and initiatives", – as was summarised during the conversation.

In the light of the above, the research participants have also agreed on the importance of having specific rituals and channels to exchange information about the customers with other business units, in order to stay aligned and on the same page. But, as stated in the previous section, not in all the companies the current status of the aforementioned rituals and practices is at a desired level.

An example of the coordinated processes within the ideation tasks are provided below, as quoted from one of the research participants.

"If anyone in the business hears product feedback, they are required to submit it through the feedback channel. We process this unstructured information into usable data through a weekly review session."

Regarding the specific business departments, involved in the ideation processes, whose relationship is said to be moderated by IC, the research participants have mentioned the following departments:
- Top management;
- Customer success;
- Development/engineering teams;
- Data/analytics/BI;

- Sales;

- Marketing.

According to the participants of the research, IC moderates the relationships between the departments with the value transmitted to and from departments, with the key goal achieved during this coordinated communication being better alignment and customer orientation. So, to conclude, it can be said that based on the outcomes of the focus group, IC is not directly involved in moderating the impact of BD and VoC on COI. While, on the other hand, it is strongly involved in moderating the influence of COSE on COI, facilitating the alignment of the customer-oriented approach across the business and reinforcing the importance of creating a deep and insightful understanding of the customers. COSE allows establishing an integral customer orientation within the ideation processes, improving internal customer knowledge across the different units of the business involved in ideation activities. It is important to understand that COSE requires specific well-established rituals to ensure the information is transmitted correctly, to make sure all the key stakeholders are on the same page.

The Impact of the Key Variables of the Conceptual Framework on COI

This section of the Findings chapter discusses the impact of the key variables of the conceptual framework (VoC, BD and COSE) and the impact they have on COI. When discussing the sources of knowledge about the customers, which are applied within the ideation process, the research participants have mentioned that a balanced approach, driven by an educated choice to combine both qualitative and quantitative methods of data collection, has proven to be the most impactful. The research participants have also agreed that having well-established processes for processing the data is beneficial for them and other involved teams and stakeholders. Some of the methods discussed included processing data using specific tags to then display trends in customer behaviour. The issues analysed are being tagged according to a specific defined category, linked to the issues the customers might be facing and further projected into new product ideas. Below are some quotes from the research participants, highlighting this method and giving some further details on its use:

"[We run the analysis] through processing feedback data with specific tags we create charts that show changes in customer trends, specifically regarding the problems they face and the areas of the product that need improvement".

Two most commonly used methods allowing to practice the data tagging described above are empathy maps and customer profiling. An empathy map is a widely used approach to visualise and articulate the information and knowledge available on particular types of customers or users. Empathy mapping provides tool to better understand the customers and go beyond demographic characteristic to comprehend customers environment, behaviours, aspiration and concerns to a full extent (Osterwalder and Pigneur, 2013). It is critical to understand that this method is a user-centred approach, which allows establishing a certain degree of empathy to the analysed individual (Gray et al., 2010) and focusing on looking at the world through the eyes of the said individual (Ferreira et al. 2015). This is important as it allows the stakeholders not only to understand their audience, but also to generate new ideas and introduce the changes to the product that can have a strong impact on the customers (Bratsberg, 2012). Customer profiling is one of the commonly used methods of creating, improving and managing customer relationships, through a more detailed and precise understanding of the customer base (Wiedmann et al., 2002). Presented below are the statements made by the research participants regarding their use of the empathy mapping approach in their ideation work. The research participants have agreed that both empathy maps and the customer profiles require continuous research to be kept up to date, as the knowledge about the customers is dynamic and constantly evolving.

"We also empathy maps and value proposition canvases to visually consolidate customer research for major projects", *– stated one of the research participants.*

"I really like the idea of tagging customers around a theme. We use customer profiles and empathy maps which we update constantly and treat our "Customer Profile(s)" as a living document that should constantly be updated."

"[We follow the approach of] continuous learning and re-validation and also trying to test new solutions with real people as early as possible and adapt to their feedback."

It is therefore important to highlight that the research participants agreed that both BD (representing the quantitative data collected about the customers) and VoC (qualitative data, accordingly) combined provide a full picture of the current customer needs and wants for improved ideation. Both of the data sources require continuous re-validation and almost instant implementation into the ideation processes to further increase the adoption levels (or, when instant implementation is not possible, quick recognition and analysis in order to put it into work as the first priority). Customer research in the light of the above is considered to be a routine activity, carried out as a ritual on a weekly basis (in most cases), as supported by the quotes below.

"I ensure I do some form of customer related research each week, using a combination of internal and external quantitative and qualitative data."

"We communicate with our users routinely and synthesize these findings with our marketing and sales teams. We also incorporate our clinical team's patient feedback to ensure we're building the right solutions at the right scale to solve the highest priority problems."

Moving on, it has also been highlighted that both BD and VoC insights can be categorised and segmented as internal or external. Meaning that both quantitative and qualitative data can be gathered using the internal tools and means, for instance, using the internally available tools like Google analytics, or running surveys with the existing customers, accordingly. Likewise, the external means can be beneficial for gathering quantitative data (for instance, via reviewing the available open access market data) and qualitative insights (e.g., via competitor customer reviews). Some of the insights on the approaches and tools used to achieve the above are presented next.

"We use the following methods of data collection:
Internal quantitative data: Google Analytics to review funnel and determine drop off points.
Internal qualitative: verbatim from user surveys.
External quantitative: market data, e.g., smartphone penetration, sales.

External qualitative: customer reviews of competitor products."

"I focus on a combination of tools, processes and adoption.
Tools: Google Analytics, Hotjar, SurveyMonkey.
Processes: weekly Voice of the Customer stand-ups, regular user testing.
Adoption: reinforcing customer research as part of the PM job description and being in the team's objectives."

"We do a lot of side research into competitors and how users behave and what they like there, along with the same on products that aren't necessarily competitors but are in the same space. Looking at reviews they leave, media articles around changes and feedback and what they like or dislike about other products is quite useful."

Moving on to the practical approaches and tactics of the specific methods of data collection, the research participants have expressed similar ideas regarding the efficiency of the used methods. The research participants agreed that customer interviews focused on Jobs-to-be-Done method are an effective approach to discover and understand customer insights. As per the definition, Jobs-to-be-Done is a "collection of principles that helps to discover and understand interactions between customers, their motivations and the products they use" (Christensen, 2016). An integral component of the method are the job stories, defined as effective way to describe high-level product features and roadmap themes, introduced by Alan Klement in 2013 as an alternative to user stories (Klement, 2016). Some other specific approaches mentioned include feedback reviewing, design sprints and Domain Driven Design workshops with other business units. The full list of the discussed methods is presented below.

- Customer interviews, focusing on the 'jobs to be done' method;
- Empathy Mapping;
- Value proposition canvases;
- Customer journey mapping;
- Value Proposition Canvas;
- Feedback reviewing;

- Design sprints;

- Walking through a prototype at the later stages of development;

- Domain Driven Design workshops with the wider business.

The research participants have also summarised that the above methods are effective not only when applied to the whole product, but also when used for specific cases, as discussed in the quote below:

> *"Building user journeys not just for the whole product but also for specific cases is incredibly useful. Those are usually based on a mixture of sources from multiple surveys, interviews, lo-fi prototype tests, sometimes focus groups."*

It has also been pointed out that gathering information about the existing customers is important, but so is understanding the people who are not your customers yet, but can potentially be them, or your competitors' customers, i.e., the companies potential target audience, as highlighted in the quotes below:

> *"I would add that to understand your customer better, you have to understand people who aren't your customers too. Whether they're actively against your brand, or potential customers. Your total addressable market. That means more market research and competitor analysis, demographic analysis of your target market."*

> *"Just wanted to say I really agree with the previous speaker – knowing more about people who aren't your customers is really valuable. Not to potentially try to maybe win some of them over, but also to give you ideas about how to differentiate the ones you do want to be your customers and what is important."*

Regarding the key elements of the customer behaviour that the research participants are looking at in their work, some of the key data points mentioned are switching events (where a customer has moved from one product to another), key feature usage, story points, user journey and overall sentiments and reactions. Some of the main observations regarding the key elements of customer

behaviour looked at by the product development teams are displayed below, using the quotes from the focus group participants.

> *"To understand how best our product can improve we try to focus on 'switching events' These are points in time where a customer has moved from one product to another. Anchoring on this historic point helps to get information on pushes, pulls, anxieties and habits that you can trust in using to shape product direction."*

> *"We are focusing on key feature usage at the moment. We want to understand more about what are the features that have the highest Adoption and most frequently used. From this we can then focus on driving adoption to features that aren't being used and ensuring that we're developing features around those which most frequently provide value to our users."*

> *"1. Pain points - both in terms of the problem we're trying to solve for them and also in terms of their experience with our product 2. Any limitations and/or external factors that have an impact on them using our product 3. Opportunities for increased satisfaction, any potential quick wins that can help both acquisition and retention 4. Overall sentiments and reactions (and probably more."*

> *"Overall reactions and reflexes are key, as well as how they use the product, how they navigate, and allowing them to talk aloud as they walk through a solution typically uncovers their problem-solving processes."*

To conclude, the research participants have agreed that both BD and VoC have a strong impact on ideation, and the processes in relation to collecting both types of data and insights are led by its evolving character, driving the involved stakeholders to also continuously improve and develop their knowledge. Customer knowledge is described as dynamic and is predominantly re-evaluated and cross-referenced on a weekly basis using a variety of external and internal sources, using an organised process and specific regulated rituals and tools, to then be effectively incorporated into the ideation process.

Regarding COSE, it has been stated to facilitate the ideation processes through the Empathy Mapping methodology, which is applied by the majority of the research participants. As a customer-centred approach, it allows establishing a required level of empathy towards the customers, and therefore projecting these unique insights onto impactful product ideas.

Knowledge as a Dynamic Capability

During the unfolding of the focus group, the research participants have been repeatedly emphasizing on the dynamic character of the customer knowledge, which was said to be continuously developing, requiring the stakeholders involved in the ideation processes to keep up to date with the current developments. The focus group participants have agreed that a full, insightful understanding of both current customers and prospects is impossible without constantly refining the knowledge. While previous learnings are valuable and important, customers' behaviours and priorities change constantly, and it is critical for the product team's knowledge to stay current and relevant. Some of the quotes displaying the opinions on the dynamic character of customer knowledge are presented below:

> *"I definitely think that customer knowledge is dynamic and evolving. In our case, customer research is processed through one weekly meeting to determine our changing view of customers."*

> *"Customer data is constantly evolving. As we learn more from both existing users and prospects, we refine our thinking around who our customer is",* – as highlighted by one of the research participants, who emphasised on the importance of dynamic and evolving knowledge for forming an understanding of customer.

Furthermore, the focus group participants have agreed that revisiting the existing views about the customers that inform the current roadmap has to be carried out on a regular interval, especially when relevant event take place, affecting the businesses worldwide, as summarised below:

"Any previous learnings are valuable and important, but people's priorities, problems and behaviours do change. We do try to always encourage continuous learning, especially for not changes and ideas. And also encourage a revisit of some of the present views and our roadmap both on regular intervals (e.g., quarterly) and also when relevant big events happen (e.g., World Cup, pandemic)."

Moving on, it was also highlighted that keeping up to date with the dynamic and constantly evolving customer knowledge is one of the fundamental requirements of a senior level product manager and leader. It is critical for a leader involved in the ideation work to have the most current and recent understanding of the customers' needs and wants not only to be able to come up with relevant product ideas, but also to encourage customer-driven mentality in the team members.

"Keeping up with the dynamic customer knowledge, for me it is one of the fundamental requirements of a great product manager or leader. Customer behaviours and even mental models change, and it is crucial to stay up to date with this. They may change due to new products entering the market, external factors (e.g., the Covid-19 pandemic), or be different due to various demographics. I do some form of customer research every week."

And, as summarised in the comment below, in order to achieve an up-to-date customer knowledge, the research initiatives driving it also need to be continuously evolving and improving:

"Agree, we strive to conduct user research continuously between internal and external stakeholders. Our knowledge about user needs is always evolving."

When talking about prioritising the improvements in the mechanisms of gathering customer data, it was agreed that is important, but currently not among the top priorities for the majority of the research participants. Some of the research participants have mentioned that they review the methods of gathering customer data upon starting a substantial new project, while other agree that they do not see this as priority as long as the currently developed and practiced mechanisms and systems are delivering good results. Some of the example quotes agreeing that improving the

mechanisms of collecting customer insights is not a current priority, but potentially should be more prioritised, are displayed below.

> *"[the mechanisms of collecting customer insights] is always at the forefront of our focus as we spend lots of time ensuring smooth delivery of features. I think it should be a high priority though."*

> *"It gets reviewed every time we complete a major project. I wouldn't say this is a priority as we built a system for doing this some years ago."*

The definition of the 'good results' in this case was defined and agreed on by the research as the success of the product itself, with re-evaluation and re-investigation required when the success can no longer be achieved at a desired level:

> *"Updating the mechanisms of gathering customer data is not a priority as such, as long as it works. The measure for it working or not is the success of the product itself. I don't think we'd ever do a one-off review of the mechanisms triggered by anything, but we do iteratively improve the process and methods with each learning and experience."*

It has also been observed that the constant review and improvement of the mechanisms of data collection is usually more possible in more resource-funded environments, where financial constraints do not have a direct impact on decision making. It is also important to understand that in many environments, where the financial constraints are not a part of the equation, it is the product leader that drives the development of these mechanisms, pushing through the ideas to the top-management and ensuring the managerial buy-in, as displayed in the quotes below.

> *"The info gathering mechanism is always a priority, but the mechanism is sometimes an afterthought. We typically rely on the data we collect and create (semi)structured ways to collect quantitative and qualitative information in user research, but I think it really largely depends on resourcing. I've been in organizations where improving funnel metrics and event tracking has been prioritized as highly as the synthesis of insights, but in more*

resource-strapped settings, it's been much more difficult to optimize the insights gathering piece."

"I've often worked in roles where the trust in the available data is very low, and there's a need to improve the mechanism of gathering data. Therefore, I would say that it is very often a low priority, and only becomes a higher priority when people like myself convince decision makers to focus on it."

To conclude, it was observed that both qualitative and quantitative data used in the ideation work is currently evolving and changing, as do the customer behaviours, preferences, wants and needs. Therefore, the dynamic character of the customer knowledge is directly moderating the ideation work, requiring the involved stakeholders to stay on track with the recent developments in the behaviours of their present and potential customers, as well as learning about the new trends in their industry and event taking place worldwide and effecting their business. It has been agreed that constantly developing and improving customer knowledge through the means of both VoC and BD is definitely a priority for the majority of businesses regardless of the company size, while improving of the mechanisms of collecting these data is so far not prioritized equally. The research participants have agreed that the development of the mechanisms for data collection is more possible in well-sponsored product teams, while in the environments where financial constraints exist, this becomes less of a realistic ambition. And, finally, it is worth pointing out that the change is usually driven by the leaders within the product teams, who have access to top-management and can re-ensure managerial buy-in.

Limitations and Further Research

The author has been aiming to build a research project of an integral character, covering all the key aspects of the key research objectives and question set. Despite that, the research project nevertheless comes with certain limitations, as discussed below.

Similar to Study 2.1., the research participants have been selected and recruited on the basis of their job titles and the work they do within the new product development and ideation initiatives. The limitation in regard to the research participants is the selected market. Having that all the focus group participants are based in the UK, further research activities on the topic, expanding on the geography of the research and covering other progressive and innovative regions (the US, Australia, Asia, etc.) would be beneficial for expanding academic knowledge on the topic.

Moving on, the research participants that took part in the focus group predominantly work in smaller businesses (SMBs) and start-ups, which are known for being progressive and innovative, though they do lead to certain limitations for the described research project. Some of the key limitations that have been observed during the development of the research project are the financial restrictions and budget limitations, which are on many instances affecting the ideation processes and the initiatives within the product team (for example, prioritizing new methods of customer data collection and improving the existing methods due to budget restrictions). In the light of the above, it would be beneficial to run further research initiatives of similar effect, but within organisations of bigger size.

Regarding some of the key findings of the research project, it has been observed that DC have an impact on some of the relationships within the conceptual framework, acting as a moderator of the relationships between BD and COI, and VoC and COI, based on the insights provided by the research participants. It is therefore suggested to investigate this moderating impact of DC in further academic initiatives.

Farther, following the limitations of Study 2.1, it would also be beneficial to confirm the impact of the key variables, moderators and outcomes of the conceptual framework in a quantitative environment. To conclude, the key research limitations of the described project are related to the geographic boundaries, with the focus group carried out in the UK, with UK-based research participants, and the company size, with the majority of the research participants working in/for SMBs and start-up. It is also worth pointing out, that, following the limitations for Study 2.1., it is recommended to test the conceptual framework in the quantitative setting. Based on the above, the list of the recommendation for further research is presented below:

1. A research project looking at the research objectives and questions set for the described focus group outside of the UK, investigating the key variables of the framework in a different market setting.

2. A research project providing an overview of the research objectives and questions set for the described focus group, with the focus group participants working in/for larger companies.

3. A research project providing a quantitative validation of the proposed framework.

4. A research project investigating the moderating impact of DC the relationships between BD and COI, and VoC and COI.

Conclusions

During the development of the focus group, it has been observed that the level of coordination between the various business departments involved in ideation processes is quite low, with substantial space for improvement. The research participants have agreed that this area could be improved, mostly with the need for better and enhanced communication an open access to knowledge. Some of the research participants have also mentioned that they believe that the level of dysfunctionality in terms of communication vary in the different organisations they have worked in, with a certain low level of coordination present in all of them. Some of the research participants have mentioned that, despite there being several initiatives within the business to improve the coordination, the observed level of coordination currently is far from perfect.

When discussing the current processes moderated by coordination between the business departments, the focus group participants have identified several processes, as presented in the list below:

- alignment of the business units;
- educational impact, helping to achieve deeper and more insightful understanding of the customers;

- establishing an integral customer orientation within the ideation processes.

In the light of the above, the research participants have also agreed on the importance of having specific rituals and channels to exchange information about the customers with other business units, in order to stay aligned and on the same page.

Regarding the specific business departments involved in the ideation processes, whose relationship is said to be moderated by IC, the research participants have mentioned the following departments:

- Top management;
- Customer success;
- Development/engineering teams;
- Data/analytics/BI;
- Sales;
- Marketing.

Based on the finding of the focus group, IC is not directly involved in moderating the impact of BD and VoC on COI. While, on the other hand, it is strongly involved in moderating the influence of COSE on COI, improving the alignment of the customer-oriented approach across the different units of the company and helping create a deep and insightful understanding of the customers. COSE allows establishing an integral customer orientation within the ideation processes, improving internal customer knowledge across the different units of the business involved in ideation activities. It is important to understand that COSE requires specific well-established rituals to ensure the information is transmitted correctly, to make sure all the key stakeholders are on the same page.

Moving on, in regard to the impact of the key variables of the framework and their impact on COI, the research participants have agreed that both BD and VoC have a strong impact on ideation, and the processes in relation to collecting both types of data and insights are led by its evolving character, driving the involved stakeholders to also continuously improve and develop their knowledge. Customer knowledge is described as dynamic and is updated and improved on a

weekly basis using a variety of external and internal sources, with organised process and rituals in place to achieve that.

Regarding the practical approaches to data collection, the research participants have expressed similar ideas regarding the efficiency of the used methods. The research participants agreed that customer interviews focused on Jobs-to-be-Done method are an effective approach to discover and understand customer insights. Some other specific approaches mentioned include feedback reviewing, design sprints and Domain Driven Design workshops with other business units. The full list of the discussed methods is presented below.

- Customer interviews, focusing on the 'jobs to be done' method;
- Empathy Mapping;
- Value proposition canvases;
- Customer journey mapping;
- Value Proposition Canvas;
- Feedback reviewing;
- Design sprints;
- Walking through a prototype at the later stages of development;
- Domain Driven Design workshops with the wider business.

Regarding COSE, it has been stated to facilitate the ideation processes through the Empathy Mapping methodology, which is applied by the majority of the research participants. As a customer-centred approach, it allows establishing a required level of empathy towards the customers, and therefore projecting these unique insights onto impactful product ideas. It has also been observed that the moderating impact of IC on the relationship between COSE and COI is quite strong and is currently practically implemented through the Empathy Mapping framework, which is currently adopted by the majority of the research participants.

During the unfolding of the focus group, the research participants have been repeatedly emphasizing on the dynamic character of the customer knowledge, which was said to be

continuously developing, requiring the stakeholders involved in the ideation processes to keep up to date with the current developments. The focus group participants have agreed that a full, insightful understanding of both current customers and prospects is impossible without constantly refining the knowledge.

In the light of that, it was observed that both qualitative and quantitative data used in the ideation work is currently evolving and changing, as do the customer behaviours, preferences, wants and needs. Therefore, the dynamic character of the customer knowledge is directly moderating the ideation work, requiring the involved stakeholders to stay on track with the recent developments in the behaviours of their present and potential customers, as well as learning about the new trends in their industry and event taking place worldwide and effecting their business. It has been agreed that constantly developing and improving customer knowledge through the means of both VoC and BD is definitely a priority for the majority of businesses regardless of the company size, while improving of the mechanisms of collecting these data is so far not prioritized equally. The research participants have agreed that the development of the mechanisms for data collection is more possible in well-sponsored product teams, while in the environments where financial constraints exist, this becomes less of a realistic ambition. Having that, it is proposed to evaluate the potential impact of Dynamic Capabilities (DC) as a moderator of the relationships between BD and COI, and VoC and COI.

Contributions

The expected academic and managerial contributions of the described project are based on the previously outlined research gap and follow the limitations of the Study 2.1.

Academic Contributions

Some of the key academic contributions of the described focus group study include the refining of the conceptual framework developed in Study 1, and, following the limitations observed in Study 2.1, the successful further investigation of the moderating impact of IC on VoC, BD, and COSE.

Within this study, the strength of the impact of the aforementioned key variables of the conceptual framework on the COI has been further evaluated, resulting in the following list of academic contributions.

- IC has been observed to act as a moderator of the relationship between COSE and COI, with the Empathy mapping methodology used to re-ensure customer orientation and alignment between the business units involved in ideation.
- Regarding the relationships between BD and COI, and VoC and COI, the moderating impact of IC has not been observed to a required degree.
- A strong impact of Dynamic Capabilities (DC) on the relationships between BD and COI, and VoC and COI has been observed.
- It is therefore suggested to further investigate the moderating impact of DC on the relationships between BD and COI, and VoC and COI.
- The final list of limitations and suggestions for further research has been finalised and presented in the Limitations and Further Research section accordingly.
- The key questions to be addressed in the Study 3 have therefore been formulated accordingly:
    - Do DC moderate the relationships between VoC and COI?
    - Do DC moderate the relationships between BD and COI?

The contributions highlighted above facilitate the development of the academic knowledge by providing a more detailed and focused view on the ideation process, strengthening the notion of COI and further influence it has on customer adoption. This focused knowledge can then be applied in other industries and the notion of COI can be considered for the development of existing theories.

Managerial Contributions

Regarding the managerial contributions of the described project, the study has looked at some of the modern practices within the ideation processes, and, through the lens of the experience and knowledge of the senior-level practitioners directly involved in the ideation processes, shed light

on the best practices, the areas that can be improved and the results these improvements can help achieve. Talking about the identified best practices, some of the most effective methods of customer data collection have been identified, as well as the ways of applying these data in ideation initiatives.

The described study has also identified that throughout the combination of the varied methods of data collection it is feasible to achieve strong ideation capabilities and outcomes, with the solutions developed and introduced to the market successfully. The combination of both qualitative and quantitative methods of data collection is beneficial to establish an exhaustive understanding of the customers current context, their needs and wants, to then project those onto the solutions development.

Within the Findings and Conclusions sections of this study, a range of tools, methodologies and rituals are presented, the use of which would contribute to a more customer-focused and effective ideation. To summarise, the findings of this study and the best practices identified and presented within the conceptual framework, are to result in improved adoption of the new solutions, leading to more successful go-to-market initiatives. This has become even more critical in the current business environment, where product launches are greatly affected by the Covid-19 related restrictions for most of the businesses.

Chapter 4. The Role of the Customer Oriented Ideation within the NSD Initiatives. Questionnaire Development (Study 3)

Introduction

The focus of the third study is to bridge the research gap outlined in the limitations of the second study and to create a questionnaire for testing the proposed conceptual framework (see the figure below). Some of the key limitations mentioned in the second study refer to the limited sample of participants for the qualitative research, as well as the limitations in the geography of the sample, which is suggested to meet in the following research initiatives using the questionnaire designed in Study 3.

Study 3 combines the two research approaches, namely a literature review and a pilot study, to create and refine a questionnaire that can be further applied for the purposes of quantitative validation of the conceptual model. This study aims to identify the existing research initiatives that have looked at the notion of ideation within the NSD processes, to further select successful and effective questionnaires to serve as a basis for the questionnaire developed in this study. Literature reviews are said to facilitate creating a basis for developing academic knowledge and helping theory building, when conducted effectively (Webster and Watson, 2002). Further, pilot studies are said to be a crucial element of study design and provide a valuable insight potential practical problems and research procedures, as well as to help refine the research design (Van Teijlingen and Hundley, 2001). This makes both methods highly beneficial for the purposes of the outlines study.

Further, a research gap has also been identified in terms of the application of the pilot studies, which have been only scarcely described in the academic literature. It is stated that further research projects providing more insight into the procedures and outcomes of the pilot studies are beneficial for the advancement of the academic knowledge (Stone, 1993). The developed questionnaire is refined within a pilot study featuring 30 research participants, to finalise and elevate the questions and the formulations used, to ensure the questionnaire is applicable in the chosen environment. The main goal of the pilot study is not the collection of the insights into the questionnaire questions, but refining format and the questioning strategy devised for the questionnaire.

Figure 11. The COI conceptual framework (Authors Own, 2020).
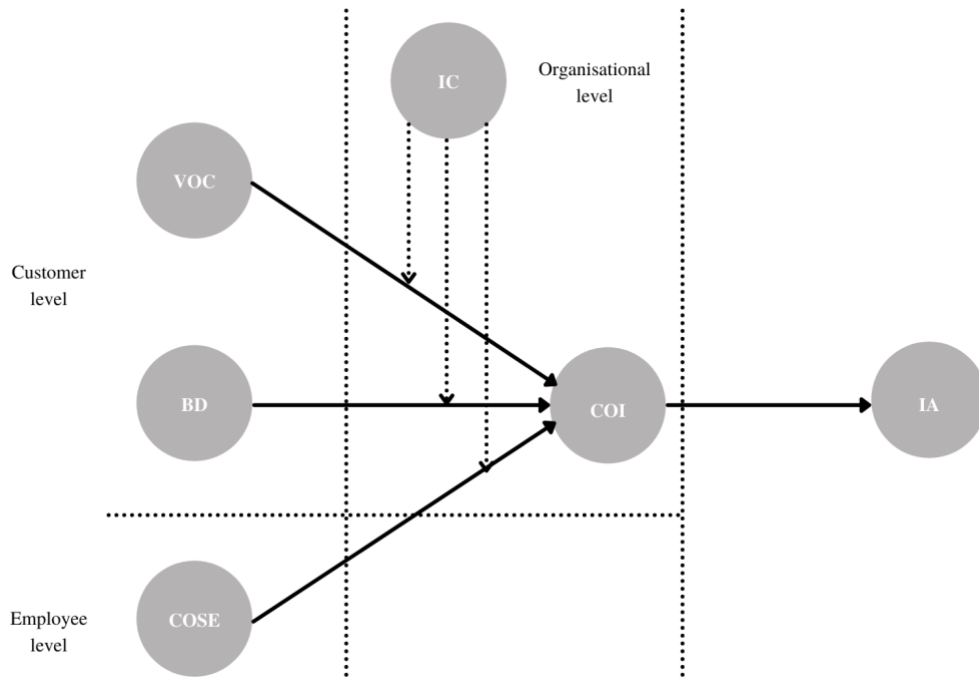
Research Questions and Objectives

In order to meet the limitations of the Study 2 and provide a full picture of the current market situation related to the use of COI within the NSD practices, the Research Questions (RQs) for the third study have been formulated and can be seen below:

- RQ 8: What are the key relationships to be further tested with the use of the questionnaire?

- RQ 9: What are the questions to be addressed in the questionnaire?

The following research objectives have been formulated to answer the above research questions:

1. To create a questionnaire for further quantitative assessment of the key notions and relationships in the proposed theoretical framework

2. To bridge the limitations of the second study by creating a tool for testing the framework on a larger scale with a bigger sample.

3. To refine the created questionnaire by running a pilot study within 30 participants, to finalise the questions and the formulations used, to ensure it is applicable in the chosen environment.

4. To provide a tool for further quantitative validation of the framework.

5. To suggest recommendations for both academia and industry.

In order to answer the research questions and meet the objectives of the research, the methodology chosen for the described research project is presented below.

Methodology

Literature Overview

Keeping up with the state-of-art research in the field of business studies can be challenging due to the accelerated speed at which the latest research developments come to life. Keeping in mind the ever evolving and somehow fragmented character of the research in the domain of business, staying at the forefront of the research has become challenging. In order to identify and review the current developments in the area of interest, the methodology of literature review has become increasingly impactful, helping the researchers to assess the current environment they are to conduct the research efforts within, making the methodology more relevant than ever (Snyder, 2019). In this research, the methodology of literature review is applied to identify the current development in the field of ideation within the NSD processes, to further highlight the successful research initiatives and existing efficient questionnaires to serve as a basis for the questionnaire which is to be developed via this research project.

Literature reviews have been said to benefit the generation of new knowledge in the selected domain by serving as a building block for further research initiatives. In order to generate new knowledge, it is critical to create a foundation of knowledge on the previous research activities:

> "Building your research on and relating it to existing knowledge is the building block of all academic research activities, regardless of discipline. Therefore, to do so accurately should be a priority for all academics. However, this task has become increasingly complex. Knowledge production within the field of business research is accelerating at a tremendous speed while at the same time remaining fragmented and interdisciplinary. This makes it hard to keep up with state-of-the-art research and to be at the forefront, as well as to assess the collective evidence in a particular research area. This is why the literature review as a research method is more relevant than ever." – Snyder, 2019, p.333.

As a method of data collection, literature review can be defined as a systematic method of collecting and synthesizing previous research and the results it has achieved, within the selected

domain (Baumeister and Leary, 1997; Tranfield et al., 2003). Literature reviews are said to facilitate creating a basis for developing academic knowledge and helping theory building, when conducted effectively (Webster and Watson, 2002). Another strong benefit characterising the literature review methodology is that it helps to shed light on the current gaps in the academic knowledge:

> "[Literature review] can also help to provide an overview of areas in which the re-search is disparate and interdisciplinary. In addition, a literature review is an excellent way of synthesizing research findings to show evidence on a meta-level and to uncover areas in which more research is needed, which is a critical component of creating theoretical frameworks and building conceptual models." – Snyder, 2019, p.333.

This makes the selected methodology relevant to the described research project, the goal of which is to build a questionnaire to further refine and develop the conceptual model around the notion of COI within the ideation processes in NSD. The questionnaire will help test and refine the variables, relationships and moderators in the model, and the literature review carried out for Study 3 will help identify the successful research initiatives and existing questionnaires that can serve as a basis for the newly developed questionnaire.

In addition to the above, it said that conducting a literature review can result in a lack of knowledge or incoherent assumptions (Tranfield et al., 2003), in cases when the described literature is not thorough and systematic enough:

> "Traditional ways of describing and portraying the literature often lack thoroughness and are not undertaken systematically. This results in a lack of knowledge of what the collection of studies is actually saying or to what it is pointing at. As a result, there is a great chance that authors build their research on flawed assumptions. When researchers are selective of the evidence on which to build their research, ignoring research that points the other way, serious problems can be faced. In addition, even when the methodology of the reviews is valid, there are often issues with what constitutes a good contribution." – Snyder, 2019, p.333.

For the purposes of the described research project, a detailed and in-depth literature review has been carried out to re-ensure establishing an integral view on the existing academic knowledge within the field. The author has analysed and reviewed the current state-of-art research on the additional moderator of DC, the impact of which was identified within the findings of Study 2.2, as well as reviewing the existing questionnaires in the domain of ideation, that can serve as a basis for the questionnaire developed in Study 3. It is important to point out that the developed questionnaire will also be containing questions which will project the suggestions for further research identified in Study 2.

Moving on, some of the specific guidelines for the implementation of the literature review methodology have been previously formulated and described in the literature, as listed below:

- Narrative or integrated reviews (Baumeister and Leary, 1997; Tranfield et al., 2003; Webster and Watson, 2002; Wong et al., 2013).
- Systematic reviews of meta-analysis (Davis et al., 2014; Liberati et al., 2009; Moher at al., 2009).
- Integrative reviews (Torraco, 2005).

Moving on, another segmentation of the literature review types and methodologies separates three different approaches (Snyder, 2019):

- Systematic literature review, which has strict requirements in terms of the search strategy and article selection for the review.
- Semi-systematic literature review, which is applicable for domains of knowledge that have been conceptualized from various different angles and analysing all the existing articles is not feasible. This type of literature review often looks at the developments on the topic chronologically, or across various research traditions. The most common goal of applying this method is to overview the topic and display the developments in the area of knowledge over time.
- Integrative literature review, also known as critical, is strongly related to the semi-structured approach. Though, as opposed to the semi-structured approach, the integrative

literature reviews have as their objective assessing, critiquing and synthesizing the literature to enable further developments and theoretical frameworks to appear.

For the purposes of this study, it is important to highlight the overpopulated character of the domain of ideation, with a wide variety of angles and theoretical approaches, making the systematic literature review unproductive, as it is not feasible to review all the existing articles on the topic. It is therefore suggested that the application of the integrative method is the most applicable for this study, as it said to facilitate theory building and the establishment of conceptual models and frameworks.

Questionnaire

To further investigate the validity of the conceptual framework, it was decided to develop a questionnaire. Some insights on the rationale for selecting the questionnaire as a method for further data collection and quantitative validation is provided below.

Questionnaire as a method of data collection, frequently applied in business studies, can be defined as a collection of techniques for organising, presenting, summarising, communicating and drawing conclusions from quantitative data, so it becomes informative (Morris, 2008). It has also been said that questionnaire is at the very centre of the survey methodology (Krosnick, 2018), while designing a questionnaire is a sophisticated and advanced craft (Stone, 1993). It has also been pointed out that questionnaires provide an objective means for collecting data around people's knowledge, beliefs, attitudes and behaviour (Boynton and Greenhalgh, 2004). Furthermore, quantitative research involves the collection of data so that information can be quantified and subjected to statistical treatment in order to support or refute "alternate knowledge claims" (Creswell, 2002, p.153). One of the key benefits of using the quantitative approach is the fact that it provides an objective measure of reality, which in the case of this study allows tackling the limitations of the second study that was carried out in a qualitative manner, where interviewees' subjectivity may have occurred and affected the outcomes of the research to a certain degree.

A reliable questionnaire should consist of the questions that explicitly cover all the issues related to the research topic, and the design of the questionnaire must also ensure that the data collected

are relevant, reliable and valid. A questionnaire is relevant when no unnecessary information that does not answer the research questions or relates to the research objectives is collected, and sufficient data is gathered to answer the research questions. Further, the questionnaire can be considered valid when the responses are reliable and valid (Churchill, 1978; Ong, 2012). This research design is extremely beneficial for the purposes of this study as allows testing the existing data, which in the case of this research has been done in the first two studies; questionnaires will allow to text the framework at the larger scale and check its validity among a larger, more diverse group of research participants.

One of the key characteristics of a successful questionnaire is a suitable and efficient selection of questions within the questioning strategy. The questions have to be clear and concise, easy to understand and must be presented in a manner that makes the respondents answers easy to formulate and transmit (Stone, 1993). Some of the main properties of comprehensive questions have been summarised below:

- Appropriate,
- Intelligent,
- Unambiguous,
- Unbiased,
- Omnicompetent,
- Appropriately codes,
- Piloted,
- Ethical.

Some of the advice for devising a questionnaire has been provided by Krosnick (2018, p.264), as seen below:

1. Use simple, familiar words (avoid technical terms, jargon, and slang).
2. Use simple syntax.
3. Avoid words with ambiguous meanings, i.e., aim for wording that all respondents

will interpret in the same way.

4. Strive for wording that is specific and concrete (as opposed to general and abstract).

5. Make response options exhaustive and mutually exclusive.

6. Avoid leading or loaded questions that push respondents toward an answer.

7. Ask about one thing at a time (avoid double-barrelled questions); and

8. Avoid questions with single or double negations.

The author also highlights some best practices for optimising the order of the questions within the questionnaire, as displayed in the list below (Krosnick, 2018, p.264):

1. Early questions should be easy and pleasant to answer, and should build rapport between the respondent and the researcher.

2. Questions at the very beginning of a questionnaire should explicitly address the topic of the survey, as it was described to the respondent prior to the interview.

3. Questions on the same topic should be grouped together.

4. Questions on the same topic should proceed from general to specific.

5. Questions on sensitive topics that might make respondents uncomfortable should be placed at the end of the questionnaire.

6. Filter questions should be included, to avoid asking respondents questions that do not apply to them.

Once the questions have been formulated and the order of the questions has been decided on, the next step is the actual questionnaire design. Literature on the topic identifies ten specific steps for the questionnaire design (Stone, 1993, p.1265):

1. Decide what data you need.

2. Select items for inclusion.

3. Design individual questions.

4. Compose wording.

5. Design layout.

6. Think about coding.

7. Prepare first draft and pre-test.

8. Pilot and evaluate.

9. Perform survey.

10. Start again.

In order to achieve the creation of the successful and integral questionnaire, the author has followed the suggested best practices within the industry, followed the guidance regarding both the process of the questions and layout creation, and the testing of the questionnaire in the pilot study. The overview of the pilot study methodology applied to refine the questioning strategy is presented in the next section.

Pilot Study

Pilot studies are essential for a good research design in the domain of business research (Hazzi and Maldaon, 2015). As a consequential part of good practice, every questionnaire should go through a test environment of the pilot study. According to the definition, a pilot study is described as a preliminary small-scale test of the methods and procedures to be used on a large scale (Porta, 2008). The impact of the methodology has been described as follows:

"Mainly, the importance of the pilot study lies in improving the quality and the efficiency of the main study. Put another way, a pilot study can be used to reveal some logistics issues before embarking the main study, which pilot study results can inform feasibility and identify modifications needed in the main study. There are also other reasons to conduct a pilot study, for example but not limited to, checking the words and statements of the used scales, refining the scales items, developing scales items and research plan, and collecting preliminary data are indeed some examples for conducting a pilot study. In this regard, even though conducting a pilot study provides us with limited information comparison with the main study and does not guarantee success in the latter, but it does increase the

likelihood. A one thing the researchers should pay attention that a pilot study is not a hypothesis testing study." – Hazzi and Maldaon, 2015, p.53.

It is therefore important to understand that pilot studies do not provide a basis for hypothesis testing. Moving on, there are two key purposes of the questionnaire pilot study: to identify any design faults that might have previously been overlooked and to enable the formal evaluation. The pilot studies are carried out within a selected sample of the target population, and the purpose of this activity is to evaluate the responses and assess the validity and reliability of the answers (Stone, 1993). In addition to that, pilot studies can also be applied to test and refine a particular research instrument (Baker, 1994) or perform a trial run in preparation for the main study (Polit et al., 2001). This makes the pilot study methodology applicable to the described research project, one of the kye objectives of which is to test and refine a questionnaire.

Regarding the use of the pilot study approach in the business research, it has been observed that the methodology can be described as underused and underreported (Prescott and Soeken, 1989), due to the fact that full-blown consistent reports on the pilot studies can rarely be encountered in the research literature (Lindquist, 1991; Muoio et al., 1995; van Teijlingen et al., 2001). The current practice is stated to be to simply mention the fact that the pilot study has been carried out or to only discuss one element of the pilot study (De Vaus, 1993), which limits the details provided on the learnings available to the reader. The research gap is therefore identified as a need to present further research initiatives describing processes and outcomes of the pilot studies, describing the processes, methods and instruments.

Moving on, several reasons for conducting a pilot study have previously been identified by the researchers in the area, as showcased below (Stone, 1993, p.2):

- Developing and testing adequacy of the research instruments.
- Assessing the feasibility of a study/survey.
- Designing a research protocol.
- Assessing whether the research protocol is realistic and workable.
- Establishing whether the sampling frame and technique are effective.
- Assessing the likely success of proposed recruitment approaches.

- Identifying logistical problems which might occur using proposed methods.
- Estimating variability in outcomes to help determining sample size.
- Collecting preliminary data.
- Determining what resources (finance, staff) are needed for a planned study.
- Assessing the proposed data analysis techniques to uncover potential problems.
- Developing a research question and research plan.
- Training a researcher in as many elements of the research process as possible.
- Convincing funding bodies that the research team is competent and knowledgeable.
- Convincing funding bodies that the main study is feasible and worth funding.
- Convincing other stakeholders that the main study is worth supporting.

Moving on, the procedures that are recommended to follow in order to achieve a successful pilot study validating the internal validity of the questionnaire are displayed below (Stone, 1993, p.3):

- Administer the questionnaire to pilot subjects in exactly the same way as it will be administered in the main study.
- Ask the subjects for feedback to identify ambiguities and difficult questions.
- Record the time taken to complete the questionnaire and decide whether it is reasonable.
- Discard all unnecessary, difficult or ambiguous questions.
- Assess whether each question gives an adequate range of responses.
- Establish that replies can be interpreted in terms of the information that is required.
- Check that all questions are answered.
- Re-word or re-scale any questions that are not answered as expected.
- Shorten, revise and, if possible, pilot again.

Some of the approaches that can be used to evaluate and test the questionnaire in the pilot environments are as follows (Martin, 2006, p.10):
1. Expert appraisal and review (review of a questionnaire by experts in questionnaire design, cognitive psychology, and/or the relevant subject matter).

2. Think-aloud or cognitive interviews (the procedure as applied in surveys is to ask laboratory subjects to verbalize their thoughts–to think out loud–as they answer survey questions).

3. Behaviour coding (more frequently to pre-test interviews. Interviews are monitored (and usually tape recorded), and interviewer behaviours (e.g., "Reads question exactly as worded" and "Reads with major change in question wording or did not complete question reading") and respondent behaviours (e.g., "Requests clarification" and "Provides inadequate answer") are coded and tabulated for each question. Questions with a rate of problem behaviours above a threshold are regarded as needing revision).

4. Vignettes (brief scenarios that describe hypothetical characters or situations. Because they portray hypothetical situations, they offer a less threatening way to explore sensitive subjects. Instead of asking respondents to report directly how they understand a word or complex concept ("What does the term crime mean to you?") which has not proved to be generally productive, vignettes pose situations which respondents are asked to judge).

5. Split-sample experiments (a way of evaluating the effects of variations in question wording, context, etc. on responses by conducting an experiment in which samples are randomly assigned to receive the different versions).

Regarding the sample size recommended for the pilot study, the literature provides some examples on the subject. Authors like Isaac and Michael (1995) and Hill (1998) have suggested carrying out a pilot study within a sample of 10 to 30 participants, which leads to a range of benefits, including simplicity and the ability to test the research tool. Further, van Belle (2002) has suggested to feature at least 12 observations to construct a confidence interval. In order to test the research instrument, the pilot size recommended by Treece and Treece (1982) is 10 research participants, piloting a study featuring 100 research participants, therefore accounting for 10% of the project size. Hertzog (2008) has suggested different sample sizes based on the purpose of the research project. For instrument development purposes, the suggested sample is 25-40 research participants (Herzog, 2008). Based on the suggestions above, the sample size selected for the described research project, the purpose of which is instrument development and refining, is 30 research participants, which is considered valid and appropriate to the research questions and objectives.

Despite the overall benefit of the approach, the pilot study methodology is recognised to have a number of limitations. Some of the observed limitations include inaccurate predictions or assumptions, when made on the basis of the pilot data, issues related to contamination and funding (Stone, 1993). For the purposes of the design study, the pilot study has been developed in accordance with the existing best practice and following the advised procedures to achieve accurate results and representation.

Literature Review

Dynamic Capabilities Theory

To begin with, it is worth saying that the theoretical approaches to the subjects of NSD differ slightly across the current research. A number of theories have previously been applied to the phenomena in order to advance the academic knowledge and add up to a more precise understanding of the subjects. The researchers have drawn on the notions of the organizational learning theory and knowledge management perspective (March 1991; Cui and Wu, 2016; Slater and Narver, 1995), as well as on the Dynamic Capabilities Theory (DCT) (Day, 1994; Grant, 1996; Yu and Yang, 2016; Трачук and Убейко, 2017), that to a great degree can facilitate developing a more precise understanding of the impacts of customer data on the overall performance of the companies and firms and on the processes within the NSD.

DCT has been used to describe the phenomenon of NSD and different types of customer data used in the ideation processes. In this study, the core notions of the DCT are not to be described, as the previous developments in this school of thought have provided a precise review of the item (Day, 1994; Grant, 1996). The researchers have identified that from the perspective of DCT, customer insights and the value extracted from them supplements the improvement of the company's dynamic and adaptive capabilities by providing valuable consumer insights; that, sequentially, leads to a more efficient and effective value creation (Yu and Yang, 2016). Another substantial correlation of DCT to the developments in the NSD that are linked to the integration of different types of customer data used in ideation is the notion of processes. Processes within the NSD projects can be observed and analyzed through the prism of the theory, as it provides an accurate and explicit definition of the notion: processes are the basic concept of the dynamic capabilities.

Hereof, the direction for future research has been highlighted, that is to explain and prove the impacts of applying customer data on the processes within the NSD; so far, incorporating the DCT has made it possible to summarize on the value of market information collected via Big Data technologies for the better market orientation of NSD, which is strongly related to the figure of

value creation. Despite being capable of outlining the outcomes of Big Data integration into the NSD processes, the way the technology changes the aforementioned has not been explained yet (Yu and Yang, 2016).

On the side of the recent advancements in the academic knowledge, the review of the publications on DCT and the basis of the publications by Teece (2007, 2014) has allowed Kodama (2017) correlate the dynamic innovation processes to establishing strategic innovation (in the form of combined exploitational and explorational approaches to innovation) that helps achieve sustainable growth. Kodama (2017, p.223) has also suggested a few developments to the previous conclusions on the subject:

> "As new theoretical models, the article also presents a "strategic innovation system" and presents the concept of the "capabilities map" (the four domains of capabilities) created with the characteristics of capabilities responding to internal and external uncertainties and the speed of environmental change facing companies".

Further, DCT has been previously applied to identify and define strategic innovation and its mechanisms leading to sustainable growth – the theory is said to be "a fundamental theory that clarifies the mechanisms for sustainable growth through corporate strategic innovation". The correlation of dynamic capabilities (DC) and the strategic innovation becomes obvious when we define the very nature of DC – Teece et al. (1997) has explained the notion as the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments. The researchers therefore conclude that DC indicate firms' capacity to come up with new innovative forms of competitive advantage in the context of existing path-dependencies and market positions (Leonard-Barton, 1992).

Further to that, Teece (2014, p.332) states that DC allow companies to both react to and reinforce market shifts by developing and improving existing and creating new resources:

"[…] strong DC help enable an enterprise to profitably build and renew resources and assets that lie both within and beyond its boundaries, reconfiguring them as needed to innovate and respond to (or bring about) changes in the market and in the business environment more generally".

DC are also highly relevant to the subject of innovation and NSD as they are strongly correlated to the firms' ability to sustain competitive advantage (Teece et al., 1997). DC also facilitate companies' efforts aimed to stay on top of the changes of customer preferences and perceptions, the new technologies and business problems, allowing constant improvement and growth by solving those problems and reacting to the shifts in the environment (Teece, 2014). This provides the top management of a given company and other involved stakeholders with a basis for reassessing and improving the existing assets and processes, as well coming up with the new assets and processes for continuous growth and innovation.

Moreover, Kodama (2017) summarizes that, in the light of the above, DC can be seen as dynamic business processes that appear in various business environments and that are prone to constant change and can be described with a high level of uncertainty. A strong distinction between DC and ordinary capabilities (OC) has been observed by the researchers in the area:

"Ordinary capabilities have also been called static (Collis, 1994), zero-level (Winter, 2003), first order (Danneels, 2002), and substantive (Zahra, Sapienza and Davidsson, 2006). The zero-, first-, and second- typology is used by Smith and Prieto (2008) and Schilke (2014). The more common usage seems to be equating first-order with ordinary." – Teece, 2014, p.330.

In the academic literature, OC are described as specific details of corporate activity that allow supporting and maintaining existing processes and products by keeping the same techniques on the same scale (Kodama, 2017; Teese, 2014): "[…] it is possible to express OC as ordinary in the sense of maintaining the status quo (i.e., not out of the ordinary; Helfat and Winter, 2011, Winter, 2003)". Therefore, it has been said that companies are to be engaging in OC for coming up with strategies, detailed planning and policies under stable market conditions with little business

uncertainty. The application of OC is most relevant for corporate cases in well-defined clear market boundaries.

On the other hand, DC appear in the markets that are going through an ongoing constant change. One of the seminal definitions of the term is focused on the opportunity of creating new resources; according to Eisenhardt and Martine, DC are:

> "The firm's processes that use resources – specifically the processes to integrate, reconfigure, gain and release resources – to match and even create market change. Dynamic capabilities thus are the organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die." – Eisenhardt and Martin, 2000, p.1107.

Thus, it is clear that essentially the concept of DC is necessary for both fast-paced and steady business environments. One of the key learning of the research in the area has highlighted the importance of 'learning by doing' with an accent on the results and outcomes of the process, as contrary to focusing on the prior training and learning experiences, especially for the fast business ecosystems with high levels of uncertainty and vague corporate boarders (Eisenhardt and Sull, 2001). Therefore, DC provide the necessary flexibility to both top-management and other involved stakeholders to be creative and come up with innovative ideas by moving towards strategic objectives, commonly through the trial-mistake process (Kodama, 2005).

The review of other publications on the DCT in correlation to innovation has identified that the academics in the area agree that DC can be beneficial for both fast-paced and uncertain and steady market situations. It was observed that major innovations, including radical innovations, have taken place not only in uncertain business environments, but also in steady and slow business environments over a period of several years or several decades (O'Connor, 2008).

Based on the extensive experience as a project leader, Kodama (2017) has pointed out that he has observed radically innovative solutions appearing in slow-paced markets – when markets are established, the new discovered and invented ideas interrupt the formed processes and tend to

change the speed of market and increase competition. Helfat and Winter (2011) agree with the statement, pointing out that that projects in progress and relatively slow business environments should be included in the theory for dynamic capabilities, thus not limiting the theory to brand new businesses, environments moving rapidly and radical changes. Kodama (2017, p.5) summarises that:

> "[…] the concept of DC is described as a theory that can be evaluated and applied around the axes of both market speed and business uncertainty (including risk) characterizing radical innovation".

One other term that was observed by the researchers investigating the correlation of DC and explorational innovation is the notion of "major innovation (MI) dynamic capability", used by O'Connor (2008) – the MI dynamic capability is described as such facilitating explorational innovation – radically new innovation – under the conditions of high risk and uncertainty. It has also been observed that MI dynamic capability is to be differentiated from other DC that stress the evolution of exploitational approach, thus cannot be related to the explorational innovation orientation (King and Tucci, 2002; Nelson and Winter, 1982; Winter, 2000; March,1991). No matter the speed of market, it is the situations of high uncertainty that evoke and stimulate the MI dynamic capabilities.

Resource-Based View

The following part of this study is dedicated to an overview of the Resource-Based View (RBV), DCT being a new perspective that extends the RBV. Based on the overview of the existing literature on the subject, it has been observed that the corporate resources and the different views on those have been serving as a basis for establishing the corporate business strategy for decades. This research agrees with the seminal approach to defining resources:

> "By a resource is meant anything which could be thought of as a strength or weakness of a given firm. More formally, a firm's resources at a given time could be defined as those (tangible and intangible) assets which are tied semi-permanently to the firm (see Caves, 1980)." – Wernerfelt, 1984, p.173.

Some of the examples of resources are brand name, in-house knowledge of technology, employment of skilled personnel in general, modern equipment and machinery, valuable contracts, agreements and connections, efficient internal structure and procedures and so forth. From the perspective of the firm's operations, there are two key pillars the corporate strategy is established on the basis of – the products and the resources, which are tightly related: "most products require the services of several resources and most resources can be used in several products", as put by Wernerfelt, 1984, p.171:

> "By specifying the size of the firm's activity in different product markets, it is possible to infer the minimum necessary resource commitments. Conversely, by specifying a resource profile for a firm, it is possible to find the optimal product-market activities."

Despite the fact that the traditional approach to strategy formulation is based on the resource positioning with the strengths and weaknesses taken into consideration, as stated by Andrews (1971), the majority of the standard economic tools operate in the product-market frame. On the other hand, in the economic theory, the approach of looking at the economic units based on the resources they possess has been well-established and used broadly for a long time. Though, the list of resources that were recognised and looked at by the researchers were limited and included

labour, capital and land. One of the seminal publications that aimed to broaden the range of resources considered worthy of an academic quest was by Penrose (1959). The publication was the first to formulate the approach of looking at companies based on the broader range resources they have and analysing the impact of those on the market performance of the company, but despite that the publication did not receive a broad academic recognition, as opposed to a similar later work by Rubin (1973) – mostly due to the fact that the first of the works used some examples of resources that were not widely applicable for further theoretical modelling (Wernerfelt, 1984).

Going back to the strategic level and viewpoint, as a theory in business strategy, resource-based theory has originated from a simple question: "Why do some of the companies outperform the others?" In attempt to answer this question, the research in the area of strategic management have started looking at the various discrepancies that can be observed within the firms' organisation that might have led to a better performance. This wave of research has become increasingly popular in the late 80s – early 90s, with the variety of research developments looking at the firms' strategy formulation. As such, the Resource-based theory builds on the premise that firms are fundamentally heterogeneous in terms of their resources and internal capabilities. Despite there being some earlier works on the corporate resources, the starting point of theory formulation was in the early 1990-s with the release of the first ever issue of The Journal of Management devoted specifically to the resource-based theory (1991). The special issue has marked a shift from the introduction stage of the theory to its growth period. This collection of articles has progressed the academic knowledge in the area, and helped define the resources and their application for the strategy formulation:

> "The articles in this forum helped establish that resources and capabilities are important for understanding the sources of sustained competitive advantage for firms. They also helped define resources and capabilities as bundles of tangible and intangible assets, including a firm's management skills, its organizational processes and routines, and the information and knowledge it controls that can be used by firms to help choose and implement strategies." – Barney et al., 2011, p.1300.

The researchers have analysed the historical background of the theory and the current developments to summarise the learnings on whether the theory will begin decline in the next decade or will keep gradually growing in its application. Barney et al. (2001) have revisited the special issue publications and asked authors to re-analyse their works in the light of the tremendous growth of the resource-based view. Some of the key conclusions of this overview have established that the theory has by now reached its maturity. It has also been observed that the researchers in the area are increasingly inclined towards using the term resource-based theory, as opposed to resource-based view, which highlights the fact that the research development has reached the maturity and sophistication of a theory.

As was observed by Peteraf (1993), who was one of the first researchers to pinpoint the importance of the resource-based view on establishing competitive advantage and summarise the existing learnings, RBV sits within the at that time current research views in the field of strategic management and fits well within the policy research tradition. RBV has gained recognition also due to the practicality of its approach and a simple but incredibly relevant core idea that shapes up the essence of the theory. As has been observed, the starting point for any corporate strategy is always the understanding of the key differentiation points. The key company stakeholders will be negotiating and putting together the mission and vision statements, trying to formulate what exactly the company is and how it fits within the context of the market it is about to enter.

One of the possible approaches to understand and formulate the strategy is to take a look outside of the corporate environment and analyse the customers – what are their needs and wants? What are they interests? What are their day-to-day routines like? And so forth. Understanding the customer and putting together a customer persona will then lead to putting together a product strategy – which will then bring to life something that fits within the initially formulated customer persona's expectations. In this way, the business is said to serve the market and customer needs. There is an opposing approach though, which does not investigate the outside world, but suggests taking a look inside at what the company already has:

"In the world where customer preferences are volatile, the identity of customers is changing, and the technologies for serving customer requirements are continually evolving, an externally focused orientation does not provide a secure foundation for formulating long-term strategy. When the external environment is in the state of flux, the firm's own resources and capabilities may be a much more stable basis on which to define its identity. Hence, a definition of a business in terms of what it is capable of doing may offer a more durable basis for strategy than a definition based upon the needs which the business seeks to satisfy." – Grant, 2001, p.116.

The problem of external change for the corporate strategy and performance has been analysed by the researchers that suggested another way of avoiding the consequences – by orienting their product to a broader market segments, rather than to narrow it down. This solution, suggested by Theodore Levitt, oversees some of the developments in the industry, where companies have faced failures when trying to broaden the offered range of products and services to meet the needs and expectations of the "the full range of their customers" – unfortunately, based on the recent cases (overviewed by Grant, 2001), this approach has not proven to be effective in the current business environment. On the other hand, Grant has also highlighted some of the success stories of the companies focusing on developing their internal capabilities that managed to adapt well to the external change:

"By contrast, several companies whose strategies have been based upon developing and exploiting clearly defined internal capabilities have been adept at adjusting to and exploiting external change. Honda's focus upon technical excellence of 4-cycle engines carried it successfully from motorcycles to automobiles to a broad-range of gasoline-engine products. 3M Corporation's expertise in applying adhesive and coating technologies to new product development has permitted profitable growth over an ever-widening product range." – Grant, 2001, p.117.

Moving on, some of the key questions for the strategy formulation that the resource-based view can facilitate answering are as follows (Wernerfelt, 1984, p.172):

(a)   On which of the firm's current resources should diversification be based?

(b)   Which resources should be developed through diversification?

(c)   In what sequence and into what markets should diversification take place?

(d)   What types of firms will it be desirable for this particular firm to acquire?

Speaking about the origins of the RBV, it is worth noting that one of the key classic approaches to strategy formulation begins with an appraisal of the organisational competences and resources and was formulated by Andrews (1971). In one of the earlier books on the corporate strategy which till today remains classics and is widely quoted in the publications and modern research on the subject, Kenneth R. Andrews reviews and formulates the concepts of the corporate strategy that have originated and evolved at the Harvard Business School. Within the School, various empirical investigations and case studies have been carried out, having collected valuable data on the subject, which Andrews, having taught business policy in the School for years, has collected, summarised and put together in a book.

One of the key definitions of the book describes the corporate strategy as the pattern of major objectives, purposes or goals and essential policies and plans for achieving those goals, stated in such a way as to define what business the company is in or is to be and the kind of company it is or is to be (Andrews, 1971, p.12).

Despite the fact this research has been published back in 1971, it still remains relevant and inspires modern research that are looking at the ways that companies are shaping up strategies and the performance angle of the strategy implementations on the outcomes level. In the last couple of years there has been a new wave of research developments investigating the resources approach to strategy formulation – where the resources are looked at as a basis for the corporate strategy. This new wave of research has been inspired by the dissatisfaction in the existing viewpoints on the strategy formulation, and the industrial organisation economics framework which has been widely referred as static, while it has nevertheless been dominant in the area of business strategy. The fact that this framework hasn't been capable of answering the questions raised by the researchers in the area, academics have been looking at the previous historic developments on the

subject, going back to the older, more classic theories of profit and competition (based on the work of the likes of David Ricardo, Joseph Schumpeter, and Edith Penrose). Moving on, the recent research developments have contributed to a range of levels within the organisational structure and advanced the understanding of the strategy formulation on a range of fronts.

Going back to the previously mentioned heterogeneity of the companies and businesses in terms of their resources and capabilities, it has been observed that those resources and capabilities that are superior or distinctive as compared to those of the competitors direct and indirect, may serve as a basis for shaping up a noticeable competitive advantage when projected appropriately to the external environment and the development of the market and the market opportunities (Andrews, 1971; Thompson and Strickland, 1990).

The theory has gained a lot of recognition since its introduction, and the key developments of the research have contributed to an extended understanding of notions such as resources, their combination and application, the sustainability of the competitive advantage, the nature of rents and heterogeneity – and this list is not exhaustive. Some of the key contributors to the theory are Penrose (1959) – whose work is considered to be one of the strongest early developments on the subject – as well as Lippman and Rumelt (1982), Teece (1980, 1982), Nelson and Winter (1982), Rumelt (1984, 1987), Wernerfelt (1984), Barney (1986, 1991), Dierickx and Cool (1989), Castanias and Helfat (1991), Conner (1991), and Mahoney and Pandian (1992). As one of the first streams of research looking at the corporate resources the work of the researchers mentioned above has been considered as strong and impactful, also being described as detailed and influential for the further developments in the area:

> "At the corporate strategy level, theoretical interest in the economies of scope and transaction costs have focused attention on the role of the corporate resources in determining the industrial and geographic boundaries of the firms' activities. At the business strategy level, explorations of the relationships between resources, competition, and profitability include the analysis of competitive imitation, the appropriability of returns to innovations, the role of imperfect information in creating profitability differences

between competing firms, and the means by which the process of resource accumulation can sustain competitive advantage." – Grant, 1991, p.114.

These were the major research developments that have resulted in the formulation of the "resource-based view of the firm". A seminal research into the essence of RBV was by Margaret A. Peteraf, who has published the overview commentary in 1994. Peteraf has analysed the existing research developments that dominated the school of thought at that time and segmented the two points of view on the resource-based theory.

One of the views claims that the resource-based research combines a wide range of subjects and approaches. It has also been stated that this approach can be both content and process oriented. Due to the above, in the area of strategic management, the resource-based theory has been described as such to be a source of an integrative new paradigm (Conner, 1991; Mahoney and Pandian, 1992).

The opposing views have been expressed by Schulze, who has contested this claim. According to the researcher, the resource-based view is strictly segmented into two distinct streams of academic thought which are contradictory and have a discrepant application.

1. Structural School. The first of the views is called 'structural school'. According to Shulze, it encompasses the work that is concerned with identifying rent-generating resources and, further, describing the ways they can be used to form competitive advantage.
2. Process School. The second school of thought investigates valuable resources to answer the question of how they are created, augmented and used.

According to the Peteraf's observation of the at that time current trajectories – opposing and inconsistent in their conclusions – the resource-based views described by Schulze as the 'process' stream can actually be classified as integrative by nature, combining the two perspectives – economic and behavioural. Following on, Peteraf has also concluded that the findings and conclusions of this body of research can be applied across the disciplines and used for more diverse and varied research purposes, as opposed to just what was initially formulated by the author,

finding a useful application in unexpected areas and fields of studies. Hence it can be stated that this research direction provides a more aggregate and fundamental view, putting it in-line with the first approach to the resource-based theory:

"See, for example, Castanias and Helfart (1991), Teece, Pisano, and Shuen (1992) and Amit and Shoemaker (1993), whose economic component is undeniable. Other less integrartive papers may fit neatly into one of Schulze's research streams. Even these, however, may be viewed as complements to work based on other disciplines or oriented differently. In this way, the body of resource-based work, as a whole, may provide a completer and more well-rounded picture than otherwise be possible", – Peteraf, 1994, p.154.

To conclude, the key premises of the RBV are that the case of making the capabilities and resources the basis of the firms' long-term strategy, as they can both provide the basis of the direction for such strategy, while also acting as the primary source of companies' profit. Not long after, RBV has become a dominant paradigm for strategic management research (Peteraf, 1994).

In short, based on the conclusions made by Peteraf (1993 and 1994), as well as based on the works of Barney, 1986, and Dierickx and Cool, 1989:

"The resource-based view (RBV) addresses that the accumulation of valuable, rare, inimitable and non-substitutable (VRIN) resources is the basis of enterprise competitiveness and economic rent", – Lin and Wu, 2014, p.407.

Finally, it is worth noting that in the modern business research, RBV has become one of the most influential and cited theories in the management area, and throughout the stages of its development has gained recognition and following not only amongst academics, but also practitioners. The resource-based theory has also served as a basis for other influential theories and is up until today being used by the professionals in management, marketing, advertising, and so on.

DCT has originated from RBV which was developed by the scholars to investigate the influences of the dynamic markets. DCT has been stated to have originated from the resource-based view, as did a few other spin-offs: "RBT has given rise to prominent spin-off perspectives, most notably the knowledge-based view (Grant, 1996), the natural-resource-based view (NRBV) of the firm (Hart, 1995), and DC (Teece, Pisano, and Shuen, 1997)." The idea behind the concept of the dynamic capabilities' theory was to develop an understanding of how the resources are being adapted to the highly volatile environments and the use of DC to build, integrate and reconfigure resources, as proposed by Teece et al. (1997). In the dynamic, changing environments the definition and application of the competitive foundations varies largely (Eisenhardt and Martin, 2000).

Following on, as observed by the scholars who have investigated the corporate competitiveness, in cases when dynamic and fast-changing environments are involved, DCT describes the tendencies within shaping up the competitive advantage more precisely than the resource-based view (Deeds et al., 2000; Eisenhardt and Martin, 2000; Makadok, 2001; Teece et al., 1997; Wu, 2010; Zahra et al., 2006; Zollo and Winter, 2002; Zott, 2003). The main question both the DCT and the RBV are looking into answering is "Why do companies in one industry perform differently?" – both of the theories are looking at the ways of creating and sustaining competitive advantage; the DNC looks at the question from the perspective of dynamic and constantly-changing context/environment.

The definition of the DC view recognised in this research states that "the DCV studies investigate the attribute, origination, process, influence, and contribution of the dynamic capabilities" (Lin and Wu, 2014, 407; Barreto, 2010; Helfat and Peteraf, 2009; Loasby, 2010; Narayanan, Colwell, and Douglas, 2009; Prange and Verdier, 2011; Teece, 2007; Wang and Ahmed, 2007; Zahra etal., 2006; Zhou and Li, 2010; Zollo and Winter, 2002; Zott, 2003). It has also been observed by the majority of scholars looking into the subject that DC increase competitive advantage. Further, DC can also serve as a strong facilitating factor to convert the existing resources into improved performance. In his publication, Wu (2007) has observed that DC can act as a mediating factor between the entrepreneurial resources and performance.

Questionnaire Design

The key purpose of the described study is to design and refine a quantitative questionnaire for the purposes of further investigation of the conceptual model. The designed questionnaire can be applied to uncover the relationships of the variables and moderators of the conceptual framework. As an important part of the positivist approach, quantitative research is seen as such contributing to the academic knowledge with authoritative and trustworthy data (Smith, 2014), with questionnaire being one of the tools that are most frequently applied in business studies, providing an objective means for collecting data around people's knowledge, beliefs, attitudes and behaviour (Boynton and Greenhalgh, 2004).

In order to design the questionnaire, several sources have been applied to serve as a basis for the questioning strategy. The author has combined the filed-based perspective, having incorporated the findings from the practitioner focus group carried out in Study 2.2, together with some ideas discussed during the interviews with the stakeholders involved directly in the ideation work (as per the conversations that took place during the Study 2.1), and the literature-based perspective, having overviewed the existing state of art on the topics relevant to the described research and the research methodologies most frequently applied in this research accordingly.

Field-Based Perspective

Regarding the field-based angle of the proposed approach, the key findings, limitations and suggestions for further research from Study 2.2 have been analysed, which helped identify some of the gaps and under researched areas within the conceptual framework, that require further testing. Some of the key under researched areas that are to be investigated with the use of the questionnaire are presented below:

- In Study 2.2, it has been observed that DC may have an impact on some of the relationships within the conceptual framework, acting as a moderator of the relationships between BD and COI, and VoC and COI, based on the insights provided by the research participants. It has therefore been suggested to further investigate this moderating impact of DC.

- It has also been identified that further investigation regarding the moderating impact of IC would be beneficial for establishing a more in-depth understanding of the relationships within the framework.

- Despite the strong impact of BD, VoC and COSE on COI which was observed during the interviews and the focus group investigations, it is important to represent these relationships in the questionnaire.

Moving on, another source that was used to put together the questionnaire is the previous research experience. The author has analysed the two conceptual frameworks that served as a basis for the conceptual framework developed in Study 1 (Damanpour and Schneider, 2009; Nordin and Kowalkowski, 2010) and the research methodology used to device the latter. Both of these frameworks have facilitated the formulation of the conceptual model presented in Study 1; hence the methodology used to design and test those is beneficial to be applied within the questioning strategy for questionnaire proposed in this study.

The article by Damanpour and Schneider (2009) looked at the connection between innovation characteristics and innovation adoption, arguing that in addition to internal and external factors, innovation adoption is also impacted by the characteristics of the innovation, including cost, complexity, relative advantage and impact. Farther, the study also looked at the impact the managers involved in the innovation process have on the adoption, such as their demographics and personal characteristics. Damanpour and Schneider (2009) have developed a conceptual model via direct and moderating hypothesis for the relationships between innovation and manager characteristics and innovation adoption. The hypothesis derived from an in-depth overview of the existing literature on the topic and further tested in a quantitative manner. The data was obtained from multiple sources. Regarding the innovation characteristics, the data was collected from both academic and practitioner experts in 2003. Furthermore, the data on other variables of the model was collected from surveying government management stakeholders in 1997. Both research initiatives have been carried out with a help of a questionnaire.

Some of the key topics covered within the devised questionnaires are innovation adoption, innovation characteristics, manager characteristics and control variables. Innovation adoption was covered in the questionnaire was covered by a list of 25 programs, where the sum of the number

of practices from the list that were implemented in each of the involved organisations constructing the measure of innovation adoption in those organisations. Innovation characteristics were evaluated using the aforementioned list of 25 practices, with expert academics and practitioners asked to rate those practices on a 5-point scale. ''Innovation cost'' was evaluated based on the relative financial expenditure associated with each new practice (less expensive = 1, more expensive = 5). ''Innovation complexity'' was rated by the relative difficulty of the implementation of each practice (less difficult = 1, more difficult = 5). ''Innovation impact'' was evaluated by the relative impact of each practice on local government performance (negative impact = 1, no impact = 3, positive impact = 5). Regarding the manager characteristics, the data was obtained in the categories of age, gender, education, tenure and pro-innovation attitude, which derived from the managers responses reflecting on their attitude favouring competition and entrepreneurship. Age was measured in four categories (1 = 25–34, 2 = 35–49, 3 = 50–65, 4 = 65 or older). Gender was presented by two categories of male and female. Education was measured by a 5-point scale (= less than 2 years of college; 2 = four-year college degree; 3 = MPA, MBA, or other graduate degrees; 4 = JD or equivalent; 5 = PhD or equivalent). And, finally, tenure was evaluated by the number of years the manager has served in his/her current position (1 = less than 2 years; 2 = 2–4 years; 3 = 5–9 years; 4 = 10–15 years; 5 = more than 15 years). The described questionnaire formulation methodologies are relevant to the questionnaire devised in this study due to the similarity of the topic, hence the practices applied by Damanpour and Schneider (2009) have acted as a basis for the development of the questionnaire presented in this study.

Moving on, another framework that facilitated the creation of the conceptual model presented in Study 1 is developed by Nordin and Kowalkowski (2010). The authors have identified several shortcomings in the existing literature on solutions, such as the "from the outside in" approach to solutions, which is the common approach to defining solutions formulated by the academics in the domain, where customers are perceived as explicit communicators of their needs and wants, continually communicating those to the companies. The authors argue that this does not occur very often, also mentioning that such reactive approach is not always accurate or beneficial for the businesses aiming to establish their competitive advantage (Nordin and Kowalkowski, 2010). To achieve their objective and provide a more comprehensive and up-to-date definition of solutions, the authors have carried out an in-depth and critical literature review. First, the elements that

constitute a service offering as a concept have been identified, which served as a template for further analysis to be projected onto the concept of solutions. Secondly, the authors have reviewed the definitions and dimensions of solutions, subsequently identifying the antecedents of the solutions offering.

Following that, the literature on the solutions processes and outcomes has been reviewed, with the observations collectively serving as a basis for the developed solutions framework. The authors have reviewed the total of 28 contributions, identified through the review of three major databases, such as Proquest, Emerald and Business Source Premier. Though the research by Nordin and Kowalkowski (2010) is carried out using literature review methodology and cannot directly facilitate the questionnaire creation for the described Study 3, it nevertheless facilitated the review of sources selected for this study. Due to the relevance of the described subject, the author of this study has reviewed the 28 sources from the Nordin and Kowalkowski (2010) literature review to determine the previous research experiences that can facilitate the creation of the questioning strategy for the questionnaire.

Further on, in order to analyse the state of the art in the domain, the current research experiences have also been analysed, and some of the best practices have been identified for questionnaire creation. The author has looked at some of the most impactful articles on the topic of ideation and NSD, and the research that applied quantitative approach with the use of the questionnaire. The literature overview on the subject is presented in the next section.

Literature-Based Perspective

Systematic Overview of the Related Sources

Through the systematic overview of the sources, featured and discussed by Nordin and Kowalkowski (2010), the author has highlighted some of the sources of particular relevance to the described research project. Some of the most prominent works reviewed by Nordin and Kowalkowski (2010) that are also close to the domain looked at in this study were, in no particular order, Bonney and Williams (2009), Ceci and Prencipe (2008), Davies et al. (2007), Miller et al. (2002), Sawhey (2006) and Tuominen et al. (2004). The author further investigated the research

methodologies implemented by the aforementioned authors in order to determine the research experiences that can facilitate the questionnaire creation.

The study by Tuominen et al. (2004) looks at the concepts of market orientation (MO) and customer intimacy (CI) in the B2B environment, where both notions are considered to have a strong impact on the success of the marketing efforts. In order to further investigate the relationships between MO and COI, and the impact the notions have on the firm's market positioning, the authors have reviewed the existing literature on the subject, built the hypothesis accordingly and formulated the original MO – CI framework. The authors have then carried out a postal survey, distributing a questionnaire among the managing directors in the engineering and technology industries in Finland. In the questionnaire, all the key constructs have been presented and measured through multi-item measures, with some of the measures deriving from prior research. All measures throughout the questionnaire followed a 5-point Likert-type scale, where 1 = strongly disagree, 5 = strongly agree. Among the measures discussed and reviewed by Tuominen et al. (2004), the concept of MO is linked strongly to the described research project, serving as a basis for the notion of COI developed in Study 1 of this project, hence the author investigated the approach to measuring the impact of MO in more detail:

> "Initial purification of the MO items was undertaken employing an exploratory factor analysis (EFA) and adopting the parsimonious set of 20 key indicators of the construct developed by Jaworski and Kohli (1993). However, we suppressed nine items due to low factor loadings and communalities (Hair, Anderson, Tatham, & Black, 1995). The EFA (see Appendix A), using the Kaiser Criterion for factor extraction and the Varimax rotation for factor interpretation, resulted in three diverse factors accounting for 53% of the variance in the original 11 items." – Tuominen et al., 2004, p.210.

Moving on, the author has also analysed the research by Matsuno and Mentzer (2000), which was heavily referenced by Tuominen et al. (2004), to provide further depth to the overview of the research methodology and the ideas behind the questioning strategy. Matsuno and Mentzer (2000) have examined the impact of business strategy as a moderator in the relationship between market orientation and performance. Subsequently, the authors have also applied a version of the Jaworski

and Kohli (1993) scale, which they have augmented based on the purposes of their research and the current state of art. The research by Jaworski and Kohli (1993) conceptualises market orientation, with the scale created by the authors emphasising on how businesses operate in terms of customer data and the impact of market tendencies on the organisations.

In their paper 'MARKOR: A Measure of Market Orientation' Jaworski and Kohli (1993) have observed a resurgence of interest in the concept of market orientation from both academics and practitioners, with the concept representing the good practice within the domain of marketing. The authors have also highlighted the lack of a systematic measurement approach to market orientation, with some studies addressing the concern, but not focusing on the actual measure development Lawton and Parasuraman, 1980; McNamara, 1972). Other studies mentioned by the authors in the literature overview section of their study use measures developed adhoc and do not follow systematic approaches and procedures for scale development (Churchill, 1979; Gerbing and Anderson, 1988). Therefore, the authors have set a goal to develop a scale for market orientation and to assess its psychometric properties. Jaworski and Kohli (1993) have followed the process of domain construct, item generation and item purification, with the findings further reviewed with two national samples. Upon the purification of the scale items, the authors have finalised the list of 32 items, based on their appropriateness, uniqueness and multi-meaning character.

Matsuno and Mentzer (2000) have highlighted several shortcomings of the scale, such as the breadth of the item-sampling domain and the factorial structure and fit of the scale:

> "Two streams of literature support a broader conceptualization of the item sampling domain: the environmental scanning literature (Aguilar, 1967; Culnan, 1983; Daft et al., 1988; Hambrick, 1982; Kefalas and Schoderbek, 1973; Meyer, 1979; Rhyne, 1986) and the so-called stakeholder concept and constituency-based theory literature (Anderson, 1982; Connolly et al., 1980; Kotler, 1972; Pfeffer, 1978; Pfeffer and Salancik, 1978; Sturdivant, 1977; Zeithaml and Zeithaml, 1984). Moreover, the need for a broader range of market stakeholders and forces in the domain of a market orientation is acknowledged in the more recent literature (Kohli et al., 1993; Slater and Narver, 1995). We believe that a broader and more balanced explication of market factors is critical because business

strategy is postulated as a reflection of perceived market environments and a choice of focal performance criteria and actions." – Matsuno and Mentzer, 2000, p.5.

Having these aspects of the Jaworski and Kohli (1993) scale that they have been criticized for, Matsuno and Mentzer (2000) have devised their own scale for market orientation, which improved on both item domain breadth and psychometric properties. The updated scale included the additional item domains of supplier relationships, regulatory aspects, social and cultural trends, and microeconomic environment. The methodology adopted by the researchers to develop the updated version of the scale was the combination of in-depth interviews, an overview of the related literature on the subject and a pilot study to pre-test the developed scale via a smaller-scale survey. With the insights generated through the interviews and the literature review methods, the authors have generated 37 additional items to be added to the Jaworski and Kohli (1993) scale, which brought the total number of items to be pre-tested during the pilot study to 69.

It is important to point out that the pre-test was carried out with two key objectives: to evaluate the reliability of the constructs and to reduce the number of items to be featured in the final scale. The pre-test was carried put among a random sample of 300 marketing executives in manufacturing companies in the USA. Upon the item purification process, the authors have finalised a list of 22 items for their version of the MO scale.

Questionnaire Design Best Practices

Upon the review of other articles that were highlighted as relevant to the described study to potentially facilitate the questionnaire creation, they did not prove beneficial to be featured in the literature review, due to the qualitative or conceptual design, or the topic that did not resonate with the variables and moderators looked at in this study. In order to finalize the literature-based perspective overview, the author proceeded to analyse the best practices for the questionnaire construction, as highlighted in previous research in the domain, including some seminal publications (Dyer, 1976; Sheatsley, 1983; Weller, 1998) and the more recent articles (Baker, 2003; Martin, 2006; Roopa and Rani, 2012; Saunders and Munro, 2000; Synodinos, 2003). The

analysed literature has helped to identify the current state of art, as well as some of the best practices in terms of constructing questionnaires.

The key best practice regarding the questionnaire construction lays within the process of gathering data, where data and responses have to be gathered in an unbiased manner (Synodinos, 2003). Throughout the analysis of the literature on the subject, the author has identified some of the key stages of questionnaire design, as follows (Roopa and Rani, 2012, p.273):

1. Initial considerations;
2. Question content, phrasing and response format;
3. Question sequence and layout;
4. Pre-test (pilot) and revision;
5. Final questionnaire.

Other authors also add that before constructing a questionnaire, a researcher should first create specific objective and/or hypothesis, create a clear list of variables and items to be investigated with the help of the questionnaire and have a section breaks for different topics (Acharya, 2010). Furthermore, Roopa and Rani (2012, p.274) have also summarised some of the key characteristics of a good questionnaire:

"A questionnaire should:

1. Be composed of a simple and a specific language;

2. Demand one answer on one dimension;

3. Yield a truthful and accurate answer;

4. Accommodate all possible contingencies of a response;

5. Have mutually exclusive response options;

 6. Produce variability in response;

 7. Minimize social desirability."

The authors have also identified three key components of a questionnaire: general form, question sequence and question formulation and wording. Regarding the general form, it has been observed that the questionnaire can be structured or unstructured. A structured questionnaire uses specific and definite questions that are predetermined and presented in exactly the same order and wording

to all the research participants. When the exact questions are not determined and only a general guide to the type of the information that needs to be obtained is specified, then questionnaire can be classified as unstructured. Speaking about the question sequence, it must be clear and logical, as this helps to reduce the misunderstanding and issues perceiving the questions. It is important to point out that the first couple of questions have the power to impact the attitude of the respondents and their attitude towards cooperating with the research project (Roopa and Rani, 2012, p.274).

Moving on, the literature highlights the importance of the question wording, having that the respondents are increasingly sensitive to the most subtle changes in the wording and syntax, hence it is critical to maintain consistent question wording (Martin, 2006). The author has also pointed out that it is important to avoid ambiguity in the questionnaire design, with words conveying different meanings depending on the context and setting. Terminology is also something that needs to be looked at precisely, to ensure that the terms used are coherent and perceived in the same manner across the respondents. Long and complex questions should also be avoided, as they challenge the respondents and may affect their ability to answer the questions at all:

> "Such questions challenge respondents who must parse the question, interpret its key referents […], infer the events to be included […] and excluded […], and keep in mind all these elements while formulating an answer. Apart from a formidable task of recall, parsing such a complex question may overwhelm available mental resources so that a respondent does not understand the question fully or at all. Processing demands are increased by embedded clauses or sentences […] and by syntactic ambiguity." – Martin, 2006, p.3.

Farther, a successful question is defined as such where respondents understanding of the question corresponds to the meaning intended by the researcher, therefore the questions should be devised in a manner that is clear and precise as possible to avoid misunderstanding and variations of interpretation (Synodinos, 2003). For example, the questions should avoid using double negative statements, as well as any slang or jargon, developed with the focus on communication, rather than grammar and style (Wolfe, 1990). It is also important to point out that each question should only be focusing on one item of analysis or discussed issue, and the items that inquire about multiple issues should be divided into separate questions (Synodinos, 2003).

It is also important to keep in mind the order in which the questions are to be asked, as prior questions can have an impact on the answers to the following questions through two mechanisms described below:

"First, the semantic content of a question can influence interpretations of subsequent questions, especially when the subsequent questions are ambiguous. Second, the thoughts or feelings brought to mind while answering a question may influence answers to subsequent ones. This is especially likely when an answer to a question creates expectations for how a subsequent one should be answered." – Martin, 2006, p.4.

Some of the standards for question formulation are presented below (Roopa and Rani, 2012, p.275):

"The questions should be:
      i.   Easily understood;
     ii.   Be simple;
    iii.   Should convey only one thought at a time;
    iv.   Be concrete and conform as much as possible to respondent's way of thinking
           v. Words with ambiguous meanings must be avoided;
     v.   Danger words, catch words and words with emotional connotations must be avoided."

Pre-testing the questionnaire in a pilot study is one of the best practices for questionnaire design, as it helps achieve the following objectives: determine whether the questions are properly framed, test if the wording of the questions will help achieve the desired results, the questions have been placed in the best order, the questions are understood by all the respondents, add or eliminate additional or specifying questions, instructions to the respondents are adequate. The pre-testing or pilot study allow to re-ensure the questionnaire items and the questioning strategy are valid and reliable, where "reliability refers to the extent to which a measurement gives consistent results" Roopa and Rani, 2012, p.276).

Regarding the types of questions most commonly used in the quantitively research via questionnaires, some examples are provided below (Archarya, 2010):

1. Close ended questions, which provide sufficient options or alternatives for the respondent to select from;

2. Open ended questions, where the responded is to generate their own answer, which must be recorded for further interpretation by the researcher;

3. Scaling questions, which are used to quantify the subjective or responses, with the set of categories or range of scores on a variable to be assessed by the respondent (i.e., Thurstone scaling, Guttman scaling, Likert scaling);

4. Ranking questions, which asks the respondent to rate the provided information from the lowest to the highest categorised variables);

5. Matrix questions, which provide multiple answers to more than one person or elements.

The most commonly used types of the questions are the close ended questions, which provide comprehensive objective information, which is well-structured and ready for further analysis, scaling methods, which facilitate the questions that require opinion-based answers and help researchers generate some general conclusions regarding the issues that might not be necessarily quantifiable, and ranking questions, which facilitate ranking the items of the research with the scores in between lower and upper limits selected by the researcher (Archarya, 2010).

Findings and Discussion

Questionnaire First Draft

Selected Variables

Based on the data gathered via the previously performed fieldwork (including the qualitative interviews carried out in Study 2.1 and the focus group that took place during the Study 2.2), as well the review of best practices for the questionnaire creation reviewed by the author in the previous section of this study, the first step in the questionnaire creation has been performed, summarising the list variables and moderators to be investigated in the questionnaire. The list of variables is presented below:

- VoC;
- BD;
- COSE;
- COI;
- IA;
- IC;
- and, based on the findings of Study 2.2, DC.

In order to avoid using academic jargon and complex formulation, which may cause confusion and miscommunication among the research participants, the author has paraphrased and simplified the key items of the questionnaire, adapting the language from the one used in ana academic environment to the one commonly occurring in the practitioner world, as can be seen below:

- VoC (Voice of Customers) – qualitative data about customers' perceptions, wants and needs, collected via qualitative methods of data collection (customer interviews, focus groups, conversations with the key account customers, conversation transmitted by the sales teams).
- BD (Big Data) – quantitative data about the customers, such as customer purchase behaviour, website data, etc., which was collected in a quantitative manner, using various tools available in the company (Google Analytics, Amplitude, and so forth).

- COSE (Customer Orientation of Service Employees) – employee's orientation and focus on the customer in their work.

- COI (Customer Oriented Ideation) – ideation activities that are built around the insights that were generated directly by the customers, with the customer in the centre of attention.

- IA (Innovation Adoption) – innovation customer adoption of new solutions.

- IC (Interfunctional Coordination) – coordination between the different departments and units of the business.

- DC (Dynamic Capabilities) – organisational-level capabilities that allow a company to adapt to the constantly changing and evolving external environment and reconfigure internal and external competences accordingly.

Questions Content and Formulation

Moving on, following the best practices for questionnaire creation, section breaks have been designed in order to present the content of the questionnaire in logical consecutive topics to increase the effective perception and interaction of the respondents with the content:

1. Customer insights used in ideation/idea generation processes and their impact on customer-oriented ideation.
2. Customer orientation of the employees involved in the ideation processes.
3. Organisational-level moderators affecting customer-oriented ideation.
4. The impact of the customer-oriented ideation on the future customer adoption of the new solutions.

Following the category creation, the questions have been formulated for each of the sections, as can be seen below. The questions have been designed within the framework described in the literature overview section, with the majority of similar research projects (Damanpour and Schneider, 2009; Matsuno and Mentzer, 2000; Tuominen et al., 2004) applying followed 5-point Likert-type scale, where 1 = strongly disagree, 5 = strongly agree. Some opening "break the ice" questions have also been added to gently introduce the research participants to the topics of each of the sections. The author has also included some additional multiple-choice question to increase

the validity of the research outcomes (Damanpour and Schneider, 2009). In addition to that, some open-ended questions have been added to provide further insight on the moderators on the organisational level of the framework and to uncover potential additional outcomes of COI.

Customer Insights Used in Ideation Processes and Their Impact on Customer-Oriented Ideation

The questions covering the use of customer insights in ideation processes are presented below.

1. Would you say you are customer-oriented in the ideation/idea generation activities?
    a. Yes
    b. No
2. Qualitative data about the customers, collected via qualitative methods of data collection (customer interviews, focus groups, conversations with the key account customers, conversation transmitted by the sales teams) facilitates customer-oriented ideation in my company.
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree
3. Quantitative data about the customers, collected via quantitative methods of data collection using various analytical tools (Google Analytics, QuickSight, and so forth) facilitates customer-oriented ideation in my company.
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree
4. How often do you use qualitative data about the customers in customer-oriented ideation processes?
    a. Never

  b. Rarely

  c. Sometimes

  d. Often

5. How often do you use quantitative data about the customers in customer-oriented ideation processes?

  a. Never

  b. Rarely

  c. Sometimes

  d. Often

6. Using qualitative data about the customers in customer-oriented ideation processes is a priority for me.

  a. Strongly disagree

  b. Disagree

  c. Neutral

  d. Agree

  e. Strongly agree

7. Using quantitative data about the customers in customer-oriented ideation processes is a priority for me.

  a. Strongly disagree

  b. Disagree

  c. Neutral

  d. Agree

  e. Strongly agree

Customer Orientation of The Employees Involved in the Ideation Processes

The questions covering the impact of the customer focus of employees involved in ideation on the customer-oriented ideation processes are presented below.

1. An employee's orientation and focus on the customer in their work facilitates customer-oriented ideation in my company.

    a. Strongly disagree

    b. Disagree

    c. Neutral

    d. Agree

    e. Strongly agree

2. Which statement best describes the level of your customer orientation during the ideation processes?

    a. Not customer oriented

    b. Somehow customer oriented

    c. Neutral

    d. Customer oriented

    e. Very customer oriented

3. Which statement best describes the level of your team's or colleagues' customer orientation during the ideation processes?

    a. Not customer oriented

    b. Somehow customer oriented

    c. Neutral

    d. Customer oriented

    e. Very customer oriented

4. Being customer-oriented in the ideation processes is a priority for me.

    a. Strongly disagree

    b. Disagree

    c. Neutral

    d. Agree

    e. Strongly agree

Organisational-Level Moderators Affecting Customer-Oriented Ideation

The questions aiming to uncover the impact of the organisational level moderators on the relationships within the framework are presented below.

1. The processes of collecting, analysing and putting to work the qualitative data about the customers within the ideation processes is affected by the coordination between the involved business units (product, sales, marketing, IT, and so forth).

    a. Strongly disagree

    b. Disagree

    c. Neutral

    d. Agree

    e. Strongly agree

2. The processes of collecting, analysing and putting to work the quantitative data about the customers within the ideation processes is affected by the coordination between the involved business units (product, sales, marketing, IT, and so forth).

    a. Strongly disagree

    b. Disagree

    c. Neutral

    d. Agree

    e. Strongly agree

3. The processes of collecting, analysing and putting to work the qualitative data about the customers within the ideation processes is affected by organisational-level capabilities (any processes or practices that help adapt to the constantly changing external environment).

    a. Strongly disagree

    b. Disagree

    c. Neutral

    d. Agree

    e. Strongly agree

4. The processes of collecting, analysing and putting to work the quantitative data about the customers within the ideation processes is affected by organisational-level capabilities (any processes or practices that help adapt to the constantly changing external environment).

    a. Strongly disagree

    b. Disagree

    c. Neutral

    d. Agree

e. Strongly agree

5. An employee's orientation and focus on the customer is affected by the coordination between the involved business units (product, sales, marketing, IT, and so forth).

    a. Strongly disagree

    b. Disagree

    c. Neutral

    d. Agree

    e. Strongly agree

6. An employee's orientation and focus on the customer is affected by organisational-level capabilities (any processes or practices that help adapt to the constantly changing external environment).

    a. Strongly disagree

    b. Disagree

    c. Neutral

    d. Agree

    e. Strongly agree

7. What affects employee's orientation and focus on the customer in the ideation processes?

The Impact of The Customer-Oriented Ideation on the Future Customer Adoption of the New Solutions

The questions covering the impact of the customer-oriented ideation processes on the future adoption on the developed solutions are presented below.

1. Would you say that developing solutions (features, products or services) in a customer-oriented manner affects the future adoption of the solutions by the customers?

    a. Yes

    b. No

2. Do you measure customer adoption?

    a. Yes

    b. No

3. Measuring customer adoption is a priority for me.

   a. Strongly disagree

   b. Disagree

   c. Neutral

   d. Agree

   e. Strongly agree

4. Being customer-oriented during the ideation processes has helped me and my team developed solutions (features, products or services) that were adopted well by the customers.

   a. Strongly disagree

   b. Disagree

   c. Neutral

   d. Agree

   e. Strongly agree

5. Being customer-oriented during the ideation processes has helped me achieve more successful go-to-market initiatives.

   a. Strongly disagree

   b. Disagree

   c. Neutral

   d. Agree

   e. Strongly agree

6. What are some of the things being customer-oriented in the ideation work is beneficial for?

Question Sequence and Layout

Following the best practices for the questionnaire design highlighted in the previous section, as well as some of the highlights from the field-based perspective overview, it has been observed that the majority of questionnaires on the subject open with demographic characteristics questions. The most commonly used items are age, gender, education and tenure. The measurement categories have also been defined following the previous successful research experiences (Matsuno and Mentzer, 2000; Tuominen et al., 2004). The adaptation that was made was regarding the gender and education items. For the gender item, the author has also added option 3 = prefer not to say,

in order to meet the ethical standards for modern research. Regarding the education variable, the author has adapted the available answers to the UK educational system format. The demographic questions are presented below.

1. Age
    a. 25–34
    b. 35–49
    c. 50–65
    d. 65 or older

2. Gender
    a. Male
    b. Female
    c. Prefer not to say

3. Education
    a. No higher education
    b. Bachelor's degree
    c. Master's degree
    d. MBA, MPA, or other graduate degrees
    e. JD or equivalent
    f. PhD or equivalent

4. Tenure
    a. less than 2 years
    b. 2–4 years
    c. 5–9 years
    d. 10–15 years
    e. more than 15 years

Moving on, regarding the sequence and the flow of the questions described in the previous section of this study, the questions have been presented in a sequential order, following the logical unfolding of the variables within the conceptual framework. First, the variables related to the use of the customer data and insights are to be looked at, with their impact on the COI evaluated via a series of questions. Next, the questions regarding the customer orientation of service employees

are to be examined, investigating its impact on COI. Furthermore, the organisational-level moderators are analysed, with the questions presented accordingly. Finally, the questions regarding the impact of COI on the future adoption of solutions are to finalize the questionnaire. Therefore, the total of 28 questions, distributed across 5 logical sections, have been developed. The next step of the questionnaire development is the pilot study testing the effectiveness of the questionnaire, which has been carried out among 30 industry practitioners.

Pilot Study

Sampling

For the purposes of the pilot study, the questionnaire has been created in Google Forms, which has proven to be a secure and effective tool for questionnaire distribution in the online environment. The sampling approach implemented in this study is similar to the approach that was used for the sampling strategy in Study 2.1, where the more detailed description can be found. The firms' characteristics with the research participants details can be found in the table below.

Table 18. Firms' characteristics and participant details (Study 3) (Authors Own, 2020).

Firms Characteristics		Participant Details					
Sector	Size	Age	Gender	Years of Experience	Years in the Company	Level	Department
IT/SaaS	SME	24	M	4	4	Middle	Product development
IT/SaaS	SME	44	M	10	2	Middle	Product development
IT/SaaS	SME	48	M	15	5	Senior	Product development
IT/SaaS	SME	34	M	9	3	Senior	Product development

IT/SaaS	SME	39	F	10	1	Senior	Product development
IT/SaaS	SME	42	F	12	4	Senior	Product development
IT/SaaS	SME	29	M	3	3	Middle	Product design
IT/SaaS	SME	27	F	7	7	Senior	Product development
IT/SaaS	SME	33	M	6	4	Middle	Product development
IT/SaaS	SME	34	M	8	5	Middle	Product development
IT/SaaS	SME	37	M	12	2	Senior	Product development
IT/SaaS	SME	39	M	15	6	Management	Management
IT/SaaS	SME	42	F	20	7	Management	Management
IT/SaaS	SME	47	F	22	10	Management	Management
IT/SaaS	Start-up	39	M	10	6	Senior	Product development
IT/SaaS	Start-up	32	F	7	7	Senior	Product design
IT/SaaS	Start-up	28	M	4	4	Middle	Product development
IT/SaaS	Start-up	27	M	5	2	Middle	Product development
IT/SaaS	Start-up	28	M	8	4	Senior	Product design
IT/SaaS	Start-up	33	M	10	3	Senior	Product design

IT/SaaS	Start-up	34	F	7	5	Middle	Product development
IT/SaaS	Start-up	32	F	8	3	Senior	Product development
IT/SaaS	Large corporation	45	F	19	4	Senior	Product development
IT/SaaS	Large corporation	49	F	17	5	Senior	Product design
IT/SaaS	Large corporation	53	M	23	4	Senior	Marketing
IT/SaaS	Large corporation	54	M	22	7	Senior	Product development
IT/SaaS	Large corporation	49	M	15	6	Senior	Marketing
IT/SaaS	Large corporation	39	M	12	4	Senior	Product development
IT/SaaS	Large corporation	43	F	19	7	Senior	Marketing
IT/SaaS	Large corporation	37	F	11	6	Senior	Product development

The sampling has been carried out in several stages, as described below:

1. **Select the appropriate platform to select and reach to participants.** Following the successful sampling strategy carried out for Study 1, the researcher has applied the LinkedIn Premium solution to identify the platform users relevant to the subject of the research.

2. **Identify the potential research participants.** The author has performed a search within the LinkedIn network, looking for senior professionals in Solutions development domain,

within the SaaS industry. The search criteria can be seen below. Based on the search results, 689 relevant profiles have been identified.

    a. **Role:** Product

    b. **Industry:** SaaS

    c. **Location:** United Kingdom

    d. **Tenure:** any

3. **Distribute the questionnaire.** The questionnaire has been sent out to over 100 industry professionals, selected in a random order, using the Direct Message tool on LinkedIn.

Results and Conclusions

The pilot study has been carried out through the LinkedIn Premium direct messaging feature, where the online questionnaires have been distributed to those LinkedIn members who matched the target profile, following the sampling approach described in Study 2.1. When created in Google Forms, six additional questions have been added to the questionnaire, investigating the feedback of the pilot study participants on the questionnaire design and the questions. The author was looking at the clarity of the questions, the use of terminology and the sequence in which the questions were presented. Some open-ended questions have also been included, to provide a platform for the research participants to express their thoughts on the questionnaire.

For the pilot study, over 450 questionnaires have been distributed online, with 30 responses received during the pilot study duration period. Based on the answers, the questionnaire needs to be improved in terms of being clear and easy to understand (26,7% of respondents strongly agreed with the statement that the questionnaire is clear and easy to understand, 17,6% agreed and 40% remained neutral). The questions were perceived as clear and straightforward (50% of respondents strongly agreed with this statement and 30% agreed). The terms used within the questionnaire have been considered clear and easy to understand (70% of respondents strongly agreed this statement and 13,3% agreed). The majority of the pilot study participants preferred not to see the introductory section explaining the key notions of the research as they found all the terms used easy to understand.

Figure 12. Pilot study insights (Authors Own, 2021).

I would prefer to have read a paragraph explaining all the key terms and notions of this questionnaire before answering the questions.

30 responses
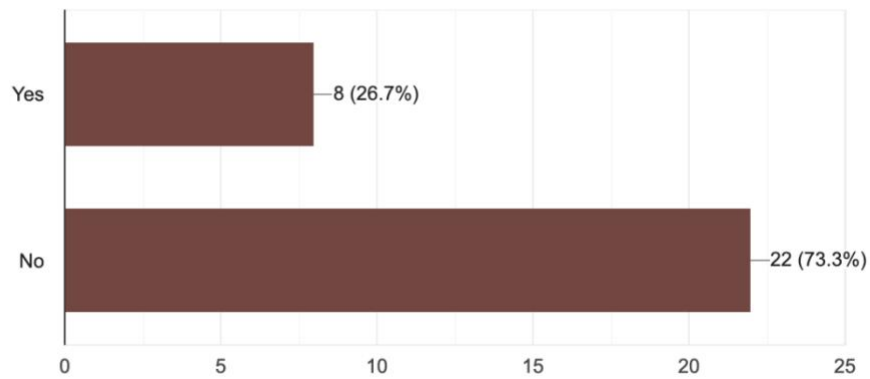
I understood all the terms used within the questionnaire.

30 responses
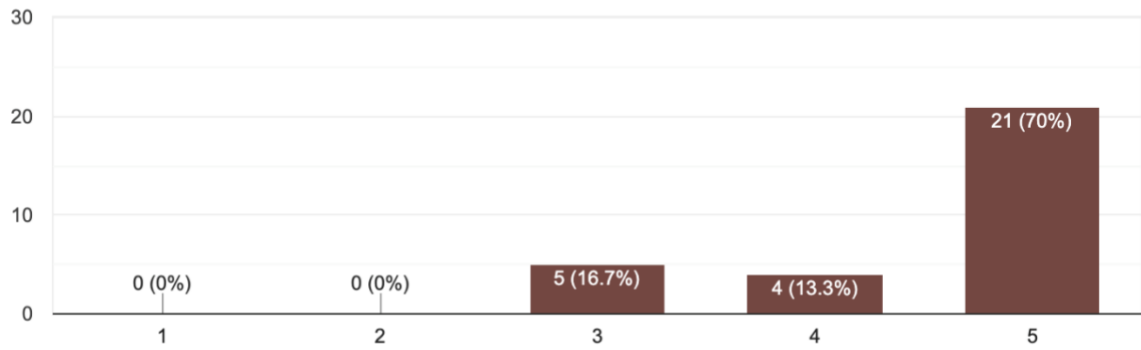
I understood all the questions.

30 responses
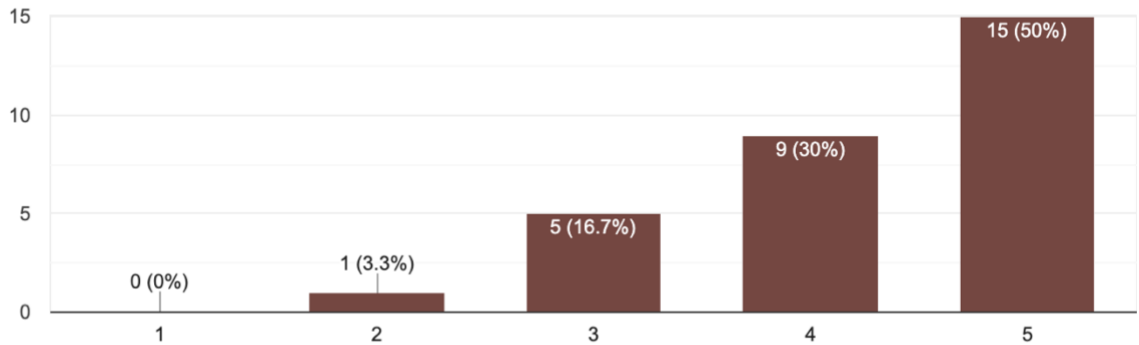
This questionnaire is easy to understand and clear.

30 responses
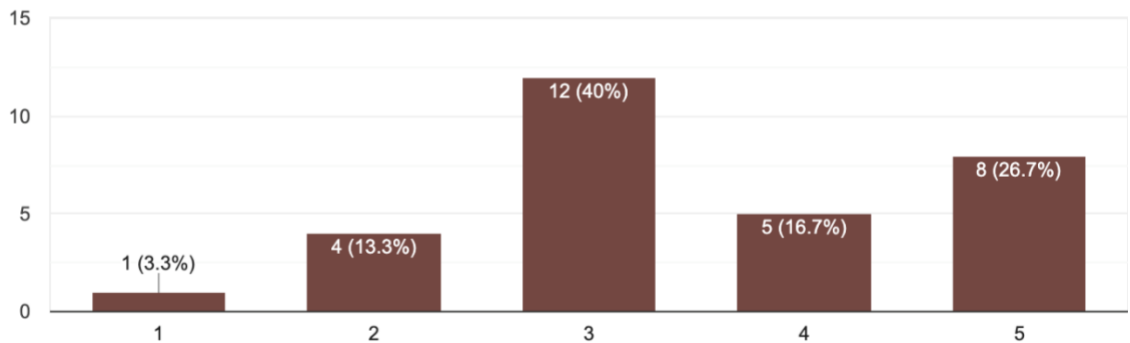
Through the open questions, the insights and feedback on the first draft of the questionnaire have been generated, which was summarised in three key recurring topics, which are presented in the bullet list below:

- Some questions are too long and wordy.
- Some questions are worded similarly, which makes them hard to understand (especially the questions investigating the use of qualitative and quantitative data in ideation).

- Some terms are very technical and some of the respondents felt like they needed additional context to answer the questions.

These key recurring topics have been analysed and reformatted into action points, which are to be actioned in order to refine and improve the final questionnaire. The following four key changes have been implemented in the questionnaire based on the results of the pilot study:

1. Review and shorten the questions that are too long and wordy.
2. Segregate the questions that are similar or worded similarly into separate section of the questionnaire to avoid confusion.
3. Rephrase the terms that are too technical.
4. Make sure the terminology is presented in a clear and easy to understand manner.

A total of nine questions have been updated based on the key changes outlined above. No questions have been removed.

Due to the fact that the questionnaires were distributed via the direct messaging tool on LinkedIn Premium, the respondents had an opportunity to get back to the researcher with their feedback. Some of the research participants have messaged the researcher to express their thoughts on the questionnaire, and the received feedback was predominantly very positive. Most of the respondents found the topic of the research project interesting and relevant, and appreciated the approach that allowed them to also express their thoughts through the open-ended questions.

Final Questionnaire

Upon the investigation and summarising of the feedback received from the pilot study research participants, the questionnaire has been reviewed, refined and updated in order to meet set-up action points generated from the provided insights. The final version of the questionnaire is comprised of an entry part, which consists of four demographic questions, and four subsequent parts, which focus on the investigation of the key variables of the framework. Based on the

feedback, the questions regarding the use of qualitative and quantitative data in ideation have been segmented in two different sub-sections to avoid confusion.

The overview of the notions and moderators of the conceptual framework and the sections of the questionnaire that investigate those in detail, is presented accordingly in the table below.

Table 19. An overview of the notions and the representation in the questionnaire (Authors Own, 2021).

Notion	Questionnaire section
VoC	Part 1. Customer Insights Used in Ideation Processes and Their Impact on Customer-Oriented Ideation Part 1.1. Qualitative data
BD	Part 1. Customer Insights Used in Ideation Processes and Their Impact on Customer-Oriented Ideation Part 1.2. Quantitative data
COSE	Part 2. Customer Orientation of The Employees Involved in the Ideation Processes
COI	Part 1. Customer Insights Used in Ideation Processes and Their Impact on Customer-Oriented Ideation Part 2. Customer Orientation of The Employees Involved in the Ideation Processes Part 3. Organisational-Level Moderators Affecting Customer-Oriented Ideation

	Part 4. The Impact of The Customer-Oriented Ideation on the Future Customer Adoption of the New Solutions
IC	Part 3. Organisational-Level Moderators Affecting Customer-Oriented Ideation
IA	Part 4. The Impact of The Customer-Oriented Ideation on the Future Innovation Adoption of the New Solutions
DC	Part 3. Organisational-Level Moderators Affecting Customer-Oriented Ideation

The overview of the questions that have been updated based on the results of the pilot study can be seen in the table below. The changes that have been made are presented in bold font.

Table 20. An overview of the changes made to the first draft of the questionnaire (Authors Own, 2021).

Question (First draft)	**Question (Final version)**
Qualitative data about the customers, **collected via qualitative methods of data collection (customer interviews, focus groups, conversations with the key account customers, conversation transmitted by the sales teams)** facilitates customer-oriented ideation in my company.	Qualitative data about the customers, collected via qualitative methods of data collection, facilitates customer-oriented ideation in my company.

Quantitative data about the customers, **collected via quantitative methods of data collection using various analytical tools (Google Analytics, QuickSight, and so forth)** facilitates customer-oriented ideation in my company.	Quantitative data about the customers, collected via quantitative methods of data collection, facilitates customer-oriented ideation in my company.
The processes of **collecting, analysing and putting to work** the qualitative data about the customers within the ideation processes is affected by the coordination between the involved business units **(product, sales, marketing, IT, and so forth).**	The processes of applying qualitative data about the customers within the ideation processes is affected by the coordination between the involved business units.
The processes of **collecting, analysing and putting to work** the quantitative data about the customers within the ideation processes is affected by the coordination between the involved business units **(product, sales, marketing, IT, and so forth).**	The processes of applying quantitative data about the customers within the ideation processes is affected by the coordination between the involved business units.
The processes of **collecting, analysing and putting to work** the qualitative data about the customers within the ideation processes is affected by organisational-level capabilities **(any processes or practices that help adapt to the constantly changing external environment).**	The processes of applying qualitative data about the customers within the ideation processes is affected by organisational capabilities.
The processes of **collecting, analysing and putting to work** the quantitative data about	The processes of applying quantitative data about the customers within the ideation

the customers within the ideation processes is affected by organisational-level capabilities **(any processes or practices that help adapt to the constantly changing external environment).**	processes is affected by organisational capabilities.
An employee's orientation and focus on the customer is affected by the coordination between the involved business units **(product, sales, marketing, IT, and so forth).**	An employee's orientation and focus on the customer is affected by the coordination between the involved business units.
An employee's orientation and focus on the customer is affected by organisational-level capabilities **(any processes or practices that help adapt to the constantly changing external environment).**	An employee's orientation and focus on the customer is affected by organisational capabilities.
Would you say that developing solutions **(features, products or services)** in a customer-oriented manner affects the future adoption of the solutions by the customers?	Would you say that developing solutions in a customer-oriented manner affects the future adoption of the solutions by the customers?

The full version of the final questionnaire is presented in Appendix 2.

A detailed overview of the sources used to adapt the questions for the questionnaire proposed in Study 3, with sources presented per question, can be found in the table below.

Table 21. The sources of the questions for the final version of the questionnaire (Authors Own, 2021).

Question	Source
Demographic questions	

1. Age
    a. 25–34
    b. 35–49
    c. 50–65
    d. 65 or older
	Adapted from Damanpour and Schneider (2009)

2.   Gender
    a. Male
    b. Female
    c. Prefer not to say
	Adapted from Damanpour and Schneider (2009)

3. Education
    a. No higher education
    b. Bachelor's degree
    c. Master's degree
    d. MBA, MPA, or other graduate degrees
    e. JD or equivalent
    f. PhD or equivalent
	Adapted from Damanpour and Schneider (2009)

4. Tenure
    a. less than 2 years
    b. 2–4 years
    c. 5–9 years
    d. 10–15 years
    e. more than 15 years
	Adapted from Damanpour and Schneider (2009)

Part 1. Customer Insights Used in Ideation Processes and Their Impact on Customer-Oriented Ideation	

1. Would you say you are customer-oriented in the ideation/idea generation activities?
    a. Yes
    b. No
	Authors own

Part 1.1. Qualitative data	

1. Qualitative data about the customers, collected via qualitative methods of data collection, facilitates customer-oriented ideation in my company.
   a. Strongly disagree
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree
	Adapted from Cooper (2013, 2017, 2018)

2. How often do you use qualitative data about the customers in customer-oriented ideation processes?
   a. Never
   b. Rarely
   c. Sometimes
   d. Often
	Adapted from Cooper (2013, 2017, 2018)

3. Using qualitative data about the customers in customer-oriented ideation processes is a priority for me.
   a. Strongly disagree
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree
	Adapted from Cooper (2013, 2017, 2018)

Part 1.2. Quantitative data	

1. Quantitative data about the customers, collected via quantitative methods of data collection, facilitates customer-oriented ideation in my company.
   a. Strongly disagree
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree
	Adapted from Cooper (2013, 2017, 2018)

2. How often do you use quantitative data about the customers in customer-oriented ideation processes? a. Never	Adapted from Cooper (2013, 2017, 2018)

	b. Rarely c. Sometimes d. Often	

3.	Using quantitative data about the customers in customer-oriented ideation processes is a priority for me.
	    a. Strongly disagree
	    b. Disagree
	    c. Neutral
	    d. Agree
	    e. Strongly agree
		Adapted from Cooper (2013, 2017, 2018)

Part 2. Customer Orientation of The Employees Involved in the Ideation Processes		

1.	An employee's orientation and focus on the customer in their work facilitates customer-oriented ideation in my company.
	    a. Strongly disagree
	    b. Disagree
	    c. Neutral
	    d. Agree
	    e. Strongly agree
		Adapted from Jaworski and Kohli (1993); Matsuno and Mentzer (2000)

2.	Which statement best describes the level of your customer orientation during the ideation processes?
	    a. Not customer oriented
	    b. Somehow customer oriented
	    c. Neutral
	    d. Customer oriented
	    e. Very customer oriented
		Adapted from Jaworski and Kohli (1993); Matsuno and Mentzer (2000)

3.	Which statement best describes the level of your team's or colleagues' customer orientation during the ideation processes?
	    a. Not customer oriented
	    b. Somehow customer oriented
	    c. Neutral
	    d. Customer oriented
	    e. Very customer oriented
		Adapted from Jaworski and Kohli (1993); Matsuno and Mentzer (2000)

4. Being customer-oriented in the ideation processes is a priority for me.
 	
    a.   Strongly disagree
    b.   Disagree
    c.   Neutral
    d.   Agree
    e.   Strongly agree
	Adapted from Jaworski and Kohli (1993); Matsuno and Mentzer (2000)

Part 3. Organisational-Level Moderators Affecting Customer-Oriented Ideation	

1. The processes of applying qualitative data about the customers within the ideation processes is affected by the coordination between the involved business units.
 	
    a.   Strongly disagree
    b.   Disagree
    c.   Neutral
    d.   Agree
    e.   Strongly agree
	Adapted from Lin et al. (2019)

2. The processes of applying quantitative data about the customers within the ideation processes is affected by the coordination between the involved business units.
 	
    a.   Strongly disagree
    b.   Disagree
    c.   Neutral
    d.   Agree
    e.   Strongly agree
	Adapted from Lin et al. (2019)

3. The processes of applying qualitative data about the customers within the ideation processes is affected by organisational capabilities.
 	
    a.   Strongly disagree
    b.   Disagree
    c.   Neutral
    d.   Agree
    e.   Strongly agree
	Adapted from Трачук and Убейко, 2017

4. The processes of applying quantitative data about the customers within the ideation processes is affected by organisational capabilities.	Adapted from Трачук and Убейко, 2017

a. Strongly disagree b. Disagree c. Neutral d. Agree e. Strongly agree	

5. An employee's orientation and focus on the customer is affected by the coordination between the involved business units.
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree
	Adapted from Lin et al. (2019)

6. An employee's orientation and focus on the customer is affected by organisational capabilities.
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree
	Adapted from Трачук and Убейко, 2017

7. What affects employee's orientation and focus on the customer in the ideation processes?	Authors own
Part 4. The Impact of The Customer-Oriented Ideation on the Future Innovation Adoption of the New Solutions	

1. Would you say that developing solutions in a customer-oriented manner affects the future adoption of the solutions by the customers?
    a. Yes
    b. No
	Adapted from Damanpour and Schneider (2009)

2. Do you measure customer adoption?
    a. Yes
    b. No
	Authors own

3. Measuring customer adoption is a priority for me. a. Strongly disagree	Adapted from Damanpour and Schneider (2009)

b. Disagree c. Neutral d. Agree e. Strongly agree	
4. Being customer-oriented during the ideation processes has helped me and my team developed solutions that were adopted well by the customers. a. Strongly disagree b. Disagree c. Neutral d. Agree e. Strongly agree	Adapted from Damanpour and Schneider (2009)
5. Being customer-oriented during the ideation processes has helped me achieve more successful go-to-market initiatives. a. Strongly disagree b. Disagree c. Neutral d. Agree e. Strongly agree	Adapted from Damanpour and Schneider (2009)
6. What are some of the things being customer-oriented in the ideation work is beneficial for?	Authors own

Limitations and Further Research

Despite the efforts to carry out an extensive research project to cover all the key topics and answer the research question, the described study comes with some limitations.

To begin with, the pilot study has been carried out within the limited geography. The majority of the research participants are based in the UK, which means that a study looking at the questionnaire design from the perspective of other markets would be beneficial to expand the knowledge on the subject.

Moving on, the pilot project has been carried out within the limited number of participants. The researcher has reached out to over 450 potential participants of the study, 30 of which agreed to take part in the project. Some participants that did not agree to participate explained their refusal with their companies concern regarding the use of data. That is due to some companies being multinational (the research participants were based in the UK office, but the company-wide regulations were dictated from the US-based Head Office), which is why data concerns and GDPR become a sensitive topic, especially in the light of Brexit. Others mentioned that due to the current market situation, affected strongly by the pandemic, their company and industry have been suffering, and they do not feel like they could contribute to the project at this point. Finally, another reason mentioned by the participants that did not take part in the research is the lack of capacity, with their role being affected by the global pandemic and the remote working environment.

Therefore, based on the described limitations, the suggestions for further research are presented below:

- A pilot study focusing on the expanded geographic market, looking at some of the cases from Europe, US, Asia and so forth.
- A pilot study that involves a larger, expanded sample, carried out outside the pandemic situation, which has had a drastic impact on the overall business environment worldwide.
- A study presenting an updated version of the questionnaire to be applied in the professional environment to internally evaluate the level of customer orientation of the employees within the ideation processes.

Conclusions

As an outcome of this research project, a questionnaire for further quantitative assessment of the conceptual framework has been devised, combining the questions on the key relationships described in the framework. The questionnaire has been designed on the basis of the literature review (literature-based perspective) and the information gathered during the focus group investigation that took place within Study 2.2 (field-based perspective). The questionnaire has been further refined and improved with the help of the pilot study, that was ran online via the Padlet software.

Some of the key conclusions of the described research project originated from the insights provided by the pilot study participants. The research participants have presented the opinions on the structure and the layout of the questionnaire, helping to refine the structure and content accordingly. Subsequently, the final version of the questionnaire has been created, which addressed all the potential issues as per the pilot study insights:

- Some questions are too long and wordy.
- Some questions are worded similarly, which makes them hard to understand (especially the questions investigating the use of qualitative and quantitative data in ideation).
- Some terms are very technical and some of the respondents felt like they needed additional context to answer the questions.

The final questionnaire has been presented in the Appendix 2 section of this thesis, and is sophisticated, yet clear and easy to understand, with the refined and simplified questions, ready to be used in future research initiatives.

Contributions

Academic Contributions

The key academic contribution of the described research project is the questionnaire that has been developed and refined with the help of the pilot study. The questionnaire is segmented into four key sections and one additional section and is comprised of 28 final questions. The questions have been refined and improved on the basis of the feedback provided by the pilot study participants.

Moving on, the study has also provided some insights on the future research initiatives that are to be carried out in order to further improve the questionnaire and test it on a wider scale, in a range of different geographies outside of the UK market, as described in the Limitations and Further Research section.

Managerial Contributions

The managerial contribution of the described research project is also linked to the developed questionnaire. Not only can the questionnaire be used to investigate the conceptual model presented in Study 1, but also to look into the level of implementation of the model internally. The questionnaire can be used as a basis for an internal corporate questionnaire, to evaluate the key variables related to customer orientation within the ideation activities.

This can shed light on the employees' perception of the level of customer orientation and their perceptions of the company-wide tendencies in terms of the impact of customer orientation strategies. It is suggested that the questionnaire is updated for the described purpose and used by the HR department to evaluate the company-level customer orientation in ideation activities, with answers collected anonymously.

Chapter 5. Findings and Discussion

Findings

The overall goal of the described doctoral study was to investigate the impact of customer orientation within the ideation stage of NSD projects and to observe the impact it has on customer adoption. To address the goal, three subsequent studies have been carried out and presented in this thesis.

The first study *"Customer Oriented Ideation and its Impact on Customer Adoption. A Conceptual Model"* gathered and overviewed the extensive body of literature in the domain of NSD, and, particularly, ideation, having examined the antecedents and outcomes, accordingly. Via the literature review, a research gap has been identified in the area of ideation for NSD, and to meet the gap a new notion of COI (Customer Oriented Ideation) has been introduced. Further, a novel three-dimensional conceptual framework has been proposed, which identifies the key variables within the process of ideation in NSD on three levels (customer, employee and firm levels) and proposes the key moderator (IC) that regulates the relationships within the framework. The framework expands on the existing literature on customer orientation, ideation and customer innovation adoption in the services industry and proposes an explicit vision of the processes leading to customer adoption of new solutions. Both the notion of COI and the developed conceptual framework are the key findings of the study.

The second study *"Adopting Customer Oriented Ideation in the Professional Environment. A Case of the SaaS Industry"* addressed the need for a more detailed examination of the conceptual model in the qualitative environment, as identified in the first study. The author has carried out an extensive series of interviews and a focus group, which investigated the variables of the conceptual framework and analysed their relationships accordingly. The key findings of the second study can be defined as follows:

- A definition of COI has been formulated.
- The elements of COI have been summarised.
- The levels of COI have been presented.
- The characteristics of COI have been described.

- The role of COI in the practice of NSD has been observed, which was named as one of the critical drivers of the successful solutions development and future go-to-market.

- The variables of the theoretical framework have been investigated and found to have a strong impact on the notion. VoC, BD and COSE have all been observed to be consequential contributors to the establishment of COI in an organisation and have a positive influence on the ideation process.

- COI has been discussed in detail, with an observed influence on the adoption of the new solutions that were developed in a customer-oriented manner.

- A need for further investigation of the moderators of the conceptual framework has been identified, with the findings stating that IC may not moderate the relationships of the key variables of the framework.

- A need to explore the impact of DC (Dynamic Capabilities) as a moderator within the conceptual framework has been identified.

- A need to develop a tool for further testing of the framework in a quantitative setting has been positioned.

Furthermore, the aim of the third study *"The Role of Customer Oriented Ideation in the NSD Initiatives. Questionnaire Development"* was to address the lack of the tools for quantitative validation of the conceptual framework and design a questionnaire that can be used to test the variables, moderators and relationships within the framework. The questionnaire is to bridge the literature-based perspective via an in-depth overview of the existing academic sources and the field-based perspective, summarising and applying some of the key insights generated in the second study.

One of the key findings and contributions of this study is the developed questionnaire, which has been tested in the pilot study among 30 industry professionals and refined to achieve clarity and ease of comprehension. The developed questionnaire is to be applied for further quantitative testing of the conceptual framework developed in the first study. In addition to that, the questionnaire can be adapted to be used in the professional environment, to test the customer orientation internally within various businesses.

Discussion and Answers to the Research Questions

Overall Research Question 1

Research Question 1

Based on the in-depth literature review, the key variables affecting customer orientation have been summarised and the subsequently generated research propositions have been created, outlining the relationships between the key involved variables. The notion of COI has been proposed, in order to describe the process of generating ideas in a customer-oriented manner, and an integrative conceptual 3D-model has been developed as a visual representation of the direct and moderating relationships identified via literature review.

The key relationships identified in the literature review and applied within the conceptual framework are presented below:

- COI is the notion describing the incorporation of the customer data in the ideation processes and the strong customer focus of an organization at the ideation stage across the NSD initiatives.
- VoC can facilitate COI, providing the qualitative information on the customer's perceptions, wants and need.
- BD can facilitate COI, acting as a source of objective quantitative data reflecting customer behaviour (i.e., usage data).
- COSE can have a positive impact on COI, meaning that when the employees across the different departments of the company are customer oriented, such corporate ethos results in more customer-oriented ideation activities.
- COI can facilitate IA, as the solutions developed with an orientation on customers and basing the decisions on the customers' insights, are said to be better adopted by the customers.

Regarding the moderators, IC has been notably aiding all the key relationships outlined in the model:

- IC can moderate the relationships between VoC and COI, and BD and COI.
- IC can moderate the relationships between COSE and COI.

Research Question 2

This research question was investigated and addressed in Study 1, which has helped identify and generate the variables that have an impact on the ideation processes with the NSD projects

By an in-depth overview of the literature on the subject and a review of the existing research initiatives in the field, the notion of COI has been developed. Customer focus has been identified as an essential component of the new solutions' success, and understanding customers' needs and wants is a consequential part of any NSD activities (Cooper, 2013, 2017, 2018, 2019). The subsequent notion of the market-oriented idea generation has been introduced (Cooper and Dreher, 2010), based on the market orientation notion (Lewrick, 2011), described as having a positive impact on the success of the new solutions (Greenley, 1995; Hooley et al., 2000; Langerak, 2001; Kahn, 2001; Cano et al., 2004; Zhuo et al., 2005; Gainer and Padanyi, 2005; Kara et al., 2005; Hult et al., 2005). Based on the theory behind market-oriented idea generation activities, (Cooper, 2019) and the VoC research (Cooper and Dreher, 2019; Gaskin, 2011; Griffin and Hauser, 1993; Katz, 2001) that is said to facilitate the success of the market-oriented idea generation, this study proposes the notion of Customer-Oriented Ideation (COI). COI actualizes the market-oriented idea generation activities and provides a more detailed understanding of the ideation activities that can be described as customer oriented. In current business environment, businesses are focused on the customer, and not market in general. It is the customers' insights that help create solutions that are characterised with higher adoption levels.

The newly introduced notion of COI can be defined as a practice of generating, analysing, interpreting and incorporating a wide range of customer data at the ideation stage of NSD projects. It is said to have a strong impact on the ideation processes within the NSD projects, acting as a consequential approach to generation solutions ideas that are most likely to be adopted by the customers. It is also suggested that as a continuation and logical development of the market-

oriented ideation notion, COI encompasses its key qualities therefore leading to the success of the new solutions in the market.

Overall Research Question 2

Research Question 3

The research question has been looked at in detail in the second study, where the relevant questions have been asked during the interviews with the senior practitioners working in the solutions development domain.

During the semi-structured interviews, the research participants have agreed that both BD and VoC have a strong impact on ideation, and the processes in relation to collecting both types of data and insights are led by its evolving character, driving the involved stakeholders to also continuously improve and develop their knowledge. Customer knowledge is described as dynamic and is predominantly re-evaluated and cross-referenced on a weekly basis using a variety of external and internal sources, using an organised process and specific regulated rituals and tools, to then be effectively incorporated into the ideation process.

Regarding COSE, it has been stated to facilitate the ideation processes through the Empathy Mapping methodology, which is applied by the majority of the research participants. As a customer-centred approach, it allows establishing a required level of empathy towards the customers, and therefore projecting these unique insights onto impactful product ideas.

Research participants agreed that both BD (representing the quantitative data collected about the customers) and VoC (qualitative data, accordingly) combined provide a full picture of the current customer needs and wants for improved ideation. Customer research is considered a routine activity, carried out as a ritual on a weekly basis. Both BD and VoC insights can be categorised and segmented as internal or external. Meaning that both quantitative and qualitative data can be gathered using the internal tools and means, for instance, using the internally available tools like Google analytics, or running surveys with the existing customers, accordingly. Likewise, the

external means can be beneficial for gathering quantitative data (for instance, via reviewing the available open access market data) and qualitative insights (e.g., via competitor customer reviews).

Throughout the interviews, recurring ideas regarding the efficiency of the used methods. The research participants agreed that customer interviews focused on Jobs-to-be-Done method are an effective approach to discover and understand customer insights. Some other specific approaches mentioned include feedback reviewing, design sprints and Domain Driven Design workshops with other business units. The full list of the discussed methods is presented below.

- Customer interviews, focusing on the 'jobs to be done' method;
- Empathy Mapping;
- Value proposition canvases;
- Customer journey mapping;
- Value Proposition Canvas;
- Feedback reviewing;
- Design sprints;
- Walking through a prototype at the later stages of development;
- Domain Driven Design workshops with the wider business.

Regarding the key elements of the customer behaviour that the research participants are looking at in their work, some of the key data points mentioned are switching events (where a customer has moved from one product to another), key feature usage, story points, user journey and overall sentiments and reactions.

Overall Research Question 3

Research Question 4

This research question has been touched upon in Study 1, but covered in more detail in Study 2, with the key finding presented below. COI, as a key notion introduced in this research project, can be defined as a practice of generating, analysing, interpreting and incorporating a wide range of customer data at the ideation stage of NSD projects. As a continuation and logical development of

the market-oriented ideation notion, COI encompasses its key qualities therefore leading to the success of the new solutions in the market. Adopting market-oriented idea generation has been said to lead to superior product ideas – best ideas come from the customers and this methodology helps to project that onto the solution. Based on the research findings, the notion of COI is deeply embedded in the NSD practice within the analysed industry.

Based on the outcomes of the interviews, the **elements of COI** can be summarised as follows:

- Mentality and mindset;
- Processes and rituals;
- Contextual knowledge;
- Company culture and ethos.

The levels of COI have been identified based on the practices in the organisations that have been under the investigation:

- **Individual level** – observed in situations when particular individual showcases high COI capabilities;
- **Team level** – observed in a group of individuals working closely in a team that can be characterised by a high COI capability;
- **Business unit level** – observed in a particular business function across all teams within the business unit that showcase a high COI capability;
- **Company/organization level** – observed across the whole organisation, when the COI capability is strong across the business functions and units, with all the individuals, teams, and business units can be characterised by a strong COI capability.

It has also been observed that the levels of COI across the organisations are consecutive, therefore you cannot achieve a higher level without ensuring the strong presence of the previous level: i.e. high team COI level cannot be achieved without a strong individual COI level across all the individuals on the team.

Furthermore, the interviews have also allowed identifying some of the characteristics of COI:

- Deep understanding of the customer, their preferences, needs and wants via data sourced from a variety of reliable, cross-referenced sources;

- Using customer knowledge as a creative tool;

- Actively advocating customers' needs and wants internally;

- Educating other internal and external stakeholders about the customers and the COI;

- Promoting open communication and open access to customer information across the organisation;

- Ensuring best practices have been implemented in regard to the privacy and data safety, including the ethical ways of collecting, storing and using customer data.

Research Question 5

This research question has been investigated and addressed in detail in Study 2. During the uncovering of the insights from the interviews, it has been found that the variables of the theoretical framework have a strong impact on the notion. VoC, BD and COSE have all proven to be consequential contributors to the establishment of COI in an organisation.

VoC facilitates ideation by providing an understanding of the customer needs that can be further projected onto possible solutions. VoC allows establishing a clear understanding of the customers' mindset and provides the 'why' that is often hidden behind the quantitative data. Some of the most popular ways of obtaining VoC that were mentioned by the research participants are interviews and focus groups, but some of the interviewees have also mentioned some more creative ways like customer councils. Communication with the Customer Success team has also been names among the impactful sources of qualitative data, with the challenge being the lack of communication between the departments, little or no established process for open information exchange and operating in silos. Overall, the key challenges of obtaining VoC via qualitative research methods is the financial and time investments, which is why the research participants from bigger companies have expressed a more extensive experience of such research, while the ones working in start-ups have less opportunities to implement it, though still expressing how important it is in ideation.

Big Data is a strong tool facilitating COI as it allows identifying the problem and forming an objective opinion about it, which then leads to an improved COI capability. BD is more widely used in start-ups due to the lack of funding for the VoC research initiatives, while in bigger organisations both VoC and BD are used equally. In bigger companies the BD collection practice is usually well-established, strictly processual with KPIs attached to the key metrics observed by the teams and evaluated by the management. Some of the key metrics mentioned by the research participants are the product usage data, website analytics metrics like number of sessions, session duration, return sessions and so forth, as well as some more advanced metrics like solution adoption across the customer organisation, content usage and consumption data and so forth.

COSE has been mentioned as a strong facilitating factor to ideation by the majority of the research participants. The interviewees have predominantly expressed their agreement with the fact that COSE in the product team is an important component of all the processes and plays an important part of the teams' performance, incentivising ideation and allowing the involved stakeholders understand the customers' perspective and 'walk in their shoes'. Some of the ways of achieving COSE in the ideation activities and successfully implementing it into the processes is open communication with customers face-to-face (for more senior, customer facing employees) and different techniques that allow deep diving into the customers everyday life and evaluating the value that the solution can potentially bring to the customers' lives.

Research Question 6

This question has been addressed in Study 2, where both the interviews and the focus group have been looking at the moderating factors of the relationships between the key variables of the conceptual framework.

It has been observed that IC plays a consequential part in the NSD activities – it can be described as fuel that stimulates the majority of the processes in the organisation, including ideation. Some positive stimulating impact of IC can be observed between the notions of VoC and BD that facilitate COI, with IC supporting open access to information and the exchange of data, as well as allowing to tackle siloed departments that do not have processes for communicating and aligning objectives. Regarding the influence IC has on COSE, it has been observed that customer

orientation can suffer in larger organisations with different departments, teams or individual employees experiencing a lack of focus. When this happens, the coordination between individuals, teams and business units becomes a protagonist and led by the company management, allows to re-align the business to common goals and objectives, including reinforcing the customer orientation.

Despite the fact that some positive impact of IC has been observed on the key variables of the theoretical framework, it is suggested that some further research is required to uncover this notion in full. The data that has been gathered from the interviews with the industry professionals covers some basic-level notions, but further, more in-depth look into the moderating effect of IC will be necessary to strongly position the conceptual framework.

During the unfolding of the focus group, the research participants have been repeatedly emphasizing on the dynamic character of the customer knowledge, which was said to be continuously developing, requiring the stakeholders involved in the ideation processes to keep up to date with the current developments. The focus group participants have agreed that a full, insightful understanding of both current customers and prospects is impossible without constantly refining the knowledge. While previous learnings are valuable and important, customers' behaviours and priorities change constantly, and it is critical for the product team's knowledge to stay current and relevant. Furthermore, the focus group participants have agreed that revisiting the existing views about the customers that inform the current roadmap has to be carried out on a regular interval, especially when relevant event take place, affecting the businesses worldwide. Keeping up to date with the dynamic and constantly evolving customer knowledge is one of the fundamental requirements of a senior level product manager and leader.

It has therefore been identified that the notion of DC can play a moderating role in the relationships between BD and COI, and VoC and COI, and needs to be investigated further in the future research initiatives.

Research Question 7

This research question has been looked at and addressed within the Study 2, where the impact of COI on the adoption of the newly developed solutions has been discussed in the interviews with the industry practitioners.

One of the key observations regarding adoption has highlighted the fact that despite having a very deep understanding if the metric and its importance in the solutions development practice, not all of the stakeholders from the interviewed organisations had processes in place to measure and evaluate adoption and the factors that affect the adoption levels in their organisation. Measuring adoption has also been said to be a complex process that varies across the different types of solutions and platforms that are being developed; it is especially hard to measure the adoption levels of new features of one solution. Despite the complexity of the notion and the issues related to measuring it, the majority of the research participants have agreed that being customer-oriented in their ideation and addressing specific customers' needs helps improve the future adoption.

The outcomes of the research have highlighted that adoption is a complex metric that is costly and time-consuming to measure and is predominantly measured in larger companies that have funding to purchase expensive analytics tools. In smaller companies, the levels of adoption are measured less frequently and the factors affecting adoption are not analysed in a systematic manner. Further, based on the experiences of the POs in the big organisations that have been interviews, it is clear that COI has a positive impact on IA and is adopted as a best practice for ideation activities.

Overall Research Question 4

Research Question 8

Based on the data gathered via the previously performed fieldwork (including the qualitative interviews carried out in Study 2.1 and the focus group that took place during the Study 2.2), as well the review of best practices for the questionnaire creation reviewed by the author in the previous section of this study, the first step in the questionnaire creation has been performed, summarising the list of items (variables and moderators) to be investigated in the questionnaire:

- VoC;
- BD;

- COSE;

- COI;

- CA;

- IC;

- and, based on the findings of Study 2.2, DC.

Some of the key relationships to be tested further in a quantitative setting are listed below:

- The impact of VoC on COI;

- The impact of BD on COI;

- The impact of COSE on COI;

- The moderating impact of IC on the relationships between VoC on COI; BD on COI; and COSE on COI;

- The moderating impact of IC on the relationships between VoC on COI; and BD on COI;

- The impact of COI on IA.

Research Question 9

This research question has been addressed in Study 3, upon the investigation and summarising of the feedback received from the pilot study research participants.

The first draft of the questionnaire has been reviewed, refined and updated in order to meet set-up action points generated from the provided insights:

- Review and shorten the questions that are too long and wordy.
- Segregate the questions that are similar or worded similarly into separate section of the questionnaire to avoid confusion.
- Rephrase the terms that are too technical and make sure they are presented in a clear and easy to understand manner.

The final version of the questionnaire is comprised of an entry part, which consists of four demographic questions, and four subsequent parts, which focus on the investigation of the key

variables of the framework. Based on the feedback, the questions regarding the use of qualitative and quantitative data in ideation have been segmented in two different sub-sections to avoid confusion. The final list of questions is presented in the Findings section of Study 3.

Chapter 6. Conclusions

The thesis presented has been successfully implemented based on the outlined goals and the set research questions, with the consecutive three studies showing positive outcomes. The results of the studies and the key findings can be beneficial for both academics and practitioners, with the uncovered ideas and notions to be applied in the business strategies to improve the ideation processes.

Academic Contributions

The key academic contribution of this thesis lays within the domain of Customer-Dominant Logic, which is one of the key underlying logics that facilitate a better understanding of the marketing function in the business, in a broad sense (Heinonen, et al., 2010). Customer-Dominant Logic, previously discussed in detail in the Study 1 of this thesis, as a natural continuation of the Service-Dominant Logic, facilitates establishing a better understanding of the customer's interaction with a service or a solution. The integration of the notion of IC as a relationship moderator in the conceptual model promotes a better comprehension of the processes related to open sharing of information in the organisations and the culture of learning within the business. IC has been historically reported to facilitate customer orientation (Narver and Slater, 1990), driving harmonisation between the various business departments, functions and processes (Lin et al., 2019). Previously applied in conceptual models that focus on developing organisational intelligence, the notion has been strongly linked to building up organisational intelligence (Bendoly et al., 2012) and establishing an aligned common goal (Menguc and Auh, 2005).

Hereof, the implementation of the notion of IC in the proposed three-dimensional conceptual model is beneficial for expanding the knowledge in the area of Customer-Dominant Logic, helping to form a more detailed insight into the role of customer data plays in the solutions development process and the possible scenarios and outcomes of integration and embedding the developed solutions into the consumers' day-to-day contexts.

Furthermore, the newly introduced and described notion of COI is beneficial for the further development and expansion of the Customer-Dominant Logic, driving an enhanced customer orientation within the business (Heinonen, et al., 2010). Through the moderating impact of the notion of IC, COI aims to establish a customer-driven culture of open learning and knowledge exchange company wide, helping to avoid the closed up siloed structure that solutions-focused businesses might struggle from. The higher levels of IC help to integrate and develop customer knowledge, and subsequently apply it for NSD outputs, through the lens of COI. Customer knowledge developed and stored during the critical processes in the various functional units of the business is no longer retained behind the closed doors, but finds its way to a broader corporate context, helping with the decisions-making strategies and implementation approaches. The ultimate goal of a solution is to facilitate value for customers (Heinonen, et al., 2010), and the proposed conceptual model with the integrated novel notion of COI constitute the infrastructure which drives and improves the customer value creation approaches.

Study 1

On an academic level, the expected contributions sit within the development of the novel notion of COI, built on the successful work by Cooper (Cooper, 2013, 2017, 2018, 2019; Cooper and Dreher, 2019) and the notion of market-oriented ideation. The notion COI has also been incorporated into a conceptual model, which is complementing and advancing the work by Nordin and Kowalkowski (2010) and Damanpour and Schneider (2009).

The proposed model advances the ideas of the solutions model (Nordin and Kowalkowski , 2010) on three levels:

- **Antecedents level (internal).** The solutions model does not mention IC within the antecedents of solutions on an internal level, while based on this research it acts as the key moderator facilitating successful solutions development. The internal antecedents are presented on a descriptive level, and the model proposed in this research helps to further refine the parameters and elaborates on the impact of IC on the process, specifying the relations it moderates.
- **Antecedents level (external).** The suggested framework provides further development of the external antecedents of solutions by integrating the notions of VoC, BD and COI

accordingly to better explain the customer's needs and wants from the solutions framework (2010). The proposed model, using the notion of COI, is strengthening and structuring the ways of embedding and taking advantage of the customer data into the solutions development, and using its full potential to understand and meet customers' problems and demands.

- **Outcomes of solutions.** The solutions framework (2010) describes the outcomes of solutions as solved customer problems, better or easier life of customers, and value for supplier/customer. Another dimension that is suggested to include among the outcomes of solutions originating from the proposed theoretical framework is the customer adoption, which is facilitated by COI. It explains the 'solved customer problems' variable, as those solved problems would mean the customers are using the solutions, which leads to increased adoption.

The framework suggested in this study has a two-fold contribution developing the insights proposed the model by Damapour and Schneider (2009):

- **On an organizational level**, introducing Interfunctional Coordination between business units, teams and managers as a moderating factor facilitating adoption.
- **On an employee level**, incorporating customer knowledge of employees (including managers) via BD and VoC as a variable impacting adoption.

The framework describes both the key variables within the new solutions developments process and the ideation stage in particular, and the relationships of those notions. The framework posits the key moderator regulating those relationships, IC in particular, between the different business units involved in or contributing to new solutions developments processes. The novelty of the framework is also in its structure, with the framework being presented in a three-dimensional format, where customer, employee and organisational levels of impact are presented. The proposed notion of COI is complementary to the current developments in the domain of Customer-Dominant Logic, helping business establish a customer-driven culture, fostering and advancing the culture of information exchange and continuous learning.

Through the lens of IC, which champions the coordination and cooperation between the critical business units, COI helps integrate the learnings and insights about the customers developed through the varied business processes and implement a more customer focused approach to ideation. As a key mediator of the relationships within the framework, IC helps advance the integration between the units of the business and encourage communication and coordination.

Study 2

Study 2 is comprised of two sub-studies, Study 2.1 and Study 2.2, where the former investigated the framework in the interview setting and the latter looked at the key variables in a focus group environment. The key academic contributions of Study 2.1 are presented below.

The introduction of the notion of COI based on Cooper's work on ideation (Cooper, 2013, 2017, 2018, 2019; Cooper and Dreher, 2019) is an important contribution to the current knowledge on the processes within NSD. The introduced notion of COI is adjusting the market-oriented ideation to the modern business environment and meets the requirements of the practitioners to better reflect the day-to-day customer data collection, which is said to have a positive impact on the success of the business (Greenley, 1995; Hooley et al., 2000; Langerak, 2001; Kahn, 2001; Cano et al., 2004; Zhuo et al., 2005; Gainer and Padanyi, 2005; Kara et al., 2005; Hult et al., 2005). COI, as a key notion introduced in this research project, can be defined as a practice of generating, analysing, interpreting and incorporating a wide range of customer data at the ideation stage of NSD projects.

The qualitative investigation of the theoretical framework has allowed to outline some of the important interrelations of the notions within the NSD processes:

- VoC has been described to facilitate COI, providing the qualitative information on the customers perceptions, wants and need.
- BD has been described to facilitate COI, acting as a source of objective quantitative data reflecting customer behaviour (i.e., usage data).

- COSE has been described to facilitate COI, meaning that when the employees across the different departments of the company are customer oriented, such corporate ethos results in more customer-oriented ideation activities.

- COI has been described to facilitate IA, as the solutions developed with an orientation on customers and basing the decisions on the customers' insights, are said to be better adopted by the customers.

- IC can moderate the relationships between VoC and COI, and BD and COI.

- The correlation of IC in moderating the relationship between COSE and COI is to be further tested.

The key academic contributions of Study 2.2 include refining of the conceptual framework developed in Study 1, and, following the limitations observed in Study 2.1, the successful further investigation of the moderating impact of IC on VoC, BD, and COSE. Within this study, the strength of the impact of the key variables of the conceptual framework on the COI has been evaluated, resulting in the following list of academic contributions.

- IC has been described to act as a moderator of the relationship between COSE and COI, with the Empathy mapping methodology used to re-ensure customer orientation and alignment between the business units involved in ideation.

- Regarding the relationships between BD and COI, and VoC and COI, the moderating character of IC has not been described.

- A link between Dynamic Capabilities (DC) on the relationships between BD and COI, and VoC and COI has been observed.

- It is therefore suggested to further investigate the moderating impact of DC on the relationships between BD and COI, and VoC and COI.

- The final list of limitations and suggestions for further research has been finalised and presented in the Limitations and Further Research section accordingly.

The contributions highlighted above facilitate the development of the academic knowledge by providing a more detailed and focused view on the ideation process, strengthening the notion of COI and further influence it has on customer adoption. This focused knowledge can then be applied

in other industries and the notion of COI can be considered for the development of existing theories.

Study 3

The key academic contribution of Study 3 is the questionnaire that has been developed and refined with the help of the pilot study. With questionnaire being one of the tools that are most frequently applied in business studies, providing an objective means for collecting data around people's knowledge, beliefs, attitudes and behaviour (Boynton and Greenhalgh, 2004), it is important to continue advancing the academic knowledge with authoritative and trustworthy data (Smith, 2014). Due to the fact that the proposed questionnaire investigates and elaborates on the relationships in the newly introduced conceptual model which features the novel notion of COI, it has a potential to further advance the learnings in the domain of Customer-Dominant logic through the future research initiatives.

In order to design the questionnaire, several sources have been applied to serve as a basis for the questioning strategy. The author has combined the filed-based perspective, having incorporated the findings from the practitioner focus group carried out in Study 2.2, together with some ideas discussed during the interviews with the stakeholders involved directly in the ideation work (as per the conversations that took place during the Study 2.1), and the literature-based perspective, having overviewed the existing state of art on the topics relevant to the described research and the research methodologies most frequently applied in this research accordingly. The authors whose work was looked at in detail feature Bonney and Williams (2009), Ceci and Prencipe (2008), Davies et al. (2007), Miller et al. (2002), Sawhey (2006), Tuominen et al. (2004) and others. The questionnaire is segmented into four key sections and one additional section and is comprised of 28 final questions. The questions have been refined and improved on the basis of the feedback provided by the pilot study participants, with the total of 9 questions changed based on the comments made by the pilot study participants.

Moving on, the study has also provided some insights on the future research initiatives that are to be carried out in order to further improve the questionnaire and test it on a wider scale, in a range of different geographies outside of the UK market, as described in the Limitations and Further Research section.

Managerial Contributions

The managerial contributions of this thesis can be described through the proposed theoretical model, which has an impact not just on the level of theory development but can also serve as a practical guide to improving the organisational strategies and driving the organisations forward, when applied practically. The proposed thesis can be characterised as having a strong impact on the enhancement of the current practice in the businesses worldwide, both from the cultural and process perspective.

Firstly, from the cultural perspective, the proposed conceptual model promotes the knowledge on the influence of integrated and aligned approaches company-wide on the overall success of the business. Via integrating the moderating variable of IC, the model suggests that customer-orientation and customer-driven culture are possible only when all units are aligned in the common goal to learn more about the customers. It is critical to point out the importance of the data that is being continuously collected by the various business departments: this data needs to be communicated across the entire organisation, to help achieve the culture of open learning and knowledge exchange.

Secondly, from the process perspective, the proposed conceptual model can be applied within the wide range of organisational types, starting from SMEs and all the way up to large corporations, to help avoid the siloed business units and drive the processes that would lead to an enhanced customer orientation, which can be linked to a better adoption of the solutions on the market. When practically applied, the framework will also lead to improved go-to-market initiatives and help drive higher customer adoption levels, which would improve the competitive advantage of the business on the market.

The insights generated through the series of in-depth interviews have provided confirmation to some of the key variables of the framework. The feedback generated from the research participants was positive towards the conceptual model, with participants stating that it provides a helpful and insightful summary to some of the key practices that are already being carried out internally. Hence one of the key practitioner contributions of this thesis lays in the fact that it helps to summarise some dispersed practices and processes, that might exist within the organisation, but are not implemented in a sequential, strategic manner. The proposed framework provides a three-dimensional visualisation to the processes that are required to bring to live a customer-driven culture company-wide and can be used to create a business case for the stakeholders that want to implement more customer-focused approaches and practices.

Study 1

The conceptual framework proposed in this study can provide a practical guide to those involved in the new solutions development process. The several contributions this project can offer to the Product Owners, Managers and Directors in the SaaS industry are as follows. Firstly, the conceptual framework outlines the key relationships within the business processes that can facilitate customer adoption, so, when practically applied, this model could be beneficial for developing better products that meet customer needs and wants. Secondly, the notion of COI introduced in this research, highlights the impact of customer focus across the different departments within the business and can bring to light the impact it has on the future adoption of the solution. And, lastly, the moderating factor of IC proposed in this study, can be consequential for companies to incorporate in the NSD processes to achieve better outcomes.

Study 2

The managerial contribution of Study 2.1 is two-fold: it provides a practical guide for the NSD teams to apply in order to improve the adoption level of the new solutions, and some of the practical observations and experiences described by the research participants that can be applied in a range of processes leading to better outcomes of the solutions development. By incorporating the practices outlined in the model and following the step-by-step approach suggested in the model,

the practitioners in the industry will be able to achieve better results, faster and more effective go-to-market and improve the level of adoption of the solutions in development.

Some of the observations of the research have allowed finalising a list of best practices in regard to the notions of the theoretical framework. Study 2.1 presents a range of important practices, tools, methodologies and insights that, additional to the key findings of the theoretical framework, facilitate more effective and efficient solutions development.

Study 2.2 shed light on the best practices, the areas that can be improved and the results these improvements can help achieve. Some of the most effective methods of customer data collection have been identified, as well as the ways of applying these data in ideation initiatives. Study 2.2 has identified that combining various methods of data collection helps achieve strong ideation capabilities and outcomes, with the solutions developed and introduced to the market successfully. The combination of both qualitative and quantitative methods of data collection is beneficial to establish an exhaustive understanding of the customers current context, their needs and wants, to then project those onto the solutions development.

A range of tools, methodologies and rituals has been presented, the use of which would contribute to a more customer-focused and effective ideation. The findings of this study and the best practices identified and presented within the conceptual framework, are to result in improved adoption of the new solutions, leading to more successful go-to-market initiatives.

Study 3

The managerial contribution of the described research project is also linked to the developed questionnaire. Not only can the questionnaire be used to investigate the conceptual model presented in Study 1, but also to investigate the level of implementation of the model internally. The questionnaire can be incorporated and applied as a basis for an internal corporate questionnaire, to evaluate the key variables related to customer orientation within the ideation activities. It is suggested that the questionnaire is updated for the described purpose and used by the HR department to evaluate the company-level customer orientation in ideation activities, with answers collected anonymously.

The updated questionnaire, adapted to the purposes of internal evaluation, can help analyse the level of customer orientation maturity within the business, as well as to evaluate the coordination between the different business units, to see whether the business might be operating in siloes. During the interviews and the focus group, the siloed structure was said to be one of the common issues stopping business to drive a customer-centric culture forward, across the functions.

Limitations

Every academic research project comes with certain limitations, and, despite a conscious effort made to avoid the limitations in the doctoral thesis, there are still several limitations that are important to point out.

To begin with, the project has been implemented with the UK region, focusing on the businesses that have a strong presence in the UK market. All the participants that took part in the interviews, focus group and the pilot study are based in the UK. The majority are employed in the UK companies, the others work in international businesses but are based in the UK representative office. Although the UK region is described as one of the most innovative and impactful markets, it would be interesting to expand the reach of the research to different geographies.

Another limitation that is worth mentioning is the size of the companies the research participants are employed in. Most of the research participants work in smaller organisations (SMBs) or start-ups, and only a few of the interviewees work in larger organisations or corporations. Based on some of the highlights of the research, there are significant differences in the performance of the suggested theoretical framework in the companies of different sizes: for instances, the moderating factor of IC is much stronger in start-ups while it is way less impactful in larger organisations with various business units operating in silos. In this light, further research focused on investigating the differences between the performance of the theoretical framework in the organisations of different sizes will be beneficial and will contribute to the academic knowledge on the subject. In addition to that, the research has been predominantly implemented in the SaaS industry, which makes further research efforts expanding the industry reach relevant and useful.

Farther, the research project has been carried out using the literature review methodology and two qualitative methods (interviews and a focus group). It would therefore be beneficial to confirm the impact of the key variables, moderators and outcomes of the conceptual framework in a quantitative environment, using the questionnaire designed and refined in Study 3.

Ethical Implications

Further on, it is worth to add some elaboration on the ethical implications of the proposed research. Ethical issues and implications may occur in any research, due to the explorative character of the research exercise (Orb et al., 2001). It is within researcher's hand to ensure all necessary actions and precautions have been applied to ensure high ethical standards of the carried our project based on the academic best practice. Due to the explorative character of qualitative research, the ethical issues that can be encountered differ in their nature from the ethical issues common for quantitative research initiatives. In the case of the former, the nature of the ethical implications is linked to the participants of the research, their privacy, security of their data and the researcher's approach to gaining access to certain groups of research participants (with vulnerable groups being most in danger of being compromised) (Orb et al., 2001). In the case of this research, the researcher has taken precautions to ensure that no vulnerable individuals or groups have been compromised and arranging the data collection and analysis following the high academic benchmark standards.

To achieve high standard implementation of the research project within the standard accepted in the academia, the author has followed the following practices, as described below.

Research-participant-related practices:
- Informed consent: Was provided by all the research participants, acknowledging the research project and their role within the research.
- Respect for anonymity and confidentiality: All the information about the research participants has been anonymised and stored in a secure Cloud environment, within the protected University of Westminster owned Cloud server.
- Respect for privacy: No private information about the research participants has been revealed or discussed. The focus group has been held in an online environment, ensuring anonymity and privacy of the research participants.
- Vulnerable groups: No vulnerable or identifying information about the research participants has been revealed or discussed.
- Respect for intellectual property: All research mentioned in the thesis is coherently referenced throughout. All research and insights generated by the researcher are unique

and original. There is no plagiarism within the research, and all the sources, patents, and data have been acknowledged and referenced accordingly.

Researcher-related ethical practices:

- Objectivity: The research has been carried out in a non-biased way. There has not been any bias in any aspect of the research, as ensured through consistent peer- and self-review.

- Openness: The author is willing to share information about the project, gathered data and insights with the wider research community, while always respecting the privacy and anonymity of the research participants.

- Carefulness: The author has ensured that the results of the research are credible through precise approach to sampling and saturation.

Further Research

Throughout the unfolding of the research project for this doctoral thesis, several research avenues have been identified that are to facilitate the development of the academic thought on the notions described. Regarding the outlined limitations of the described thesis, some future research directions that would facilitate bridging the gap in the academic knowledge include investigating the notion of COI in more detail and observing the impact it has on customer adoption in different industry settings. The doctoral thesis has mainly focused on the SaaS industry, which is often characterised and described as one of the most innovative and impactful industries, hence further investigation of the notion in a different environment would be beneficial to expand its impact. Some of the industries that are characterised by high levels on innovation and applying modern approaches to data collection and the implementation of the customer insights include the creative and design industry, a broader technology sector (outside of the SaaS segment), like Artificial intelligence and Internet of Things, healthcare industry and pharmaceuticals, finance industry, and so forth.

Moving on, it is suggested that further research initiatives testing the conceptual framework in a quantitative setting would be beneficial to generate a more in-depth understanding of the key

relationships of the framework and test those on a larger scale. It is suggested to implement the questionnaire proposed in the Study 3 of this research to run further quantitative investigation on the impact of the variables of the framework, as well as on the moderating impact of IC. It is suggested that further insight is beneficial on outlining the impact of COSE, BD and VoC on COI. Further statistical data on the influence COI can have on the notion of IA will also contribute to the development of knowledge in the domain of innovation. Some of the industries to consider as an appropriate setting for further quantitative research are wider IT segment (software) and creative industries. Overall, this research will be applicable across the B2B segment.

The sample size of the research participants was comprised on 20 interview participants, 6 focus group participants and 30 pilot study participants. It is proposed to implement further research initiatives, testing and investigating the conceptual model in both qualitative and quantitative setting, with the bigger sample of research participants invited to take part.

The proposed research project with its key components of the three complementary studies has been implemented predominantly in the context of the smaller companies, with the majority of the research participants working in SMEs and start-ups. Hereof, it will be interesting to address the tendency of the discrepancy between the relationships and the key notions of the framework in the companies of different size. It has been observed that bigger corporations and SME and start-ups can be characterised by different levels of implementation of COI, which affects other elements of the framework. Hence, further research on this topic will help expand the academic knowledge in the domain.

Moving on, some further propositions for future research have derived from the conceptual model itself. Having investigated a wide spectrum of relevant literature, the author has summarised the framework and its key constituent variables and a moderator. The notion of IC has been observed to play a consequential role in mediating the key relationships of the framework and is facilitating the variable of COI. Having that IC is a very strong mediator previously applied in the literature in a range of projects linked to innovation, open knowledge and the culture of knowledge, it is suggested to investigate the notion further in correlation with the variables of the framework, to see what other relationships may benefit from this moderator. Due to the extensive reach of IC, it

is also suggested to further the outcomes of the conceptual framework, and investigate whether through the moderating impact of IC, the notion of COI may also lead to other potential outcomes (together with the IA), such as innovation. The author has looked at the notion of IA in substantial detail, and through this analysis it has been observed that the notion may provide a basis for future research, investigating and developing IC within the framework in more detail.

In addition to that, as highlighted in the outcomes of Studies 2 and 3, the potential moderating impact of DC can be observed within some of the participating organisations, that might mediate the relationships between BD and COI, and VoC and COI. It is therefore suggested to further investigate this potential moderating relationship, which may result in adding an additional dimension to the conceptual model on an organisational level.

Finally, another research avenue that came to light throughout the development of the described thesis is related to the variable of BD. Big Data has become very strongly embedded into the life of a consumer, which comes with its pros and cons. Some of the negative outcomes of the extensive use of BD within the organisations is linked closely to the data privacy and security issues, as well as the customer data protection. With the impact of the publicity related to the introduction of the GDPR legislation, the audience has become more aware of their rights and the requirements for the brands, hence the increase in complaints about the data collection methods and techniques. It is proposed that further research on the impact of the data privacy and security issues within the context of the proposed conceptual framework will help develop a more insightful understanding of the best practices and approaches of the customer data collection and interpretation.

Conclusions

Throughout this research, several important findings and contributions have been uncovered. These findings and contributions facilitate the expanding of knowledge on an important subject of customer orientation, which has been one of key focuses of both academics and practitioners for decades. Customer orientation is critical not just from the business success point of view, but also from the perspective of improving the quality of life and advancing our society in the right

direction. Advancing the research on the customer orientation helps progress the mentality and mindset that drives cultural changes and facilitates the search of the greater good.

The domain of NSD serves for the common benefit and in the general interest, and is aimed to make peoples' lives easier, better, and more comfortable. With every new solution presented to the audience, our society expands our technological progress and moves toward the better future for all the population, including those from an underprivileged background. With this lies the larger, humanitarian conclusion of this thesis. Developing new solutions with customers in mind is what will progress the business influence, but it will also make life better and more equal, creating fair and unbiased opportunities for people from disadvantaged backgrounds, and disabled. It will help progress the knowledge and innovation in various sectors and industries, but it will also help improve the adoption of those innovations, making sure that the solutions developed resonate with the customers and address the pain points they are experiencing.

Now, when our society is affected by the horrifying impact of the global pandemic, taking millions of lives worldwide, it is critically important to remember that the goal of every business is not only to generate profit, but also to understand their customers and help them in their day-to-day life.

My main conclusion is that only through the prism of the customer insights it is possible to really serve your audience and society. The key message of this thesis is for businesses to remember that remaining human-focused is the key and helping people through improving and advancing the society and the technological progress should be the goal of every business.

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Appendixes

Appendix 1. Research governance

The research ethics form was submitted in 2018 in the Virtual Research Environment of the UoW and was approved in due time.

In the context of the unfolding Covid-19 virus affecting the worlds and the quarantine restrictions in the UK in particular, the research project has been carried out in full compliance with UoW indications and Government regulations. The researcher has avoided any face-to-face interviews or interactions with research participants during this study.

The research described in this paper is confirmed as such of Class 1: research with no or minimal ethical implications (The University of Westminster, 2017), as described in the Table below:

Does not has clear potential ethical implications and which may cause, or has the potential to cause, harm in any form to participants, investigators, animals, the environment or others;

Does not involve potentially vulnerable participants or those in Regulated Activity (adults) as defined by the Safeguarding Vulnerable Groups Act 2006 (and as amended by the Protection of Freedoms Act 2012);

Does not involve any of the below that would make it qualify as a Class 2 research:
the collection and use of human tissue where National Research Ethics Service (NRES) approval is not required;
the administering of drugs, substance(s), or clinical intervention;
subjecting participants to environmental conditions outside of the norm, where these conditions create a potential for risk of harm;
deception of participants;
the procurement of data not already in the public domain that bears on issues of criminality;

the internet for the procurement of sensitive data;

invasion of privacy, harm to reputation, or adverse representation of individuals or classes of people and social groups; o personal or sensitive data (including but not limited to medical history);

personal or sensitive data which may be directly or indirectly attributable to the participant or other identifiable individuals;

personal or sensitive information which is recorded in audio/video or other forms of media; re-identification of personal or sensitive date following pseudo anonymisation; which "is described by the NHS as "the technical process of replacing person identifiers in a dataset with other values (pseudonyms) available to the data user, from which the identities of individuals cannot be intrinsically inferred" 2 Such data should be treated sensitively and in the same manner as non-anonymised sensitive or personal data.

Appendix 2. The final questionnaire (Study 3)

Demographic Questions

5. Age
    a. 25–34
    b. 35–49
    c. 50–65
    d. 65 or older

6. Gender
    a. Male
    b. Female
    c. Prefer not to say

7. Education
    a. No higher education
    b. Bachelor's degree
    c. Master's degree
    d. MBA, MPA, or other graduate degrees

      e. JD or equivalent

      f. PhD or equivalent

8. Tenure

      a. less than 2 years

      b. 2–4 years

      c. 5–9 years

      d. 10–15 years

      e. more than 15 years

Part 1. Customer Insights Used in Ideation Processes and Their Impact on Customer-Oriented Ideation

1. Would you say you are customer-oriented in the ideation/idea generation activities?

      c. Yes

      d. No

Part 1.1. Qualitative data

4. Qualitative data about the customers, collected via qualitative methods of data collection, facilitates customer-oriented ideation in my company.

      a. Strongly disagree

      b. Disagree

      c. Neutral

      d. Agree

      e. Strongly agree

5. How often do you use qualitative data about the customers in customer-oriented ideation processes?

      a. Never

      b. Rarely

      c. Sometimes

      d. Often

6. Using qualitative data about the customers in customer-oriented ideation processes is a priority for me.

    a. Strongly disagree

    b. Disagree

    c. Neutral

    d. Agree

    e. Strongly agree

Part 1.2. Quantitative data

4. Quantitative data about the customers, collected via quantitative methods of data collection, facilitates customer-oriented ideation in my company.

    a. Strongly disagree

    b. Disagree

    c. Neutral

    d. Agree

    e. Strongly agree

5. How often do you use quantitative data about the customers in customer-oriented ideation processes?

    a. Never

    b. Rarely

    c. Sometimes

    d. Often

6. Using quantitative data about the customers in customer-oriented ideation processes is a priority for me.

    a. Strongly disagree

    b. Disagree

    c. Neutral

    d. Agree

    e. Strongly agree

Part 2. Customer Orientation of The Employees Involved in the Ideation Processes

5. An employee's orientation and focus on the customer in their work facilitates customer-oriented ideation in my company.

    a. Strongly disagree

    b. Disagree

    c. Neutral

    d. Agree

    e. Strongly agree

6. Which statement best describes the level of your customer orientation during the ideation processes?

    a. Not customer oriented

    b. Somehow customer oriented

    c. Neutral

    d. Customer oriented

    e. Very customer oriented

7. Which statement best describes the level of your team's or colleagues' customer orientation during the ideation processes?

    a. Not customer oriented

    b. Somehow customer oriented

    c. Neutral

    d. Customer oriented

    e. Very customer oriented

8. Being customer-oriented in the ideation processes is a priority for me.

    a. Strongly disagree

    b. Disagree

    c. Neutral

    d. Agree

    e. Strongly agree

Part 3. Organisational-Level Moderators Affecting Customer-Oriented Ideation

8. The processes of applying qualitative data about the customers within the ideation processes is affected by the coordination between the involved business units.

    a. Strongly disagree

    b. Disagree

    c. Neutral

    d. Agree

    e. Strongly agree

9. The processes of applying quantitative data about the customers within the ideation processes is affected by the coordination between the involved business units.

    a. Strongly disagree

    b. Disagree

    c. Neutral

    d. Agree

    e. Strongly agree

10. The processes of applying qualitative data about the customers within the ideation processes is affected by organisational capabilities.

    a. Strongly disagree

    b. Disagree

    c. Neutral

    d. Agree

    e. Strongly agree

11. The processes of applying quantitative data about the customers within the ideation processes is affected by organisational capabilities.

    a. Strongly disagree

    b. Disagree

    c. Neutral

    d. Agree

    e. Strongly agree

12. An employee's orientation and focus on the customer is affected by the coordination between the involved business units.

    a. Strongly disagree

 b. Disagree

 c. Neutral

 d. Agree

 e. Strongly agree

13. An employee's orientation and focus on the customer is affected by organisational capabilities.

 a. Strongly disagree

 b. Disagree

 c. Neutral

 d. Agree

 e. Strongly agree

14. What affects employee's orientation and focus on the customer in the ideation processes?

Part 4. The Impact of The Customer-Oriented Ideation on the Future Innovation Adoption of the New Solutions

7. Would you say that developing solutions in a customer-oriented manner affects the future adoption of the solutions by the customers?

 c. Yes

 d. No

8. Do you measure customer adoption?

 c. Yes

 d. No

9. Measuring customer adoption is a priority for me.

 f. Strongly disagree

 g. Disagree

 h. Neutral

 i. Agree

 j. Strongly agree

10. Being customer-oriented during the ideation processes has helped me and my team developed solutions that were adopted well by the customers.

      f. Strongly disagree

      g. Disagree

      h. Neutral

      i. Agree

      j. Strongly agree

11. Being customer-oriented during the ideation processes has helped me achieve more successful go-to-market initiatives.

      f. Strongly disagree

      g. Disagree

      h. Neutral

      i. Agree

      j. Strongly agree

12. What are some of the things being customer-oriented in the ideation work is beneficial for?