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In this paper we illustrate the utility of actor-network theory (ANT) as a methodological approach to understand the effect of the eclectic characteristics of design firms on their strategy development processes. The need for creativity, expertise knowledge and the constant need to innovate suggest that the mainstream strategy or decision-making theories provide unsatisfying insights into how strategy of the design firm emerges. These culture laden organisations often operate with limited formality, therefore require attention to the social side of decision-making. To address this rich complex social-fabric of decision-making, we suggest to study strategy development as the result of the formation of actor-networks. By illustration of data collected from 13 interviews with design firms in mainly Europe and a longitudinal study of a global digital design firm, we illustrate how an ANT-based approach allows theorists to analyse the rich cultural complexity of design firms' decision-making in a focused and coherent manner.

keywords: strategy, actor-network theory, design firms

Introduction

In this paper we explore the use of a specific research methodology within context-orientated organisational research. We focus on the use of Actor-Network Theory (ANT) (Callon, 1986; Latour, 2005) as a methodological lens to explore strategy processes in creativity-dependent design firms. By "creativity dependent" we mean design firms that are "creativity-hungry", which focus on building custom-made, innovative capabilities and

who work primarily in the digital economy[1]. These firms are typically involved in digital design (Christopherson, 2004; Nylén et al., 2014; Yoo et al., 2012), service design (Kimbell, 2011; Sangiorgi & Prendiville, 2017) and user-experience design (Moser, 2012).

Strategic decision-making is long recognised as an erratic, non-sequential and complex process involving multiple actors throughout the organisation (Mintzberg & Westley, 2001), especially in creative and knowledge intensive businesses (Malhotra et al., 2006). Some scholars have attributed this to the pluralistic nature of organisations (Denis et al., 2001; Regnér, 2003). In particular, creative enterprises demonstrate pluralism as an inherent characteristic in the way they organise (Abdallah, 2013; Cohendet & Simon, 2007). In such pluralistic contexts power is distributed and visions among management vary. This causes that traditional strategic decision-making theories are ill-equipped to capture the rationale behind this way of organising (Cohen & March, 1986; Denis et al., 2007). Denis, et al. (2007) recommended the use of an ANT lens in such pluralistic contexts as a means of solving the mismatch of traditional methodologies and the subject. In utilising an ANT lens, strategic direction is not explained as a deliberate, cognitive act driven by a select group of key actors, but the result of a network of alliances among people, artefacts and technology that embody the strategic direction of the organisation (Steen et al., 2006). Building on these suggestions, in this paper we suggest that ANT as a methodological and theoretical lens helps to identify insights into how strategic direction is developed in design firms. We illustrate this by drawing from a two stage study: an explorative study including interviews with 13 design firms in Europe and US, and an in-depth study of a global digital design firm headquartered in London.

This paper begins by discussing the contingencies of strategy in design firms. Subsequently we will discuss the key characteristics of ANT as a methodological lens. Then we briefly describe the research design of the study. Subsequently, we discuss how the key characteristics that influence strategy development processes in design firms are better studied from a socio-material perspective. By using illuminatory data obtained from 13 design firms, we illustrate how issues around the inherent need for creativity and knowledge, the decentralised nature of power and the influence of culture and identity are key in understanding how strategy emerges in these types of firms (see Figure 1). This leads us to discuss the key implications of ANT as a methodology to study the relation between a design context and strategy.

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[1] While all design firms require some level of innovation to survive, we focus on the design sub-sector that continually need to develop new innovative capabilities to stay competitive, as being "relentlessly innovative" (Girard & Stark, 2003; Yoo et al. 2012).
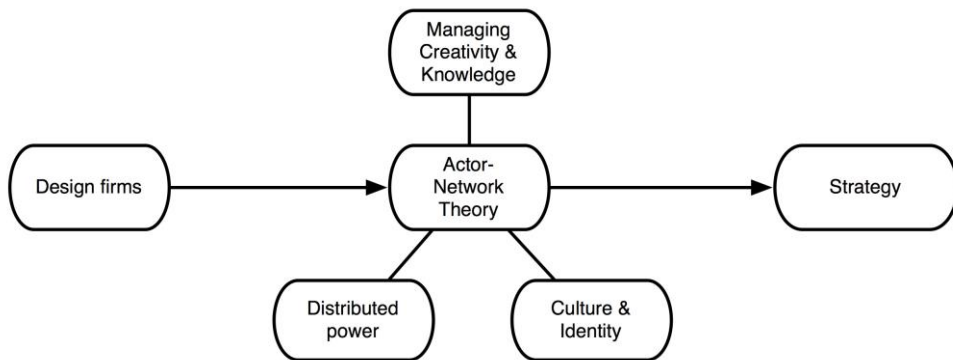
Figure 1 - Actor-network theory to understand strategy in design firms

The strategic contingencies of design firms

One of the key requirements for design firms is their ability to exploit the creative act (Andriopoulos & Lewis, 2010). It is through the effective utilisation of "creativity" and their innovative capabilities that design firms gain a competitive advantage (Lampel *et al.*, 2000). Therefore, understanding better what enables or blocks creativity provides insight into strategy development in design firms. Creativity may be defined as the production of novel and useful ideas in a domain (Amabile *et al.*, 1996). In design firms, creativity often arises from interdisciplinarity teams, where different knowledge bases interact (Garud *et al.*, 2008; Perretti & Negro, 2007). This means that it is often unclear at the outset of a project how it will develop and what unforeseen opportunities will arise from it. Therefore, creative individuals require a certain amount of autonomy (Amabile, 1998; Newell *et al.*, 2009) to capitalise on emerging ideas. This requires a flat organizational structure, which causes managers to have less direct control, resulting in an ambiguous power distinction between managers and knowledge workers (Empson & Langley, 2015). To address the autonomy of individuals and teams, instead of top-down control, work is often organised in projects (DeFillippi, 2015; Grabher, 2002). Projects are self-governed entities, based on informal relationships rather than a formal structure (Bettiol & Sedita, 2011). While such project based organisations are able to quickly adapt to changing circumstances, they do not always benefit the organisation on a strategic level. As Sydow *et al.* (2004) point out, in project-based organisations decisions are predominantly made in favour of the projects at hand, rather than in benefit of the prosperity of the organisation as a whole. For example, project selection enables the organisation to learn, which is a key activity to remain competitive. The decision as to which project to undertake, and into which technical frame to embed it, can determine the overall strategic direction of the organisation, as it might open up new markets. A sensitivity "on the ground" allows project members to sense which technologies and which future trends are going to be worth investing in. In these contexts, power, and therefore strategy, are distributed, based on relations rather than individual actors. In these contexts the process is nonlinear, pluralistic and knowledge-intensive. Given these attributes the traditional models of strategic analysis and long term planning appear rather unsuitable for these organisations and more "local", conceptualisations of strategic development are appropriate, as Chia & Holt (2009, p. 142) aptly state:

> *What differentiates this local strategy from centralized deliberate strategy is that it is characterized by an absence of a 'proper locus' of control - a legitimate place or position from which resources can be mobilized and purposeful action deployed as well as events monitored and controlled.*

Another characteristic of creativity-hungry design firms is that they are knowledge-intensive (Abecassis-Moedas *et al.*, 2012; Dell'Era & Verganti, 2010). They create useful new products and services through the application and merging of various types and new types of knowledge (Hargadon, 2002). In the design companies that we focus on, knowledge does not exist prior to production, but emerges from the interactions among experts and artefacts. As with creativity, knowledge cannot be "held" centrally by top management, partitioned and distributed to employees systematically according to production requirements (Clegg *et al.*, 2006), but is inherently local and circulates in arbitrary ways throughout the organisation. Due to the innovative nature and customised production, there is often little attempt to codify this knowledge in texts, such as project documentation or papers; it is embodied in people and objects, and only moves where those embodiments move. As the industry is highly fluid, such knowledge is highly mobile and moves between projects, and also between firms by the freelancers that are shared among firms and who take their knowledge with them (Sunley *et al.*, 2011). It is only the personal relations between individual knowledge-holders (Teece, 2003) that acts to encourage, or block, knowledge from moving. ANT helps to uncover this process by tracing the movement of actors, and including the physical artefacts that influence this process - whether symbolically or physically.

As a result of the distribution of knowledge, considerable power lies within individual experts instead of the governing body (Clegg *et al.*, 2006). Power in these contexts is best understood as a complex network of relations, which in a project-based organisation is in the form of a "satellite" organisational structure (DeFillippi & Arthur, 1998). Networks consist of hybrids between people and objects: the central position of artefacts such as technology, designed objects and physical space in such contexts enables us to trace power to the various actors, both human and nonhuman, that act together to shape the organisation's future direction. In novel design areas, impacted by digital technologies, network-based power-relations are fast-paced and continuously reshaped. This network structure is another reason for regarding ANT as a suitable methodological lens for understanding design firms.

Because of distributed power relations, lack of a formal hierarchy, and the need for fast responses to changing external contingencies, culture is an important constituent of the organisation and control of design firms (Alvesson & Willmott, 2002; Kunda, 2006). As culture can be conceived of as an interactive system of power-flows (Alvesson & Sveningsson, 2015; Ray, 1986), ANT is once again a useful lens for understanding how it influences behaviour, project selection, and creativity. One of the interesting paradoxes of creativity is how in a highly collaborative process of design production, in which different people with different identities with values come together to create something new without the differences between them resulting in the "classic" conflict that results from heterogeneity and the failure to understand the 'other'. Design firms *do* operate as coherent systems in which various identities work together, despite their sometimes

contrasting world-views (DeFillippi *et al.*, 2007). We are interested in how strategic coherence comes about.

From the review of the literature and with the intent of contributing to the theme of the track: "to progress toward prescriptive and exploratory research perspectives that embrace context through action and the simultaneous research of design" in the following section we discuss why we suggest actor-network theory to explore how strategy is developed in creativity-hungry design firms.

Actor-network theory

ANT received significant attention in a wide range of disciplines over the last decade. Design researchers as well have recognised the usefulness of ANT to understand design practices (Storni *et al.*, 2015). For example, Terrey (2012) used ANT to provide insights into designing new processes and practices in the Australian tax office or Yaneva (2009) illustrated how designed objects perform social ties. Yet limited research has utilised ANT to shed light on how strategy emerges in these design firms. As such, we argue that ANT is not only useful to understand better design processes, but is especially useful to examine design firms' strategy development processes because there is coherence between what designers focus on and what ANT focuses on. Designers focus on the meaning imbued in form or functionality, and on how abductive processes break down cognitive heuristics leading to new ways of thinking and doing. ANT similarly surfaces the use of the material i.e. space and physical objects, as a relational context in which relationships develop (or not), that are used as a semiological guide to interpretation of meaning and organisational direction. ANT is particularly useful since it takes materiality into account and focuses on how unconscious values are expressed in the physical, and, in turn, how the physical can change beliefs and behaviour.

ANT also brings temporality into the research by considering organisational development as an emergent consequence of a mechanism that aligns asymmetrical actors and holds them together (Alcadipani & Hassard, 2010; Steen *et al.*, 2006). In a pluralistic network- or project-based type of organisation, as design firms typically are, tracking the changes in network participation and the movement of power and knowledge between the different projects is useful. ANT is particularly helpful in such pluralistic contexts as it regards agency as resulting from an ordering of a collective of actors, that is, a network of actors instead of sole actors that have agency individually. The unit of analysis is not solely the actors themselves, but the actors and their relations to others, hence the hyphen between actor-network (Durepos & Mills, 2012).

The expansion of, or inclusion within, a network occurs through the process of translation in which a new actor enrols in the network. The actor becomes then not only part of the network as another node, but becomes an active part as they actively promote the existence and goals of the network. The process of translation is not necessarily linear (Callon & Law, 1982; Elbanna, 2012; Knights *et al.*, 1993) and not always successful; there is a high possibility of failure to enrol an actor (Callon, 1986; Maitlis & Lawrence, 2003). Even more so, the rationale of the network may be altered by the enrolling actors.

In an ANT analysis nonhuman actors such as "collectivities of humans, ideologies, methodologies, concepts, texts, graphical representations, computers, and other technical artefacts" (Sarker *et al.*, 2006, p. 53) can become part of the network. By extending the unit of analysis to nonhuman actors, the full complexity of organising in an intertwined

"socio-technical" and culturally specific context can be addressed (Orlikowski, 2009). In a translation process, the initial problematisation of the focal actor can be solidified by the replacement of a nonhuman actor that represents that idea, which is termed an "inscription" (Latour, 1991). For example, a research report helps the *raison d'être* for a research project and makes the network stronger and more attractive (see for example Callon, 1986). Unlike human actors, which change goals (Hodgkinson & Starbuck, 2008; March, 1971; Witte *et al.*, 1972) and are emotionally laden (Law, 2009; Liu & Maitlis, 2014), material actors are better in holding the network together as they are consistent in their presence. Without such inscription, or "material durability", decision-making networks are fragile, unstable and solely depend on capabilities and stubborn of the key actor. As Czarniawska (2006, p. 1554) notes: "It is to point out the special role that objects play in associations: they stabilize. This is why contracts are written, obituaries carved in stone, and technical norms built into the instruments to make the users behave in a prescribed way". Therefore, the distributed nature of agency, the inclusion of nonhuman actors make ANT a suitable methodological approach to study strategic organising practices in design firms.

Research design

This study is based on two phases: an explorative study that revealed the strategic issues of the design industry (Company 1-13, see Table 1 below), and a longitudinal study where we applied ANT to trace strategy development processes in a global digital design firm (Company 14, see Table 1). The companies in the explorative study were mainly based in Europe and were selected purposively (Creswell, 2007) to illuminate the processes of strategy development in a variety of design firm types. Their services ranged from branding, packaging, marketing, visual effects, animation and digital design. We decided to interview the owner/managers of these firms. While they might not always be responsible for the development or implementation of strategy, they are the "gatekeepers" of strategic action (Jarzabkowski, 2005). Respondents were contacted at industry conferences and located through professional networks websites such as Linkedin.com and Xing.com (a German equivalent of Linkedin).

Table 1: Overview data collection

Company ID	No. of Employees	Specialisation	HQ country
Company1	30	Digital design	Netherlands
Company2	50	Animation and visual FX	Germany
Company3	10	Animation and visual FX	USA
Company4	100	Branding / Communication design	Germany
Company5	15	Advertising / Communication design	Germany
Company6	5	Social media design	Denmark
Company7	200	Service design	UK
Company8	120	Digital design / Film production	UK
Company9	200	Brand design	UK

Company10	120	Digital design	UK
Company11	30	Digital design	Netherlands
Company12	25	Digital advertising	Netherlands
Company13	100	Service design	UK
Company14	120	Digital design	UK

Interviewing the owner/managers of these firms allowed us to construct a picture of the most significant issues of strategy development in this this particular design sub-sector. The interviews covered the various aspect of managing a design firm, where we focused our questions on *their* perspective on strategy. We asked them about for example, which decisions they perceived as strategic, how they structured and managed their organisation, how they make (strategic) choices, who was involved, how they secured their competitive position in the industry, and difficulties they have had or foresee in the future. The interviews lasted between one and two hours and were recorded and transcribed. Because one of the authors of this paper had worked as designer and director in the industry for nine years, he was familiar with the work that these firms did, hence had knowledge of the strategic contingencies that affected the industry. Bias that may have resulted from this knowledge was countered through the use of reflective processes (Schön, 1983) and regular discussions between the two authors concerning what could be considered justifiable assumptions and admissible data. Ultimately, however, as with all subjectivist research (Hammersley, 2011) we make no claims for the generalisability of our findings; instead we put forward a transparent narrative that others may interpret as they wish. After transcription a coding exercise using NVivo software allowed for key themes to emerge. From these we could identify a number of sub-themes relevant to the strategy development processes in design firms, namely, (1) managing creativity & knowledge, (2) distributed power, and (3) culture. These three themes were the basis for applying the ANT lens to study a global design firm (Company 14), based in London, in depth.
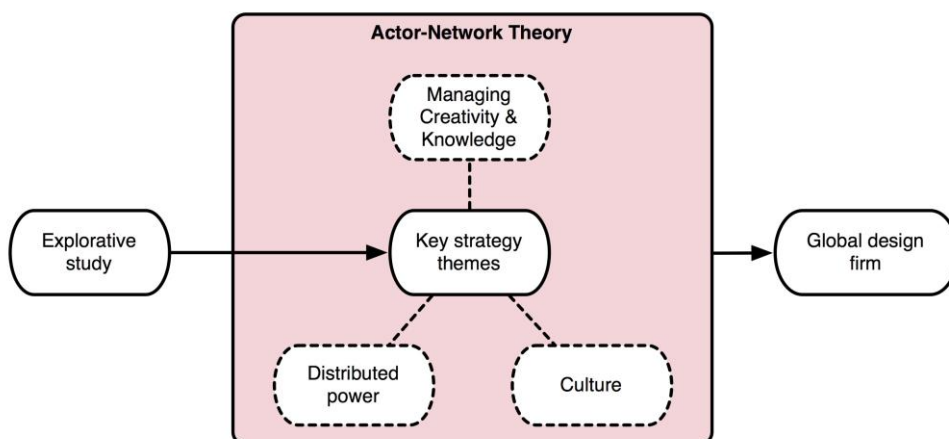

Figure 2 - Research framework

The figure above (Figure 2) illustrates the focus of our analysis and functioned as our framework in the second phase of our study where we studied one digital design firm in depth (company 14). As we wanted to focus on the decisions that affected the strategic

direction of the organisation, networks of alliances were traced as they went through the process of translation, guided by the ANT methodological lens. Similarly to our explorative study, we started our investigation by interviewing the managing directors as they are most likely aware of strategic action within their organisation. Although we do not suggest that managers are the only individuals that have control over an organisational strategy (Hendry & Seidl, 2003), they are considered the figuration of strategic change, as they post-rationalise change through their actions (Hendry, 2000). This means that while certain decisions on "local level" altered the strategic direction of the firm, it is often that management rhetorically post-rationalise these "deliberate" decisions. Here, ANT enables to trace the origins of "strategic agency", in other words, ANT uncovers the practice and social ordering that causes these networks to come into being and stabilise long enough to have agency that influences the strategic direction of the organisation. By interviewing the founders of the organisation we were able to identify key aspects that could change the strategic direction of the organisation. Once identified, subsequent interviews were held with other employees involved in those changes. Moments of translation identified through the interviews were then traced backwards in time to explore their "origin", or better, their relation to other actor-networks. This was done by collecting additional documentation, such as, presentation files of earlier meetings, financial calculations, e-mails, and additional documentations that were retrieved from the intranet of the organisation. Additionally management meetings were observed and video recorded to understand better the social dynamics among the actors. This rich collection of data was the basis on which the actor-networks that prevail organisations, which include, of people, documents and technology were "reassembled" (Latour, 2005). In the following sections we discuss how the ANT lens allows us to understand how these influence strategy development.

Using ANT to understand strategy development in design firms

In this section we focus on how ANT can reveal the critical contingencies of design firms that influence strategy. These emerged from knowledge of the industry as well as an inductive analysis of our interview data from the explorative study, and helped to frame data collection and analysis of the longitudinal study.

Managing creativity and knowledge

A key aspect of strategy development in design firms is the utilisation of creativity and expert knowledge. Utilising these most efficiently and effectively contributes to the competitive advantage of the firm. Unlike traditional industries that are capital or labour intensive, such as manufacturing where resources can be managed quantitatively, in knowledge-intensive and creative firms managing key resources is about managing autonomous professionals. Therefore, in creative and knowledge intensive organisations, often there lacks formal organisational hierarchies of subordination (Costas, 2012). As one of the directors of the main case stated:

> *Because the fundamental thing is that we all get along as friends at the end of the day and that's the most important thing (Company14)*

Indeed, the lack of such formal hierarchies enables these professionals to more freely interact. This is particularly useful since creativity and knowledge comes from the

interaction among these professionals, the outcomes are difficult to predict and the people hard to manage (Townley *et al.*, 2009). Key resources of knowledge and creativity are highly mobile and distributed throughout and outside of the organisation. As one of the directors of the company explained:

> *Well I mean we try to rotate people out so they've actually...so the*
> *learnings that we get from the brands or the bigger stuff we do for the*
> *clients get bought into our own IP. And then maybe the kind of slightly*
> *more free thinking or risk taking flows back into the clients as well*
> *(Company 14)*

Therefore, production knowledge is highly mobile and resides within individuals who can move to other projects or other companies. As such, knowledge is distributed throughout the organisation and the wider industry. We argue that ANT helps the analyst to identify the factors that allow or encourage knowledge to circulate through the organisation (or get lost to external networks) by focusing attention on the relations among individual creative knowledge workers. Which actors, including physical artefacts that influence this process (whether symbolically or physically), block (or encourage) knowledge from moving through network, can be revealed through an ANT-based methodology. In particular with the intense use of information technology, objects (financial documentation, computer databases, network access) are considered to be a key actor to either broadcast or withhold knowledge. Here, the inclusion of nonhumans such as technology as rightful agents enables to see how knowledge circulates or is restricted. For example, in our main case, the company suggested transparency and openness. Details about their finances were shared on designated moments with all employees in the studio. To quote one of the directors:

> *Yeah we tried to be as open as…actually..being open is an intentional*
> *strategy. We try to be as sharing as we can as transparent and visible [...]*
> *so we show people how much cash and how much net assets [we have]*
> *(Company 14)*

However, outside of these designated moments, financial documentation was only accessible by a select group of individuals. Therefore, even though there existed an atmosphere of being open, transparency and equality, through the analysis of the material we found that this "equality" was mediated by material objects that forced a differential access to strategic resources.

Distributed power
Since creativity is a key resource within design organisations, which lies within individuals rather than the firm as whole, power sometimes lies within individuals that may be only loosely related to the organisation, because of the widespread use of project-based freelancers, as pointed out earlier. Studying power from a dimensional or structuralist perspective, where organisations and their actors are "frozen" in time and space (Clegg *et al.*, 2006, p. 221), provides unsatisfying and incomplete insights into dynamic and pluralistic contexts. Whereas conventional management theory focuses on chains of command in which employees are controlled through intentional "deskilling" of employees' practices alongside the holding back of knowledge or knowledge "partitioning" within the organisations, in contrast, creative organisations require the opposite approach, where sources of value creation, hence knowledge and creativity, are essentially distributed throughout the organisation rather than kept centrally. The

requirement to let the main source of value circulate throughout the organisation, instead of being "protected" behind a partition, requires an alternative view on power.

Power then is better understood as a complex network of relations. It is here where ANT provides a fruitful methodological frame since it focuses study on relations, rather than power structures that are supposedly fixed in time and space. Especially in novel design areas, such as digital or service design where actors come and go and new technologies emerge in an increasingly faster pace, power-relations continuously change and are reshaped.

Returning to the theme of design firms structuring their activities around projects, a project-based organisation leads to a "satellite" organisational structure in which all the necessary skills and knowledge have to be contained within a specific project. This means that projects are self-governed entities, connected to each other based on informal relationships (e.g. personal relationships, interests, knowledge, functions), rather than a formal structure (Bettiol & Sedita, 2011; Hertog, 2000). For example, we found the formal hierarchical distinction among managers ambiguous, as the founder explains:

> *Although there is a hierarchy, no-one, I think nobody ever abused their power. And that's because it's so baked in at the heart of the culture. You know, we've..we are very [particular] who we hire. Because, if you start would start picking the wrong people in the company and that is...they people is what make the company (Company 14)*

Here, decision-making power is shifted from the individual (e.g. top-management) to others within the organisation. Decision-making authority does not necessarily lie in the hands of the people on the top, but is rather distributed throughout the organisation. As much design work takes place in temporary projects, knowledge and power is rarely stable but changes over time as personnel move from one project to another. In this context any methodology which focuses on static relationships and cross-sectional designs would encounter great difficulty in mapping the movement of creative knowledge from one project to another. In addressing this constant shift in power, ANT focuses on how change happens and becomes anchored in different networks at different times.

This devolved decision-making power is also for example apparent when it comes to project selection. As projects enable the organisations to learn which is a key aspect in staying competitive in the design sector, the choice of projects (and clients) can be of strategic impact as learning can potentially be exploited in future projects. Therefore, deciding which project to undertake, and into which technical frame to embed it, can determine the overall strategic direction of the organisation, as it might open up new markets. As one owner/manager notes:

> *If I get a director/producer to fall in love with [a project] and we got the right team, we accept the project. If none of the guys wants to do it, I say no. Because it's my problem otherwise (Company 8)*

> *It is a difficult market because, there is so much technology happening and you just don't know which one is gonna survive. Is Apple gonna buy that*

> technology that's really cool and embed it in their operating system? Or
> are they gonna kill it? (Company 8)

In these cases, a sensitivity "on the ground" is necessary in order to anticipate which technologies are going to become worth investing in. The distribution in power is a central theme in design firms. Their dependence on technology, the autonomy of employees, the distribution of knowledge cause power to be distributed over a variety of actors. Here ANT's distributed notion of agency enables to trace these sources of power, as agency is attributed to the network, rather than sole actors (Callon & Law, 1995). As these networks consist of hybrids between people and objects, power needs to be considered a relational characteristic. Such notion is particularly useful in design firms, as the central position of artefacts in such contexts (e.g technology, designed objects, physical space) enables us to trace power to the various actors, both human and nonhuman, that act together.

Culture & identity

In knowledge-intensive, creative and informal organisations in which top-down control is counterproductive, and where power is decentralised, culture is a lens through which to understand how power circulates (Alvesson *et al.*, 2008). The highly collaborative nature of design production, where various disciplines work together on innovative products, result in different identities coming together. In particular, the "classic" conflict between exploration and exploitation found in creative organisations is a returning issue for conflict (Daigle & Rouleau, 2010; DeFillippi *et al.*, 2007). These conflicts can be traced back in the objects that binds these conflicting actors together. Especially in design firms, where cultural values are inscribed in material objects, a socio-material lens becomes particularly useful. Artefacts are both physical enablers (or blockers) of activities and semiological shapers of beliefs and values. The physical is an important concern of design. Hence there is congruence between what ANT focuses on and what design is concerned with. Another example of how ANT is helpful emerged from the main case company, where the corporate styled presentation slides of the financial director were not taken serious by the team members with a design or creative background. When comparing the presentation slides made by the financial director when he just joined the company with his slides a few years later, the cultural code of creativity was clearly visible in the objects he produced. That the visual and material are important in these firms, was pointed again by one of the directors, who stated:

> To be honest, you could just kind of say it's a little... it's organisation and
> it's wrapping paper. But that's important, because presentation is
> important (Company 14)

As such, ANT enabled us to reveal the power of organisational culture and surface them by tracing the origins of produced "physical" objects.

Discussion: key implications of ANT as a methodology

In the spirit of the aim of this track to "lead and progress discussion on research methodologies" that develop knowledge through context-orientated organisational research, this paper has examined the use of ANT as a methodological lens to study strategy development processes in design firms. Studying strategy in informal and non-hierarchical organisations is challenging. The lack of formal power structures, highly independent and autonomous actors, and the constant requirement for creativity and exploration of new technologies and market applications, requires alternative

methodologies to understand how decisions are made. The key characteristics of design firms as identified in our study, namely, the need for creativity and knowledge, distributed power and the prominence of culture and identities suggest an alternative way of strategy development, different from those described in the mainstream management literature (van den Broek, 2012; van den Broek & Rieple, 2016). Where power is decentralised, strategy emerges rather than being formally constructed through top-down analysis and "rational" decision-making (Cohen & March, 1986; Denis *et al.*, 2007). As such, the social dimension of decision-making provides an alternative view on agency. In such contexts, strategic direction is therefore an "achievement" (Law, 1992, p. 390) not by alignment through formal power structures, but by a "mechanism" that enables alignment and collaboration among a variety of *asymmetrical* actors. It is this mechanism that is of interest: how asymmetrical actors align and how they are kept in place. A strategic direction can be seen as a flexible agreement between a variety of actors with different visions that have access to differentia; organisational resources. This agreement is not immutable, but shaped and reshaped by constant negotiations and struggles between actors. Strategy as such is then the mechanism that "holds" the agreement (Law, 1992, p. 389).

Since both design processes and design outcomes are inherently relational, understanding the impact and the success of them requires to study individual actors as a system, rather than a singular entity. As strategy in these informal contexts does not emerge from individual actors but from the result of the association of various actors, we found ANT a fruitful methodology to surface the key ingredients for strategic decision-making processes. By utilising a socio-material lens enables key actors of design firms, namely, technology, designed products and services or documents in the analysis. Whereas most theories around strategy are focused on a dimensional or structural view in which actors are considered steady and fixed entities, as our paper outlines, the fluid nature of design firms require an alternative approach to study these inherently dynamic and culturally laden environments. By utilising ANT as a methodological lens, the fluid nature of these organisation is exposed. By conceptualising these organisations as formations of alliances which result in networks of social ordering, the focus shifts from static actors to the dynamic and performative nature of accumulating and growing of actor-networks which are developed over time through the processes of translation (Callon, 1986; Steen *et al.*, 2006).

However, there are some limitations. While ANT enables to surface alternative characteristics of organisations, the method in itself does not enable "causal explanations" (Mol, 2010, p. 261) of why certain relationships exists or come into being. Instead, ANT helps to categorise the various activities that occur in a observed setting and places them into relation with each other. Czarniawska (2006, p. 1553) summarises this point well by stating "[Actor-network theory is] not a theory of the social, but a theory of how to study the social". Once the networks are deconstructed and reassembled, a further theory is needed to explain *why* those relations came into being and *how* these relations are made durable. Since design and design processes can be best understood as the result of stabilising a network of artificially constructed, performing actors, our study revealed that ANT is a suitable approach to study contexts where strategy is the result of distributed agency. This methodological approach can help to expose certain ways of operating that are distinct for design firms; the motivation for creativity, the importance of knowledge

and learning, the need for distributed power, culture and identity. We suggest that this focused methodological sensitivity can also be applied to sectors outside of the design discipline. Especially those organisations that want to become more design focused, this methodological approach can highlight already existing potential for design-led organisation, or can highlight a lack of it. Therefore, the ANT methodology as such does not provide direct incentives how to improve a design environments and as such is not a prescriptive methodology (if this were possible), nevertheless it helps pinpoint the key aspects necessary for design contexts to flourish strategically.

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