When control leads to confusion- normative control in the decision-making stage of FEI to NPPD in a growing company

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Abstract

Title: When control leads to confusion - normative control in the decision-making stage of FEI to NPPD in a growing company

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Research question: How do high levels of normative control affect organizational learning and the decision-making stage at the Front End of the Innovation Process to the NPPD in a growing company?

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Methodology: A qualitative, single case study was conducted in a Swedish technology company using semi-structured interviews with people involved at the decision-making stage of the FEI to NPPD as a main source to gather empirical data. Iterating between interview data and literature the findings were used to address the gap in literature and answer the research question.

Theoretical perspectives: The three main fields of research applied in this dissertation are firstly the front end of innovation, normative control and lastly organizational learning. In particular, the implications and relations of high levels of normative control on organizational learning and the innovation process at the decision-making stage from FEI to NPPD, where all three areas culminate, are established.

Conclusions: High levels of normative control are a tool positively connected with employee motivation, informal networking activities and intuitive decision-making. They ensure freedom and creativity for people working at the FEI. However, this research found that a company growing in complexity/size will experience negative effects in the learning processes at the FEI, as knowledge stays mostly tacit and decisions are often based on gut-feeling. The low levels of formal control allow employees to dismiss decisions taken by management and resources can be wasted.

Keywords: front end of innovation; organizational learning; normative control; balancing acts; formal control; decision making; informal networks; knowledge transfer; political behavior;

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List of abbreviations

FEI =		Front End of Innovation
KM =		Knowledge management
NCD =		New Concept Development model
NPPD =		New Product and Process Development
OL =		Organizational learning
SC =		Steering Committee

1. INTRODUCTION

1.1 Background

It is widely recognized that innovation is crucial for organizations to survive in an increasingly competitive environment that is also characterized by rapid changes in terms of new markets, technologies and even culture and social norms (Nonaka et al., 2000; Bates & Khasawneh, 2005). Companies that do not innovate will risk a higher, negative impact of these shifts, especially when competitors were able to capitalize upon them, as new products and new businesses are imperative to achieve "sustained growth and competitive advantage" (Cooper, 1990, p. 44; Kuratko et al., 2011). As product lifecycles are becoming increasingly shorter and misdirected efforts lead to more substantial losses of resources, this necessitates a solid procedure for developing innovative products (Nobelius & Trygg, 2002).

The front end of innovation (hereafter: FEI) "is the stage during which ideas are created and further developed into product concepts and definitions, ending with a 'go' or 'no go' decision about whether to continue into formal NPD or not" (Florén & Frishammar, 2012, p. 20). Thus, the fate and the main characteristics of the future product are all decided in the FEI: ideas will be scrutinized for their possible future value and their alignment with the company's strategy and vision (Florén & Frishammar, 2012; Poskela & Martinsuo, 2009). The FEI is completed when the concept enters the New Product and Process Development stage (NPPD), which is a structured, disciplined and goal-oriented process where the concept will be developed and commercialized (Koen et al., 2001).

It has been found that when a company grows, the increasing size necessitates more formal structures to operate efficiently and effectively (Kuratko et al., 2011). Large organizations encounter problems in managing innovation, as companies need to balance freedom with discipline. In explorative innovation, the promotion of experimentation and imagination is crucial which necessitates more autonomy. On the other hand, a steady flow of products that are continuously brought to market must also be maintained (Feldman, 1989; Poskela & Martinsuo, 2009). This is also why Koen et al. argue that both the FEI and NPPD "need to be aligned with the business strategy to ensure an uninterrupted, flowing pipeline of new products and processes with value to the corporation" (2001, p. 49).

This alignment compares to a balancing act, where the exploitation of the core business with relatively secure return on investment needs to be harmonized with the pressure to be innovative, which involves resource allocation without guaranteed profit (March, 1991).

As innovative ideas necessarily encompass risk due to uncertainty, the decision to invest or reject is significant, since it will guide the company's future activities and product portfolios (Kastensson & Johansson, 2011). It has been found that well-defined decision criteria are of significant importance in evaluating and ultimately deciding on potential new products (Carbonell-Foulquié et al., 2004, p. 307).

It has been found that lack of creativity is not a problem, but the evaluation process that judges the potential is more troublesome (Magnusson et al., 2014). A more formal approach to decision-making is usually rather structured and built around explicit criteria, which is often described as a funneling process: all the ideas will go through the funnel, needing to pass various gates: this refinement procedure is characterized by having certain set standards (Wheelwright & Clark, 1992; Cooper, 1990).
An alternative to a more formal decision process is the use of intuition, where those who are in charge of the evaluation assess potential by using their interpretive capabilities, which makes it less time-consuming than the formal approach (Magnusson et al., 2014). Elbanna defines intuition as: "often associated with having a hunch or a strong feeling of knowing what is going to occur, without explaining the rationale behind it" (Elbanna, 2006, p. 10).

As control mechanisms reflect the culture of a company, it could be argued how the corporate culture impacts the screening phase of the FEI and influences criteria that are used, since culture acts as glue by giving employees a shared purpose and collective behavioral attitudes (Sørensen, 2002; Welch & Welch, 2006). Sørensen (2002) also concludes in his paper that firms with a strong culture have an advantage when it comes to developing incremental innovations in a rather secure and steady environment as the strong culture has been connected with increased reliability, but this advantage is lost when the environment gets more unpredictable.

It is here where the relevance of organizational learning comes in, conceptualized by Senge & Sterman as "the process whereby shared understandings and strategies change" (1992, p. 138). Knowledge is recognized as a critical mechanism that provides companies with a

competitive advantage, since improved insights and knowledge result in improved productivity (Fiol & Lyles, 1985; Nonaka et al., 2000). Knowledge comes in two forms: explicit and tacit knowledge. The former is characterized by formal and systemic language; the latter is more personal since it relates to subjective insights and intuition. Yet, it is argued that both knowledge sources are interrelated and pivotal to create new knowledge (Nonaka et al., 2000). Knowledge can be transferred through a variety of mechanisms, one of which is the network structure that is present in a company. Research has underlined the relationship between network structures and the effect that its nature has on organizational performance: employees working in different departments often hold unique knowledge that is related to their domain only. Should employees collaborate together, this knowledge will be combined which contributes to organizational learning (Reagans & McEvily, 2003).

It is acknowledged that both, the level of control and organizational learning influence the company culture and that the culture itself facilitates this dynamic, thus having an important role in learning and change (Brown & Duguid, 2005). In addition, it has been found that a company culture that fosters learning and development is more likely to create constant innovative output as insight is created about the identification, replicability and adaption of opportunities among employees, which will lead to an increased future understanding of new opportunities (Hurley & Hult, 1998). Managers play a crucial role in creating organizational learning and providing levels of control regarding the innovation process, as they are in charge of the efficient and effective utilization of the resources under their control (Nonaka et al., 2000; Kuratko, 2011).

1.2 Problem discussion

Various researchers have agreed that the nature of the FEI is characterized by high degrees of complexity, uncertainty, ad hoc decision making and an informal organizational setting (Koen et al., 2001; Kim & Wilemon, 2002; Florén & Frishammar, 2012). Therefore, managers are most able to influence strategic choices at the start of innovation process (Poskela & Martinsuo, 2009).

In order to reduce uncertainty and risk, it is argued that formal controls such as project management or stage-and-gate-type systems could be implemented, which would bring forth more order and efficient handling at the FEI (Schultz et al., 2013). Formal control thus curtails unbalanced information across the employees since their activities are coordinated. This is also argued to enhance employee motivation, as long as the directives give employees enough room to be creative and independent in solving problems in the FEI (Poskela & Martinsuo, 2009; Schultz et al., 2013).

On the other hand, controlling the process may lead to rigidity within the organization, as the very nature of innovation demands a more flexible approach to allow for the pursuit of risky and unprecedented projects (Schultz et al., 2013). Indeed, Cooper (2014) explains that a lot of critique regarding the Stage-Gate process labels it as "too linear, too rigid, and too planned to handle more innovative approaches" (2014, p. 20).

Yet, in light of the portrayed discussions regarding the need to balance exploration or exploitation (i.e. prioritizing resources for either core business or new business), which is complicated due to uncertainty of FEI activities, and the necessity to have an environment that encourages uncertainty, risk-propensity and experimentation as to prevent undermining employees' creativity, it follows that companies are struggling to coordinate between control and freedom (Feldman, 1989; March, 1991; Welch & Welch, 2006).

As stated, a more formal approach to decision-making in the FEI is characterized by having formal criteria, leading to a funneling process which will refine the innovative concept. However, there is no consensus about a set of criteria for this screening, as all ideas are varying in their nature and are dependent on specific company capabilities and strategies as well (Balachandra & Friar, 1997; Hart et al., 2003). In addition, rationally deciding about a new, innovative opportunity is challenging as individuals lack crucial information to make an

all fact-based, informed decision. In adopting formalized criteria to conclude a decision-making process, companies could therefore risk that this leads to "achieving tomorrow's solution to yesterday's problem" (Braybrooke & Lindblom, 1970, p. 121). Interestingly, it has been found that relying on intuition is becoming gradually endorsed as an acceptable approach to make decisions (Elbanna, 2006; Dane & Pratt, 2007, Sadler-Smith and Shefy, 2004). The benefit hereof is also that it allows for faster decision-making procedures; since formalized processes are more time consuming (Magnusson et al., 2014). Sadler-Smith and Shefy (2004) elaborate further in explaining intuitive decision-making as "a composite phenomenon involving interplay between knowing (intuition-as-expertise) and sensing (intuition-as-feeling)" (ibid. 2004, p.76), stating that management applies knowledge gathered from experience and inkling based on business acumen especially in situations where there is a lack of obtainable information, which applies to the FEI.

On the other hand, the notion of using intuitive decision-making is opposed by scholars who doubt whether intuitive decision-making leads to effective decisions and therefore prefer more rational models (Dane & Pratt, 2007). Intuition entails risks, because reliance on a hunch may not be reflective of the potential of an idea. Indeed, when the cost of failure will not affect viability of a company, it is argued it makes more sense to rely on intuition, or when decisions are made about exploitative information which is in the realm of managers' knowledge base and therefore intuition will reflect expert information about the potential of an innovative concept (Miller & Ireland, 2005).

Whereas the means to make decisions are discussed, it remains rather unclear what factors will lead to for example, either more formalized decision-making or intuitive decision-making. It could be argued how culture influences this, as culture refers to the entrenched values, norms and beliefs within a company and also reflects the climate, which comprises "recurring patterns of behavior, attitudes and feelings that characterize life in the organization" (Tidd & Bessant, 2014, p.72).
In a more formal culture, company processes are regulated and therefore predictable as standards are set. This translates to impersonal, regulating control mechanisms, which are believed to stabilize the company (Leifer & Mills, 196; Yang et al., 2011). However, it has been found that a culture that is characterized by trust and openness is more compatible with entrepreneurial activities (Tidd & Bessant, 2014). This is in line with normative control mechanisms, which intrinsically motivate employees to use suitable ways to achieve certain

goals.

It thus predetermines how employees are to act in achieving their goals. However, it does not say anything about the scope in which employees are to act. Yet, as normative forms of control emphasize collective responsibility, cohesion and uniformity, it is expected that employees will act in the best interests of the company anyway (Alexander, 2012).

On the other hand, conformity with the company strategy is underlined: managers need to regulate interactions and set priorities, so that FEI activities will be conducted in the best interests of the company (Feldman, 1989). Amabile has argued that "people will be more creative if you give them freedom to decide how to climb a particular mountain. You needn't let them choose which mountain to climb" (1998, p.81), meaning that setting a comprehensible goal can often increase employee's creativity instead of stifling it.

Building on these arguments, Schultz et al. (2013) talk about the importance of decision-making clarity, summarizing those findings as follows: "Clear goals and transparent decision-making processes are among management's primary tools for keeping NP[P]D projects on schedule, within budget and aligned with strategic goals […]" (2013, p.434). However, it is unclear whether clear decision-making processes are compatible with normative control, since this leaves considerable freedom for employees to interpret what they are to act on. On the other hand, normative control does allow the multiple iterations that characterize activities in the FEI: sharing knowledge across various individuals and units that are part of the innovation process is a significant component in innovation (Kuratko, 2011).

This relates to the introduced concept of organizational learning, as this leads to organizational effectiveness and enhances the possibility to create value: Gold et al. state that this could lead to an "improved ability to innovate, improved coordination of efforts, and rapid commercialization of new products" (2001, p. 196).

Fahey & Prusak argue that tacit knowledge, which they define as the "body of perspectives […], perceptions […], beliefs […], and values […]" (1998, p. 268), is also the way in which explicit knowledge is processed, as tacit knowledge is responsible for the interpretation of explicit knowledge (Fahey & Prusak, 1998, p. 268). Nevertheless, tacit knowledge is much more complicated to share and convey than codified knowledge (Reagans & McEvily, 2003). It can be seen how the interpretation of new ideas is a political process as the potential of an idea is discussed: the strength of an argument or the influence people have will determine the future direction of an idea. This is more likely to occur in an environment that bolsters particular interpretations and rejects others (Lawrence et al., 2005). Indeed, in the light of an

informal decision-making process that occurs in a company that is characterized by normative control, it has been found that political behavior can influence important decisions. This is likely to occur in the FEI, since front end activities usually require the support of employees from various departments who might hold opposing interests and act on different agendas (Kyriazis et al., 2007).

1.3 Purpose

The debate about formal and informal control measures regarding the FEI is not exhausted yet. It seems as if literature has reached an impasse about the debate concerning formal control measures versus normative control (which is, as stated, characterized by informal measures) in a company: ideally, a balance is struck between the 'right amount of control' that is appropriate for front end activities as to ensure alignment with the organizational strategy. However, there are other criteria that are used to evaluate the potential.

It can be seen in the previous section how decision-making clarity, which includes the concept of rationality and formalization, could reduce conflicts because of clearly set goals. Normative control is built around the notion of shared goals and vision which drives the company forward and therefore does not set a scope for employees to act in. We aim to contribute to current control, organizational learning (OL) and FEI literature, by exploring the impact that high levels of normative control have on OL and the decision-making stage at the FEI. Normative control partially seems to be an ideal method to 'structure' the FEI, yet in light of a growing company, that often experiences difficulties in overseeing the total company performance, it is not known how the FEI decision-making stage looks like.

As informal measures flourish under normative control, it can be seen how networking and the role that tacit knowledge plays herein would occur. Whereas previous studies of the FEI have focused on finding ways to reduce the ambiguity of front end activities, or how to build up competences in the FEI and make the overall FEI process more comprehensible (Christiansen & Gasparin, 2016; Koen et al. 2001; Florén & Frishammar, 2012; Khurana & Rosenthal, 1998; Reinertsen, 1999), there is little academic research that takes informal or social control mechanisms into account. We build on the recommendation of Schultz et al., who focused on applied formalized methods in the FEI: Whereas they found that decision-

making clarity occurs under formalized procedures that stage gate systems bring about, they drew attention to the fact "that company performance is also often influenced by informal or social control mechanisms" (Schultz et al., 2013). Therefore, we introduce the possible mediating effect that normative control has on the decision-making stage of the FEI, by also exploring how normative control operates, which is by informal methods such as networking. Rather than focusing on how the ideation phase of the FEI should look like, we aim to contribute by showing how normative control impacts the decision-making stage and OL, as well as the resulting repercussions between FEI and OL (figure 1).
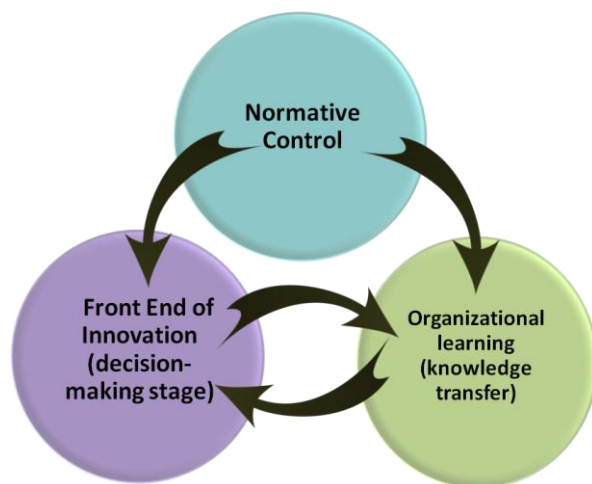
Figure 1: The dynamic relationship between the three research areas

1.4 Research question

It is clear that the innovation process is rather complex as various factors are interrelated. Indeed, the concepts we explore comprise a wide field of research in their own right. Therefore, we assume that the more our iterative process develops, we will identify multidimensional findings that will underline the various phases and characteristics that innovative activities comprise. However, as we identified dissatisfaction with our case company regarding the problematic transition phase from FEI to NPPD, we aim to focus on the dynamic which we think could help understand why the transition phase from FEI to NPPD is slow and frustrating. As mentioned, many ideas to improve the FEI are built around optimizing efficiency in the FEI in order to increase the speed of either accepting ideas or declining them. We have found that the type and thereby the amount of control set by management and the extent to which the culture in the company can be connected to organizational learning impedes on efficiency and creates unnecessary delays in the

innovation process. We assume to identify multiple findings when we are to identify how certain communication structures function, how different sets of knowledge and expertise relate to each other and how this translates to the levels of control and the extent to which organizational learning occurs. Naturally, we connect this to the troublesome decision-making stage, as we are to understand difficulties our company experiences in light of the above-mentioned linkages. In doing so, we are able to shed light on how the decision-making stage could be understood and where possible improvements are situated.

Our research question therefore is:

"How do high levels of normative control affect organizational learning and the decision-making stage at the Front End of the Innovation Process to the NPPD in a growing company?"

1.5 Case company

Our research has been conducted in a Swedish technology company that holds a global market leader position in supplying network cameras for surveillance purposes. The company was founded in 1984 and gained momentum in the late 90s with innovative technology in video surveillance. As a result, the company expanded significantly, employing roughly 2600 employees currently (1/2017) compared to 500 people in 2008 and 1100 in 2011 (Year-end report 2016, case company). From 2011 to 2016, the headcount increased by 136%, owing to the growing international presence of the firm as well as the creation of new departments and functions, making the company overall more complex. The company has an informal structure, characterized by an 'open door policy' and an emphasis on collectivity. Most of the employees– especially those involved in the innovation department – have an engineering background, in either mechanical engineering or computer science which they developed at Swedish universities. The manufacturing of the products is outsourced and the company has an indirect sales model, where distributors are the primary clients.

During our research, the innovation department was our focal point. This department is responsible for introducing next generation technology for a new feature/function, or a new product concept. These concepts are then presented to a Steering Committee (SC) and if the

concept is approved, it will be implemented within a product department's road map in the NPPD.

Currently, the company is facing increasing pressure to reinvent themselves in order to meet the challenges that the growing competition and the declining value of market shares pose. Whilst the innovation department is providing the company with new concepts, the majority hereof get rejected with vague justification of the Steering Committee.

It is acknowledged that the success rate of innovative concepts in general is quite low. However, it is clear that the process could be improved by locating the obstacles that complicate a smoother innovation process, identifying the dynamic that reinforces those obstacles and revisiting the assumptions on which the innovation process within the innovation department is founded.

2. LITERATURE REVIEW

2.1 Front End of Innovation

2.1.1 FEI: a description

Most researchers agree that the innovation process consists of three different stages: the front end stage, the new product and process development stage and the commercialization stage (Nobelius & Trygg, 2002; Ho & Tsai, 2011).

The FEI begins when an opportunity is considered deserving of further exploration and concludes when a company chooses to commit resources to its development, after which the project development process can be put in motion (Kim & Wilemon, 2002). The main tasks of front end activities are known to be exploration, opportunity recognition and idea/concept generation (Florén & Frishammar, 2012). The front end should result in a well-defined product concept and a business plan that is in line with the firm's strategy. This will ensure that long-term strategic objectives will be accomplished (Poskela & Martinsuo, 2009; Florén & Frishammar, 2012). When the concept is accepted, it is fit to enter the formal and usually quite structured New Product and Process Development (hereafter: NPPD) stage. The commercialization phase consists of the transformation of the concept into a physical product and then will be fully integrated in the company's product portfolio (Kuratko et al., 2011, p. 390). Whereas the currently common front end models are very much alike in the amount of phases, the nature of activities, subject matter and context, there are some factors which are specific to a certain model, which has not led to a dependable vision of how the front end can best be handled (Nobelius & Trygg, 2002). In order to provide an overview of this finding and to illustrate an interpretation of what the FEI looks like, Koen et al.'s (2001) New Concept Development model (NCD) will be explained, which is shown in figure 2.
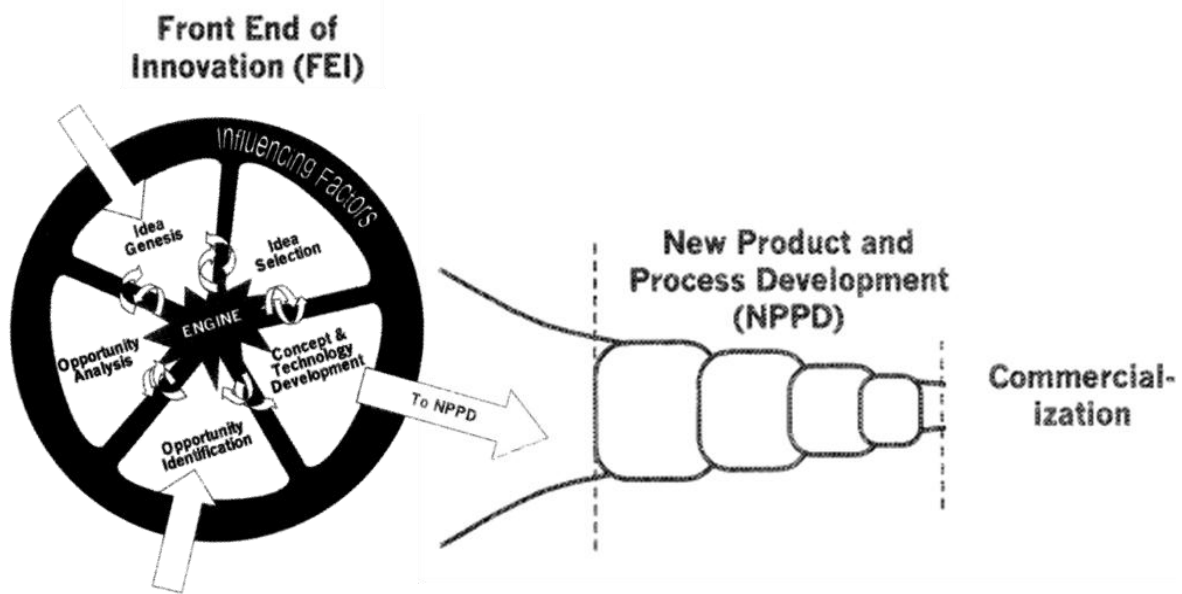
Figure 2: New Concept Development Model by Koen et al. (2001)

According to Koen et al. (2001) the front end of innovation consists of five stages: 1) opportunity identification, 2) opportunity analysis, where it is explored how the idea can be translated to specific business opportunities which diminishes uncertainty, 3) idea genesis, where the idea will develop and mature, going through many iterations and changes 4) idea selection and 5) concept and technology development, which consists of creating a business plan after which the idea can be forwarded to the NPPD. Encompassing the circle shown in figure 2 are influencing factors, like competition, internal capabilities and business strategies. Koen et al.'s (2001) NCD construct is purposefully shaped circular, in order to highlight the iterative and permeable nature of the innovation process at the FEI.

Florén and Frishammar described three core activities that are similar to the ones of Koen et al.: 1) idea and concept development, 2) idea and concept alignment and 3) concept legitimization. The first activity starts when an opportunity is recognized, characterized by creativity and experimentation. The idea will be refined to give direction, and screened to determine whether an idea should be further developed or not. The second activity, idea and concept alignment, concerns assuring fit between the emerging idea and the firm's strategy plus other internal operations. Simultaneously, a fit between the idea and the external environment is explored. Lastly, concept legitimization revolves around the protection of the concept, since socio-political factors may intervene. Otherwise, good ideas run the risk of being ignored or rejected, because legitimization is lacking. On the other hand, bad ideas may

be pushed too far in their development, because they are supported by powerful individuals within the company (Reinertsen, 1999; Florén & Frishammar, 2012).

The front end is regarded as the most troublesome phase of the innovation process and at the same time as one of the greatest opportunities to improve the overall innovation capability of a company (Poskela & Martinsuo, 2009; Koen et al. 2001; Florén & Frishammar, 2012). It has been found that effective front-end activities contribute to the success of a new product and in addition, it will enhance the company's ability to adapt and renew itself strategically, a crucial factor considering the changing environment. In addition, time-to-market margins could be improved as the development time could be reduced (Kim & Wilemon, 2002; Poskela & Martinsuo, 2009; Ho & Tsai, 2011).

The NPPD will act on the product definition that is created during the FEI: therefore, the FEI should prepare a comprehensible product concept and also select the right opportunity to give guidance to development requirements (Florén & Frishammar, 2012). Kim and Wilemon highlight this important step as follows: "A well-defined product concept allows for a clearer understanding of development time, costs, required technical expertise, the right development team, market potential and positioning, risk and organizational fit" (2002, p. 271).

As our case company experiences difficulties at the end stage of the front end process, our focus is not on opportunity recognition or ideation, the fuzzy, vague parts at the beginning of the front end. For that reason, the terminology adopted for this paper is the term Front End of Innovation (FEI) coined by Koen et al. (2001) instead of the term 'fuzzy front end'.

2.1.2 FEI to NPPD: the decision-making stage

Usually, the concepts developed in the Front End need to meet certain criteria to enter the next stage in the innovation process. These criteria are reviewed by some sort of gatekeeper, which is either an individual or a group of people making a joint decision at the transition point to grant or deny the entrance to the formal NPPD and commercialization process that needs the allocation of resources (financial and human resources), hence committing "to the funding and launch of a new product development project, or [deciding] not to do this (the continue/no-go decision)" (Khurana and Rosenthal, 1998, p.59).

In the case company, this role has been taken on by a Steering Committee, consisting of four middle and two senior managers. They decide if the concept is fit to enter the New Product and Process Development (NPPD), the second stage. This stage is defined as a formal and well-structured process, that conceptualizes the idea more concretely (Koen et al., 2001).

It can be seen how a clearly defined product definition is crucial for the selection phase, since a better understanding is developed about cost, risk, organizational fit and development time. However, features of the FEI are still fuzzy, characterized by uncertainties and uncontrollable factors (Kim & Wilemon, 2002). In addition, it is difficult to gather reliable information and the innovation process is quite dynamic: the FEI is characterized as unstructured and exhibiting low levels of formalization (Kim & Wilemon, 2002 ; Ho & Tsai, 2011). It has been found that the high-tech industry is very complex which exacerbates the difficulties in managing the FEI (Nobelius & Trygg, 2002). The increasing environmental uncertainty such as shifting market conditions, evolving competition and changing customer preferences combined with the vague nature of the FEI itself, show the necessity of companies to establish innovative procedures to succeed in an environment full of uncertainties (Ho & Tsai, 2011). However, as Kim and Wilemon put it: "some of the most important barriers to rapid, effective FFE performance are lack of vision […], lack of perceived urgency […], lack of formalization […], lack of effective project leadership […], ineffective communication processes […] and ineffective people conducting the FFE work […]" (2002, p. 271).

It follows that it is hard to evaluate FEI performance, since traditional measures (key performance indicators etc.) can be used to a limited extent only, which means that "the explorative nature of the front end requires putting emphasis on more immediate and perception-based criteria" (Poskela & Martinsuo, 2009, p. 673). Indeed, "current research indicates that the idea evaluation processes of many firms are ad hoc or intuitive, with very

few firms having defined methods" (Forde & Fox, 2016, p. 48). After all, there is a lack of a theory that can predict the outcome of an innovation cycle or determine which ideas are better suited towards specific future outcomes, which ultimately would reduce the risk involved. However, "it remains impossible to select ideas from the future" (Forde & Fox, 2016, p. 48). Both formalized and informal decision-making stages have advantages and disadvantages. Using a highly analytical method to make a decision is costly in terms of time and stifling employees' creativity with strict boundaries. This approach may therefore obstruct the adopting of new products and concepts. Going with a low analytical method is less costly in terms of resources and quicker, but holds the risk of continuing with high-risk projects, which might boost the number of innovative projects at the expense of their quality (Lejarraga & Martinez-Ros, 2014).

2.1.3 FEI: control vs. autonomy

As highlighted in 2.1.2, optimizing the hand-over decision from FEI to NPPD holds the key to a more efficient innovation process. That means coalescing two very different processes: whereas the status of an idea is problematic, fuzzy and easy to change in the FEI, it is clear, specific and difficult to change in the NPPD. In the FEI, the available information is qualitative and informal, compared to quantitative and formal in the NPPD. It is a blueprint versus a product; the width and depth is broad and thin, versus narrow but detailed in the NPPD. It becomes more difficult to reject an idea in the NPPD, as the damage if the idea gets rejected is substantial. The likelihood that this occurs is rather low, since commitment of higher management is high, compared to small in the FEI (Koen et al., 2001; Kim & Wilemon, 2002).

In formalizing the FEI, it follows that the process will be more controlled, using Feldman's definition of control as "the exercise of authority through a hierarchical structure that limits or channels behaviour" (1989, p.86). Various authors have emphasized that this will bring many benefits: the scope will be focused, managers can intervene and guide the project by making decisions, organizational learning will be increased and the coordination of activities are enhanced, suggesting that new product success may, at least partly, depend on the existence and efficiency of a defined, formal front-end process model (Kim & Wilemon, 2002; Poskela & Martinsuo, 2009). It has been found that in organizing front end activities around strategic goals, the NPPD process and organizational performance will be optimized (Ho & Tsai,

2011). However, if the FEI is not handled in an efficacious manner, a concept can pass on to the development phase without adequate preparation, which can in return cause project delay and therefore overspending on budget (Kim & Wilemon, 2002).

As stated before, a clear organizational strategy has been found to positively impact organizational performance, indicating that an alignment of the organizational strategy in the FEI is needed in defining the scope (Zheng et al., 2010). This is in line with Amabile's mountain metaphor in chapter 1 (1998, p. 81) in providing people with a comprehensible goal (which mountain to climb) and supports Tidd and Bessant's finding that a "clearly articulated and shared sense of purpose" (2004, p.62) is a component of the innovative organization.

On the other hand, there are recognized disadvantages with process formalization and managerial control, like "decreased innovativeness; increased corner-cutting; negative attitudes among employees; excess bureaucracy and decreased flexibility" (Poskela & Martinsuo, 2009, p. 675). Indeed, a high level of formal control can make the innovation process too bureaucratic, "slowing down the organization, stifling the employee, and encouraging almost mechanical performance" (Kuratko et al., 2011, p. 297). In addition, formalizing the FEI has been found difficult due to the limited information and understanding at this point. Koen et al. find that the definition of the financial return is "at best often just a wild guess" (2001, p. 51). Therefore, it is crucial that organizational support stimulates employees who work in the FEI, because if the upper echelon is not supportive or shows no dedication, employees working with innovation will be dispirited in pursuing new ideas (Kim & Wilemon, 2002). The organization itself needs to be open-minded and ready for technology changes that are disruptive, which calls for risk propensity and an overall accepting attitude towards the possibility of failure (Ho & Tsai, 2011).

2.1.4 FEI in large, complex companies

Feldman argues that especially large, specialized organizations have problems in managing innovation, as it "involves both the simultaneous regulation of autonomy and control in order to promote both creativity and experimentation and the production of results that can be manufactured, marketed or institutionalized" (1989, p.84). Most authors hold that large companies typically employ over 500 people (Karlsson & Olsson, 1998). However, structures and strategies in incumbent companies strengthen prevalent systems which lead to rigidity and inertia in those systems, making it difficult for mature companies to change and adapt

(Dougherty & Hardy, 1996). Of course, large organizations hold several advantages regarding innovative activities: they are less dependent on local customers and suppliers, and benefit from more knowledge and financial resources. On the other hand, large organizations are less agile and more bureaucratic, which hinders them to react fast and efficiently to technology and market changes (Karlsson & Olsson, 1998). Yet, larger organizations can undertake more activities, which, according to Thompson and van den Broek "add more layers of complexity, qualification and variation" (2010, p. 8) to a company. They identified that employees therefore acknowledge that pooled and permanent features of controls are necessary, since investigating interfaces and interactions are valuable (Thompson & van den Broek 2010). It is important to underline the difference between the size of a company and the complexity of the company. Whereas the size of a company refers to the amount of employees and operational activity, complexity refers to the organizational design of a company (Ethiraj & Levinthal, 2004). Indeed, Simon and Perrow, two renowned researchers for their work on complexity in organizations, have stated that the complexity of a company can be understood in terms of the rigid hierarchal structure that is most often present (Simon, 1962; Perrow, 1972). Simon views a complex system as "a large number of parts that interact in a nonsimple way" (1962, p.468); where it is challenging to infer the properties of all parts in the company. He argues that complexity frequently takes the form of hierarchy (ibid. p.468). Indeed, Perrow understands complexity as the presence of "hierarchy, rules, divisions of labor and tenure provisions" (1972, p. 55).

Our definition of complexity with regards to the case company and literature: *"Growing headcount, international and local expansion lead to an increasing complexity of the case company concerning employee interaction, knowledge transfer etc."*

2.2 Normative control

2.2.1 Normative control: a definition and explanation

There are various forms of control, which is why it makes sense to introduce a definition of control first. Cardinal found that the term control refers to "any process by which managers direct attention, motivate, and encourage organizational members to act in desired ways to meet the firm's objectives" (2001, p. 22). Norms are found to be crucial as it awards meaning to one's behavior. Therefore, norms contribute to reciprocal comprehension and as such, appropriate behavior amongst employees can be synchronized and social order established (Hechter, 2008). Companies that are characterized by normative control are found to be informal, and norms generate "stability by setting socially determined expectations for behavior driven by morals and obligations" (Alexander, 2012, p. 796). This behavior is characterized by an emphasis on uniformity and the collective group as a whole. Collective responsibility, loyalty and mutual obligations bolster the importance of cooperating instead of acting individually (Alexander, 2012). Indeed, the dimension of individualism-collectivism, a cultural construct that is connected to normative forms of control, refers to "the extent individuals ascribe their identity from the self rather than from their relationship to others in the group" (Alexander, 2012, p. 796). If a company is characterized by a collectivist culture, it is found that implicit informal control mechanisms should prevent expedience from occurring (Alexander, 2012). Managerial discourse about normative control essentially revolves around the idea that employees can best be regulated by appealing to their thoughts and emotions. This subtle way of control has been found to increase loyalty and commitment (Barley & Kunda, 1992; Alexander, 2012). This explains why those who advocate normative control, in replying to the critique that shared beliefs might blur the boundaries between the individual and the organization, argue that this softening of boundaries does not lead to a loss of individualism or autonomy. In fact, it is argued that such cultures boost autonomy, as "employees could be trusted to act in the organization's best interest" (Barley & Kunda, 1992, p. 383). This finding of Barley and Kunda is not novel: Knights & Willmott (1987) also argued that the power relations are subtle, as the employees internalize their normative structures that confirm their position. The employees and their sense of norms and the role they play in an organization depend upon and are encouraging the recreation of the prevalent forms of control (Knights & Willmott, 1987). In more recent research, Kärreman and Alvesson also found that "organizational activity is significantly regulated and shaped by ideational and normative elements" (2004, p. 156). In addition, they confirm the findings of

Knights and Willmott: organizational structures are reproduced through the sense-giving, directions and actions of all those who are part of the company (Kärreman & Alvesson, 2004). Of late, Welch & Welch (2006) have stated that management teams of multinational companies are struggling with control and coordination issues, trying to address these problems by using both formal and informal control mechanisms. They define informal control mechanisms as "informal communication through channels such as personal relationship networks that cross organization functions [...] and normative control through shared values, that is, internalization of a corporate culture" (Welch & Welch, 2006, p. 15). Indeed, Welch and Welch found supporting evidence that "the use of corporate culture [is] a way of uniting a dispersed organization through commitment to a shared goal in which organizational behavior is built around shared values" (2006, p.15). Those authors who view culture as an informal control mechanism tend to see culture also as a management tool that can be altered and shaped by top management (Welch & Welch, 2006). Chatman and Cha (2003) claim that, in actively handling culture, a company is better able to meet its strategic objectives in the future. However, it is also found that strong cultures can produce negative effects in situations where the environment is changing – this requires new approaches that may dictate changes in the prevalent culture to facilitate responsiveness to these shifts. Welch & Welch found that this is especially true when the environment is volatile, which necessitates the need to "decommit, develop new skills, to explore, to learn at a number of different levels, or to newly commit to different approaches" (2006, p. 18).

Our definition of normative control within a company is: *"The informal, value-driven method of coordination of employee activity which allows considerable autonomy regarding the objectives to act on, but sets normative boundaries of employee behavior regarding the way they act to achieve those objectives"*.

2.2.2 Normative control and decision-making

However, even back in the 1970s, Mintzberg et al. (1976) asked how normative models of management can make unstructured yet strategic decisions. These authors define the decision process as "a set of actions and dynamic factors that begins with the identification of a stimulus for action and ends with the specific commitment to action" (Mintzberg et al., 1976, p. 246). The unstructured part of decision-making in that context then refers to "decision processes that have not been encountered in quite the same form and for which no

predetermined and explicit set of ordered responses exists in the organizations" (Mintzberg et al., 1976, p. 246). Making the assumption that group decisions have an advantage over individual ones since expertise and unique perspectives are brought together is tempting. However, the research of Lightle et al. (2006) has shown that groups consistently fail to combine the available information. The main reason for this is located in the fact that groups more often discuss general information; whereas the individual has private information that is withheld. Decision-making in groups also varies greatly from individuals when it comes to risky decisions, which could mean either opting for the riskier choices or more caution and moderation (Lightle et al., 2006). Lastly, Argote et al. have found that "decision bias depends on the expertise of a group member and the extent to which the member is integrated into the group" (2003, p. 574).

It could be argued that behavior control (also known as "structural" or "bureaucratic" control) is the opposite of normative control. Its regulatory function is applied via centralization and formalization (Cardinal, 2001, p. 24). Yang et al. define formal control as a "regulatory process by which the elements of a system are made more predictable through the establishment of standards in the pursuit of some desired objective or state" (2011, p. 87). Yang et al. state that its features include "impersonal, lawful and institutionalized control mechanisms" (Yang et al., 2011, p. 87). These structural mechanisms will most likely lead to stability in the company. Adler & Borys add to the understanding of formalization by interpreting it as "the extent of written rules, procedures and instructions" (1996, p. 62), thus emphasizing the codification of the organizational procedures and methods of coordinating a company.

2.3 Organizational learning and knowledge management

2.3.1 Definitions of organizational learning and knowledge management

As stated before, the rich body of literature concerning organizational learning and knowledge management is both inconsistent as well as widely applied across various disciplines (Spender, 1996).

Fiol and Lyles understand organizational learning as "the growing insights and successful restructurings of organizational problems by individuals reflected in the structural elements and outcomes of the organization itself" (1985, p. 803), thus emphasizing the role that individuals play in the performance of an organization as individuals recognize problems by their evolving understanding. Naturally, these two aspects that are inherent to organizational learning do not occur simultaneously, which, according to Fiol and Lyles (1985), makes it interesting to develop further insight in the dynamics that shape it.

Huber (1991) connects organizational learning to strategy, stating that organizational learning allows organizations to establish an organizational understanding and interpretation of their environment. The resulting cognitive systems and memories are developed and shared by members of the organization; hereafter organizations can start assessing viable strategies (Huber, 1991).

Antonacopoulou underlines that individuals contribute to the overall organizational learning: interpreting learning as "the liberation of knowledge through learning and self-questioning" (2006, p. 460).

There is interdependency between knowledge, learning and memory and this touches upon the roots of the confusion in the rich body of literature: it is imperative to understand organizational knowledge, learning and memory as interrelated parts of one and the same system (Spender, 1996). Spender argues that knowledge is more about the practice of intervening adequately, explaining that organizations should then be seen "as systems of purposive activity" (1996, p. 64). He also cautions that it would be a misunderstanding to have a narrow concept of knowledge, as it must be understood through the processes of its discovery and the process that leads to the application of it (Spender, 1996). Grant understands organizational knowledge as the individual creation of knowledge and relates that to the role companies have in appropriating that knowledge to the manufacturing of goods and/ or providing of services (1996, p. 112).

Our definition of organizational learning is: *"the successful coordination of the creation, location and transfer of knowledge – which is the result of interaction between individuals and as such will impact the organizational structure – that holds the potential to contribute to the identification of new opportunities which leads to enhanced competitive advantage and therefore, increased organizational performance"*

Knowledge management can be understood as the capability of an organization to acquire, converse and apply the organizational learnings. These three processes thus ultimately refer to the development and use of knowledge within a company (Liao & Wu, 2010). Knowledge management is essential to develop learning abilities. The need to translate organizational learning is crucial, as knowledge is instrumental in the development of new products and processes. As the external environment is characterized by uncertainty and rising levels of competition, it is imperative that businesses must keep learning to preserve their competitiveness (Liao & Wu, 2010). Liao and Wu's (2010) research concludes that knowledge management affects organizational learning positively.

2.3.2 Relevance of OL and KM in innovation

The body of literature on organizational learning and knowledge management has flourished over the last decades (Argote et al., 2003; Gold et al., 2001). This might explain why the nature of these two concepts is highly differentiated and applied to various disciplinary perspectives. This discrepancy makes its integration questionable, since this shows how one definition of organizational learning is ambiguous and it might therefore indeed be found that one definition of organizational learning is elusive (Argote et al., 2003; Crossan et al., 1999).

However, the benefits of organizational learning and knowledge management are evident and research underlines the importance of these concepts. It has been found that organizational learning enhances the innovative capability of companies: in leveraging the existing knowledge and creating new knowledge, this enables them to position themselves advantageously in the markets in which they operate (Liao & Wu, 2010; Skerlavaj et al., 2010). Indeed, various authors have identified that in creating, capturing and locating organizational knowledge, companies will have a comparative advantage (Gold et al., 2001; Nonaka et al., 2000; Gupta & Govindarajan, 2000).

In addition, knowledge management contributes to organizational effectiveness: if learning increases, it is possible that more opportunities arise to create value. It is found that knowledge management may lead to an "improved ability to innovate, improved coordination of efforts, and rapid commercialization of new products" (Gold et al., 2001, p. 196). Simultaneously, it may also lead to an increased capability to anticipate the future and making companies better able to react to market changes (Gold et al., 2001). Crossan et al. have stated that organizational learning outcomes are the "principal means of achieving the strategic renewal of an enterprise" (2000, p. 522), emphasizing how organizational learning consists of both exploration and the exploitation of new products.

2.3.3 Organizational learning: a description of the process

Crossan et al. have created a framework that describes four general processes through which organizational learning transpires. In their development, they emphasize three features: firstly, organizational learning is multilevel, combining individual, group and organizational levels of analysis; secondly, it is dynamic which links these three levels with specific mechanisms and thirdly; the processes include intuiting, interpreting, integrating and institutionalizing (Crossan et al., 1999). Crossan et al. (1999) state that learning starts at the individual level which will lead to group learning and will ultimately end up becoming organizational learning. The argument is that learning from individuals will spillover to groups and that this learning will be institutionalized as it becomes rooted in systems, structures, procedures and strategy; after all, "complex organizations are more than ad hoc communities or collections of individuals. Relationships become structured and some of the individual learning and shared understandings developed by groups become institutionalized as organization artifacts" (Crossan et al., 2000, p. 524). It is found that individuals use intuition (recognizing of a pattern or possibility, which are inherent to personal experience) and interpretation (refining and developing intuitive insights). The latter may also take place at the group level, where integration will occur: shared understandings and mutual adjustment are then created so that synchronized action can be taken (Crossan et al., 1999). As stated, institutionalization will then occur: the rules and routines that are created are exogenous to the individual; yet all are affected by it and all are responsible for creating these rules and routines (Crossan et al., 1999).

Lawrence et al. (2005) attempt to build on the research of Crossan et al., by arguing that their framework of interpreting the dynamics of organizational learning is incomplete, since the influence of power is lacking in the interpretation of knowledge. It is explained that interpretations and methods of reasoning will captivate coworkers and this will encourage cooperative action. Therefore, it is argued that forms of power are inherent in the process of interpreting and integrating new ideas. Power and influence will affect the behavior, and perception of individuals (Lawrence et al., 2005).

The interpretation of new ideas is political as this social process where people negotiate meaning occurs in an environment that favors particular interpretations and disapproves others. In this scenario, employees might take advantage of this uncertainty and use political strategies to advocate their ideas. Lawrence et al. think that influence is the most important form of power, explaining that there is "a wide range of tactics, including moral suasion, negotiation, persuasion, integration, and exchange" (2005, p. 184). They estimate it likely that influence occurs in informal networks, whereas force is more likely to occur in formal organizational hierarchies (Lawrence et al., 2005).

2.3.4 The nature of knowledge: explicit & tacit knowledge

It has been found that there are two types of knowledge: explicit and tacit. Explicit knowledge can be conveyed in formal and systematic language and is therefore easier to share (examples are manuals, the storage of data etc.) making it evident how explicit knowledge is easily processed and accessed by people in the organization. Tacit knowledge on the other hand, is "deeply rooted in action, procedures, routines, commitment, ideals, values and emotions" (Nonaka et al., 2000, p. 7). Polanyi (1966) states that all knowledge has tacit knowledge, as individuals are responding to qualities of the external environment by using internal processes. He argues that we cannot have explicit knowledge of unknown things; therefore, an explicit justification rooted in science is lacking: yet, when we become aware of a similar problem we have encountered before, we can feel sure that there are hidden implications of the problem we have found, as we have experienced this before: and this experience did have an explicit justification because it was known (Polanyi, 1966). It makes sense that tacit knowledge can therefore complicate organizational performance, considering that it continually impacts people. This can be seen as a result of the creation and the nature of tacit knowledge, as it is created through "the interactions amongst individuals or between

individuals and their environment" (Nonaka et al., 2000, p. 8). It can be seen how tacit knowledge complicates innovation, especially when it is a more radical idea: the more radical nature with less known attributes that come with it makes it harder to foresee needs and interactions in advance. Instead, individuals rely on their own ideas about the new product or process when making a decision to judge innovation (Leonard & Sensiper, 1998). It is found that expertise is a part of tacit knowledge and that this contributes significantly to the competitive capability of a company in terms of organizational knowledge. As individuals learn and grow, and since each individual is unique in connecting patterns from both explicit knowledge and their experience, it is rather challenging to reflect this combined knowledge in an explicit, objectified way (Leonard & Sensiper, 1998). Fahey & Prusak argue that tacit knowledge, which they define as the "body of perspectives […], perceptions […], beliefs […] and values […]" (1998, p. 268), are also the means by which explicit knowledge is captured and assimilated: tacit knowledge shapes and influences the interpretation of explicit knowledge.

Unfortunately, it has been found that tacit knowledge is more difficult to transfer than explicit (or codified) knowledge (Reagans & McEvily, 2003). Gold et al. therefore emphasize that employees should have the ability to engage in networks "to facilitate solutions to new or existing problems and to generate and share knowledge" (2001, p. 189). It is found that in doing so, explicit knowledge could be internalized and become tacit knowledge. Via internalization, explicit knowledge is then created and shared through the organization: then, it becomes tacit knowledge again (Nonaka et al., 2000, p. 10).

2.3.5 Informal network structure and knowledge transfer

As the case company is characterized by informal structures, we would like to understand organizational learning on the group level. Knowledge can be transferred through a variety of mechanisms, one of which is the network structure that is present in a company. Research has underlined the relationship between network structures and the effect that its nature has on organizational performance: people on opposite ends of their roles have access to distinct knowledge and information. Networks then bring together various knowledge sources which can be shared by others: this collaboration of personal experience will enhance learning (Reagans & McEvily, 2003). Reagans and McEvily (2003) state that the network structure and the strength hereof are two different concepts and should therefore be researched separately to identify the effects of each. This is confirmed by Balkundi and Harrison (2006),

who explain that the structure is the pattern of connection, which determines what knowledge will move throughout the network. The strength of networks refers to the density of the relationships and it will thus reflect to what extent the ties of the relationships are interrelated (Balkundi & Harrison, 2006). The difference between formal and informal networks is the voluntary nature; in addition, informal networks operate through unofficial channels which allow people to bypass formal procedures. Therefore, the information flow and the power this holds might move in a different direction than the company had in mind (McGuire, 2002). Indeed, Dougherty & Hardy (1996) found that employees, who are undertaking innovative activities, see networking as an ideal means of accessing resources and creating strategic meaning for their proposed innovation. However, connections made are also vulnerable, as action depends on the initiatives of incumbents in the company rather than on organization-wide systems. It can be seen how this endangers innovative activities. Whereas individuals can draw on their own networks and reputations, this might not be enough to get a particular sales force to accept a new concept: two factors that work against the innovator could be their absence of tenure or isolation in the company (Dougherty & Hardy, 1996).

2.4 Integration of FEI, Normative Control & Organizational Learning

As stated, we will look at how high levels of normative control affect organizational learning and the decision-making at the Front End of Innovation. We will therefore provide an understanding of how these concepts are related to each other.

Actions that take place in the front end are characterized by ad hoc decision-making and high degrees of complexity and uncertainty (Florén & Frishammar, 2012). It is found that it is imperative that flexibility and firmness is to be balanced, though this is rather challenging because companies risk that they incorrectly accept unsuitable or decline fitting ideas (Reinertsen, 1999; Tatikonda & Rosenthal, 2000). The culture of a company and leadership play a vital role in the process where a concept is transferred to the New Product and Process Development. It is found that employees need some sort of control in order for the new concepts to be aligned with organizational objectives; though simultaneously, they must have freedom to exert their creative capabilities to come up with something new (Feldman, 1989). Without managerial control, frustration of the employees might arise and this could potentially slow down organizational performance in various ways.

However, the management of companies struggles with control and coordination issues and use both formal and informal control mechanisms (Welch & Welch, 2006). Culture is found to be influential in the innovation process, including in the FEI process of idea generation, and normative control is found to unite a company by commitment to a shared goal where organizational behavior is created by and a result of shared values (Spender, 1996). In general, culture is conductive to a mechanism that transfers information, knowledge, processes, resources and people (Spender, 1996). Yet, where normative control does set goals, it exerts low levels of formal control as the essential component here is that normative systems designate appropriate ways to pursue them and trust their own employees to act in the best interests of the company (Barley & Kunda, 1992). Therefore, it can be seen how this form of control stands at odds with the FEI, where decisions need to be made, which necessitates a coordination of knowledge and a setting of goals for the innovation department. As stated, the nature of normative control is quite unstructured and this translates to confusion and a lack of vision which troubles the front end of innovation. In addition it is also found that group decisions fail to make sense of available information because personal information guides the contribution to the overall knowledge that is created to come to a decision, and one cannot include all personal information (Lightle et al., 2009). Given this argument plus the notion that normative control allows for considerable freedom, it can be seen how managers can rely on tacit knowledge and intuition to evaluate ideas. However, according to Forde and Fox, this could be problematic as "the human brain is wired to apply familiar patterns into new situations, even when this is inappropriate" (2016, p. 49). It follows that once this occurs, a bias is formed which could interfere with how new information is assimilated. New information will be interpreted in a way that is consistent with the beliefs the individual has created a long time ago (Forde & Fox, 2016).

As the company culture impacts the organizational activity by underlining ideational and normative elements; the structures hereof being reproduced through interactions and meaning given to it by employees; one can understand what components of organizational learning occur and how this comes to be about. Simultaneously, as organizational learning leads to organizational effectiveness, it could be argued that it might influence the levels of control that are found in the company; after all, it is found that this is continuously altered, shaped, reinforced or changed. Antonacopoulou (2006) also found that learning of individuals will ultimately move into collective practices, thus relocating the knowledge at a community group level which has certain structures in their interaction in its own right. Brown and

Duguid argued that communities that operate within the boundaries of a company are seen as the core factor that brings innovative views into an organization. Brown & Duguid (1991) argued that innovative energy can be understood by the organizational structures of a company which will determine how these communities are linked to each other: whereas communities must be awarded considerable autonomy, they should also be linked together in order for mutual understanding and shared learning experiences to occur. Indeed, should the culture be more formalized, less communication occurs which decreases the chance of learning (Kyriazis et al., 2017). Interestingly, tacit knowledge is rooted in procedures, routines, ideals, values and emotions and is created through the interactions amongst individuals (Nonaka et al., 2000). This finds resonance with the mechanisms of normative control which is also not explicit in its nature and operates in the same way. Both normative levels of control and organizational learning are assumed to consist of routines that will eventually become embedded in a company. However, normative control sets the method of how employees are to act, whereas organizational learning relates to what knowledge is eventually being spread throughout the company.

Normative control relates to organizational learning in the sense that the former explains how and if organizational learning occurs in a company: organizational structure is a key determinant in leveraging knowledge (Gold et al., 2001). Turner and Makhija beautifully underline how control and the ability to manage knowledge play an integral role: firstly, control mechanisms in their own right have inherent information processing properties – regardless of whether these mechanisms consist of norms, routines or coordination mechanisms – will mandate the relationships between individuals and groups (Turner & Makhija, 2006). Naturally, it follows that these relationships influence how information is shared and knowledge is integrated in the firm. Secondly, controls generate stimuli for employees to act in a synchronized way so that organizational objectives will be reached (Turner & Makhija, 2006). In setting socially determined expectations for behavior, characterized by an emphasis on collective responsibility which in its own right underlines the importance of uniformity and cooperation, it can be seen how this could influence the direction that organizational learning takes, which will be the aggregate of personal opinions and actions (Gold et al., 2001). It is found that more organizational learning occurs when more departments develop uniform understandings of the various interpretations that other departments hold (Huber, 1991). Since normative control allows for considerable freedom to act and as open communication in collaborative relationships in networks increase knowledge

which is beneficial in coping with the highly unpredictable nature of the innovation process, it can be seen that normative control contributes to organizational learning (Kyriazis et al., 2017). However, since normative control lacks formalization, it could be seen how knowledge regarding the know-how and new information will not be embedded in the organization. Yet, building and sustaining the sources of ideas is as important as managing the FEI since it increases the organization's ability to be prepared for challenges in the future. Therefore, managers at all levels need to understand how knowledge is accessed, channeled and used (Kim & Wilemon, 2002). As management influences the ability to create, retain or transfer knowledge, it would be interesting to see how the lack of control herein affects the creation and transfer of organizational learning.

The FEI of innovation is then related to organizational learning, as knowledge is instrumental in the development of new products or processes. It is found that due to the volatile external environment, characterized by uncertainty and increasing competition, companies must learn to keep its competitiveness. As more formalized project selection and resource allocation in the FEI is difficult due to the limited information and understanding, it can be seen how organizational learning and knowledge transfer are to benefit the FEI and will contribute to an improved decision-making stage (Koen et al., 2001). Indeed, it has been found that decision-making clarity contributes to more knowledge creation which will in turn increase effective performance in the FEI overall (Kim & Wilemon, 2002). As stated, this paper emphasizes to what extent organizational learning occurs in the FEI and how that impacts the decision stage.

3. METHODOLOGY

3.1 Research approach and design

Our research is based on a single case study, as we are "concerned with the complexity and particular nature of the case in question." (Bryman and Bell, 2011 p. 59). In this research, we are interested in the interactions between individuals and groups and the outcomes of these interactions, therefore adopting a constructionist ontological position. Thereby we want to gain an understanding of these dynamics and their effects on the people involved in this social setting, hence taking up an interpretivist position. We conduct inductive research as we are not pursuing to test an existing theory, but generate a new one (Bryman and Bell, 2011). All these three criteria, as well as the use of a case study design and the fact that we work with words rather than numbers, characterize the qualitative nature of this research paper (Bryman and Bell, 2011). The challenge with qualitative, inductive research is to substantiate your findings and conclude these in a new emergent theory. The most widely applied framework for analyzing qualitative research is grounded theory. Grounded theory highlights that the theory qualitative researchers arrived at is "derived from data, systematically gathered and analysed through the research process" (Bryman and Bell, 2011, p.576). To achieve this level of corroboration, different methods for analysis are at hand: Bettis et al. (2015) explicate qualitative comparative analysis (QCA) by Ragin, the Eisenhardt method and the Gioia method in detail, showcasing how especially the Gioia method can be used to build a dynamic inductive model with clear ties to its original data structure.

The case company was introduced in chapter 1.5, and it is through its innovation department (part of the technology division) and different actors from the management team that are part of the steering committee (SC, decision-makers to innovation department's concepts) that we will explore the dynamics between high level of normative control and organizational learning and its effects on the decision-making process.

To answer our research question namely: *"How do high levels of normative control affect organizational learning and the decision-making stage at the Front End of the Innovation Process to the NPPD in a growing company?"* we will use observations and informal interviews, existing theories and research and semi-structured interviews with the innovation department and steering committee members to gather data. Why and how we apply this research approach will be explained in 3.2 in more detail.

3.2 Data collection methods

As we are interested in contemplating on the dynamic between innovation, control and on the other hand: organizational learning, we found semi-structured interviews the best method to provide us insight into these concepts and dynamics. The semi-structured interviews will offer more personal and both retrospective and real time insights of the people that are part of the dynamic relationship we want to investigate, additionally giving our research a longitudinal character by taking participants tenure at the case company into account (Gioia et al., 2013). To pursue semi-structured interviewing, an interview guide (appendix 1 and 2) needs to be drafted that covers the topics we want to investigate, however leaving leeway to be responsive to the interviewee's input to ask further if an interesting new path opens up or change the order of questions to add fluidity to the course of the conversation.

We initially started with informal talks with our mentor and individuals in the innovation department and took field notes of observations we made to obtain a better understanding of the problems the department is experiencing.

We are at risk of 'going native' within our research as we are immersed in the same social setting as the people we studied for five months (Bryman and Bell, 2011). Nevertheless, by being mindful of this possibility we introduced the role of a "devil's advocate" (Gioia et al., 2013, p. 19): one person of the team taking on an outsider, or passive, perspective during the interviews and subsequent analyses to continuously scrutinize assumptions and interpretations made by the other team member.

3.2.1 Observations and informal interviews

The initial stage of data collection comprised observations made at the company and informal interviews with various employees which were recorded with field notes as is suggested by Bryman and Bell (2011). This orientation phase was crucial for us to pinpoint interesting phenomena and areas of interest that had the potential to be more thoroughly investigated, aiding us in formalizing a first tentative research question and starting the formal data gathering process explained in the following paragraphs.

3.2.2 Semi-structured interviews

3.2.2.1 Interviewee selection

With the sense of direction gained via observations and informal interviews, we were able to purposively choose interviewees, applying theoretical sampling, whereby "the process of data collection is controlled by emerging theory" (Bryman and Bell, 2011) and ended by theoretical saturation, when an additional interviewee would not add more or better insights (ibid.). Our interviewee selection is divided in two different groups (figure 3). The first group is the innovation team working at the front end of innovation. Being part of the innovation department is one selection criterion, as well as having participated in Steering Committee meetings. Seven people in total have been interviewed.

The second group is the official Steering Committee assigned to the innovation group, the ones responsible for selecting the ideas and concepts to enter the formal NPPD process. The only selection criterion is being a member of this particular Steering Committee. The six members that were interviewed in total are senior or mid-level managers.

1st Group innovation department	Position	Date	Tenure
Interviewee 1	Engineer	05.04.2017	-
Interviewee 2	Engineer	05.04.2017	-
Interviewee 3	Engineer	05.04.2017	-
Interviewee 4	Senior engineer	05.04.2017	+
Interviewee 5	Project manager	06.04.2017	+
Interviewee 6	Engineering manager	06.04.2017	+
Interviewee 7	Engineer	06.04.2017	+
2nd Group SC	Position	Date	
SC 1	VP of the R&D organization	21.02.2017	+
SC 2	Director System & Services	21.02.2017	+
SC 3	R&D Director Technologies	23.02.2017	+
SC 4	Director Product Management	03.03.2017	+
SC 5	Chief Technology Officer	07.03.2017	+
SC 6	Advisor to New Business	21.03.2017	+

Figure 3: Selected Interviewees

These participants were selected on the basis of each having a role to play in the innovation process, be it at the front end or at the decision-making stage. Thus we can gather data from all involved perspectives and make a well-rounded statement. The information on tenure added to figure 3 is used to accentuate the longitudinal aspect of this case, as employees working at the case company for more than six years have experienced the significant growth of the company in terms of headcount and growing complexity in structure (see chapter 1.5). This aspect is important to highlight, as the company's growth in recent years was a frequent issue that arose in the informal interviews and therefore was made part of the interview guide. To protect the anonymity of the interviewees, a simple + in the figure indicates tenure for six or more years, a – shorter tenure than six years.

3.2.2.2 Interview preparations and ethical concerns

Drawing up the interview guide, we are aware of the need to watch our phrasing as to probe, but not to put words in the interviewees' mouths. The questions will leave enough space for the interviewees to elaborate on their opinion or bring up new aspects entirely. The interview guide starts out with general questions about the position and tenure of the interview subject. Information on these topics help us understand how immersed the subject is in the company culture and politics, but also, especially when interviewing the management (middle and senior) what kind of mandate (ergo scope of power) the interviewee has and how he/she uses it. The other questions are about the innovation process in the innovation department and how they perceive it and their role in it respectively. This sheds light on their perceptions and level of awareness for different inherent problems in the process. These questions will also capture individuals understanding of terms like innovation and the purpose of the innovation department. A so-called 'doorknob question' is incorporated at the end as the interviewee then tends to be more at ease and has a rapport established with the interviewers. This final question prompts the interviewee to voice their own opinion, give a directive towards the research and gives them the chance to raise an issue that might have been overlooked or not covered during the interview (Bryman and Bell, 2011).

For the SC members, the interview guide additionally includes questions on their preparation for meetings, decision-making and its basis, as well as an ad hoc comparison of two concepts, one that was rejected and one that was accepted by them in the past. Thereby testing the previous statements about their decision-making basis (criteria etc.) and also testing their

memory. This is important, as the knowledge about rejected or pending concepts is not stored digitally, but put on a poster at the innovation office. This knowledge is therefore mostly tacit with the people who came in contact with it and is not fully codified and accessible to others. The interviews were conducted in meeting rooms removed from the interviewees' respective departments to ensure privacy and for people to be able to voice their opinion freely and undisturbed as Bryman and Bell (2011) propose. All interviewees were asked in advance if they consent to recording the interview, which they agreed upon after being ensured that they would be anonymized. We secured the interviewees' anonymity by coding the department's name in the interview guide, the quotes and the written text as [innovation department], coding the interviewees' names by ciphering them in a numerical fashion [interviewee 1, interviewee 2] and referring to the company not by name but either by case company or [COMPANY]. We refrained from giving the interviewees in-depth information about the research areas to prevent bias and too much preparation in answering our questions. Rather, the broad research aim was explained about investigating the innovation process at the case company so the decision to partake could still be made on informed consent (Bryman and Bell, 2011).

3.3 Data analysis using the Gioia method

The data gathered from the semi-structured interviews will be analyzed using the Gioia method, a part of grounded theory (Bryman and Bell, 2011). The Gioia method balances the conflicting "need to develop new concepts inductively while meeting the high standards for rigor demanded by our top journals" (Gioia et al., 2013, page 17). Gioia et al. (2013) plead a case for semi-ignorance in collecting and analyzing data as to alleviate confirmation bias that might originate from too much prior knowledge on certain subjects as this could prevent the emergence and fair treatment of new and previously unrelated concepts and connections. Adhering to this recommendation, we kept the initial theoretical research basic and then started iterating between literature and analysis for aggregating the dimensions, also aided by the devil's advocate role introduced in 3.2.

Proceedings according to Gioia are as follows: first, we use transcripts of recorded interviews, and highlight interesting and relevant statements (1st order concepts). Secondly, we then

group those statements by developing themes and use the interviewee's own language to truly capture their experience (2nd order themes). After that, we will aggregate those themes further into dimensions, this time in our own words. Figure 4 depicts the resulting data structure exemplary after Gioia et al. (2013, page 21):

First order concepts

First order concepts, directly derived from interview data collection.
Supported through direct interview quotes.

Second order themes

More abstract themes, constituted by first order concepts.

Aggregate Dimensions

Overarching dimensions, constituted by second order themes.

raw data   aggregated data
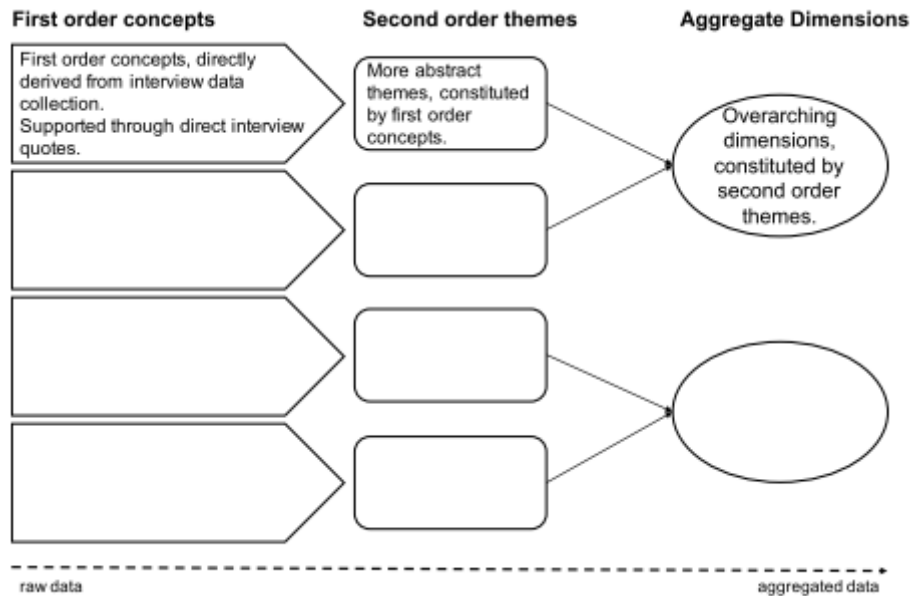
Figure 4: Data structure by Gioia et al. (2013)

Then, we find the aggregated dimensions and see how they relate to each other. This, we will do separately for the two groups (SC and innovation department), creating a data structure for each group and explain our findings in a narrative saturated with exemplary quotes from the informants (Gioia et al., 2013). Then again, we will look for similarities and differences in the second order themes and the aggregated dimensions comparing both groups. Then we can move from a static picture of themes and dimensions into the quest of developing a dynamic framework of both groups within and towards each other.

3.4 Validity, Replicability and Reliability

Qualitative research using a single case study design is always hard to adapt to reliability, replicability and validity measures used in quantitative research, as the data gathered in qualitative research is usually not numerical in nature. Bryman and Bell (2011) offers an overview for different criteria that can be used to emulate quantitative validity, replicability and reliability criteria.

To ensure validity of the study, we use the triangulation method, whereby we are "using more than one method or source of data in the study of social phenomena" (ibid.), in our case, interviews with two different interest groups: employees in the innovation department and middle/senior managers as the decision-makers. This way, we cross-check the information we gathered from one group of respondents with the other and validate information gathered initially via observations, informal interviews and theoretical research. Still, triangulation in qualitative research alone is not enough to claim internal validity. Mays and Pope (2000) suggest more ways to improve validity additional to triangulation, like 'reflexivity', 'clear exposition of methods of data collection and analysis' and 'fair dealing'. Reflexivity is used to reflect on how the "researcher and the research process have shaped the collected data, including the role of prior assumptions and experience" (Mays and Pope, 2000, p.51). This entails revealing possible biases, for example in regards to the closeness of researcher and the people being interviewed. This point was addressed in 3.2, explaining the risk of 'going native' and the consequently introduction of the role of devil's advocate. Delivering a transparent account of how the data for this paper was collected and analyzed in using the Gioia method (see 3.2) addresses the validation technique of 'clear exposition of methods of data collection'. We further validate our findings by giving our research topic a 'fair dealing' as coined by Mays and Pope (2000), by interviewing in total 13 people, divided in two different groups with different perspectives as to give the research depth and diverse viewpoints.

By providing the interview guides used in the appendix, imparting a clear account of the application of the Gioia method by showing and explaining data structure and model building, this research can be replicable to further studies.

To meet the criterion of internal reliability, inter-observer consistency is applied (Bryman and Bell, 2014), which again requires the critical scrutinizing of assumptions made and dimensions aggregated by both team members.

4. FINDINGS

In chapter 3, the Gioia method approach was explained, as well as the two groups of people we interviewed to answer our research question: *"How do high levels of normative control affect organizational learning and the decision-making stage at the Front End of the Innovation Process to the NPPD in a growing company?"*

In the following subchapters, the emerging data structure will be shown and explained from the innovation department representing people innovating at the Front End of Innovation, giving a bottom-up perspective on the research question on the one hand, and the Steering Committee a top-down perspective on the other hand, representing the decision-makers in the innovation process according to the dimensions that emerged during the research. Both data structures will be compared in terms of similar dimensions and the emergent concepts will then be synthesized to build a model (Gioia et al., 2013), explaining the different dynamics caused by normative control. Paragraphs 5.1 and 5.2 discuss the results and 5.3 links them back to literature. In paragraph 5.4, a generalized model is introduced based on our findings and limitations to this research are summarized.

4.1 First dimension: Normative control

The concept of normative control was explained in detail in chapter 2.2.1 and defined as: *"The informal, value-driven method of coordination of employee activity which allows considerable autonomy regarding the objectives to act on, but sets normative boundaries of employee behavior regarding the way they act to achieve those objectives".* The first aggregated dimension found in both interview groups was normative control, as it is prevalent in the company on a high level and manifested in the company culture and values. It peremeates every decision, attitude and work step taken by employees as well as managers.

4.1.1 Normative control innovation department

When innovation department members were talking about the work and the company, they emphasized how much they value the *freedom and flexibility* they have at work, which *encourages them to be creative and innovative* and shows the *trust of the company in employees' loyalty and the personal responsibility* that each one would work in the company's best interest, seeing the company as a whole as a *collective*, where the *consensus* of the majority over a decision is favored compared to individual power trips. This is due to

the *openness and informality* of the firm with its flat hierarchy and open-door policy. Figure 5 displays the data structure.

Interviewee 3 explained it as follows: *"I don't know how to describe it, but the social environment here with an open-door policy, you can go talk to people, the managers are accessible and so on, it's good!"*

These themes fit into the definition of normative control introduced in chapter 2.2 and therefore, *normative control* is the name of the aggregated dimension.

Aggregate Dimension: Normative control

2nd order Themes:
- Freedom and Flexibility at work
- Openness and informality
- Encouraged to be creative and innovative
- Trust in employees' loyalty and personal responsibility
- Collectivity and consensus

1st order concepts:

Freedom and Flexibility at work:
- high degree of freedom
- Flexible in choosing what to work with

Openness and informality:
- appreciation of open-door policy and social environment
- appreciation of flat organization and informality

Encouraged to be creative and innovative:
- freedom to be creative
- encouraged to come up with their own ideas

Trust in employees' loyalty and personal responsibility:
- trust in employee's decisions and loyalty
- Challenge of being responsible to think for the company

Collectivity and consensus:
- Putting organization first
- collective over individual
- importance of group's opinion
- consensus-based decision-making more comfortable

Exemplary Quotes:

I would say the engineers have a lot of freedom, at least in our team we do, we have all flexibility in how we want to work.
we have a very high degree of freedom of freedom within this team and do daily prioritization with no penalty. If we put something aside, we will not get punished for that.
I like to work with new stuff. So I like it here because we have the Flexibility.

I don't know how to describe it, but the social environment here with an open-door policy, you can go talk to people, the managers are accessible and so on, it's good!
Best part about [COMPANY] is that I can ask whomever or whenever I want, or just if I have an issue I can just ask them.
it's very evident that it's a very flat organization, it's very direct, very informal, I don't have to really put my tie on or suit to meet the CEO or something like that, we can just have a talk or chat at breakfast.

We can be creative and do new things and we like that. We're nerds. We are proud about being nerds.
The freedom, to be creative and try different techniques, find your own way to solutions
I definitely think we at the product concept department have the greatest freedom of almost any engineer here, because.. we are encouraged to come up with ideas of what we think would be interesting projects for [COMPANY] in the future

They have trust in us. They trust that we can decide ourselves better than they can.
It's more that 'okay, you're a loyal, very good employee within [COMPANY] and you work for the best of [COMPANY]'
Since it is not that structured, you are responsible for what you're doing yourself.
That's a fun opportunity and a challenge of course.
Because, even if you believe in something and you know, I believe in this, but [COMPANY]can't sell it, it's stupid to continue working with it, because even if it's good idea, it's maybe not a good idea for [COMPANY].

We are very collective organization, and it's not that we are so pointed on individuals specifically, for good and bad, it's "we" it's the "organization", it's not "me", because "I" is not "you", it's "we".
I think, getting into this kind of consensus is much more comfortable, you don't have to be that bold or show some courage
It's a collective, it's a Swedish company, it's a collective, but I think it's even more collective than other certain Swedish companies.
If you present something in the group during breakfast, you bring up an idea and if somebody is catching it on with that idea, we could improve it. So it's more Darwinism when it comes to ideas, it has to survive in the group.

Figure 5: Data structure innovation department – Normative control

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4.1.2 Normative control SC

In explaining how the trust in other people works and what the effects thereof are, it was brought up that there is a large *individual freedom to act,* where employees should not just obey managers. It is found that in the culture of Axis, you cannot give people orders. As it is found that employees have the responsibility to change and drive things, it follows that they have the freedom to create their own work. It can be seen how the innovation department has *personal responsibility.* This individual freedom to act and personal responsibility can be seen to resonate in what normative control entails. The finding that *openness fosters innovation* and that SC members hold an aversion to formal processes only adds to that: the overall finding is that *informal, open processes foster innovation.* Simultaneously, it follows that *people ignore decisions* which leads to resurfacing ideas of the innovation department. The previously mentioned factors combined with these findings can be seen that *people continue to work despite negative feedback.* Since these dimensions are consistent with normative control, the resulting aggregate dimension is therefore termed as *normative control.* Interviewee 1 phrased it as: *"You don't need too much of those formal decisions if you have a sort of responsibility, you can drive things and you don't have to push everything for decision on my level for example."*

Figure 6: Data structure SC –Normative control

Column headers: Exemplary Quotes | 1st order concepts | 2nd order Themes | Aggregate Dimension

Aggregate Dimension: Normative control

2nd order Themes:
- Individual freedom to act
- Personal responsibility
- Informal, open processes foster innovation
- People continue despite having negative feedback

1st order concepts:
- Not just obey managers
- Large freedom for individuals
- Cannot give people orders

- Employees have responsibility to change and drive things
- Freedom to create own work

- Openness fosters innovativeness
- Aversion to formal processes

- People ignore decisions
- No authority in the decision

Exemplary Quotes:

You should not just obey what manager says. They are free; the whole idea is that you should be a little bit more free

There's no point in trying as a manager to say "you have to be here and have to do that and that and that".

The individual has quite large freedom as well. They are entitled to start things without asking.

You can't give them orders not in the culture of [COMPANY]. You can try to convince them with arguments, but it's not enough to give them orders because they do whatever they want.

I mean each person have to feel that they are responsible for their area and responsibility is not only to act and according to a specific role model but also to change things that you don't like.

If there had been big objections, then I mean from management, that 'Ahh this is not something we gonna do, we gonna do this or this' then there could, but yeah, that's the kind of freedom that you have

There's quite strong freedom to create their own portfolio and they are responsible for the initial idea

You don't need too much of those formal decisions, you have a sort of responsibility, you can drive things and you don't have to push everything for decision on my level.

By being open, it obviously helps foster innovativeness

[COMPANY] has the culture that actually is yeah, it's supporting innovation, it's very open

I don't believe in formalizing innovation.

And that's the number one challenge. And the big corporate approach, that is: 'Let's define an innovation process! Let's set up an innovation department!' and that's a recipe of failure I think

That's the problem sometimes here at [COMPANY]. People decides sometimes by themselves if they want to follow a decision or not

I mean, [Innovation department]is persistent in actually continuing to work, as I said before, it's not like when they get some kind of negative feedback from the steering side: 'We give up'

The bad thing is sometimes you believe you have decided something, but people take it as a recommendation and they continue.

And as I said before, it was not like 'OK you're not allowed to do it' but 'we're at the moment not willing to actually promote this so not really'. And then it took year and year again and they continued to work on that.

4.2 Second dimension: Low level of formalization

Both groups mention the lack of formalized processes and the disinclination of making use of mandates. So contrary to the high levels of normative control found during the research, a near absence of formal control in the case company has been identified. The ubiquitous normative control seems to be hampering formalization.

4.2.1 Low level of formalization innovation department

When asked about the scope of their work, the interviewees found it difficult to answer as their *work objectives for them are unclear* as there are *also no formal processes* in place that could help as a guide. Interviewee 4 described his confusion as: "*Sometimes we were supposed to try everything. Sometimes we are more supposed to focus on certain details. Sometimes we should take it further to make a complete product; sometimes you need one more quick tests and just write a poster about it*"

The managers of the Steering Committee offer *not much support or real steering* from their side to help the concepts and ideas to enter the commercialization phase. Even if they as partly senior managers would have the *power to delegate work*, they are *shying away from taking firm decisions*. The innovation department therefore does *not always respect those decisions, and keep on working* on concepts they believe in, as there are no repercussions feared. This highlights the low level of formal control prevalent in the case company (figure 7).

Figure 7: Data structure innovation department - Low level of formalization

Exemplary Quotes | 1st order concepts | 2nd order Themes | Aggregate Dimension

Aggregate Dimension: low level of formalization

2nd order Themes:
- Unclear work objectives and no processes
- SC not delegating people or making firm decisions
- Ignore SC's decision and go on
- Not much support or steering

1st order concepts:

Unclear work objectives and no processes:
- unclear expectations
- no process for innovation
- own interpretation of strategy

SC not delegating people or making firm decisions:
- SC no firm answers
- SC not advocating ideas
- SC not appointing people for hand-over

Ignore SC's decision and go on:
- decisions are just understood as pointers
- go 'under the radar' by approaching Product Manager
- stubbornly continue working

Not much support or steering:
- no hard steering
- alone, no help from SC
- too much interference could limit innovation

Exemplary Quotes:

Unclear work objectives and no processes:
I think we are infused in some sense with all these kinds of expectations: they are not very clear.
It creates some of the opportunity areas ourselves, we also get them from the company strategy, they could be on a very high level, and we do our interpretation from that and from that we are usually creating ideas.
I mean innovation and process in the same sentence, If there is a process in innovation then I think it's not innovation.

SC not delegating people or making firm decisions:
I didn't get these kind of very firm answers from that, or 'yes or no', so.. After a while I realized that it was more of a reference group.
One person in the steering committee, thought that 'this is a really good idea, you should go to the product manager, you - look, you should really talk to [innovation department], because they have a really good idea. And then we can meet up. So we have the support for my manager.
They want, the person that is the product manager or network managers to see the ideas for themselves and rather that they themselves embrace it, so that they don't get somebody pointing down and say 'you have to do this right now'.

Ignore SC's decision and go on:
We engage with the steering committee with our current direction and they try to steer us and say 'it's ok' or 'go' 'go ahead' or 'this is a big no-no' stuff like that. It's not a whip, but it's rather 'walk this way instead', if we are still committed in doing what we want, we will ignore the steering committee and do the stuff anyway.
If you can convince a product manager that this is good, he will order the project even if the steering committee doesn't think it's a good idea.
If they don't really like it I would consider it, but if I still think it's good, I would continue. So we are all kind of stubborn
Because sometimes I really like an idea and know that this will work, even if people says; 'No, we won't working with it'.. Because I believe in it. Or often, our department believes in it. We start working. And don't stop working with it.

Not much support or steering:
So I think it's good to have them, but I don't need, know, if you should call them steering committee, because they really don't steer us very hard.
I'm not even sure if we need a Steering Committee, they can't help us. Because they can't help us a by saying 'Oh we have listened to what you've done, we talk to these people and here is an input, change this or that.' 'We get very little of that.
We are kind of on our own in a lot of ways, because we are doing things that no one has done before, and usually you don't find a lot of support when you try doing something completely different than what others at the company is doing
I don't think they should interfere too much in an innovation team since then you are limiting the kinds of ideas that can come up.

4.2.2 Low level of formalization SC

Consistent with normative control, it is found that there is relative freedom in the case company. There are open doors to help; hence there are no follow-ups that are formalized: it is people's own responsibility to ask for support. It can be seen how the SC holds a *reliance on employees to come forward when in need.* Therefore, it can be understood that the SC holds no detail in steering and has no idea what people are doing, which translate to *no clear guidance.* This can be understood in the light of *no specific mandate* that is allocated to people and an unclear delegation of authority. In addition, there is a lack of strategy, no clear vision and a fuzzy scope of role. This translates to an *unclear vision/strategy.* Naturally, this can be understood as there are no clear decisions where it is also up to the individuals to interpret decisions. It follows that the *results of decision-making are unclear.* These aspects can be seen to hold low levels of formalization, which could be problematic. SC interviewee 5 stated that: "*You have to train people to walk around and ask*", which characterizes the low level of formalization.

Figure 8: Data structure SC– Low level of formalization

Columns (left to right): Exemplary Quotes | 1st order concepts | 2nd order Themes | Aggregate Dimension

Exemplary Quotes / 1st order concepts / 2nd order Themes:

- When I'm asked, I help or support. I don't follow up.
- I assume that they will forward it to others in their groups as well if needed
- Start to ask! People know people who know and things like that. I think it's not that complicated
- Help each other, that is very important so my door is always open for anybody and I really enjoy having people to come in

1st order concepts: • Open door to help • No follow-up • People's own responsibility to ask for support
→ 2nd order Theme: **Reliance on employees to come forward when in need**

- You start having the discussion and see if it's something that could be brought into the product
- Usually it's not a lot of details in that steering
- I don't know on a daily basis what all the people are doing... I should commit to something so they get the right expectations

1st order concepts: • no detail in steering • no idea what people are doing
→ 2nd order Theme: **No clear guidance**

- This is a structural problem for the company. Delegation of authority is rather unclear within [COMPANY], compared to other companies
- Mandate? That's a hard question at [COMPANY] I think because the mandate is not that clear I think
- So mandate is nothing and everything. So it's not very specific
- In my role it's eh, ah, of course, I mean, some kind of mandate I do have of course...

1st order concepts: • no specific mandate • unclear delegation of authority
→ 2nd order Theme: **No mandate**

- It might be a little lack of strategy, but it also gives the freedom to start working on things that we think are interesting
- There's no clear vision of how [STRATEGY] is looking like.
- How is our role within this strategy what's our part in that? So that's something that we need to work on 'OK how do we realize that?
- The [STRATEGY] solution is still a lot of process. So I think piece by piece we should connect different products together.

1st order concepts: • lack of strategy • no clear vision • fuzzy scope of role
→ 2nd order Theme: **Unclear vision/strategy**

- We are not clear on decisions, we discuss and then people have to figure out what was decided
- Many times that I sit in meetings with ten people and it seems that everybody understands what needs to be done, but then people walk out, and then everybody is like: "I think this was it.. but was it really?"
- Again, rejection is not really rejection
- I think you have to listen in to the meeting to understand what was decided. Mostly it's kind of a feeling what was decided

1st order concepts: • no clear decisions • up to the individuals to interpret decisions
→ 2nd order Theme: **Results of decision making are unclear**

Aggregate Dimension: **Low level of formalization**

4.3 Third dimension: Political behavior

In this section, political behavior has been identified as an outcome of the previously mentioned low levels of formalization and high levels of normative control. Working via an informal network is decisive in getting information and having a better chance to getting a concept accepted.

4.3.1 Political behavior innovation department

Building on the flat and open company culture and informality shown in the first dimension, people in the innovation department expressed the pivotal role of their informal network within the company to get information and lobby ideas to create a critical mass for them and create word-of-mouth and interest to tip the odds in their favor at the later official decision-making meetings or an early sell-in by product managers. The innovation department therefore puts effort into internal publicity, informing the company about their concepts via yearly booklets or frequent exhibitions and informal coffee meetings onsite. All this politicking, or lobbying is seen by the members as crucial to the acceptance of their ideas and they agree that the more you engage in this political behavior and networking, the better chances you give your ideas. I knew quite a lot of people around [COMPANY]. Interviewee 7 phrased it as: "*And you have a big network to sell it in. I think that was the most important thing for me to get your network with people to ask about, to sell in to, and that was the biggest thing*"

This situation therefore *favors employees with a longer tenure* at the company, as they were able to grow their network over a longer time but also were aided by the fact that in the early days the company was much smaller (figure 9).

Exemplary Quotes 1st order concepts 2nd order Themes Aggregate Dimension

Aggregate Dimension: Political behavior

2nd order Themes:
- Internal publicity
- Advantage through seniority because of importance of knowing people
- Informal network to lobby ideas and get information

1st order concepts:
- Special events and booklets to promote department and ideas
- Need to inform other departments and people for publicity
- Importance of being social to grow network to sell-in
- Senior employees know a lot of important people
- network and informal meetings important for sell-in of concepts
- informal setting to get information

Exemplary Quotes:

With [manager], we work on special days, we invite people to show off our ideas, we have a booklet every year that we send out to people with all the concepts. So he's doing a lot of that work.
But of course some things would fall between the chairs and we'll have great ideas that never have got into products I guess because nobody was informed about it.
then now in the last couple of years every year when we would do this booklet about ideas, that also information preparing, publicity
I like to have the open conversation with other departments and people, but sometimes, not really our job to do.

I mean the good thing with [employee], he's been here so long, so he starts the selling before actually the selling starts.
And of course as I've been here the longest, and I'm quite social and know a lot of people.
Luckily we have well established people in [innovation department], like [employee]. He knows a lot of people, so.. When we pitch stuff for him, he could just say: 'Ah, you have to go to this guy, or this guy'.. If I have a question about who should I contact about this and this person, [manager] also often knows, he is a great people know- he knows names. I always forget names. So. He could always direct me at least for a first you know, step. Then it gets further and further.
So [employee 1], [employee 2], [employee 3] are new, they are more introvert, really good engineers but I don't think they know any of the product managers

normal problems can be solved during a coffee break, for huge problems, it might require a lunch. If you gather the right people around the coffee table, then you just hand out a question and you'll get answers and new threads to pull, so 'word of mouth'
having the role of creating the networks, creating connections in between people. And I meet the managers on the other in other organizations; we talk, and then we can connect two peoples in each of our organizations. I think that is the best way to go to create this kind of bilateral thinking, of connecting individuals in a way
I knew quite a lot of people around [COMPANY]. And you have a big network to sell it in. I think that was the most important thing for me to get your network with people to ask about, to sell in to, and that was the biggest thing
More informal talks, as to keep them in the loop. That something will soon happen. At some point in time, we might be sure. We have this kind of informal stakeholder list in our head; 'Okay, this kind of product will most probably attract this product manager.

Figure 9: Data structure innovation department - Political behavior

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4.3.2 Political behavior SC

It can be seen how political behavior is found to be the means by which processes in the [innovation department] are characterized. The SC found that it is close to mandatory that employees need to *negotiate internally to get support* and that they need to *convince management and sell-in to people*. It could be seen how this is facilitated by the lack of formalization discussed earlier. Instead, *networks and connections are crucial*, as it is found that you *learn from other people,* which is why it follows that *network is more important than positions.* Therefore, it can be seen how connecting the right people together is pivotal in the process as well: it has been found that you need to *involve the right people*, in order to *form the right team to drive projects.* SC interviewee 2 stated it as follows: *"Who's doing what? If we really do change, there's a lot of those questions. And of course, I don't know if you've studied it, but all change is a shift of power. Which means, there is always somebody that poses to the change."*

Exemplary Quotes | **1st order concepts** | **2nd order Themes** | **Aggregate Dimension**

It's internally more of the market economy. You need to be good to negotiate to get things done. Other people then think I make the decision, but you have to negotiate the part you need to get help form, otherwise, nothing will happen.

People have enough ideas. The problem is really to get the mid-managers to devote resources to such an idea. The trick is to find someone, who wants to say: 'Yes, let's go for this idea!' You have to come up with great arguments.

They need to convince us to do it

They need to fold it a bit out, they can't think that they; 'Now we've done our part according to our process, now we put it on the shelve; now somebody else is taking it'. That will never happen. So they need to fold it out and sell it to the next part.

- Negotiate internally to get support
- Convince management and sell-in to people

→ **Convincing people**

I think it's a lot of discussions a bit before the meeting to find out the decisions before the meeting

I think, the good thing is that we connect the different phases.. if they weren't outgoing, if they didn't have their network, that would never be able to gone through those. Cause they would be stuck in the map. Now they have a lot of connections they can test there and be able to – they need to sell it in

But then, after a while they learn more things, they actually talk to other people get some input and then they start to realize things

I think the, the title, the position you got, is not as important than the network, the brand you build over time and influence you have on that, which makes, maybe, getting a certain title and so forth not as important

- Network and connections crucial
- Learn from other people
- Network more important than positions

→ **Network activities important**

Sometimes it's going easy because you form the right people, the right virtual team. Get them involved. You hijack people. It's part of the process, give them part of the decision.

So finding the right people I think that's the most important. And if you find the right people moving it in the right direction, I think most matters with things will be solved.. and if you're forcing the wrong people doing it, nothing will be good

So if in the steering group and [innovation department] agree on 'OK this is something that we probably want to work on further', then we make sure that there is one dedicated product manager to take on this

We want to find the right persons and then they will drive it

- Involve the right people
- Form the right team to drive projects

→ **Connecting the right people together**

All three 2nd order themes → **Political behavior** (Aggregate Dimension)

Figure 10: Data structure SC - Political behavior

4.4 Fourth dimension: Complexity of company

In chapter 1.5, the growing complexity of the case company has been introduced by highlighting the increasing headcount of employees and the added intricacy of more departments locally and overseas. Interviewees in both groups voiced their concerns about the impact the complexity has on the informal network structure and on the decreasing risk-taking and agility properties of the company. As most of the interviewees have a long tenure within the case company, the changes in structure and size are apparent to them and it is seen how the complexity of the company has regulating properties when it comes to control.

4.4.1 Complexity of company innovation department

The company is also perceived as *not taking risks* and playing it safe, which innovation department members attribute to the bigger size of the case company nowadays. *Incumbent inertia* set in and the firm itself is *less agile and struggling* to adapt to its own volume, as interviewee 5 put it:

"I think the inertia of the company has become much much bigger, we sometimes feels that [COMPANY], takes the safe way; we are playing not to loose, and everything that is more risky, more speculative, we tend to send this to someone else."

The crucial aspect of networking is jeopardized by the *complexity of the company* (figure 11), making this one of the most influential factors to controlling the FEI with normative control.

It is unclear when the company outgrew high levels of normative control, interviewee 6 thinks: "*I guess you lose track when you are above 100. Then you don't really know, who's working here anymore.*" While interviewee 1 says: "*I think it was approximately 800 more or less.. Now we are 1600 in just in four years, so.. [COMPANY] has grown really fast. And the adaptation is not going at fast. So we are failing in many parts, in many departments are struggling to adapt their ways, or adapt it for enterprise company rather than a small company or medium sized company.*"

Exemplary Quotes	1st order concepts	2nd order Themes	Aggregate Dimension
And large company is less agile, it is more big elephant, it's hard to change. It's more companies seeking opportunities and large companies protecting what they have. I think the inertia of the company has become much bigger, we sometimes feels that [COMPANY], takes the safe way; we are playing not to loose, and everything that is more risky, more speculative, we tend to send this to someone else. I think we can be a bit more aggressive. If we now say that we are such a innovative company, we should take not doing so many copies of the old ones. Because there is a big risk. If you're just doing the successor, you are doing the correct thing because this sells this much, the successor will probably sell even more. But then maybe you miss some other opportunities. And no one will know that. By playing safe you can't do wrong, but actually you are doing wrong.	• Company is less agile and hard to change • Company playing it safe to protect what they have	Company not taking risks, inertia	Complexity of company
What I like less is also, most about what I've said: they're trying to be young, but they can't manage properly, they're claiming they have great benefits, but the benefits are mediocre. It's like eh, that they have their blindfolds still on. I think it was approximately 800 more or less.. Now we are 1600 in just in four years, so... [COMPANY] has grown really fast. And the adaptation is not going at fast. So we are failing in many parts, in many departments are struggling to adapt their ways, or adapt it for enterprise company rather than a small company or medium sized company. Definitely we have grown a lot, and now we are in so many buildings, so it's more difficult to meet people from other departments to go to different fika-rooms and so on. I dislike that it is so big. Because of so many people if you meet them and tell them, you don't even know that they work at [COMPANY]. When I started, I knew everybody by name. I liked that. But now...so I miss the period when you could know everybody. I guess you lose track when you are above 100. Then you don't really know, who's working here anymore. Of course that's a big difference. Within your group, you're still acting like a small company, this is more like a start-up.	• Company not competitive anymore • Adaptation of company to size too slow • Due to company size people dispersed in different buildings impeding networking	Problems with company size	

Figure 11: Data structure innovation department- Complexity of company

4.4.2 Complexity of company SC

It has been found that the growth of the company leads to inertia, since a *growing company leads to slow decisions,* and it is found to be *challenging to keep speed up and be agile* which marks the change that the company is going through, as it is acknowledged that in a *smaller company there is a better overview.* Instead, there is a need for synchronization, which typically includes to *force people to synch plans* and it has been found to be a *challenge to work together and coordinate.* It has been found that there are disadvantages that come with the size: a *big company cannot handle fuzzy innovation,* and in addition, there are *different priorities due to bigger size.* Therefore, it has been stated by the SC that there is a need to *balance the job the employee is supposed to do and freedom to work* and that there is a need

for strategy and guidelines to ensure people are working in the same direction. This translates to a *need to balance freedom and direction*. These dimensions can be seen to be located in the *complexity of a company*. Interviewee 3 described the growth of the company and how the current normative control mechanisms might not work as well in comparison to the past as follows: *"It's not like 'OK it's the same thing' it's actually been changing a lot so I think it's very interesting because there a new aspects all the time. When I started we were less than hundred people at Axis. So if you look at how the company worked then, we had weekly meetings with everybody in the company. They would gather in the cafeteria and the CEO would talk about business stuff. Today, we are 2000-something, here in Lund I think we are 1800 or something."*

Figure 12: Data structure SC – Complexity of company

Exemplary Quotes	1st order concepts	2nd order Themes	Aggregate Dimension
When we're growing as a company it's harder to be fast and make fast decisions to make things happen very fast. One thing for me is what we have to improve is the speed and the.. be more agile in developing and trying things on the market. I think that is the most challenging thing for me today, to keep the speed in the organization. Because the company is much bigger you are more related to your own organization and people working in your area. So of course, I mean, you had a much better overall picture of the company back then	• Growing company leads to slow decisions • Challenging to keep speed up and be agile • Smaller company better overview	Growth of company leads to inertia	Complexity of company
Roadmap discussions is a formalized process but the intention with it is really to force people to talk to each other and synch our plans so we don't deviate too much from wishes and reality. Obviously we need to coordinate our work within the organization and that's a big challenge for us because we have been very good at working within this individual areas but now we need to coordinate that. The main challenge for us is that if you work with solutions you have many parts that need to work together, they need to function together and they need to be delivered together.	• Force people to synch plans • Challenge to work together and coordinate	Need for synchronization	
Now the problem with innovation is that we're becoming a large company. Innovation is very fuzzy, that's why it's difficult, that's why a big corporation can't handle it. When we're growing as a company it's harder to be fast and to make fast decisions to make things happen very fast. So I think that's something that is increasing and I think it's very much due to the fact that we're getting bigger and it's not even though we have the culture and we have all strategies but I mean locally of course you have your priorities and your incentives and stuff like that	• Big company cannot handle fuzzy innovation • Different priorities due to bigger size	Growth of the company complicates innovation	
At the same time you have to give them a little bit of freedom but at the same time you have to give them a direction. You need to make sure that even though we are growing you need to maintain the dialogue, communication and work on understanding the drivers and whatever of different areas. But then I think it's important if you have somehow some kind of framework, guidelines, strategies and things that keep us working in the same direction. It's a very fine balance and you want them to do the job that they are supposed to do	• Balance the job employee is supposed to do and freedom to work • Need for strategy and guidelines to ensure people working in same direction	Need to balance freedom and direction	

4.5 Fifth dimension: Intuitive consensus based decision-making

Owing to the previous four dimensions, normative control, low level of formalization, political behavior and complexity of the company, the decision-making is based on consensus, intuition and the foregoing networking activities.

4.5.1 Intuitive consensus based decision-making innovation department

FEI members do not give much credibility to the current decision-makers. They perceive the *decisions that are made as based on gut-feeling* and feel that oftentimes the *Steering Committee judges concept wrongly as they lack knowledge* for a fair judgment. The innovation department is not given enough time to present their ideas and concepts in their entirety, interviewee 2 describing his experience: "*With these guys, they cannot wait twenty minutes. That day, you get one, two minutes and then they stop to discuss it. And then I feel I didn't get my message across and you understand in the discussions that they didn't really understand.*" On top of that, SC members do not seem to take the time to prepare the meetings, therefore the *decision-making appears to be intuitive and aimed towards consensus* (figure 13).
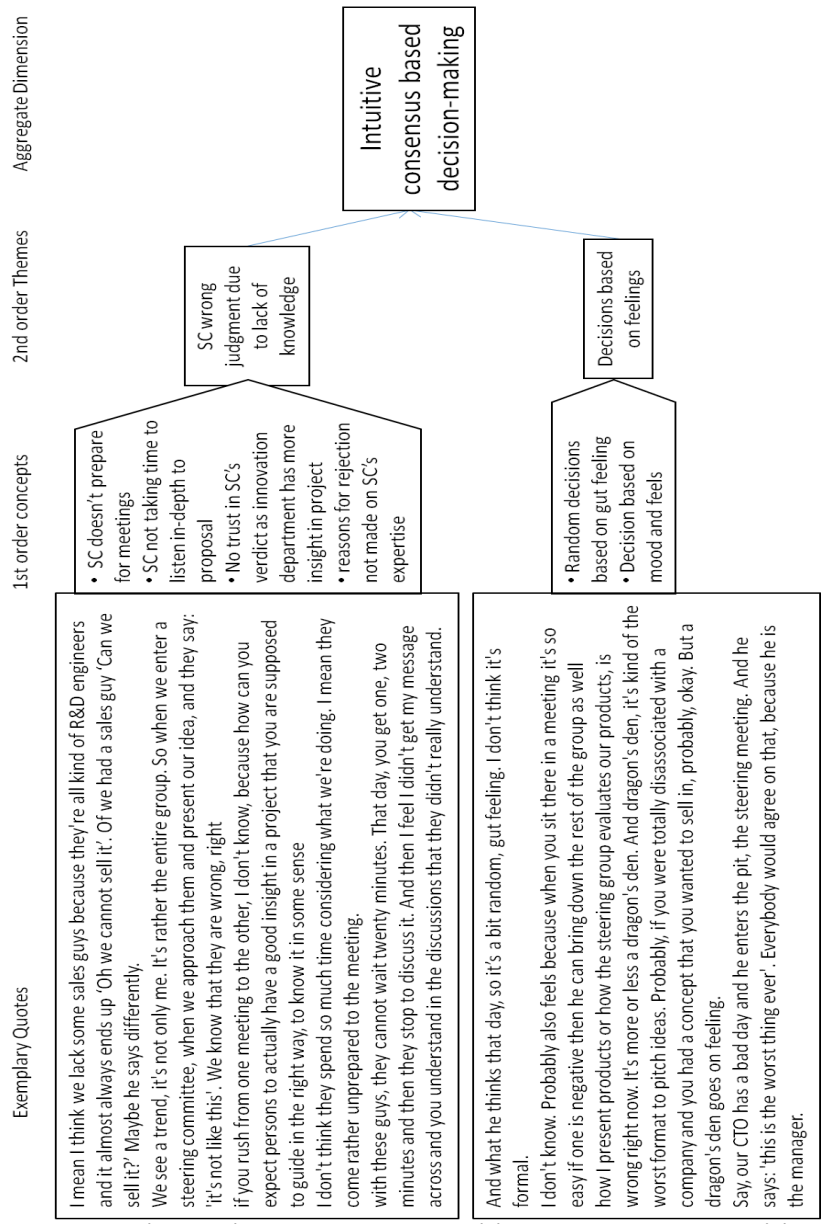
Figure 13: Data structure innovation department - Intuitive consensus based decision-making

Aggregate Dimension | 2nd order Themes | 1st order concepts | Exemplary Quotes

Aggregate Dimension: Intuitive consensus based decision-making

2nd order Themes:
- SC wrong judgment due to lack of knowledge
- Decisions based on feelings

1st order concepts (SC wrong judgment due to lack of knowledge):
- SC doesn't prepare for meetings
- SC not taking time to listen in-depth to proposal
- No trust in SC's verdict as innovation department has more insight in project
- reasons for rejection not made on SC's expertise

1st order concepts (Decisions based on feelings):
- Random decisions based on gut feeling
- Decision based on mood and feels

Exemplary Quotes (SC wrong judgment due to lack of knowledge):

I mean I think we lack some sales guys because they're all kind of R&D engineers and it almost always ends up 'Oh we cannot sell it'. Of we had a sales guy 'Can we sell it?' Maybe he says differently.

We see a trend, it's not only me. It's rather the entire group. So when we enter a steering committee, when we approach them and present our idea, and they say: 'it's not like this'. We know that they are wrong, right

if you rush from one meeting to the other, I don't know, because how can you expect persons to actually have a good insight in a project that you are supposed to guide in the right way, to know it in some sense

I don't think they spend so much time considering what we're doing. I mean they come rather unprepared to the meeting.

with these guys, they cannot wait twenty minutes. That day, you get one, two minutes and then they stop to discuss it. And then I feel I didn't get my message across and you understand in the discussions that they didn't really understand.

Exemplary Quotes (Decisions based on feelings):

And what he thinks that day, so it's a bit random, gut feeling. I don't think it's formal.

I don't know. Probably also feels because when you sit there in a meeting it's so easy if one is negative then he can bring down the rest of the group as well how I present products or how the steering group evaluates our products, is wrong right now. It's more or less a dragon's den. And dragon's den, it's kind of the worst format to pitch ideas. Probably, if you were totally disassociated with a company and you had a concept that you wanted to sell in, probably, okay. But a dragon's den goes on feeling.

Say, our CTO has a bad day and he enters the pit, the steering meeting. And he says: 'this is the worst thing ever'. Everybody would agree on that, because he is the manager.

4.5.2 Intuitive consensus based decision-making SC

The current decision-making process on the other hand, is built around trust in other people's judgments: it has been found that the SC has faith in other people's actions and simultaneously holds significant *trust in other people's ideas and opinions.* Therefore, it can be seen how there are *no preparations for the meeting*, since the SC has no time, do not see the need to prepare, and in addition, feel prepared already as there are usually no surprises or they find that they can give the feedback without preparing. It can be seen how decisions are based on gut-feeling, thoughts and experience, which leaves room to have *personal interpretations guide decisions*. As it is found important that the majority decides, the process

hereof being diplomatic and consensus-seeking and characterized by a mutual view and common understanding, it can be seen how these factors lead to *intuitive consensus based decision-making*. SC interviewee 3 described how he informs other people by stating that *"the gut feeling which is not only a gut feeling but it's based on a lot of knowledge and experience from this people I think that's needed to help PCNI to actually find their way."*
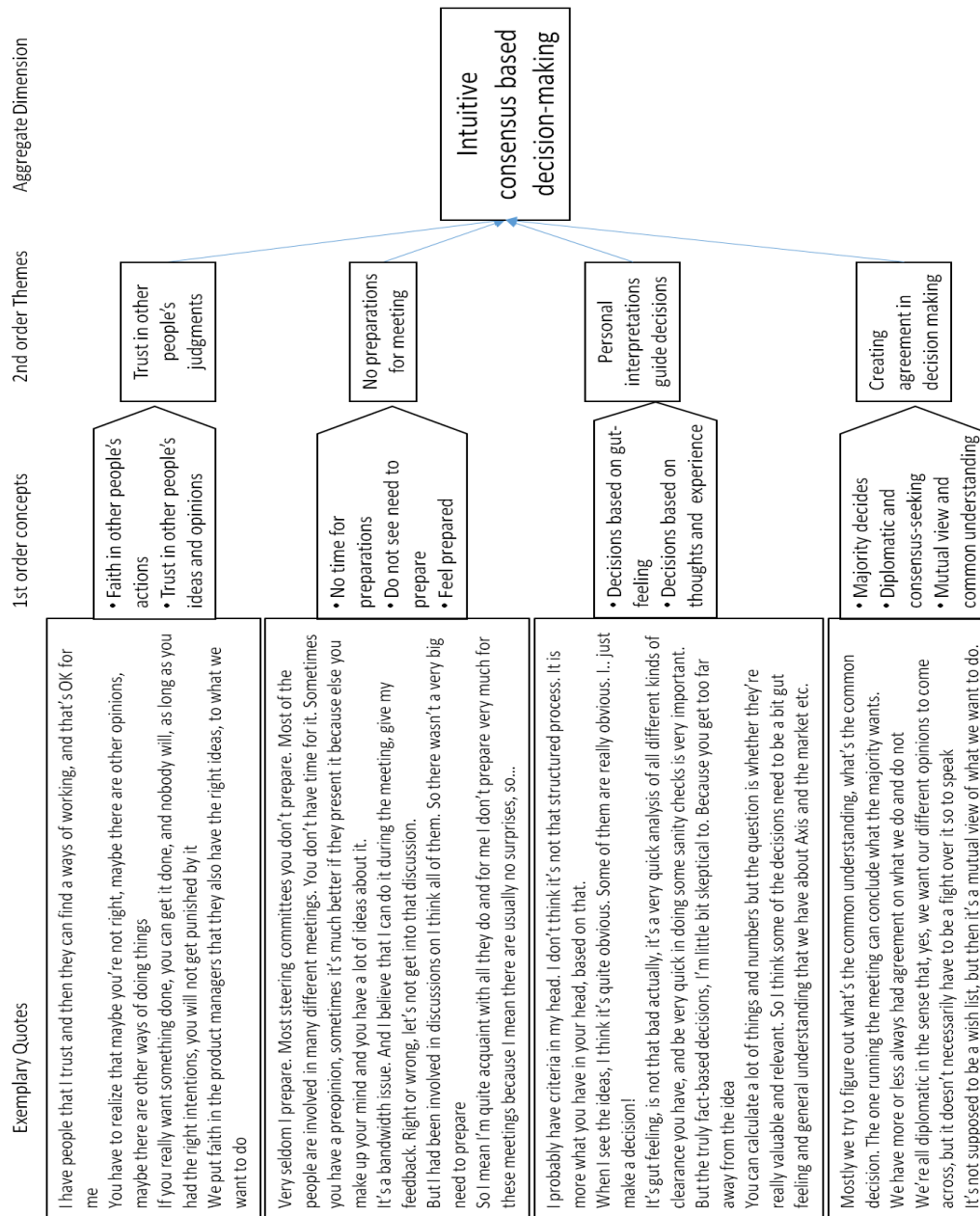
Aggregate Dimension: Intuitive consensus based decision-making

2nd order Themes / 1st order concepts / Exemplary Quotes:

Trust in other people's judgments
- Faith in other people's actions
- Trust in other people's ideas and opinions

Quotes:
I have people that I trust and then they can find a ways of working, and that's OK for me

You have to realize that maybe you're not right, maybe there are other opinions, maybe there are other ways of doing things

If you really want something done, you can get it done, and nobody will, as long as you had the right intentions, you will not get punished by it

We put faith in the product managers that they also have the right ideas, to what we want to do

No preparations for meeting
- No time for preparations
- Do not see need to prepare
- Feel prepared

Quotes:
Very seldom I prepare. Most steering committees you don't prepare. Most of the people are involved in many different meetings. You don't have time for it. Sometimes you have a preopinion, sometimes it's much better if they present it because else you make up your mind and you have a lot of ideas about it.

It's a bandwidth issue. And I believe that I can do it during the meeting, give my feedback. Right or wrong, let's not get into that discussion.

But I had been involved in discussions on I think all of them. So there wasn't a very big need to prepare

So I mean I'm quite acquaint with all they do and for me I don't prepare very much for these meetings because I mean there are usually no surprises, so...

Personal interpretations guide decisions
- Decisions based on gut-feeling
- Decisions based on thoughts and experience

Quotes:
I probably have criteria in my head. I don't think it's not that structured process. It is more what you have in your head, based on that.

When I see the ideas, I think it's quite obvious. Some of them are really obvious. I.. just make a decision!

It's gut feeling, is not that bad actually, it's a very quick analysis of all different kinds of clearance you have, and be very quick in doing some sanity checks is very important. But the truly fact-based decisions, I'm little bit skeptical to. Because you get too far away from the idea

You can calculate a lot of things and numbers but the question is whether they're really valuable and relevant. So I think some of the decisions need to be a bit gut feeling and general understanding that we have about Axis and the market etc.

Creating agreement in decision making
- Majority decides
- Diplomatic and consensus-seeking
- Mutual view and common understanding

Quotes:
Mostly we try to figure out what's the common understanding, what's the common decision. The one running the meeting can conclude what the majority wants.

We have more or less always had agreement on what we do and do not

We're all diplomatic in the sense that, yes, we want our different opinions to come across, but it doesn't necessarily have to be a fight over it so to speak

It's not supposed to be a wish list, but then it's a mutual view of what we want to do.

Figure 14: Data structure SC- Intuitive consensus based decision-making

4.6 Sixth dimension: Waste of resources

The sixth dimension encompasses the waste of resources that includes waste of time of both groups due to the necessary network activities and the need for consensus in decision-making and waste of money and manpower when people in other departments do similar or even the same work as there is no formal synchronization process between departments and people can work freely and independently without involving management.

4.6.1 Waste of resources innovation department

Innovation department members were complaining about *wasting their time* searching for information and support within the growing company, hindered mostly by an unstructured intranet and the sheer number of employees that could have the expertise needed. Interviewee 1 describes one situation like this: "*Like, yesterday, I had to contact 5 people to get the correct knowledge for something that is, what I had known that we have, but nobody has checked it out where the information actually exists. So, that took a lot of time for me, and I had to activate 5 or 6 people!*"

Due to the lack of structure and clear communication, it happened that another department was working on the same problem as the innovation department which was discovered by chance and additionally, that after the hand-over of a concept to NPPD, the innovation department is often cut off from further supporting the implementation, sometimes leading to repeating 'the same mistakes that we've done' which is a *waste of money and manpower*. Generally speaking, a lot of *resources are unnecessarily wasted* (figure 15).
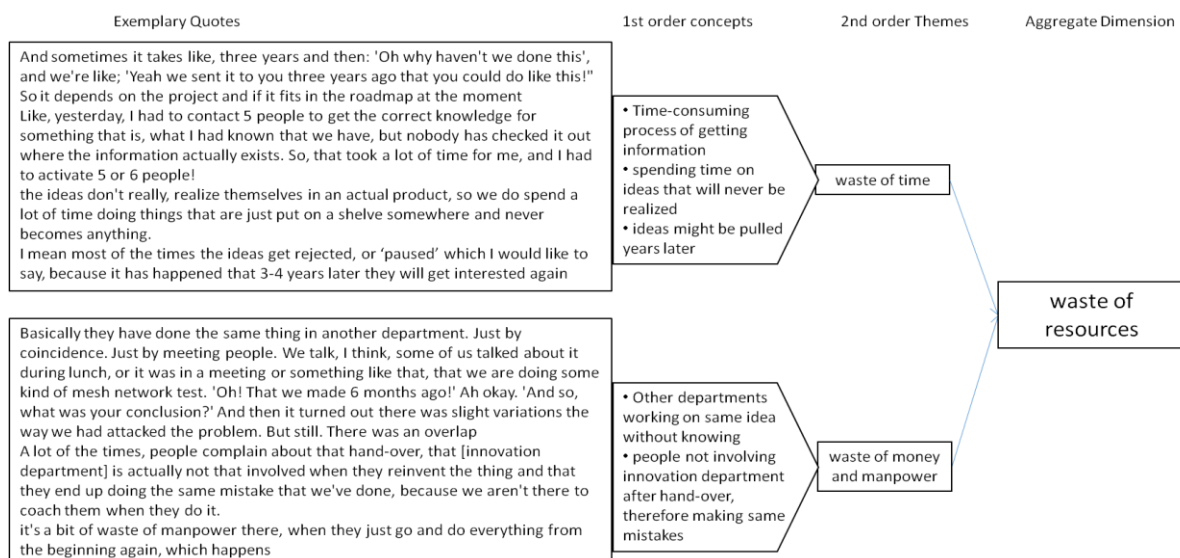
Figure 15: Data structure innovation department - Waste of resources

4.6.2 Waste of resources SC

The SC has expressed that there are *time-consuming daily discussions and meetings* and that there are different offices to be able to have discussions with people*, which is also indicative of the expanding size of the company, as well as the normative control that characterizes the company culture. In addition, it has been acknowledged that *rejected ideas are pushed back in the decision-making process by the innovation department.* These resurfacing ideas and time consuming processes can be interpreted as a waste of resources, since the lack of efficiency is seen to constrain fast-moving effective actions. However, rejected ideas are not always seen as negative. As SC interviewee 2 states: *"Because, the formal one we've tested in different ways within Axis, and hasn't been successful. Doesn't mean that nothing good has come out of that, I think the PCNI-group, I'm not saying that's bad because I think it's an absolute necessity to have a group constantly watching new technology so we don't get surprised"*
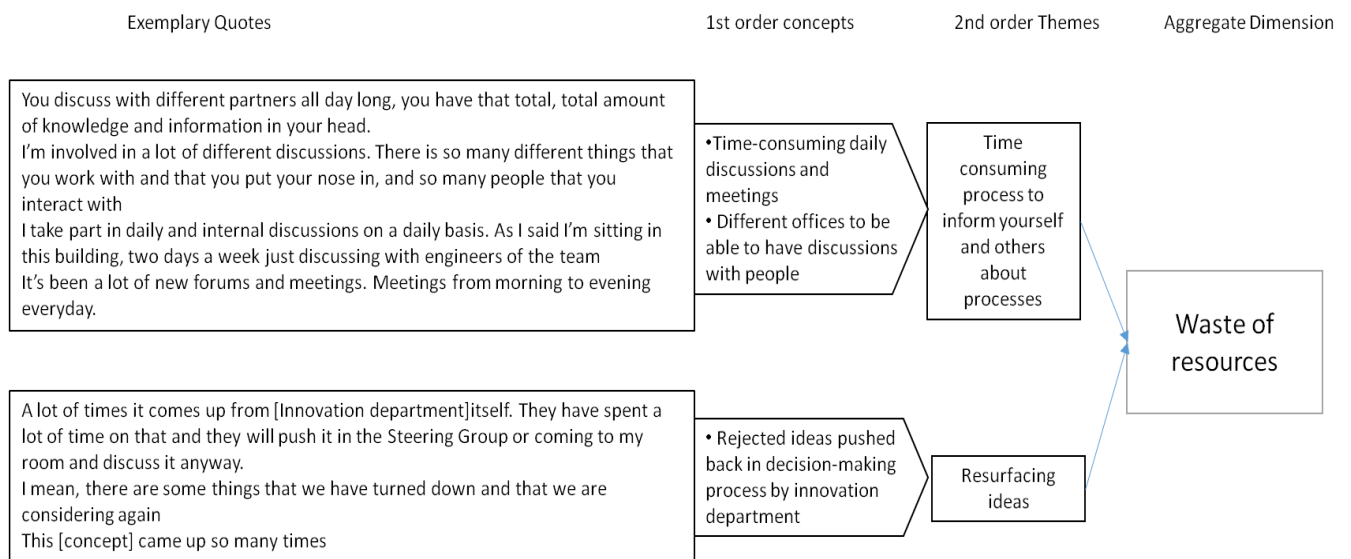
Figure 16: Data structure SC – Waste of resources

4.7 Seventh dimension: Organizational learning

Organizational learning has been defined in chapter 2.3 as *"the coordination of the creation, location and transfer of knowledge – which is the result of interaction between individuals and as such will be impact the organizational structure – that holds the potential to contribute to the identification of new opportunities which leads to enhanced competitive advantage and therefore, increased organizational performance"*. Findings during the interviews suggest

that due to the high levels of normative control, no formal way of acquiring or transferring knowledge is existent in the case company. Therefore learning at the decision-making stage depends on the feedback given by management and its inherent quality for employees working at the FEI and for the decision-makers, they learn about the new concepts prior to the stage via informal networking and the way they make sense of it.

4.7.1 Organizational learning innovation department

Organizational learning (figure 17) for innovation department members takes place at the decision-making stage through *good and honest feedback* provided by SC and additionally, the freedom and flexibility at work offers them a chance for individually looking into new areas of their interest and therefore supports *personal development*. Interviewee 4 illustrated: "*So I like to work with things that I can't do. So now with radar, nobody knew anything about it so we can spend a couple of years learning how it works, starting from zero and learning. Maybe that's the drive, I can learn more things. It would be too static, if I had to do this all the time.*"

Exemplary Quotes | **1st order concepts** | **2nd order Themes** | **Aggregate Dimension**

So I like to work with things that I can't do. So now with radar, nobody knew anything about it so we can spend a couple of years learning how it works, starting from zero and learning. Maybe that's the drive, I can learn more things. It would be too static, if I had to do this all the time.

It feels like home, you could evolve within [COMPANY]

No I would say it's mere experience, I had stuff rejected because I lacked experience. And I would say it was the main reason. Didn't fall in line with [COMPANY], our portfolio or our current strategy.

I mean I feel that I ...Personal development. I'm growing all the time because right now, I'm doing 3D and VR in a camera company. I mean I'm learning a lot of stuff about that

- Possibility to learn about new technologies
- Possibility to pursue interests
- Personal development and evolving with company

Individual learning and personal development

Organizational learning

They have good opinions and I can use it often to improve the idea. Even though they have little insights for haven't seen the product as much, I'm surprised on how much they know often.

I think often the concept will move to the better, after their input, because they see it on a higher level than we do. Which make their input very good for us. So I think often their input is very good.

Basically when we have a dialogue with a steering committee. We know it's in line with [COMPANY]directions in some sense, we may disagree, but at least when you get an acceptance, more of a broader acceptance within the steering committee, 'okay'. Then you can feel 'ok. This is the way [COMPANY] would like to go'.

In every meeting, there have been very good input to the product, both positive and negative. I even think, negative things they say, make you think more about the solution and maybe change it a little bit and present it in another way next time and then it better fits into the portfolio for example

- Adjusting concepts after feedback of SC to keep in line with company directions
- Good and honest feedback helps to improve ideas

Learning from good and honest feedback

Figure 17: Data structure innovation department– Organizational learning

4.7.2 Organizational learning SC

Regarding the organizational learning dimension, it can be seen that the SC has *no knowledge about internal processes or where ideas come from,* and lack insight in the ideation phase of the [innovation department]. They mentioned how the SC is *not giving much feedback,* and that the company should overall *learn from feedback*. This can be understood as the *SC does not remember ideas,* or at least, how they were brought up again, and the SC acknowledged that they are *not good at storing and remembering concepts,* yet it is found that "things do pop up, for somebody remembers". SC interviewee 1 identified knowledge to be important, yet is unsure how to design a process for this: *"And maybe the implementation of this is not the most important I think the discussions around it, 'why did you make this decision, or why did you make this decision?', that might be most important. It is very hard to document and keep that alive, so I haven't found a good way to solve it. So if you had a proposal I welcome that."*

Exemplary Quotes

I think ideas come from other places as well.. I think that they also get ideas from other

I think it's hard to describe exactly how they are working internally and I would think that is part of [COMPANY]'s culture

I don't know how the request reached [innovation department].. I don't know how they started

I can't describe the internal [innovation department] process

We haven't got much feedback. That's some of the areas that [COMPANY] is not very good at.

You don't know whether they learn from a mistake

I think we could do more

I think we could be better in involving them actually. What is happening with that product. I think we could improve that. It's a good way to feedback. You get the feedback to be proud of what we have done, also to learn of what was good and what was not so good. I think we're not too good at involving them. The feedback from that back to [innovation department] is not as good as it could be.

That's the problem... who did that? I think we were a lot of people discussing it. I don't remember... We probably needed something. Or it was an ambitious product manager who brought it up, I don't remember.

I think in general we at [COMPANY]are not too good at storing and remember those things in a formal way. It is very hard for us and we have to find quite a lot of time to share competencies and spread that all over the company

Of course there needs to be some structure to store things and so forth, but, again, things do pop up for somebody remembers

1st order concepts

• No knowledge about internal processes or where ideas come from

• SC not giving much feedback
•Need to learn from feedback

• SC does not remember ideas
• Not good at storing and remembering concepts

2nd order Themes

Unsure/ unaware of origins idea generation

Need for more and improved feedback

Unsure how and if knowledge resurfaces

Aggregate Dimension

Organizational learning

Figure 18: Data structure SC – Organizational learning

4.8 Eighth dimension: Balance of exploitation and exploration

The eigth dimension found during the analysis of the interviews was highlighted as the need to balance exploitation versus exploration by the management team. Where the innovation department wants to introduce new concepts to create value, the SC members are more occupied with preserving and nurturing the core business and show reluctance to accept innovative ideas.

4.8.1 Balance of exploitation and exploration innovation department

The Steering Committee members are often perceived as absent-minded and rushing from one meeting to the other. Their positions keep them *occupied a lot with daily business*, and the innovation department members feel that in the growing company, they have to *compete for resources* with the core business and that the innovative concepts and ideas are not prioritized. Interviewee 6 pointed out that: "*When a company is growing it's more difficult for the innovation team, it's much harder, you have to compete with the current product range, if you have an income from a product line you always tend to give that more resources*".
This characterizes the incumbent's struggle to *balance exploitation of core business and exploration of new business*.
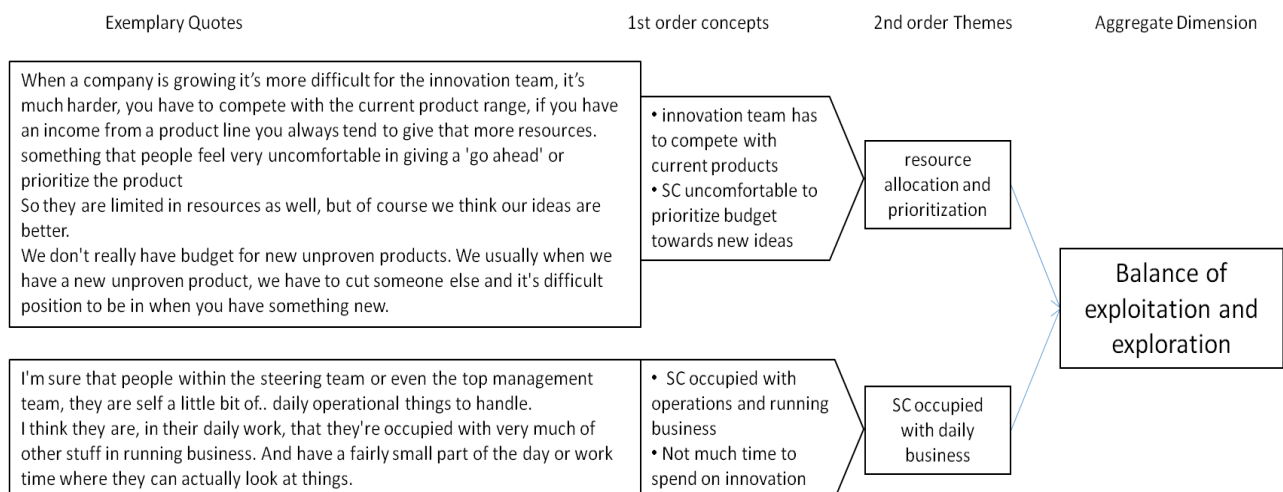
Figure 19: Data structure innovation department - Balance of exploitation and exploration

4.8.2 Balance of exploitation and exploration SC

SC members experience that *support for innovation is more demanding* as service workers would need to be trained on the new product, there would possibly be a need to open up a new sales channel to serve new customers etc. They are therefore more *reluctant to allocate resources to prioritize innovative concept*s as the *risk* to invest with no secure returns is high.

SC interviewee 4 explained:"*We need to keep them balanced there because it's important that we stay competitive on our bread and butter products that really gives us the revenue, and we want to expand and go into new areas with the challenge products and we want to be innovative and come up with totally new ideas as well. But you can't do just one. 'Cause it wouldn't work. So we need that balanced.*"

Exemplary Quotes	1st order concepts	2nd order Themes	Aggregate Dimension
I mean, if we have unlimited resources and could do everything, then we could just take whatever they come up with and do it, but we need to consider other things as well. and some things we may say: 'Yeah it's cool, but it's not really interesting for my portfolio now' and other things we can say immediately 'yeah this is something we want to bring into the roadmap' and execute & prodictify. It's of course always the balance between protecting what we have today, the products that we have today, that we know are selling: do we need to make a replacement there to stay competitive, or should we bring something innovative? So we need to keep that balance.	• innovation team has to compete with current products • SC uncomfortable to prioritize budget towards new ideas	resource allocation and prioritization	Balance of exploitation and exploration
I also think it is one of the biggest risks in innovation, that you try to innovate in too many areas at the same time Too many people strive after coming with this big idea that changes things, and usually the big ideas end up far from the core But actually, I think what we REALLY need to do is, to try and catch the ideas that we can get from a lot of people around us and then prioritize them. 'Cause I think the strategy is really important to really choose the things you want to do, 'cause you can't do everything. Over time it becomes an innovation but then you have to focus and resources; you have too many innovations, small innovations: nothing will be big innovations.	• prefer small innovations • can't innovate too much at the same time • you can not do all	Risk-averse, reluctance to innovate	
It's not just to develop a product and then do nothing more. If we do something and it turns out well in the market, then we need to support the product, make a follow-up product, maybe increase the portfolio of that product type and so on. If we can't have the channels out to sell it, and we don't have the sales people to understand how to sell it, then, it's no use at all. So we need to be able to sell it as well. If you launch a new [X] the work on the rest of the organization isn't very big. Everybody knows how to sell it, you don't need to educate people too much 'cause it's another [X]. We know, since we're working on the same platforms that it will be working with our partner's [X] and everything we know how to support it. But if we come with something completely new, and maybe we need to build an eco-system around it as well, then it will be very costly.	• sales aspect important • familiarity with core products • innovation necessitates involving more people	Support for innovation more demanding	

Figure 20: Data structure SC - Balance of exploitation and exploration

4.9 Ninth dimension: Motivation

The ninth dimension found during the analysis of the interviews was highlighted only by the innovation department members as they seem mostly affected by it: motivation. Related to the personal responsibility and the importance of lobbying in the case company, the employees at the FEI experience a *challenge to stay motivated* in pushing their innovative concepts forward, especially when they experience *negative attitudes and unconstructive feedback* during the decision-making stage. It leads to *negative feelings* and quite a lot of *frustration*, since it is not custom that individual success is acknowledged. The impact on *motivation* (figure 21) is therefore quite high, as interviewee 6 stated:

"The most challenging is basically to maintain energy, to keep motivated, to put things in perspective, people are disappointed in some cases where they think that their concept was not fairly judged, or some frustration is basically to back off a little bit and see the big picture."

Figure 21: Data structure - Motivation

Exemplary Quotes	1st order concepts	2nd order Themes	Aggregate Dimension
To further a project you need to get constructive feedback when it comes to opportunities, to get a different view of the concept. I didn't get that feeling. They have that mentality in the meeting and so they start bashing. And they don't change their mindsets. So a lot of members in the SC are hard to work with. if you have a group if one is negative it's easy for him to get the whole group negative. Especially if it's negative directly you have someone 'Ah this is crap! I'm not saying someone is saying that. He infects all the others. It is also a big difference if you have five people and someone directly say 'ah this is not good', compared to if the other four are talking first and then he says it last, that's also a big difference. Sometimes he's been negative, like 'It doesn't fit the business model'.	• Stuck and negative mindsets of SC • Feedback of SC not seen as constructive	Negative attitudes and unconstructive feedback	Motivation
The most challenging is basically to maintain energy, to keep motivated, to put things in perspective, people are disappointed in some cases where they think that their concept was not fairly judged, or some frustration is basically to back off a little bit and see the big picture. And do I, as an individual, have the energy to really, to make this come through? Everyone knows that everything that we will do, that will not fit, the already established channels–the way of working, is a really struggle [innovation department] is unhappy with sometimes when we, when one of our ideas is a huge success, and that product is finished, the.. new products team that built it will say: "look, here is our new great thing. Thank you, all these people that worked on it' and so on, and they don't give innovation department] any credit, that idea or that it came from us. Sometimes you feel like; "it's not right that the product division take all the credit for a new product when it came from [innovation department]'. I think it's frustrating, 'cause I think I'm one of the few in the group that doesn't have a clear role on what to do, as a software engineer it's a huge term. It's like saying someone is a designer. A designer of *what*	• Challenging to maintain energy and stay motivated after rejection • Getting no credit for idea's success • Frustration and disappointment after feeling unfairly judged	Negative Feelings and frustration	
The most challenging parts is to nurture an idea to become something that is sellable or requireable for [COMPANY], to be processed further on and become a product. I don't think this is the best way to evaluate. People take their opinions very serious of course, because there are a lot of high steering members, so if they don't acknowledge our project, we get really tough uphill battle when you're creative is so very much dependent on that you have these kind of intrinsic energy within individuals, since we are not working with eh, with specified requirements that should be fulfilled, it's very much up to us to create something And for me, that is the most important thing to motivate to do something. See that there is someone who wants it and finished with it. And I think we have the opportunity to find this motivations ourselves, that no one is telling us; this this this. But we can go out and meet people and then find our own motivations	• network and informal meetings important for sell-in of concepts • informal setting to get information	Challenge stay motivated/ uphill battle	

5. DISCUSSION AND ANALYSIS

5.1 General discussion of findings

It is found that the employees at the innovation department appreciate the freedom they experience in their role, which can be located in the trust that the Steering Committees holds: it is expected that you are responsible to know what is in the company's best interests and as a result, it can be seen that there is no clear guidance from their part. It is mentioned that their culture is not consistent with giving orders and that they are not able to give feedback of a more determinist nature. Instead, employees need to step forward if they are in need of more information or guidance. The company values a community feeling, trying to maintain the inclusion of all relevant actors in the innovation process. This combination has proven to be difficult, since the Steering Committee members do not articulate their expectations clearly, and the prevalent freedom to act ensures that the innovation department can continue to work on their projects. It is difficult to strike a balance between regulating the process more by setting goals or delineating mandates while simultaneously allowing other opinions as other people have different sets of knowledge, which could potentially contribute to the overall performance of the company. This explains why the Steering Committee finds the decision making process complicated: even when it is thought a decision has been made, employees or the Steering Committee members themselves have to interpret afterwards what the outcome was and how this translates to objectives to act on.

The process that occurs prior to the decision making phase can be seen as political. The Steering Committee finds that the innovation department needs to approach pivotal people in the company to acquaint them with the concept, and convince them in order to secure support. Both groups highlight the importance of networking activities to achieve this: it is believed by the Steering Committee that this guides the innovation department, since they receive feedback as well. However, the innovation department finds that some people in their department are more capable of doing this, since they have more knowledge about the network structures that exist in the company. There is a risk that the current innovation process might be stalled should this informal behavior cease to function. The Steering Committee members on their turn, are trying to keep acquainted with other departments as well: personal involvement informs their understanding of the direction the company is taking. Naturally, they have admitted that they have a lot of discussions, which is time consuming. This is in line with the feeling of the innovation department who expressed that

they do not experience straightforward feedback, leaving them free to interpret how they can move forward.

The reactive behavior of the Steering Committee could be seen as stifling, since this time consuming process, which can be described as them deducing what the company is doing versus comparing to what they think the company needs and then trying to push that vision forwards, is not efficient and risky. It could occur that the company ends up in a myriad of alternate ideas and interpretations.

It can be seen that both the Steering Committee and the innovation department operate on personal knowledge that they obtain from their own background, as well as the information they receive from others in the company. The Steering Committee has stated that they employ subjective criteria, relying on their gut feeling and question whether fact based decisions would be an appropriate replacement, as you need to interpret a concept and connect it to other operations in the company in order to determine a total impact. It can be seen how, as a result, they do not prepare for meetings, due to their involvement with the innovation department and a sense that they have an overall knowledge base that justifies their input. This has also been observed by the innovation department, who finds it challenging to keep their motivation high. Simultaneously, the innovation department does appreciate the honest feedback, combined with their ability to improve since their flexibility and freedom remain undisputed. The Steering Committee states that achieving an understanding is time consuming and that disagreements regarding 'what is right' occur regularly. They tend to highlight the feasibility of the company to execute the production of the idea, considering market demand and the necessary resources as well. Ideally, they would like the innovation department to move closer to the market, so they come up with a use case that the market needs, or holds market potential. They thus expressed that the [innovation department] should work closer to the customer, yet the innovation department itself perceives the feedback as unconstructive and negative. It can be seen how both parties are 'lost in translation', since the innovation department has not moved closer to the market yet. This relates to the difficulties in creating a mutual understanding, exacerbated by the informal process and the discrepancy in the opposing knowledge base. Currently, the Steering Committee is unaware of how the [innovation department] operates and do not know how or at what stage knowledge, or old concepts, resurface. Here, they again rely on the ability of employees to remember it and bring it back on the table, in line with the company culture. However, they do realize that they

could improve their feedback and involve the innovation department after the hand-over phase.

The Steering Committee strongly believes in keeping the open culture, despite the difficulties that have been discussed. It is believed that formalizing innovation will stifle the process and employees. Instead, it is argued that the employees need to work close: the right recipe is to connect the right people together who will drive the innovation process forward. Yet, since the company is experiencing rapid growth, they acknowledge that the size and culture needs to be balanced: synchronization is needed to prevent that the company deviates too much from the direction that management has in mind: if they even have any clearly specified objectives. It is felt that the growth complicates innovation: as innovation is fuzzy in its own right and since more people are involved, there are more conflicts regarding how to do things. However, since the freedom is a decisive component of the company culture, it is felt that there is a need to balance this with direction; yet the Steering Committee finds this a hard task.

On a concluding note, it can be seen how normative control has positive characteristics: the freedom and informality stimulates employees to act on what they feel would bring positive effects for the company. Simultaneously though, it is hard to keep up with this unstructured process, since the company is expanding and more parties are involved, which leads to time consuming processes and misunderstandings due to a different emphasis or preference of the individual employee.

After the initial analyses of the two groups, some similarities and differences are apparent. To build a model, the aggregated dimensions are compared in figure 22.
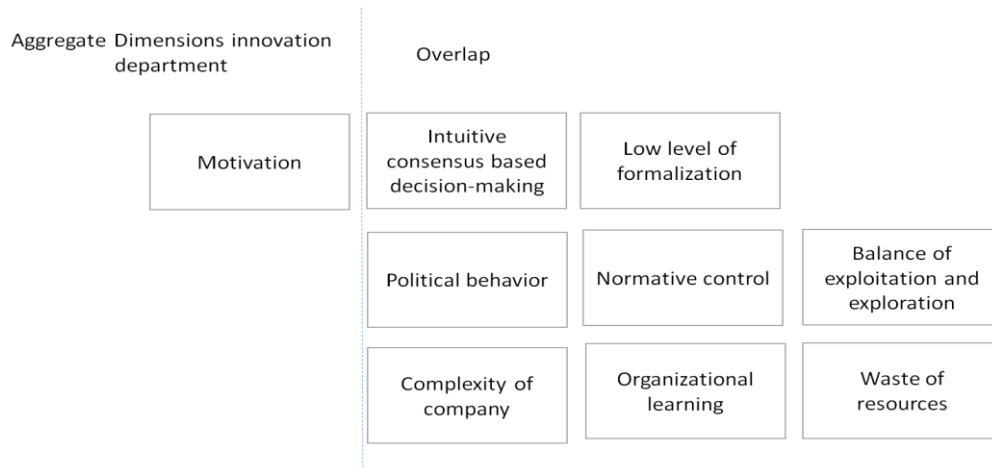
Figure 22: Synthesis of aggregated dimensions

Both parties acknowledged during the interviews that there is *intuitive consensus-based decision-making*, *political behavior,* high levels of *normative control, low levels of formalization, waste of resources* and that the current *complexity of the company* plays a pivotal role in influencing their respective work processes as well as *organizational learning*. Additionally, the innovation department highlighted *motivation* and both groups the *balance of exploitation and exploration* as crucial dimensions playing a part at the decision-making stage. These dimensions therefore are of essential interest to the research and model building and are thus the basis of the model's structure. To make the model dynamic, arrows are used to show how the dimensions relate towards and influence one another. Second order themes are used to suffuse the model with deeper meaning and make the model traceable back to the data structures explained in chapter 4. These themes act as 'facets' to the dimensions surrounding them (the closer to a dimension the closer the relation) and are **not** connected to the arrows showing correlation and influence.

The model is located at the decision-making stage from FEI to NPPD, therefore the dimensions will be distributed on a three-way grid: Central to the grid are the basic controlling dimensions of the decision-making stage that have been identified: the *complexity of the company*, *normative control* and *level of formalization.* These three controlling dimensions are the fundamental levers to impacting the dimensions that are situated pre- and post-decision stage and the decision-making itself. They are distributed vertically on the grid,

with complexity of company in the middle as the central regulator between the two contrasting dimensions of control: formal and normative. This is because the complexity of the company exhibits a negative correlation with normative control (the more complex the company, the lower the level of normative control) as the findings suggest that in more complex companies, the positive impact of normative control dwindles, but has a positive correlation with formalization (the more complex the company, the higher the level of formalization) as there is a need for clear processes and objectives due to rising complexity. The high levels of normative control exhibited by the case company are negatively correlated with the level of formalization, high levels of normative control lead to low levels of formal control. As normative control leads to a low level of formalization, managers are less inclined to execute their mandate, which has a negative emotional impact on people working at the FEI, as they rely on a clear strategy and objectives, as well as support and guidance from the management for their innovative product proposals. Normative control on a high level can lead to *intuitive consensus based decision-making* at the FEI, as there is no structure or formal process on how to evaluate. The decisions therefore tend to be mostly based on feelings and personal opinions, which impedes a clear decision-making, as people tend to act on knowledge that is incomplete and different from the fellow decision-makers. This occurrence and the fact that employees have high freedom thanks to normative control, can lead to people in the FEI ignoring the decision and continue to work under the radar, wasting money and manpower on unapproved ideas. The dimensions *employee motivation* and *balance of exploitation and exploration* are also located in the middle-part of the grid as they either have a big influence on the decisions made in that stage (balance of exploitation and exploration) or are influenced by it (employee motivation). Employee motivation of employees working at the FEI is positively correlated with normative control, as their creativity and innovativeness is being nurtured by informality, openness, the individual freedom and flexibility they have while working as well as the personal responsibility that is evoked by the management's trust in employees' loyalty to the company. The more complex the company, the more *balance of exploitation and exploration* needs to be carried out which calls for a structured approach, therefore formalization positively affects the balance of exploitation and exploration.

The initial part of the grid contains the dimensions with most effect on or in the FEI: *waste of resources* and *political behavior*. Here, *waste of resources* is horizontally farther from the center of decision-making, as the actual waste of resources (overlap in departmental work, information gathering) takes place earlier in time then the political behavior (sell-in etc.), which happens shortly before the decision-making. The dimension of political behavior is

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contrarily correlated with normative control and formalization. Whereas normative control shows a positive correlation towards political behavior because networking is of crucial importance in informal settings, formal control is negatively correlated as formal processes and clear mandates and use of formal power counteract political behavior. The complexity of a company negatively affects political behavior, as the individual loses the clear view of each and every aspect influencing the company's overall success due to the intricate structure accompanying an incumbent company. Therefore, politicking actions that were thought to be made in the best interest of the company, now hold the possibility of endangering it. Hence, high level of political behavior elicits more waste in terms of resources. Waste of resources in turn negatively affects employee's motivation and the balance of exploitation and exploration.

The last part of the grid showcases *intuitive consensus based decision-making* and *organizational learning*. These two dimensions are also horizontally distributed in terms of time horizon and closer relation to the complexity regulator. The *intuitive consensus based decision-making* happens prior to *organizational learning*, as it is the feedback that triggers the learning process for front end employees. Normative control also influences *organizational learning*, as it incites knowledge transfer that is of personal nature, like the *intuitive consensus based decision-making*. People have to get and share their information via networking, which can be time-consuming and a high quality of the information is hard to ensure. Information and knowledge stays mostly tacit, as no formal structure is present for codification. *Organizational learning* is consequently also taking place on an individual basis, the feedback at the decision-making stage of the FEI being thus essential for the learning process of the innovation department and its individuals. However, feedback that is based on gut-feeling decisions leads to misinterpretations and misunderstandings and therefore negatively affects *organizational learning*, which then in return negatively affects *employee motivation.* The *balance of exploitation and exploration* also negatively affects organizational learning, as under high levels of normative control, the prioritization of core business over new business is not clearly and transparently communicated which hinders learning for employees in the front end, but also leaves management as the decision-makers with too little time or rigor to learn about new concepts, eroding their basis of learning as well.
The end result of the model building is displayed in figure 23. Because of its shape and the regulating effects of the complexity and control dimensions, the model is named Control/Complexity Diamond Model.
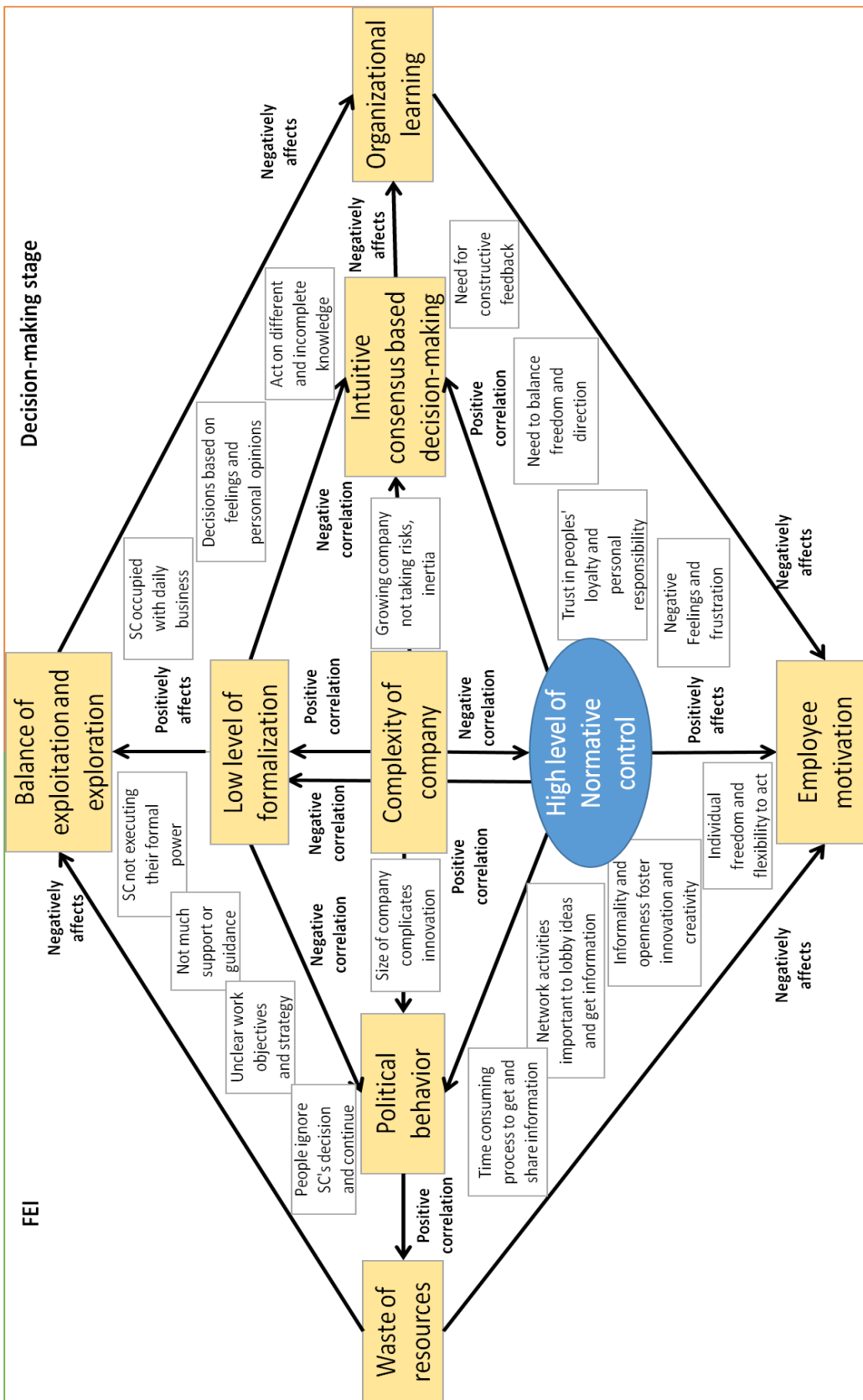
Figure 23: Control/Complexity Diamond Model for of case company

5.3 Relating findings to literature review

The company highlights the importance and necessity of entrepreneurial activities and as stated by the SC, it sees explorative innovation efforts not as a waste of resources, which is in line with various researches (Nonaka et al., 2000; Bates & Khasawneh, 2005). The activities that the innovation department undertakes are performed in informal organizational settings. Various authors have stated that freedom to explore new ideas will translate in more possibilities to locate opportunities for the company (Kuratko, 2011, chapter 3) which is consistent with the high levels of freedom allocated to the innovation department.

In addition, high degrees of uncertainty were identified, which can be understood in light of the lack of communication to establish a mutual understanding regarding the activities the innovation department undertakes. As a result, the concept may not be aligned with the business strategy, which is considered a necessity for successful innovation (Koen et al., 2001; Zheng et al., 2010). A well-defined product concept is perhaps therefore hard to create by the innovation department, since the long-term strategic objectives are not known by them, which is considered a necessity (Poskela & Martinsuo, 2009). These problems can be understood in the nature of normative control, which is informal and where norms are created by setting expectations driven by morals (Alexander, 2012). The innovation department has considerable freedom as a result and this is reflective of normative control as well, since this relates that there is trust in the employees to act in the best interests of the company: our data identified this trust as well (Barley & Kunda, 1992).
Indeed, it was identified that there are low levels of formal control since there are few established standards that are regulated by management (Leifer & Mills, 1996).

Whereas culture is a way of uniting an organization by commitment to a shared goal, this stands at odds with the case company, since the data shows that there is no clearly defined shared goal, which is unfortunate as this would enable a company to meet its objectives (Spender, 1996). The culture is also sets the means by which information, knowledge and processes operate and in the case study this consists primarily of personal networks where employees of the innovation department need to sell their concepts to others. Whereas this is found to increase knowledge indeed (Reagans & McEvily, 2003), this is also identified as a troublesome process since not every employee holds significant tenure, which is in line with

the findings of Dougherty & Hardy, who stated that these relations of the network could be rather vulnerable because of that factor (1996).

Naturally, an element of risk is hard to circumvent and it is found that organizational learning plays a pivotal role in this: yet, the absence of effective learning patterns found in the case company, could potentially contribute to a slower pace in developing new products (Gold et al., 2001; Liao & Wu, 2010). This enhances the risk that the innovation department works on projects that will not be capitulated upon by the company, which could result in a waste of resources (Kuratko, 2011, chapter 11).

This is complicated by the lack of some formalization in the communication. It is found that in the absence of clearly communicated feedback and no hard decisions, the innovation department has no frame of reference and will continue to act as it sees fit. According to literature, ineffective communication process, a lack of vision and a lack of formalization are found to be the most important barriers to an effective FEI performance (Kim & Wilemon, 2002; Ho & Tsai, 2011). Whilst the employees in the innovation department might be convinced that they are doing so; other departments or the Steering Committee has a different view on what comprises the company's best interests: which characterizes normative control.

This process is found to become complicated as the company experiences growth. As more employees are involved, it becomes increasingly complex to maintain an overview of who to approach and to get familiar with each other's beliefs.

This relates to organizational learning, again, the process whereby shared understandings and strategies change (Miller & Ireland, 2005). Whilst this occurs in the company, the impact hereof is unknown as it is personal. The obtained knowledge is tacit and fosters subjective insights. However, this knowledge might not accurately reflect how the company is actually positioned, for example. Whilst it is stated that tacit knowledge leads to quick decision making (Miller & Ireland, 2005) and while the FEI due to its ascribed attributes of uncertainty and informality favours tacit knowledge – the decision-making stage in the company is characterized by tacit knowledge as well – the problem herein for the company is that there is a lack of communication regarding the content of their argumentations (Poskela & Martinsuo, 2009). Whereas it is identified that the innovation department feels that concepts are not given a fair try, these troublesome feelings could be overcome by transparent decision-making processes and the formulation of clear goals as this will reduce conflicts and both parties

would agree on the direction (Schultz et al., 2013). Yet, this does not occur in the case company. If management would provide explicit knowledge, the innovation department could internalize this and create tacit knowledge themselves. However, whilst the innovation department does internalize feedback, it does not know why the feedback was given which could lead to potential errors in interpretation: this will work against effective knowledge transfer (Nonaka et al., 2000). Again, this is facilitated by normative control which could work in smaller companies: as it is found in the data, normative control worked better when the company was smaller. It was found that there is a need to balance the freedom with guiding more effectively to ensure the company goes into the same direction, yet this was found to be challenging. Indeed, the size of a company makes it less flexible, though in the case company, not necessarily bureaucratic: it is not characterized by a hierarchy, which is found to be the primary factor of complicating the organizational design of a company (Simon, 1962; Perrow, 1972; Karlsson & Olsson, 1998; Ethiraj & Levinthal, 2004). Yet, as the company is large and there is a lack of oversight of the functioning of the various departments, this will still make the company rather complex, as there are "a large number of parts that interact in a nonsimple way" (Simon, 1962, p. 468).

5.4 Limitations and generalizability of Control/Complexity Diamond

Section 5.2 explained the model built around the findings in the case company. The emerging Control/Complexity Diamond model (figure 23) is therefore tailored to the high levels of normative control and the correlations/impacts at the decision-making stage based on this factor. Bryman and Bell address the problem of generalization from qualitative research in saying that "findings of qualitative research are to generalize to theory rather than to population" (2011, p.408f.), but that with a transparent research approach and method, the quality of deductions made can be assessed and a certain level of generalization is therefore possible. If the model of this study is stripped of the illustrating second order themes and the level and arrow definitions, the resulting, more basic model (figure 24) could then be universally applied to other companies with other preexisting conditions (e.g. high levels of formal control) or other areas of interest in the decision-making stage they would like to focus on (e.g. employee motivation). As the research of this thesis was limited to investigating the effects of high levels of normative control on organizational learning and the decision-making stage at the FEI, the dimension of employee motivation is seen as being impacted but looking

into the data, no substantiated claims could be made on how it impacts other dimensions in return.

Another limitation is the case company's working domain, the high-tech sector, which has to be taken into account when transferring the results of this paper to other industries where working environment and conditions differ greatly from the one presented here, for example food and service industry.
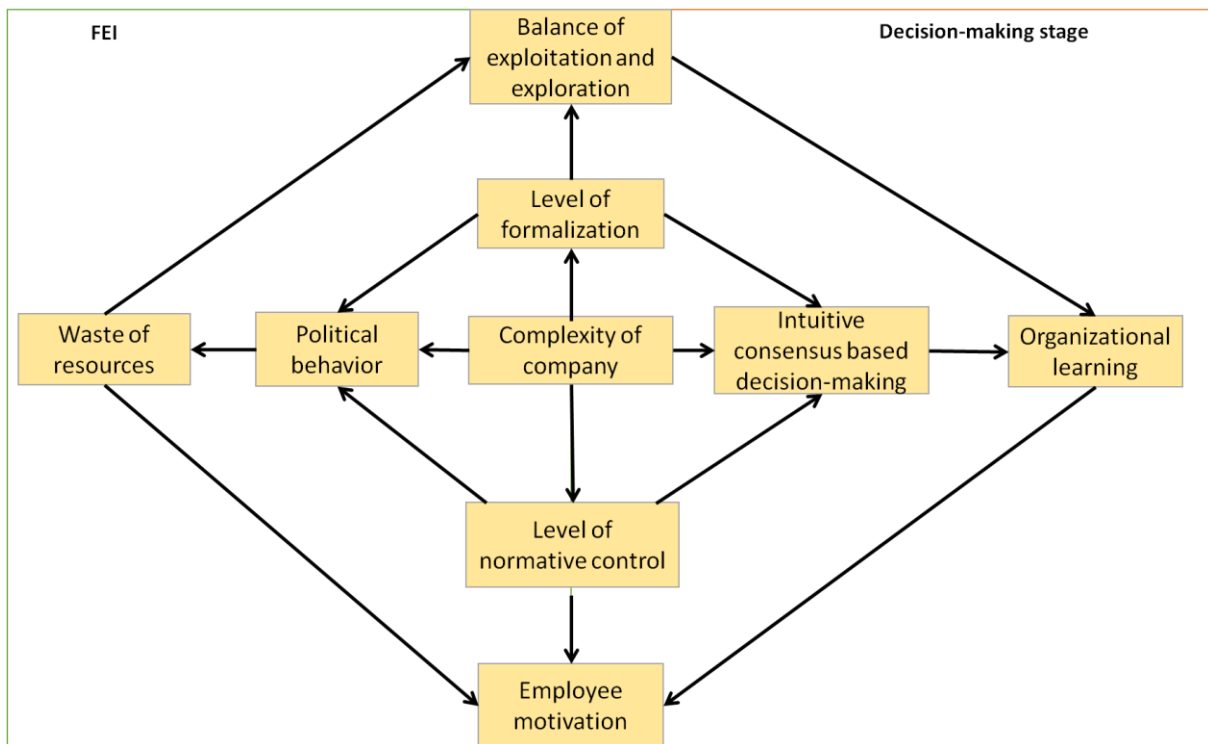
Figure 24: General Control/Complexity Diamond Model

6. CONCLUSION

6.1 Conclusion

This study has shown that the difficulties that companies generally experience regarding the need to balance flexibility and firmness, are more complicated when there are high levels of normative control. As this leaves room for personal interpretation and tacit knowledge, it is found that this lack of transparency in the decision-making phase is counterbalanced by the innovation department who questions the validity of the arguments and continues to work on their project objectives if they are not convinced by the feedback. Whether this is the right thing to do or not is not where we would like to draw our argument: it is the fact that the company culture allows for this to happen, ultimately making the decision-making phase a fuzzy process as well. Whereas tacit knowledge certainly has benefits, individuals find it hard to leverage this knowledge as low formalization levels allow individuals to ignore this. In addition, we have found that a lack of managerial overview of the direction the company undertakes, works against organizational learning that is shared throughout the company. This can be understood in light of the unclear strategy which is created by all employees, as a consensus – based collectivity. As there are different methods, preferences and processes that employees act on, the ultimate trick seems indeed to engage in political behavior. This consists more of the ability to leverage influence, connections and convincing arguments. Whilst this might not be seen as problematic in itself, the findings of this thesis have shown that a lack of synchronization and mutual understanding between departments leads to confusion and independent work styles. Organizational learning in this set-up is very personal: you can choose what knowledge you favor and act on, since there is considerable freedom to do so. In this, the paper has shown how experience affects learning outcomes. Ultimately, it can be seen that these multidimensional outcomes hold conflicting interpretations and consequences. It can be seen that there is a necessity to be able to dare and set directives, involve the right people and get the mandates that allocate responsibilities to act upon.

The Control/Size Diamond model can be seen as a tool to help the balancing acts in the FEI. It shows correlations and effects of different factors and therefore creates understanding for the intricate internal processes that are affected by different kinds of control.

6.2 Practical implications

Normative control helps employees identify with the company, feel trusted by having responsibility and happy with working conditions that allow openness and community. Nevertheless, the findings of this paper show that normative control alone is just feasible for a certain sized company. If the company is bigger or grows over a certain number of employees and/or gets more complex in structure, formal control could counteract its shortcomings. Start-ups therefore can apply this research and using normative control for their front end processes alone until they reach a certain headcount or structural dispersion, by which they then should in parallel introduce some formal processes. Incumbent firms that might be stuck in inertia, low employee motivation and low degree of creative output in the front end, could introduce more forms of normative control to regain creativity and employee motivation. In addition, the necessity to have a certain structure to share information or to map departments in order to establish closer links between employees at different departments has been identified. Whilst it is challenging to create an effective system for that, the unique dynamic that has brought success in the past and is still wanted by the employees, might suffer if this will not be established. It could ultimately occur that the positive sides of normative control end up becoming negative effects, which have been highlighted in this research as well.

Management needs to dare to formulate the challenging questions regarding the direction the company will take and allocate the appropriate mandates to the employees who will not figure out how to act, since this is known, but will have the freedom to determine how to reach objectives that are set. As innovation is fuzzy, there is a necessity for freedom: yet, in case of rejection, the decisions should be based on criteria that employees can relate to. A clearly delineated strategy with established goals which directs the company should be seen to overcome these difficulties.

6.3 Future research

More thorough research is needed to pinpoint the critical factor of complexity that tip the boat in favor of more formalized control. When is a company too complex for a predominance of normative control? This information can then be added into the Control/Complexity Diamond model to make it a more practical tool to be used in business.

Testing the model in other environments, namely start-up companies with low complexity and high levels of normative control and incumbent firms with high complexity and high levels of formal control and their respective decision-making processes from FEI to NPPD would yield supplementary information to enhance the Control/Complexity Diamond. It would be interesting to further establish to what extent tacit knowledge influences decision-making processes that do have formalized objectives and criteria: after all, you need to have an understanding, an interpretation, of the potential of an idea which is hard to express in numbers. Tacit knowledge cannot be completely ruled out and it would be interesting to see to what extent more formalized decision-making processes allow for tacit knowledge to play an influential role.

Furthermore, more research regarding the content of knowledge that departments obtain would be interesting. This way, an interpretation of what kind of knowledge is captured, remembered most would be possible. When the most useful knowledge is identified, more insight in what kind of organizational learning system one could establish to be informed about whatever information is found to be most valuable could be obtained.

LIST OF REFERENCES

Adler, P.S. & Borys, B. (1996). 'Two Types of Bureaucracy: Enabling and Coercive', *Administrative Science Quarterly,* 41(1), pp. 61-89

Alexander, E.A. (2012). 'The Effects of Legal, Normative, and Cultural-Cognitive Institutions on Innovation in Technology Alliances'. *MIR: Management International Review,* 52(6), pp. 791-815

Amabile, T.M. (1998). 'How to kill creativity'. *Harvard Business School*. Available at: http://www.hbs.edu/faculty/Pages/item.aspx?num=7420 (Accessed: 12 February 2017).

Antonacopoulou, E.P. (2006). 'The Relationship between Individual and Organizational Learning: New Evidence from Managerial Learning Practices.' *Management Learning,* 37 (4), pp. 455-473

Argote, L., McEvily, B. & Reagans, R. (2003). 'Managing Knowledge in Organizations: An Integrative Framework and Review of Emerging Themes'.

Balachandra, R. & Friar, J. (1997). 'Factors for Success in R&D Projects and New Product Innovation: A Contextual Framework'. IEEE Transactions on Engineering Management, 44(3), pp. 276-287

Balkundi, P. & Harrison, D.A. (2006). 'Ties, Leaders and Time in Teams: Strong Inference about Network Structure's Effects on Team Viability and Performance'. *The Academy of Management Journal,* 49(1), pp. 49-68

Barley, S.R. & Kunda, R. (1992). 'Design and Devotion: Surges of Rational and Normative Ideologies of Control in Managerial Discourse'. *Administrative Science Quarterly,* 37(3), pp. 363-399

Bates, R. & Khasawneh, S. (2005). 'Organizational learning culture, learning transfer climate and perceived innovation in Jordanian organizations'. *International Journal of Training and Development,* 9(2), pp. 96-109

Bettis, R., Gambardella, A., Helfat, C. & Mitchell, W. (2015). 'Qualitative Empirical Research in Strategic Management'. *Strategic Management Journal,* 36 (5), pp.637–650

Borko, H., Eisenhart, M., Brown, C.A., Underhill, R.G., Jones, D. and Agard, P.C., 1992. Learning to teach hard mathematics: Do novice teachers and their instructors give up too easily?. *Journal for research in mathematics education*, pp.194-222.

Braybrooke, D. and Lindblom, C.E., 1970. *A Strategy of Decision: policy evaluation as a social process*. Macmillan Publishing Company, Incorporated.

Brown, J. & Duguid, P. (1991). 'Organizational learning and communities of practice: toward a unified view of working, learning and innovation'. *Organization Science,* 2(1), pp. 40-55

Bryman, A & Bell, E. (2011). 'Business Research Methods' (3 ed.). Oxford: Oxford University Press.

Carbonell-Foulquié, P., Munuera-Alemán J. & Rodríguez- Escudero, A. (2004). 'Criteria employed for go/no-go decisions when developing successful highly innovative products'. *Industrial Marketing Management,* 33, pp.307– 316

Cardinal, L.B. (2001). 'Technological Innovation in the Pharmaceutical Industry: The Use of Organizational Control in Managing Research and Development", *Organization Science,* 12(1), pp. 19-36

Chatman, J.A. & Cha, S.E. (2003). 'Leading by leverage culture'. *California Management Review,* 45(4), pp. 20-34

Christiansen, J. & Gasparin, M. (2016). 'Managing Controversies in the Fuzzy Front End'. *Creativity and innovation management*, 25(4), pp. 500-514

Cooper, R. (1990). 'Stage-Gate Systems: A New Tool for Managing New Products'. *Business Horizons,* May-June, pp. 44-54

Cooper, R. (2014). 'What's next?: After stage-gate'. *Research‐Technology Management,* January‐February 2014, pp. 20‐31

Crossan, M.M., Lane, H.W., White, R.E. (1999). 'An Organizational Learning Framework: From Intuition to Institution'. *Academy of Management Review,* 24(3), pp. 522-537

Dane, E., Pratt, M. (2007). 'Exploring Intuition and its Role in Managerial Decision Making'. *Academy of Management Review*, 32(1), pp. 33-54

Dougherty, D. and Hardy, C., (1996). Sustained product innovation in large, mature organizations: Overcoming innovation-to-organization problems. *Academy of management journal*, *39*(5), pp.1120-1153.

Elbanna, S. (2006). 'Strategic decision-making: Process perspectives'. *International Journal of Management Reviews*, 8(1), pp. 1–20

Ethiraj, S.K. and Levinthal, D., (2004). Bounded rationality and the search for organizational architecture: An evolutionary perspective on the design of organizations and their evolvability. *Administrative Science Quarterly*, *49*(3), pp.404-437.

Fahey, L. & Prusak, L. (1998). "The Eleven Deadliest Sins of Knowledge Management". *California Management Review,* 40(3), pp. 265-276

Feldman, S.P. (1989). 'The Broken Wheel: The Inseparability of Autonomy and Control in Innovation within Organizations' *Journal of Management Studies*, 26(2), pp. 83-102.

Fiol, M.C. & Lyles, M.A. (1985). 'Organizational Learning'. *The Academy fo Management Review,* 10(4), pp. 803-813

Florén, H. & Frishammar, J. (2012). 'From Preliminary Ideas to Corroborated Product Definitions: Managing the Front End of New Product Development.' *California Management Review* 54(4), pp. 20-43

Forde, A. & Fox, M. (2016). 'A Proposed Approach for Idea Selection in Front End of Innovation Activities'. *Technology Innovation Management Review,* 6(8), pp.48-55

Garvin, D. A & Levesque, L. C. (2006). "Meeting the Challenge of Corporate Entrepreneurship". *Harvard Business Review*, pp. 102-112.

Gioia DA, Corley KG and Hamilton AL (2013). 'Seeking qualitative rigor in inductive research: Notes on the Gioia methodology'. Organizational Research Methods, *Sage Publications Sage CA*, 16(1): 15–31.

Gold, A.H., Malhotra, A. & Segars, A.H. (2001). 'Knowledge Management: An Organizational Capabilities Perspective'. *Journal of Management Information Systems*, 18(1), pp. 185-214

Grant, R.M. (1996). 'Toward a knowledge-based theory of the firm'. *Strategic Management Journal,* 17, pp. 109-122

Gupta, A.K. & Govindarajan, V. (2000). 'Knowledge Flows within Multinational Corporations'. *Strategic Management Journal,* 21(4), pp. 473-496

Hart, S., Hultink, E., Tzokas, N. & Commnadeur, H. (2003). 'Industrial Companies' Evaluation Criteria in New Product Development Gates'. *Journal of Product Innovation Management,* 20, pp.22-36.

Hechter, M. (2008). 'The rise and fall of normative control'. *Accounting, Organizations and Society,* 33, pp. 663-676

Ho, Y. & Tsai, C. (2011). 'Front end of innovation of high technology industries: The moderating effect of front-end fuzziness'. *The Journal of High Technology Management Research*, 22(1), pp. 47-58

Huber, G.P. (1991). 'Organizational Learning: The Contributing Processes and the Literatures'. *Organization Science,* 2(1), pp. 88-115

Hurley, R. & Hult, T. (1998). 'Innovation, Market Orientation, and Organizational Learning: An Integration and Empirical Examination'. *Journal of Marketing*, 62(3), pp. 42-54

Karlsson, C. and Olsson, O., (1998). Product innovation in small and large enterprises. *Small Business Economics*, *10*(1), pp.31-46.

Kärreman, D. & Alvesson, M. (2004). 'Cages in Tandem: Management Control, Social Identity, and Identification in a Knowledge-Intensive Firm'. *Organization,* 11(1), pp. 149-175

Kastensson, A. & Johansson, C. (2011). 'Decision making in gates: Based on formal basis or gut feeling?'. *International Journal of Technology Intelligence and Planning*,7(2), pp. 140-152

Khurana, A., Rosenthal, S. (1998). 'Towards Holistic "Front Ends" In New Product Development'. *Journal of Product Innovation Management* 1998 (15), pp.57-74

Kim, J. & Wilemon, D. (2002).'Focusing the fuzzy front–end in new product development'. *R&D Management*, 32(4), pp. 269-279

Knights, D. & Willmott, H.C. (1987). 'Organizational Culture as Management Strategy: A Critique and Illustration from the Financial Services Industry', *International Studies of Management & Organization,* 17(3), pp. 40-63

Koen, P., Ajamian, G., Burkart, R., et al. (2001). 'Providing clarity and a common language to the 'fuzzy front end.' *Research Technology Management* 44(2), pp. 46-55.

Kuratko, D.F., Morris, M.H. & Covin, J.G. (2011). Corporate Innovation & Entrepreneurship. International 3rd edition. South Western Cengage Learning.

Kyriazis, E., Massey, G., Couchman, P. and Johnson, L. (2017). 'Friend or foe? The effects of managerial politics on NPD team communication, collaboration and project success'. *R&D Management, 47*(1), pp. 61-74

Lawrence, T.B., Mauws, M.K., Dyck, B. & Kleysen, R.F. (2005). 'The Politics of Organizational Learning: Integrating Power into the 4I Framework'. *Academy of Management Review,* 30(1), pp. 180-191

Leifer, R. & Mills, P.K. (1996). 'An information processing approach for deciding upon control strategies and reducing control loss in emerging organizations.' *Journal of Management,* 22(1), pp. 113-137

Lejarraga, J., Martinez-Ros, E. (2014). 'Size, R&D productivity and Decision Styles', *Small Business Economics, 42*(3), pp. 643-662

Leonard, D. & Sensiper, S. (1998). 'The Role of Tacit knowledge in Group Innovation'. *California Management Review,* 40(3), pp. 112-131

Liao, S. & Wu, C. (2010). 'Systems perspective of knowledge management, organizational learning, and organizational innovation'. *Expert Systems with Applications*, 37(2), pp. 1096-1103

Lightle, J.P., Kagel, J.H., & Arkes, H.R. (2009). 'Information Exchange in Group Decision Making: The Hidden Profile Problem Reconsidered'. *Management Science,* 55(4), pp. 568-581

Magnusson, P., Netz, J., Wästlund, E. (2014).'Exploring holistic intuitive idea screening in the light of formal criteria'.*Technovation*, 34(5-6), pp. 315-326

March, J.G. (1991). 'Exploration and Exploitation in Organizational Learning'. *Organization Science*, 2(1), pp. 71-87

Martin, K.D., Johnson, J.L., Cullen, J.B. (2009). 'Organizational Change, Normative Control Deinstitutionalization, and Corruption.' *Business Ethics Quarterly,* 19(1), pp. 105-130

Mays, N. & Pope, C. (2000). 'Qualitative research in healthcare: Assessing quality in qualitative research'. *The British Medical Journal*, 320 (1), pp. 50-52.

McGuire, G.M. (2002). 'Gender, Race and the Shadow Structure: A Study of Informal Networks and Inequality in a Work Organization'. *Gender and Society,* 16(3), pp. 303-322

Miller, C. & Ireland, D. (2005). 'Intuition in Strategic Decision Making: Friend or Foe in the Fast-Paced 21st Century?'. *The Academy of Management Executive*, 19(1), pp.19-30

Mintzberg, H., Raisinghani, D. & Théorêt, A. (1976). 'The Structure of "Unstructured" Decision Processes". *Administrative Science Quarterly,* 21(2), pp. 246-275

Nobelius, D. & Trygg, L. (2001). "Stop chasing the Front End process – management of the early phases in product development projects". *International Journal of Project Management* 20, pp. 331-340.

Nonaka, I., Ryoko, T. & Konno, N. (2000). 'SECI, *Ba* and Leadership: a Unified Model of Dynamic Knowledge Creation'. *Long Range Planning,* 33, pp. 5-34

Perrow, C., 1972. *Complex organizations*. Glenview, Ill.: Scott, Foresman.

Polanyi, M. 1966. *The tacit dimension*. Doubleday: Garden City, New York

Poskela, J. & Martinsuo M. (2009). 'Management Control and Strategic Renewal in the Front End of Innovation'. *Journal of Product Innovation Management,* 26(6), pp. 671-684

Reagans, R. & McEvily, B. (2003). 'Network Structure and Knowledge Transfer: The Effects of Cohesion and Range'. *Administrative Science Quarterly,* 48(2), pp. 240-267

Reinertsen, D. (1999). 'Taking the Fuzziness Out of the Fuzzy Front End'. *Research Technology Management*, pp. 25-31.

Sadler-Smith, E. & Shefy, E. (2004). 'The intuitive executive: Understanding and applying 'gut feel' in decision-making'. *Academy of Management Executive*, 18(4), pp. 76-91

Schultz, C., Salomo, S., de Brentani, U., Kleinschmidt, E. (2013). 'How Formal Control Influences Decision-Making Clarity and Innovation Performamce'. *Journal of Product Innovation Management,* 30(3), pp. 430-447.

Senge, P. & Sterman, J. (1992). 'Systems thinking and organizational learning: Acting locally and thinking globally in the organization of the future'. *European Journal of Operational Research,* 59(1), pp. 137-150

Simon, H.A., 1962. The architecture of complexity. *Proceedings of the American philosophical society*, *106*(6), pp.467-482.

Skerlavaj, M., Song, J.H., Lee, Y. (2010). 'Organizational learning culture, innovative culture and innovations in South Korean firms'. *Expert Systems with Applications, 37*(9), pp. 6390-6403

Skerlavaj, M., Song, J.H., Lee, Y. (2010). 'Organizational learning culture, innovative culture and innovations in South Korean firms'. *Expert Systems with Applications,* 37, pp. 6390-6403

Sørensen, J. (2002). 'The Strength of Corporate Culture and the Reliability of Firm Performance'. *Administrative Science Quarterly*, 47(1), pp. 70-91

Spender, J.C. (1996). 'Organizational knowledge, learning and memory: three concepts in search of a theory'. *Journal of Organizational Change Management,* 9(1), pp. 63-78

Tatikonda, M. and Rosenthal, S. (2000). 'Successful execution of product development projects: Balancing firmness and flexibility in the innovation process.' *Journal of Operations Management*, 18(2000), pp. 401-425

Thompson, P. and Van den Broek, D., 2010. Managerial control and workplace regimes: an introduction. *Work, employment and society*, *24*(3), pp.1-12.

Tidd, J., and Bessant, J. (2004). 'Strategic Innovation Management'. 1st Edition, *John Wiley & Sons*.

Turner, K.L. & Makhija, M.V. (2006). 'The Role of Organizational Controls in Managing Knowledge', *The Academy of Management Review,* 31(1), pp. 197-217

Tzokas, N., Hultink, E.J. and Hart, S. (2004). 'Navigating the new product development process'. *Industrial Marketing Management, 33*(7), pp. 619-626

Welch, D.E. & Welch, L.S. (2006). 'Commitment for hire? The viability of corporate culture as a MNC control mechanism'. *International Business Review*, 15, pp. 14-28

Wheelwright, S. & Clark, K. (1992). 'Creating Project Plans to Focus Product Development'. *Harvard Business Review,* 70 (2), pp. 70-82

Yang, Z., Zhou, C. & Jiang, L. (2011). 'When do formal control and trust matter? A context-based analysis of the effects on marketing channel relationships in China. *Industrial Marketing Management,* 40, pp. 86-96

Zheng, W., Yang, B. & McLean, G. (2010). 'Linking organizational culture, structure, strategy, and organizational effectiveness: Mediating role of knowledge management'. *Journal of Business Research 63,* pp. 763–771.

Appendix

Appendix 1: Steering Committee Interview Guide

(I)   Basic questions about their *general* position also used as ice breakers

Position, tenure etc.

Project & Thesis

1.   "Could you describe your position here at [___]?"
To see which department they operate in; we will understand which depts are involved; we use that for our project (composition of SC); see what 'capabilities' are in place who evaluates the [___], their possibility of knowledge transfer

   1.1.   "What is your mandate? - What they decide upon"
In determining scope; we see their reach; we can see how influential they are; we could see who they are interacting with – you can assess their power/influence/control

   1.2.   "How do you act within your position?
Get understanding of how they behave; norms and values they act on, how and if they exercise control and what kind

   1.3.   "How long have you been at [___]?"

      1.3.1.   Short tenure: Why [___]? What do you like about [___]?

      1.3.2.   Long time: You seem to like it; can you tell us what about [___] you like best?
Both qs relate to the values; work experience etc. It describes their motivation basically, and from motivation comes the way you act which impacts how you create work environment. It also helps us to understand how much they have been influenced by other companies or just the [___] way of doing things, 'path dependency', or if they have experience and knowledge from other companies.

         1.3.2.1.   "Is there anything about [___] that you don't like?
Could be anything that we are interested in in finding out, just to probe them.

   1.4.   "What do you like about your job?"
As managers, will they mention 'managing people' or 'communication'?

   1.5.   "Is there anything about your job that you don't like?"

      1.5.1.   How do you deal with that?

      1.5.2.   Are there people who are dealing with the same issue, that you know of?
We want to find out if the things they disliked had anything to do with the things we aim to investigate – no guidance/direction; innovation is hard; values are nice but we don't actually share them; anything.

(II)   Identification of criteria & decision-making process:

Thesis

2.   What is innovation for you?
General understanding of their view, only to compare it to what [___] is doing and see where it differs. This relates to the alignment between general organizational objectives/[___]'s

Project & Thesis

3.   What is the role of [___]?
To find out what the goal/purpose is of [___]. Relates to 'Why are they here'

Project & Thesis

4.   What are [___] objectives for [___] - what are they supposed to do for [___]?
Similar to question 3, but this one relates to "What are they supposed to do?"
This q relates to the scope in which [___] needs to work; whether there are actual directions

Project & Thesis

5.   Could you describe the innovation process of [___]?
We want to hear their vision of how the process works. Of course, we have an understanding, but they see it differently. Might also be that others differ in opinion; which would be interesting, because there needs to be a sense of alignment.

   5.1.   To what extent are the results of this process in line with the role of [___] - compared

to ☐ objectives?

We want to see if ☐ is doing what they are supposed to do; whether they are effective.

Project & Thesis

5.2. Is the current process a satisfactory/effective way to approach innovation for ☐?
    5.2.1. Yes: explain
    5.2.2. No: explain
        The process may be effective, but if it is unsatisfactory; then something in the process needs change.

Project & Thesis

6. What is your understanding of your role as member of the SC? (what do they do exactly; guiding, support, decision-making, responsibility?)
We would see whether there is any kind of structured approach; whether there are specific responsibilities; if they have a sense of what they are doing and how they perceive their responsibilities and role

    6.1. In general: what are the challenging parts of this role?
    We could address this in our framework for example; or see if any of it is related to the culture/values/capabilities/strategy/etc.

Project & Thesis

7. How did you become a member of the SC?
    7.1. Appointed: tell
    7.2. Chose it: why was that?
    We get insight in organizational chart/organigram; organizational structure – insight in how it relates to their other function within the company; we understand why they are here – and use that for our framework. Also, is there intrinsic motivation or is it just an inherited obligation?

Thesis

8. How would you describe the process from idea proposal to the actual meeting with ☐ representatives?
We see what organizational activity is going on; insight in the mechanisms of interaction between organizational members as well. Can they even describe it? Awareness? Structure?

Thesis

9. How do you prepare yourself for meeting with the ☐ representative?
We see what kind of knowledge they are getting in so doing; what the source of that knowledge is – and the nature of the knowledge source. Relies to tacit knowledge. Also, how they prioritize this meeting within their daily work.

10. Which criteria do you use in evaluating an idea?
We again see what knowledge they need. Also big part of our project is about criteria.

    10.1. Which criterion is the most important? Could you rank them and give an explanation? How do you measure that? (if it is fuzzy like success)
    See what they emphasize; prioritization; we use that for our framework.

Project & Thesis

    10.2. How did you come up with these criteria?
    We find the source of the criteria; the source of knowledge basically that led them to put these criteria here.

    10.3. Do these criteria change /vary from proposal to proposal? How and why?
    We see if the used knowledge depends on the different concepts; if it does not matter; we see evidence of how rigid their interpretation/understanding is. Is there an adaptation process in place?

    10.4. At what point do you share your criteria among committee members?
    To get insight in the dynamic in the decision-making – do you inform each other right away or not?

Project & Thesis

    10.5. Comparison of one rejected (☐) and one accepted idea (☐)
    To see if they can actually remember the concepts at all (learning) what they thought and why; we can see if knowledge about the projects is already forgotten yes or no. Also used to probe for more criteria.

Thesis

    10.6. Once you have arrived at a decision, do you report the outcomes to senior management and/or your subordinates? Why/why not?

If yes; how do you justify that?

To see if the learning/information that decisions bring about gets spread throughout the company; to see which people are needed to have this further information.

Thesis

11. How do you come to a conclusion with the other SC members?

If we know how the decision-making process works, we get insight in the dynamics between the members; their communication style might reflect their values, line of thinking etc.; it also touches upon effectiveness.

Project

12. Do you think the current composition of the SC is sufficient to come to a complete understanding? (Input, expertise/competence).. *We follow up immediately, being like: "Why?"

We ask this for our framework; see if they have any input themselves. Also relates to knowledge, see what kind of knowledge they deem necessary to make these kind of decisions.

Thesis

13. How do you help/support implementing an accepted idea?

To see how the relationship between ⬜ and SC is – do they get support; guidelines etc? Because we found that is needed; but is there any? Are they exercising their mandate/control?

13.1. What do you do if there is resistance? (product manager says no)

Well, this reflects I suppose the culture of the company, we can also see how they use their influence/power.

Thesis

14. How do you follow up on accepted/pending ideas?

Again, shows how concerned ⬜ people are ; how they help in this process; see where the pain points are, to get insights in their methods of doing so (reflects the structure; informal mechanisms vs formal), some kind of feedback?

Thesis

15. Can you think of a concept that was rejected but have revisited, as you found new use for it?

If organizational learning/knowledge management is present

15.1. If yes: how did you unshelve it?

15.2. If no: do you ever revisit ideas?

To get insight in what leads to revisiting; shows components of OL; if we know how they revisit we also know their methods – which could possibly reflect some kind of structure, especially if we compare it to other members of the SC.

Project

16. What are the good and bad parts in this evaluation process?

We can use this for our framework; see if we can improve that. Again, we see what they deem important – relates to their values.

Project

(III)   ⬜ 'future' questions, easing out

17. Where is ⬜ heading in the next five years?
18. How will ⬜ get there?
19. Who is responsible for bringing that change about?
20. What role will you play in that?

In asking these 4 questions, we could see if there is some actual strategy/sense of direction etc and if SC people are aware of how they should contribute to that. Helps us to align our project to the future strategy.

Interview Guide [innovation department]
Basic questions about their job
1. Could you describe your job function at [COMPANY]?
    1.1 How long have you been at [COMPANY]?
            short: why [COMPANY]?
            long: why still [COMPANY]?
    1.2 What do you like most about your job?
    1.3 What do you like least about your job?
    1.4 What do you find challenging about your job?
            (note to us: we be like; please don't explain the techniques/specs/whatever)
            follow up: What is the most challenging part (they will prioritize and see what
    matters most for them)
    1.5 How do you deal with these challenges?
    1.6 You've worked at [innovation department] for _ years. Did you and if so, how and on
    what grounds, adapt your working style?
[COMPANY]: opinions
2. What do you like best about [COMPANY] as a company?
3. What do you like least about [COMPANY] as a company?

[innovation department] process & idea generation

4. Could you briefly describe what [innovation department] is supposed to be doing? Who told you
that? When? Did that ever change?
5. Did [COMPANY]set clear objectives for you on what is expected of you when they hired you? A.k.a.
'did you find your role to be different in reality than on paper?'
        yes: explain
        no: how did you settle in your job?
6. Do you think your role changed since you were hired?
        yes: explain
    7. How would you describe the innovation process of [innovation department]?
        7.1 Is the work you do, also what you are supposed to be doing according to SC/
        management?
        (follow up; how would you know if you are on the right track in your innovative endeavors?)
        7.2 What do you like best about this process?
           (let them explain why of course)
        7.3 What do you like least about the innovation process of [innovation department]?
           (follow up: why? How should it be changed? And: could it be changed?)
    8. How do you usually come up with ideas?
9. How would you describe the scope in which you are to work, if there is one at all?
10. How do you know whether this idea is in line with the scope you are to work in? So, if the work
you do is in alignment with [COMPANY]'s objectives?
11. What criteria are you using to evaluate whether an idea is worth exploring? Did you create those
yourself or?
12. Which criterion is most important? Does that depend on the project? (If yes: explain how the
project influences the criteria that are considered).
13. What kind of extra information do you need, you think, that would make you perform better?
14. At what point do you share your idea with [innovation department] members (or other people in
the organization?)
        Follow up (if yes/no): why?
        Follow up (if yes): in what ways is that useful?

Steering Committee

15. Have you been present at SC meetings?

If yes: tell us about your experience! Any changes over the years? Do you want to be in touch with them more often and is so: why?

If no: why not? And: do you want to?

16. What, to your knowledge, are the criteria that the SC uses to evaluate your ideas?

16.1 What do they base their criteria on?

be like: why do you think that this is what they base their criteria on?

16.2 Do you think that is the best/satisfactory way to evaluate from company perspective?

if yes: why?

if no: why not?

16.2.2 Do you think that's the best/satisfactory way for you; does it please you?

→ let them explain obviously

16.3 Y   ou work with new technologies/ideas etc. Do you think SC can accurately assess the potential success?

if yes: why do you think that? (*suppose they be like: university degrees+tacit*)

if no: why do you think that?

16.4 To what extent do you think more alignment is needed between your job and the wishes of the SC?

Follow up: do you think that could happen earlier in the process? (Before you create your prototype)

16.5 Does the SC guide you sufficiently throughout the process?

16.5.1 Would you like more follow-up meetings?

16.5.2 Are there any pre-set meetings scheduled to discuss the progress?

16.5.3 Does the SC take the initiative to get in touch?

16.5.4 If you get in touch with them; do they get back to you about it ASAP?

17. Do you think the current composition of the SC is sufficient to judge the ideas?

18.0 Would you like to provide the SC with more information during the process of the idea development? -- Do you wish to involve them on an earlier stage? Why? Why not?

19. How do you prepare to get your idea accepted?

19.1 Is there anything lacking in that process, and if so: what? And how should you then get what you need?

19.2 What could be improved about the way you prepare?

19.3 What could be improved about the way you present?

(if they name something: ask who is to provide them with that and why)

Fun question to end the interview with

20. Imagine if we are your fairy Godmothers. Then what would you ask us to change about   the decision-making stage?