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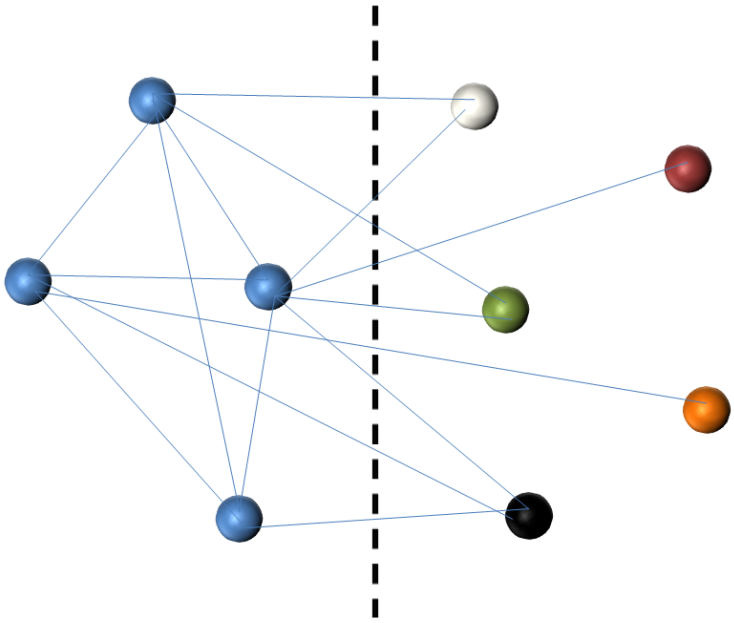

Exploring Prerequisites for Innovation at Company X

Investigating the role of Purchasing in the innovation challenge

Master's Thesis in the Master's Programme
Management and Economics of Innovation

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CHALMERS UNIVERSITY OF TECHNOLOGY
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Cover:
Internal- and external network in open innovation,
more about this in section 2.1.

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Abstract

During the recent years, innovation has become paramount for companies to maintain or achieve a competitive advantage. The current dynamic and turbulent environment, with an increasing speed of technology advancements and changing customer needs, requires the capability to understand the ecosystem as well as have the ability to obtain, integrate and commercialize innovative knowledge and ideas in order to achieve business growth. As a result, many industries have lately seen a shift with respect to the dominant innovation strategy. Companies are moving from a closed model solely leveraging technical innovations from large, in-house, R&D departments to a more open innovation approach, with the emphasis on capturing value from exploiting external sources of innovation. Thus, a firm's absorptive capacity is vital in order to stay at the forefront in the marketplace, where the purchasing department has, in principle, all the right characteristics to step into the lead role, especially due to its interface towards suppliers. One company that has identified this aspect is Company X, a leading actor in its industry, which is trying to transform its purchasing department to incorporate a more open innovation strategy. One step at the journey has been to establish a new function within the regular purchasing department, denoted as Innovative Purchasing. Hence, the purpose of this thesis was to investigate general prerequisites of innovative work within purchasing at Company X and Innovative Purchasing's contribution.

Semi-structured interviews with 28 company employees from different departments, along with company specific documents, have been the basis of the data collection. After the data was gathered, it was analyzed using influences from a systematic approach including a 1st and 2nd order analysis. Regarding the literature review, it was used to gain both better insights about the processes in place at Company X as well as increasing the knowledge about the subject of matter. In addition, it was used as an inspiration for potential solutions and recommendations, in combination with the empirical findings. Thus, based on the analysis of the empirical findings and the theoretical framework, recommendations tailored for Company X were formulated.

Although the awareness about open innovation has increased at Company X and that several of the principles behind open innovation have been adopted, the result of the thesis indicates that the company is still much colored by its heritage. Several of the characteristics identified regarding the innovation effort can be attributed to the principles of closed innovation. Due to this, there exist several challenges for purchasing to fully exploit its potential when it comes to innovation. To be able to contribute to the firm's absorptive capacity, purchasing has to be seen as more than solely a support function and there has to be a shift in the organizational culture. Thus, recommendations are given to Company X Purchasing regarding how to proceed with their innovation journey, to reach a successful transformation, where implementing small and numerous success stories is the first step. Even though contextualized for Company X, the recommendations are based on the view of Pierangelini (2017), hence applicable to other companies as well. Thus, this thesis could be of interest for readers beyond that of employees from Company X as well.

Preface and acknowledgements

This Master's Thesis has been conducted during the spring semester of 2018 as a part of the master's program Management and Economics of Innovation (MEI) at Chalmers University of Technology. The thesis was carried out in collaboration with Company X, a world leading actor within transport solutions, and especially with Company X Purchasing, one of the world's largest purchasing departments.

First, we would like to express our gratitude to Company X and Company X Purchasing for providing this opportunity, and more specifically to our supervisor at the company. You know who you are. Furthermore, we would like to thank all the interviewees that took their time to meet with us and provided us with valuable insights. Finally, we would like to thank Sofia Börjesson, our supervisor at Chalmers University of Technology, for her support, insights, time, and positive attitude that kept us moving forward throughout the whole process.

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1. Introduction

In this introductory chapter the setting and the purpose of the thesis is stated. The chapter is divided into four subchapters, starting with a background of the field of research followed by the problem formulation and the purpose. In turn, the three research questions are displayed. Lastly the thesis disposition, summarizing the content of the thesis, is outlined.

1.1 Background

"In today's world, where the only constant is change, the task of managing innovation is vital for companies of every size in every industry" – Henry Chesbrough (2006a, p. 17)

In recent years, most large organizations have realized the importance of becoming more innovative. A business environment characterized by disruptive innovations, changing customer needs, and a slowing trend of global growth and trade, requires that companies are innovative to achieve business growth (van Ark et al., 2017; Pierangelini, 2017). In this setting, the capability to understand the ecosystem and the ability to find and integrate new knowledge and ideas is paramount to maintain or achieve a competitive advantage (Pierangelini, 2017). As a result, many firms have adopted a more open innovation approach in contrast to leveraging technical innovations solely from large, in-house, R&D departments, as illustrated by Chesbrough (2003). Enriching a company's knowledge base through integration of external sources of knowledge has been shown to increase innovativeness (Laursen and Salter, 2006). However, West and Bogers (2014) stress the importance of being able to integrate and commercialize on external sources of innovation, not only have the ability to obtain them. Thus, in order for a company to be innovative, firms absorptive capacity is essential and requires certain innovation capabilities (e.g., Björkdahl and Börjesson, 2012; Pierangelini, 2017). These range from internal capabilities, such as having an enabling culture, to external linkages and systems. Hence, being able to both exploit current business models and explore new ideas are vital, a distinction that O´Reilly and Tushman (2011) presents when talking about organizational ambidexterity.

Among the external sources of innovation, customers seem to be the dominating source, closely followed by suppliers and competitors (Enkel and Gassmann, 2008). However, Galunic and Rodan (1998), Khilji et al. (2006), Enkel et al. (2009), Pierangelini, (2017) and Patrucco et al. (2017) identifies suppliers as a particularly significant source of innovation, as most innovations are based on the recombination of existing technologies, concepts and knowledge rather than the invention of something radically new. This notion is supported by Luzzini and Ronzi (2010) and Schiele (2012), who argues that companies increasingly rely on their supply base to support their innovation potential. Hence, purchasing departments have got an increased recognition when it comes to open innovation and is seen as a "missing link" in the innovation work, as the purchasing department has, in principle, all the right characteristics for taking the lead role when it comes to the firms absorptive capacity (Luzzini and Ronzi, 2010; Castaldi et al., 2011; Hanghøj, 2014, Servajean-Hilst, 2014; Pierangelini, 2017; Servajean-Hilst and Calvi, 2018). However, Song and Thieme (2009) and Servajean-Hilst and Calvi (2018) emphasize purchasing's ability to extract external ideas from sources other than the supply base, for instance from start-ups and research laboratories. In turn, Servajean-Hilst (2014), Pierangelini, (2017) and Servajean-Hilst and Calvi (2018) illustrates the necessity of purchasing to be further involved in open innovation, presenting an

innovative purchasing function as a possible facilitator, as well as for fostering ambidexterity and improve the relational capability.

Moreover, when it comes to successfully leveraging external sources of innovation, the automotive industry is in the forefront (Clark and Fujimoto, 1991; Servajean-Hilst and Calvi, 2018). Thus, it could serve as a benchmark for companies in other industries, for instance the industry, were Company X is operating. This industry is under transformation and is characterized by though environmental regulations as well as changing customer requirements, which is why keeping up to date with the latest technology advancements has become paramount for survival. However, the entry barriers are high due to large capital investments and consequently, a few big actors in fierce competition with each other, have dominated the industry over the years.

Furthermore, being one of the world's leading actors in its industry, Company X is seen as a highly successful company. The company is active in different business areas and has after a re-organization three global organizations within one of them, namely Company X Operations, Company X Technology and Company X Purchasing, where the latter one is the main focus in this thesis. Moreover, Company X has a heritage of being innovative and open innovation is not an unknown phenomenon, primarily within Company X Technology, although the syndrome "not invented here" is somewhat prevalent. However, there is a desire from top management to become more innovative and work with open innovation within Company X Purchasing. Hence, as a response, the new Innovative Purchasing unit has recently been established.

1.2 Problem formulation

In transitioning towards a more open innovation approach, Company X Purchasing currently faces issues with how the newly established unit Innovative Purchasing can contribute to Company X regarding innovation. Due to its recent establishment, Innovative Purchasing has an unclear role in the organization and internal innovation processes are perceived as incomplete. In line with West and Bogers' (2014) view on how companies can benefit from external sources of innovation, Company X Purchasing struggles with some of the most common challenges associated with a more open innovation approach, namely where to look for new ideas, as well as in what way to integrate- and commercialize them.

First, Company X Purchasing needs to consider what external sources of innovations are/ought to be and how to capture innovations from these. Although suppliers are currently used as a source of innovation, there is room for improvement and in addition, other sources of innovation could be of relevance (Simon and Thieme, 2009; Servajean-Hilst and Calvi, 2018). Moreover, the current purchasing process and the general mindset, both at the organizational level and within purchasing, are argued to be hindering an effective integration and commercialization of external ideas. There are concerns that good ideas are getting lost due to a too rigid purchasing process and lack of cross-functional collaboration between departments. Hence, it is essential that current process and systems align with what is described in research regarding how to work with open innovation, to be able to facilitate a transformation of the department and capture external influences.

1.3 Purpose

The purpose of this thesis is to investigate general prerequisites of innovative work within purchasing and Innovative Purchasing's contribution. The study has been carried out in close collaboration with Innovative Purchasing and generates a recommendations plan valuable for

decision-makers in the start-up phase. Thus, the following research questions were formulated:

1. What is the capability for innovation at Company X?
2. What are the main challenges and opportunities for developing innovativeness from a purchasing perspective?
3. How can Innovative Purchasing contribute to Company X regarding innovation?

In order to be able to identify the prerequisites for innovation at Company X Purchasing, an innovation capability perspective was applied to obtain knowledge about the current situation at Company X and the underlying factors regarding innovation. By taking this general approach, challenges and opportunities for purchasing can more easily be recognized, ultimately entailing a better understanding of what Innovative Purchasing can contribute with.

1.4 Thesis disposition

This master's thesis includes nine different main chapters, starting with the introductory chapter outlined above, incorporating a background of the research field and initial facts about Company X. Chapter 2 address literature on innovation in general, but more specifically on open innovation, innovation capabilities and innovation within purchasing. In turn, Chapter 3 presents the analytical framework comprising the chosen innovation capabilities used to investigating the innovativeness at Company X. Chapter 4 covers a description about the research design and methods used, whereas Chapter 5 presents the empirical findings, comprising several interviews under one storyline. Chapter 6 displays the analysis, where research has been combined with the empirical findings, and answers to the research questions are presented in Chapter 7. Furthermore, Chapter 8, consists of the recommendations proposed to Company X, followed by Chapter 9 were implications for future research are discussed. The subsequent chapters, Chapter 10 and 11 are supporting parts, namely References and Appendix.

2. Frame of reference

In this chapter a background of prior research within the field of innovation is presented. First, the innovation concept and the transition from closed to open innovation are addressed. Moreover, capabilities needed for a company to be innovative are displayed, followed by a presentation of a summarizing framework that can be used to assess firm's capabilities of innovation. Finally, literature regarding innovation and purchasing is presented, although research within this field is still under development and somewhat limited.

2.1 The transition from closed to open innovation

As West and Bogers (2014) stress, there exist several different definitions of innovation. According to Galunic and Rodan (1998) and Khilji et al. (2006) knowledge and innovation are in some cases used interchangeably, while others states that knowledge alone does not create innovation. Instead, the authors argue that innovation occurs when the recombination of existing knowledge creates commercially viable products or processes. In this thesis, the definition presented by Baregheh et al. (2009, pp. 1334) is emphasized, as the authors define innovation as: "Innovation is the multi-stage process whereby organizations transform ideas into new/improved products, service or processes, in order to advance, compete and differentiate themselves successfully in their marketplace."

Furthermore, back in 1943, Schumpeter (1943) stated that capitalism is an evolutionary process of continuous innovation and creative destruction. Schumpeter further argued that innovation drive all economic change and creates a temporary monopoly, which is an essential incentive for firms to develop new products and processes. As a consequence, firms have put a lot of effort in continuous innovation and most business leaders agree that innovation is central for the success of the company (Linder et al., 2003). However, the authors further stress that in many industries innovation activities are not yielding satisfactory results, a notion supported by Chesbrough (2003), stating that many companies struggle with keeping up with technology trends and consequently have been subject to takeover by others.

As an explanation, Chesbrough (2003) shows that during most of the 20th century companies have heavily invested in internal R&D, an innovation strategy the author defines as closed innovation, see table 2.1 for the six principles of closed innovation. It centers around keeping R&D activities in-house, from the generation of an idea until it is brought to the market, and is designed to filter out "false positives", namely bad ideas that initially look promising.

The smart people in our field work for us.
To profit from R&D, we must discover, develop and ship it ourselves.
If we discover it ourselves, we will get it to market first.
If we are the first to commercialize an innovation, we will win.
If we create the most and best ideas in the industry, we will win.
We should control our intellectual property (IP) so that our competitors don't profit from our ideas.

Table 2.1 Six principles of closed innovation (Chesbrough, 2003)

However, toward the end of the 20th century, several factors made the closed innovation strategy somewhat obsolete. These include an increased mobility of knowledgeable people, a growing presence of venture capitalists, an extensive knowledge spill out from universities,

more knowledgeable customers and suppliers, as well as an increased need for fast time to market (Chesbrough, 2003). Hence, as a result, a new paradigm of innovation strategy has emerged, called open innovation, see table 2.2 for the six principles of open innovation.

Not all of the smart people work for us so we must find and tap into the knowledge and expertise of bright individuals outside our company.
External R&D can create significant value; internal R&D is needed to claim some portion of that value.
We don't have to originate the research in order to profit from it.
Building a better business model is better than getting to market first.
If we make the best use of internal and external ideas, we will win.
We should profit from other's use of our IP, and we should buy other's IP whenever it advances our own business model.

Table 2.2 Six principles of open innovation (Chesbrough, 2003)

The strategy implies that companies take advantage of both external and internal sources of ideas, as well as alternative paths to market, when making technology advancements (Chesbrough, 2003), see figure 2.1. According to Chesbrough (2003) and Linder et al. 2003), external sources of innovation include customers, research companies, business partners and universities. Chesbrough (2003) further states that one major difference between closed- and open innovation is that open innovation also incorporates the ability to rescue "false negatives", ideas that initially seem to lack promise but turn out to be surprisingly valuable. Focusing too internally entails that a company is prone to miss a number of opportunities that could have had tremendous commercial value, as these ideas will fall outside the organization's current businesses or will need to be combined with external technologies to unlock their potential.

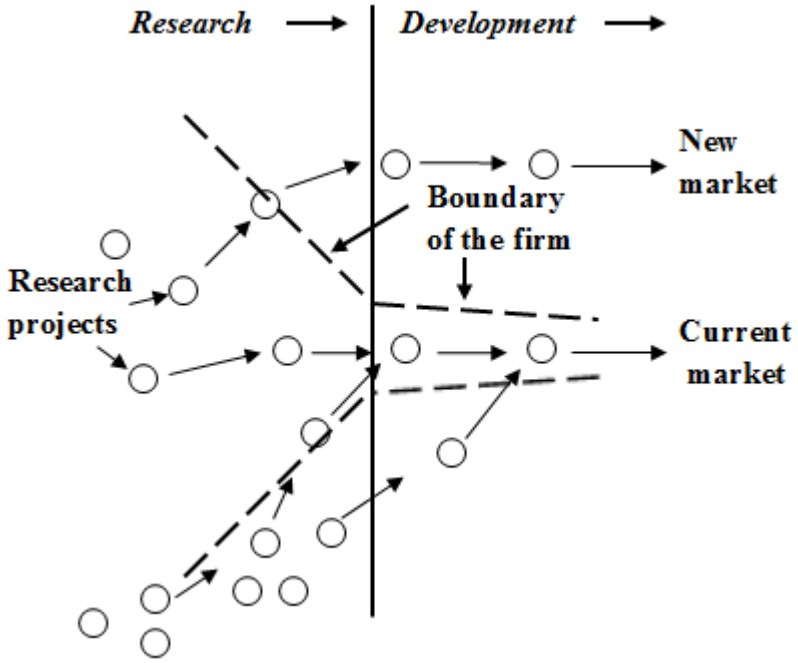

Figure 2.1 Illustration of the open innovation process (Chesbrough, 2003)

Furthermore, West and Bogers (2014) present a four-phase model describing open innovation, a model demonstrating fundamental factors for leveraging external sources of innovation, see figure 2.2. The model consists of a linear process including three major steps, namely obtaining-, integrating- and commercializing external innovations, which illustrates the procedure when going from external idea generation to delivering value to the customer. In addition, interaction mechanisms are incorporated in the model, which are prevalent between any of the stages. This fourth phase demonstrates the bidirectional flow and other processes which go beyond the stylized progression of the linear model.

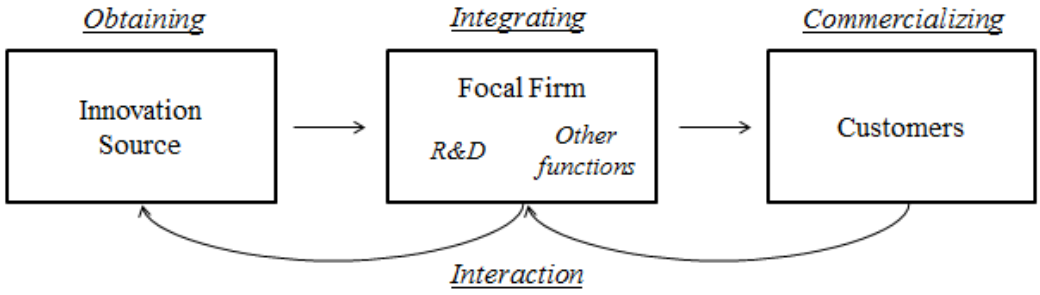

Figure 2.2 The four-phase model on open innovation (West and Bogers, 2014)

Considering the first step in the model, obtaining innovation from external sources, it includes search, sourcing, enabling, incentivizing and contracting (West and Bogers, 2014). Apart from the external sources mentioned by Chesbrough (2003) and Linder et al. (2003), the authors also highlights rivals as well as individuals from the crowd, basically anyone anywhere. Thus, obtaining innovations requires two steps; firms must first find external sources of innovation and then bring those innovations into the firm. Moreover, integrating innovations refers to incorporating innovations into the company's R&D activities. Hence, a compatible culture in the R&D organization is a necessity in order to overcome certain barriers, such as the mindset "not invented here", as well as having the technical capability to integrate innovations from external sources (West and Bogers, 2014). In turn, the final step in the linear process, commercializing, includes both how to create value from external innovations and how to capture value from these, where the latter one address how firms make money from innovations. However, in the view of Chesbrough (2006a; 2006b; 2006c), the choice of an innovation and its commercialization strategy needs to be fully aligned to a firm's business model to obtain such profit. Lastly, the interaction mechanisms incorporate both feedback for the linear process and reciprocal innovation processes, such as network collaboration, cocreation and community innovation (West and Bogers, 2014).

2.2 Innovation capabilities

In order for firms to become more innovative and survive in the long run, certain innovation capabilities are needed (e.g., Björkdahl and Börjesson, 2012; Steiber 2014; Colarelli O'Connor, 2008). Organizational capabilities are defined by Helfat and Peteraf (2003, pp. 999) as "the ability of an organization to perform a coordinated set of tasks, utilizing organizational resources for the purpose of achieving a particular end result" Furthermore, Björkdahl and Börjesson (2012) states that innovation capabilities allow the firm to develop a sustained competitive advantage, thus making them able to respond more quickly to changes in the environment.

Lawson and Samson (2001) argue that innovation capability is not a separately identifiable construct and categorize organization capability as consisting of seven building blocks:

1. *Vision and strategy* refers to having a clear link between vision, strategy and innovation to foster an effective innovation management. To achieve successful innovation, it requires a clear articulation of a common vision and the firm expression of the strategic direction.

2. *Harnessing the competence base* includes the ability of the organization to direct resources to where most needed.

3. *Organizational intelligence* refers to the ability of the firm to learn from the external environment, i.e. customers and competitors.

4. *Creativity and idea management* is about the capacity of the organization to encourage divergent thinking and thus being able to generate new ideas.

5. *Organizational structures and systems* refers to having permeable business boundaries and ensuring that reward systems are in place in order to foster creative behavior.

6. *Culture and climate* includes having a tolerance of ambiguity, creative time, empowered employees and communication.

7. *Management of technology* refers to the firm's ability to handle technology in order to identify developments in technologies, products and markets, generate more refined information, as well as to avoid threats and grasp new opportunities to ultimately improve the decision making.

Moreover, Colarelli O'Connor (2008) presents major innovation capabilities that together form a management system that foster radical innovation. According to her, the system consists of the following elements:

1. *An identifiable organizational structure* is about having clear roles and responsibilities to sustain attention and resources to innovation, for instance having a specific group or entity charged with the responsibility to make major innovation occur.

2. *Internal and external interface mechanisms* refer to the ability of the firm to form internal- and external relationships to enable the collection of resources and ideas to foster innovation.

3. *Exploratory processes* includes being able to learn quickly, to evaluate, and to redirect. Thus utilizing learning-oriented processes for managing project progress.

4. *Requisite skills* comprise having broadly skilled employees and managers that are able to navigate in a highly uncertain environment.

5. *Appropriate governance and decision-making mechanisms and criteria* refers to the ability of the organization to allow flexibility towards the unexpected, to better cope with the constant flow of negative and positive feedback that characterize the disequilibrium system environment.

6. *Appropriate performance metrics* is about establishing appropriate metrics that deals with high-risk, high-uncertainty objectives. Examples include new technical capabilities, new partnerships and moving the firm into a new strategic domain.

7. *An appropriate culture and leadership context* refers to valuing major innovation as a key component of the company's future health and understanding the risk inherent in innovation.

Furthermore, Björkdahl and Börjesson (2012) present a framework for assessing a firm's capabilities for innovation, which includes eight dimensions that are argued to be actionable, i.e. meaningful for action and easily translated into action. The framework consists of the following dimensions:

1. *Strategy for innovation* comprise having a systematic application of an expressed intent regarding innovation, which is spread and understood throughout the firm, ultimately promoting and guiding new behavior.

2. *Prioritization* refers to the importance given to innovation, which is reflected in the number of exploratory projects or the systematic allocation of resources supporting new business opportunities, i.e. to what extent risk-taking is favored in the organization.

3. *Culture* includes the organization's shared values, norms and beliefs, whereas the innovation culture refers to the overall attitude towards exploratory processes and to what extent failures are regarded as generating knowledge or not.

4. *Idea management* is about having structures, systems and routines established in the organization that support and systematically evaluates as well as promotes new ideas.

5. *External environment and linkages* is the capability to effectively build networks, alliances and relationships with external actors, i.e. the ability to open up for new stimuli and work with open innovation.

6. *Implementation* refers to the organization's ability to commercialize new ideas.

7. *Systems and decision rules* comprise established rules and principles that support the firm's innovation work, such as resources allocated to innovation projects or the criteria for new development projects.

8. *Organizational context and learning* refers to the importance of having a knowledge generation and diffusion in the organization, i.e. learn from previous projects and from other parts of the firm. It also includes having employees that are skilled at exploiting new business opportunities, as well as having a clear structure about whom to contact or collaborate with in order to investigate the feasibility of projects.

In turn, Steiber (2014) displays six management principles that are identified as crucial for a company to successfully handle continuous innovation in a dynamic environment. The principles are the following:

1. *Dynamic capabilities* refer to the firm's ability to integrate, develop and reconfigure both internal and external competencies to cope with the fast changing environment.

2. *A continuously changing organization* is about working proactively to ensure that the firm takes action to maintain its markets position.

3. *A people centric-approach* comprises the mindset that individuals in the organization are a valuable asset when it comes to creativity. There must be a favorable setting in which the people can express their creativity to bring forth the innovative power.

4. *An ambidextrous organization* refers to the need to combine two separate forms of organizational logic within the same firm, i.e. exploit current businesses and explore new business opportunities.

5. *An open organization that networks with its surroundings* includes having permeable limits to the external environment to continuously exchange information to achieve long –term survival.

6. *A systems approach* comprise having a holistic view of the system, namely have an understanding that the components included in the system are interdependent to minimize negative system effects.

Lastly, Van ark et al. (2017) put forward a framework consisting of six innovation signposts that serve as key innovation dimensions for the business. These can also be used for a systematic measurement and a tracking tool for the firm to improve the competitiveness and overall performance, i.e. track different aspects and activities of innovation. The six signposts are:

1. *Technology* is about the use of machinery, equipment, business processes, software and databases to convert resources or inputs to outputs and thus achieve end result for the business.

2. *Digitization* refers to the use of digital tools, such as information communication technology, big data and analytics, as well as artificial intelligence.

3. *Environmental and social sustainability* comprise the importance of considering environmental and social impacts in the firm's growth strategy to create long-term shareholder value.

4. *Customer experience and branding* are considered as two strongly related areas reflecting the importance of how consumers experience, value and even contribute to innovation. By leveraging the brand asset, a firm can deliver a more relevant and differentiated customer experience. In turn, when a brand is refreshed by a successful innovation, that innovation contributes to a stronger brand and customer relationship.

5. *Internal innovation network* includes having internal innovation capabilities in place, such as leadership and organization, processes and tools, people and skills, as well as culture and values.

6. *External innovation ecosystem* refers to the company's ability to work with external actors regarding innovation, such as competitors, collaborators, customers and suppliers.

2.3 Innovation and purchasing

As innovation has become a necessity to achieve business growth and a decisive competitive advantage (van Ark et al., 2017; Pierangelini, 2017), open innovation and firms absorptive capacity, defined by Cohen and Levintahl (1990) as the ability of a firm to acquire new exogenous knowledge, assimilate it, and exploit it for commercial purposes, have become key enablers since companies rarely innovate in isolation (Chesbrough, 2003; Pierangelini, 2017). According to Galunic and Rodan (1998), Khilji et al. (2006), Enkel et al. (2009) and Pierangelini (2017), innovation is usually the outcome of complex interactions between firms and its external environment, resulting in recombination of existing technologies, concepts and knowledge rather than the invention of something radically new. The capability to harness and exploit external knowledge is therefore vital in the innovation effort, as the combined firm knowledge is generally minor than the knowledge available in the marketplace (Pierangelini, 2017). Hence, Galunic and Rodan (1998), Khilji et al. (2006), Enkel et al. (2009), Luzzini and Ronzi (2010), Schiele (2012), Pierangelini (2017), Patrucco et al. (2017) Servajean-Hilst, 2014, Servajean-Hilst and Calvi, 2018, all stress the importance of the supply base as a source of innovation, indicating the increasing recognition of purchasing departments in open innovation and entailing a turning point for the purchasing function. Although Servajean-Hilst and Calvi (2018) also emphasize purchasing's ability to extract external ideas from sources other than the supply base, purchasing's interface towards suppliers enables a bidirectional filtering bridge for knowledge and strategic information as well as a central point for collecting ideas from the external environment to be integrated into the firm (Castaldi et al., 2011; Hanghøj, 2014).

Since the 80ties, the purchasing function has evolved from a merely support to a strategic entity, capable of providing a sustainable and long term competitive advantage to firm initiatives such as make-or-buy decisions, offshoring/outsourcing, innovation, market and business intelligence and new product development (NPD), placing the function at the core of the organisation strategy and performance (Pierangelini, 2017). This is mainly thanks to the function having multifaceted competencies, i.e. business, technical, human relation, and its position at the boundary between the firm and the external environment, enabling purchasing to be a major knowledge and innovation pivotal plate. The author further states that there are three main areas where purchasing is able to contribute the most to the innovation effort, namely early integration in the internal NPD process, identifying innovative new products and concepts in the supplier market, denoted as market intelligence, and workplace transformation, changing from transactional work to innovative tasks. Regarding the market intelligence, Pierangelini (2017) argues that it represents a vital function for a company to achieve a competitive advantage through either incremental- or disruptive innovation, thus being a fundamental aspect in purchasing's strategic dimension. According to Song and Thieme (2009), suppliers, universities and research centres are the major sources of market intelligence, where purchasing act as a collector and catalyser of the knowledge flow. Hence, as Pierangelini (2017) argues, purchasing has the potential to piloting the firm's knowledge absorption capacity strategy and culture.

2.3.1 General obstacles for innovation in purchasing

The ability of purchasing to contribute to firms innovation activities and leverage its potential depends on several factors (Pierangelini, 2017). The author states that the following four

families, both internal and external, encompass the purchasing sphere of contribution; lack of capabilities, management complexity, organizational culture and lack of adequate resources. The first one, lack of capabilities refers to knowledge gap on strategic sourcing or technology domains, while management complexity address strategic misalignment or lack of managerial support. In turn, organizational culture brings up resistance to change and lack of adequate resources could either be financial, time or human, which undermines the team effectiveness and reduces the potential intelligence and innovation facilitator role. Thus, as Pierangelini (2017) further states, a change of behaviours and culture need to occur to fully exploit the department potential, where purchasing should be regarded as a knowledge and strategic advisor, a knowledge facilitator, and not only having a product and cost transactional responsibility. However, a company situated in a risk averse and strictly regulated environment has in general a lower propensity to innovate compared to less constrained firms (Pierangelini, 2017). Hence, as the author further stresses, for purchasing to be able to strongly contribute to innovation in a risk adverse organization, a cultural revolution has to take place.

Patrucco et al. (2017) support the above notions and further points at the cultural aspect, more specifically addressing the perception of purchasing importance throughout the organization as a critical point and an obstacle, denoted as purchasing status or maturity (Schiele, 2010). According to Patrucco et al. (2017), purchasing status affects firms' ability to aquire, share and exploit knowledge, and relates to certain variables such as involvement in the strategic planning processes, measurement of system performance, participation in the organization's improvement programs, involvement in innovation processes, a long-term focus strategy and support by top management. The authors further states that increasing the consideration of purchasing being a key cornerstone for the organization, the greater its ability to contribute to the firm's strategic processes and promote knowledge development, knowledge management and communication, hence supporting inter-organizational collaboration.

2.3.2 Transformation of the purchasing function

According to Pierangelini (2017), many firms have implemented innovation focused organizations, where the purchasing function has followed the same path in the last decade and especially during the last three to five years. However, in order to initiate the innovation journey and enable a successful transformation, Pierangelini (2017) stress the importance of establishing a specific entity missioned to coordinate the purchasing collaborative innovation process. This entity should have several areas of responsibility, such as to facilitate purchasing integration in the early stages of innovation projects and processes, establishing a network with external actors in the innovative marketplace, and creating a learning process for divulging the knowledge developed in projects, both within purchasing and across the firm. This notion with establishing a function within purchasing, responsible for innovation activities is supported by Servajean-Hilst (2014) and Servajean-Hilst and Calvi (2018). According to the authors, such a function will facilitate purchasing involvement in open innovation, it will foster the department's ambidexterity, namely the ability to manage both exploitation of the existing business models as well as identifying and handling new ideas, and improve the relational capability, i.e. the cross-functional collaboration within the firm.

Moreover, Pierangelini (2017) states that to foster a solid foundation for inclusion in the innovation space, the purchasing legitimacy needs to be affirmed, along with the creation of an identity and establishing credibility. To accomplish this, a twofold approach is recommended, namely both top-down and bottom-up. It is important for firms to understand the contribution of purchasing as a high valuable support to innovation and problem solving,

thus management support is a necessity, as well as establishing trust, credibility and recognition at project level to circumvent the not invented here syndrome and resistance to change barriers (Pierangelini, 2017). A first common step is to start providing quick added value through small success stories, which could be in form of solving minor issues that have not been handled due to lack of time and low priority, or generate a market information feed to stakeholders, i.e. new ideas or technologies, pricings, suppliers and commodities (Pierangelini, 2017).

Nevertheless, Spina et al. (2010) stress the need of an internal cultural transformation within purchasing, emphasizing the role of purchasing leadership, as a first step on the journey. As the authors' states, priorities need to be shifted, encompassing more than the triangle of cost-quality and time, which can be managed by communication campaigns about the scope and fundamental missions. This notion is supported by Patrucco et al. (2017), addressing the importance of integrating innovation objectives into purchasing strategy and targets to influence firm's absorptive capacity. Thus, as Driedonks et al. (2010) argues, once the whole purchasing group share the same view, the foundation is in place for the function to facilitate the creation of strategic competitive advantage within the firm.

Furthermore, Pierangelini (2017) presents a set of general recommendations to overcome possible obstacles when transforming the purchasing department and initiating the innovation journey, see table 2.3. These are applicable to any purchasing department and provide a short-term perspective, 0-24 months, regarding the first necessary steps for a successful implementation.

Stakeholder		#	Actions	Objective	Resistance level (1-9)	Benefit level (1-9)
Why (MISSION)	Top Mgmt	**a**	Obtain Executive Sponsorship	Top-Down legitimacy Resources availability	4	6
	Top Mgmt	**b**	Communicate about SMI mission and added values	Create awareness in the firm about the benefit of the function	6	3
	Top Mgmt	**c**	Collaborate to define innovation in the firm	Disambiguate the concept and create momentum and awareness across the company	5	4
How (PROCESSES)	PSM Mgmt	**d**	Change organization splitting Strategic/Operational roles	Maximize operational excellence and fully exploit the team competencies	7	7
	PSM Mgmt	**e**	Implement SMI function in PSM and define SMI process	Coordinate the exogenous knowledge gathering (i.e.: Innovation, strategic supply market information, best practices)	2	6
	Employees	**f**	Constitute network of early adopters (inside the firm) to share knowledge	Develop collaborative knowledge sharing environment Progressively change culture	1	7
	Firm Mgmt	**g**	Constitute and lead company-wide knowledge network + community of practice (inside outside the firm)	Develop collaborative knowledge sharing environment Progressively change culture	3	7
	Firm Mgmt	**h**	Implement ideas exploitation process (engaging the innovation network and IT tools)	Accelerate the knowledge collection and diffusion Evaluate ideas (from inside the firm or exogenous) more effectively. Increase the rate of transformation in new products	6	6
What (INSTRUMENTS)	PSM Mgmt	**i**	Implementing small and numerous Success Stories)	Bottom up legitimacy Prove added value and gain trust to increase integration	1	8
	Firm Mgmt	**j**	Implement IT tools for: - network management (social type); knowledge management & sharing; supplier innovation portal; innovation gamification.	Capitalize on common knowledge, accelerate new ideas permeation Consolidate the community of practice, share ideas and knowledge, facilitate the supplier integration and PSM integration	5	6
	Top Mgmt	**k**	Innovation events (seminars, workshops, lunch and learn, sprinting sessions, etc.)	Accelerate the knowledge diffusion and awareness about the importance of innovation	3	6
	Training dept. & PSM employees	**l**	Implement specific training modules available in the training panel (innovation, Supply Market Intelligence, technology, Case studies). Select trainers internally in priority depending in skills	Build team competencies. Develop resources leveraging the internal competencies Implement a learning organization	2	5

Table 2.3 Recommendation table: Resistance and benefit level scored based on firm internal context (Pierangelini, 2017)

As can be seen from the table, the actions should be implemented in consideration to the path of least resistance and maximum benefit. Thus, the actions should follow i, f, e, l, g, k, a, j, h, d, c and b in chronological order where possible (Pierangelini, 2017), see figure 2.3. The author further states that by applying this order the first successes will create favorable conditions, possibly reducing the resistance of the following actions. In addition, the actions at the bisecting line defines the boundary of equilibrium between resistance and benefit, while the actions below the line have a higher resistance than benefit. Thus, these actions should not be prioritized and should be kept in standby until a positive evolution in the environment occurs (Pierangelini, 2017).

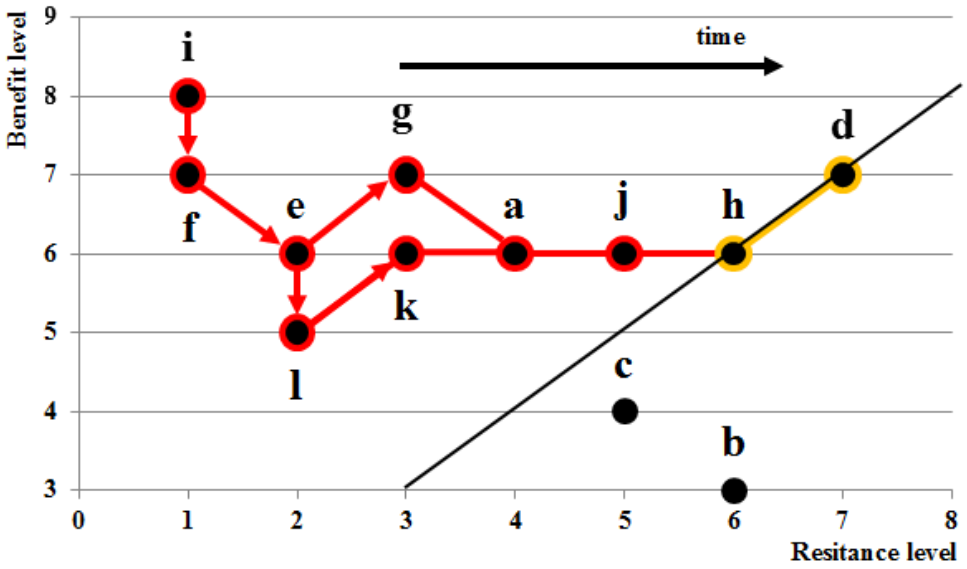

Figure 2.3 Recommendations: path of minimum resistance. The bisecting line defines the boundary of equilibrium between benefits and resistance. Below the line, the resistance is higher than the benefits therefore not recommendable in priority (Pierangelini, 2017)

3. Towards an analytical framework

Based on previous literature in innovation capabilities, a modified framework has been established. This framework was created by identifying similarities and differences in the papers, merging similar aspects while keeping the unique ones. In turn, those dimensions that were relevant to the study was selected and included. The framework comprise three main dimensions that can be used to asses a firm's capabilities of innovation; A systems approach, Internal innovation network (Vision and strategy, Resource allocation and idea generation, Culture and values, Organizational structure and systems, Technology and digitalization, Appropriate metrics) and External innovation ecosystem. These dimensions are summarized in more details below. Table 3.1 presents the dimensions and their main sources.

A systems approach: A systems approach refers to the need to change how firms currently are working, this implies going away from having a traditional linear approach and instead adopt a system thinking approach. For instance, Steiber (2014) states that the constituent's elements of the system are interdependently affecting each other, entailing the need for management to have an holistic approach. In addition, Colarelli O'Connor (2008) suggests that firms need to have a system thinking approach when developing the firm's innovation capabilities and to approach the system methodically in order to achieve major innovations for the firm.

Vision and strategy: Refers to the importance of having a clearly and well communicated innovation strategy in the organization and working systematically and conscious on achieving this intention (Björkdahl and Börjesson, 2012). Moreover, Lawson and Samson (2001) argue that effective innovation management requires the alignment of vision, strategy and innovation. Hence companies' that have the ability to clearly display and spread their vision throughout the organization, in combination with an expressed strategic direction, will enable the achievement of successful innovation. In turn, Steiber (2014) address the need for firms' to have the ability to both exploit current business models as well as explore new ideas and opportunities, which requires freedom and flexibility and an open test and try mentality. This notion is supported by Björkdahl and Börjesson (2012), arguing that organizations need to extend the focus on working with new projects or offers and increase the prioritization of innovation within the firm. Thus, priority for innovation is reflected in the number of exploratory projects, displaying the firms' attitude to risk taking behavior.

Resource allocation and idea generation: A central ability for firms' is to have the ability to direct resources where required and to align new ideas with funding channels. To achieve successful innovation, this is shown to be a vital factor. For instance, Lawson and Samson (2001) states that successful resource allocation requires firms' to acknowledge certain individuals to act as innovation champions in various stages of the innovation process. In turn, Steiber (2014) address the importance of being able to regroup its resources when needed.

Culture and values: Having a culture in place that enables innovation is one of the most critical points to facilitate innovation. For instance, there has to be a tolerance of ambiguity and innovation has to be valued as a key component of the firm's future health, along with regarding failures as a knowledge generator (Ekvall, 1996; Lawson and Samson, 2001; Colarelli O'Connor, 2008; Björkdahl and Börjesson, 2012). Furthermore, skills and talents are another factor included in this dimension, which refer to the need to have people with situation specific knowledge in the organization to be able to cope with the constant changes in the environment (Steiber, 2012). In addition, Colarelli O'Connor (2008) support this

notion, stating that flexible and multifunctional individuals possessing entrepreneurial characteristics are a necessity in organizations' to be able to adopt to environmental changes.

Organizational structures and systems: Organizational structures and systems refer to the importance for firms to have a clear team, group, department, or other entity in the firm responsible for the innovation work (Colarelli O'Connor, 2008). Firms need to develop permeable business boundaries, breaking down the vast amount of layers usually present in large scale organization. Thus, minimizing the bureaucracy in the organization is a vital part in order to become more innovative. This will in turn entail a more flexible and agile organization, allowing potential innovative ideas to spring. In addition, both reward systems and stretch goals are seen as important building blocks when developing the firm's innovativeness (Lawson and Samson, 2001).

Technology and digitalization: This dimension comprises the use of new technology to both facilitate internal- as well as external processes. It includes having the ability to grasp new opportunities and ideas, ultimately improving the decision making (Lawson and Samson, 2001). Possessing the capability to use software and databases is a success factor for innovation. Thus, there a numerous methods out there to help organizations to better map up the future of the firm, such as the Delphi technique, scenario planning and the analytical hierarchy that can be used when seeking new developments in technologies, products and markets (Lawson and Samson, 2001). What should be noted is that a main driver for digitalization is organizations increased use of cloud services, big data, artificial intelligence and additive manufacturing or 3D (van Ark et al., 2017).

Appropriate metrics: This dimension refers to the importance for firms to establish flexible performance metrics for innovation in order to be able to cope with the high-risk, high-uncertainty that characterizes today's business environment. Appropriate metrics could be accumulation of new market connections, new technical capabilities, establishment of new partnerships or the movement of the firm into a new strategic domain (Colarelli O'Connor, 2008).

External innovation ecosystem: Refers to the capability to work with external innovation, and to open up the firm to new inputs and gain new knowledge through the establishment of various kinds of collaborations with partners e.g., universities, suppliers, customers and new start-ups (Björkdahl and Börjesson, 2012). Furthermore, van Ark et al. (2017) stress the importance for the firm to establish close relationships with the education and public research systems to be able to act on government's interventions that may affect the firm. Organizations need to work more in open networks and opening up the firm to new inputs in order to survive in the long run (Steiber, 2014). Lawson and Samson (2001) speak of the importance for firms to establish relationships with its customers and by focusing on the most demanding customers it's possible to deliver value to the vast majority of customers. Moreover, environmental and social sustainability refers to the importance for the organization to be able to manage risks in relation to environmental and social impacts and to ensure the development of an innovation business growth strategy that ultimately secures long-term shareholder value. This includes work proactively in areas such as labor and workplace conditions, supply chain and procurement, community involvement and philanthropy (van Ark et al., 2017).

Dimension	Source
Systems approach	Steiber (2014), Colarelli O'Connor (2008)
Internal innovation network	
- Vision and strategy	Steiber (2014), Björkdahl and Börjesson (2012), Lawson and Samson (2001)
- Resource allocation and idea generation	Björkdahl and Börjesson (2012), Steiber (2014), Lawson and Samson (2001)
- Culture and values	Björkdahl and Börjesson (2012), Lawson and Samson (2001), Steiber (2014), Ekvall (1996), Colarelli O'Connor (2008)
- Organisational structures and systems	Lawson and Samson (2001), Colarelli O'Connor (2008)
- Technology and digitalization	van Ark et al. (2017), Lawson and Samson (2001)
- Appropriate metrics	Colarelli O'Connor (2008), van Ark et al. (2017)
External innovation ecosystem	Björkdahl and Börjesson (2012), Steiber (2014), Lawson and Samson (2001), van Ark et al. (2017)

Table 3.1 Framework for assessing innovation capabilities and its sources

4. Methodology

In this chapter, the research design and the methods are presented. It is described how data was collected and analyzed, along with a discussion about the quality rigor and the validity of the paper.

4.1 Research process and research design

To find a relevant topic for the master's thesis, initial meetings were held with the main stakeholders, namely the supervisor at Company X and the supervisor at Chalmers University of Technology. Innovation within purchasing was identified as an area for investigation, but further exploration was needed, whereas a pilot study was conducted. Semi-structured interviews were carried out with five employees at two different departments, Company X Purchasing and Company X Technology, in order to get a general stakeholder perspective, see appendix 11.1.1 for the questionnaire template. The interviews were combined with an examination of internal company documents and an initial literature review, to understand the area, to get input on what challenges and opportunities Company X faces, as well as to find tendencies in order to formulate appropriate research questions. In turn, similarly to the pilot study, the main study was of an iterative nature as well. To better understand the underlying factors regarding innovation at Company X, as well as the subject of matter, the research questions were formulated accordingly, starting with a general approach.

Furthermore, in accordance with the reasoning by Edmonson and McManus (2007), that qualitative studies tend to be most suitable when conducting research in a nascent area, a qualitative approach was chosen for the main study. In turn, Eisenhardt (1989) and Easterby-Smith et al. (2015) states that case studies are a strategy for understanding the dynamics within single settings, is suitable for theory building and phenomenon-based research, and is particularly well-suited for new research areas or areas where existing theory is inadequate. Additionally, Yin (2013) argues that case study research has increased in popularity during the recent years and has been proven a useful tool in the early critical phases of new management theory. Thus, to be able to answer the research questions proposed and deliver suitable recommendations to managers within Company X Purchasing and Innovative Purchasing, an explorative single case study was conducted, as all the above arguments goes well in line with innovation within purchasing.

4.2 Data collection

According to Easterby-Smith et al. (2015), data can be divided into two different categories, primary- and secondary data. Primary data refers to information directly from the source, such as interviews and observations. Secondary data is defined as compiled information that does not come directly from the source; this could be literature about the subject in question, media coverage or other related documents. According to Easterby-Smith et al. (2015), the advantages of using secondary textual data compared to collecting primary data, are that it is relatively less time consuming and requires less effort. Additionally, it gives the possibility of adding a historical perspective to the data. In contrast, the authors describe that qualitative interviews provides the opportunity to collect information in context, learning about phenomena that are hard to observe, namely tacit knowledge.

However, as case study research is mostly based on interviews (Yin, 2013) and that interviews give the possibility of understanding concepts that otherwise not are easily observable, semi structured interviews were the basis of this paper. Thus, the data has primarily been collected using primary sources of information, although the primary data has

been complemented by information from relevant literature as well as internal company documents.

4.2.1 Interviews and selection of interviewees

The interview template for the semi-structured interviews was constructed by considering the established innovation capabilities framework, see chapter 3 for the framework and appendix 11.1.2 for the questionnaire template. Thus, this framework worked as a guide regarding what information we wanted to gather in the interviews.

Moreover, in accordance with the reasoning by Rabionet (2011), namely that introducing the questions in the right way may be more important than the actual questions per se, high emphasize was put on trying to make the interviewee relaxed and feel trust towards us as interviewers. Thus, the purpose with the interview was thoroughly explained along with the aim of the study.

Regarding the selection of people to interview, an overall- and global perspective was desired. Interviews were primarily conducted with employees from Company X Purchasing, Company X Technology and Company X Operations, although employees from other departments were incorporated as well. The choice to incorporate other departments than Company X Purchasing stems from the necessity to obtain an understanding of innovation work within the whole organization and to identify important internal linkages regarding innovation. A total of 28 interviews were conducted and three different regions were included in the study (Europe, USA, and Asia). 14 interviews were conducted with employees from Company X Purchasing, eight interviews with employees from Company X technology and two interviews with employees from Company X Operations. Since the study is conducted within Company X Purchasing, aims at delivering value to the purchasing department, and that the existing relationships as well as company heritage implies that the innovation effort is mainly a responsibility for Company X Technology, there has been an uneven distribution between the different departments. Moreover, the other four interviews were conducted with employees from four other departments, which are not displayed due to the risk of disclosing the interviewees' identities. 23 of the 28 interviewees were at a director or manager level, one at executive vice president level, whereas the remaining respondents had responsibilities on lower levels than on manger- or director level.

For selection of the interviewees, influences were taken from the three-step-process used by the Steiber (2012). Thus, interviewees were selected by using suggestions from our supervisor at Company X, as well as from suggestions from the interviewees themselves, as a step by step approach. Moreover, the length of the interviews was about one hour each and approximately one fourth of the interviews were conducted via Skype.

4.2.2 Literature study

The major literature review was mostly done after the majority of the interviews had been conducted to avoid the confirmation bias, i.e. tendency to confirm our existing beliefs, which goes in line with the systematic approach described by Gioia et al. (2013). In addition, this made the overall process more efficient and precise, as sufficient knowledge were gathered regarding what literature that was relevant before moving on further. However, some initial literature studies were done to gain basic knowledge in the subject and to establish our interview templates. Moreover, when gathering relevant literature for the theoretical framework, primarily two different databases were used, Chalmers Library and Google Scholar. The main focus was to find articles written by influential people, based on number of citations, within the field. The literature collection was then extended by using referencing

articles in those papers that were found relevant and interesting. In addition, our supervisors, both at Company X and at Chalmers University of Technology, handed over literature that could be of relevance and where the majority was used in the study.

4.3 Data analysis and interpretation

As Eisenhardt (1989) stress, analyzing data is the heart of building theory from case studies, but is at the same time the most difficult and least codified part of the process. In addition, Easterby-Smith et al. (2015) stress that transparency and rigour are paramount to achieve high quality in qualitative research, pointing at the importance of examine the quality of the data, that all data collected is relevant and reflecting on what is missing. Omitting relevant material reduces the possibilities of doing inferences and generalizations, and understanding the limitations of what is achievable. Hence, in order for the data from the semi-structured interviews to be linked and compiled correctly, influences from the systematic approach presented by Gioia et al. (2013) was used. First, in accordance with the 1st order manner, statements from the interviews were merely compiled. Thereafter, similarities among the statements were identified and categorized accordingly, finally resulting in the creation of a 2nd-order analysis level and the creation of table 5.1. By taking influences from the work made by Gioia et al. (2013), it enables the collected data to be clearly demonstrated and linked to the conclusions drawn. In addition, since the questionnaire template is based on the analytical framework presented in chapter 3, this helped us to further understand and analyse the empirical findings as linkages and relations in the data could be more easily identified.

4.4 Research quality

According to Miles et al. (2014), traditional criteria for assessing research quality, namely validity, reliability and generalizability, can be used if re-interpreted to better accommodate constructionist research, i.e. research conducted within the qualitative paradigm, which is a category small sample case research falls into. Thus, these three criteria's have been used for this thesis to determine the research quality.

Regarding the validity aspect, Easterby-Smith et al. (2015) states that in order to achieve high validity in qualitative research, it is essential for the researcher to include a sufficient number of perspectives to achieve an appropriate representation of the reality. In this study, interviews with employees from different departments, at different hierarchical levels and with different nationalities were incorporated, a total of 28 interviews were conducted As mentioned in section 3.3.1, these were chosen based on certain criteria as well as by a step by step approach, were interviewees themselves were able to suggest additional persons. Thus, the combining and comparison of different perspectives arguably entailed a strengthening of the research validity.

Moreover, according to Gibbert et al. (2005), reliability concerns the task of presenting the methodology of the study in such a way that it is possible for others to reach the same conclusions. Easterby-Smith et al. (2015) stress the importance of the researcher to clearly convey the message on how data has been collected and what that entails for the study, indicating that the study setup is of greatest importance. By taking influences from the systematic approach described by Gioia et al. (2013), trust and reliability tried to be ensured in the study.

Lastly, in qualitative research, generalizability is about whether the obtained result reflects the reality of the people studied, i.e. that an adequate number of human perspectives have been taken into account (Easterby-Smith et al., 2015). Thus, it is similar to the validity aspect, which is a notion that Leung (2015) supports, stating that one approach to asses

generalizability of qualitative studies is to adopt the same criteria as for validity. In addition, the author displays that qualitative research findings is usually not an expected attribute, since it is meant to study a specific issue in a certain setting. Nevertheless, if applying the same criteria as for validity it can be argued that the generalizability of this study is fairly high, due to the number of interviews conducted and the amount of perspectives incorporated.

However, one concern regarding the research quality of the study can be identified, which comprise the application of the set of general recommendations presented by Pierangelini (2017). The recommendations are stated to be generalized and work for any purchasing organization regardless of industry, since these are based on a benchmarking study of nine multinational companies from different industries with over one billion dollars in revenue. Although this reinforces the generalizability and validity, it is not specifically stated which industries the companies included in the study operate in. Thus, the management of Company X has to take this under consideration, reflecting on the recommendations given and to what extent they are applicable to the settings of Company X before moving forward.

5. Empirical findings and analysis

This chapter outlines the empirical findings obtained, which are divided into four different categories. Depending on which department the interviewee belongs to and the nature of the statement obtained, it has been categorized in either general findings regarding Company X, general findings regarding Company X Purchasing, Company X Purchasing regarded as, or Company X Purchasing's own view. Hence, each category represents a specific perspective, where the first category, general findings regarding Company X, includes statements on company level from all interviewees. Similarly, the second category comprises statements from all interviewees, but regarding Company X Purchasing. The third category contains statements from interviewees outside of purchasing, thus denoted as Company X Purchasing regarded as. Lastly, the fourth category incorporates statements from interviewees working at purchasing. However, what should be noted is that the second category includes statements that are shared among all employees, independent of belonging, while the third category contains statements that are not shared among employees at purchasing. Finally, the fourth category is an exclusive contribution from employees at purchasing, and not stated at other departments.

5.1 General findings regarding Company X

Since the new CEO took office, the general belief is that there has been an increased awareness about open innovation and in addition, a higher emphasize has been put on the customer perspective as the market is constantly changing. As mentioned in several of the interviews, the CEO highlights trust, one of the five watchwords established in the organization, which are important when considering innovation and collaboration with external partners. In addition, the mindset exists that external partners are important since the organization itself do not have the complete knowledge and that collaboration partners are vital in order to achieve success in the future.

"It´s important for us to both in a short- and long term perspective collaborate with external partners because we doesn't possess all the competence needed inside the company" - Employee Company X Technology

However, some of the interviewees expressed that the syndrome "not invented here" is still prevalent in the organization. There is an emphasize on continuous improvement and the organizational culture is far from optimal regarding innovation, low freedom and resistance to change were two areas brought up. The importance of culture and mindset were identified and in turn, to foster a change in culture and transitioning towards an innovative environment, it was underlined that both top-down and bottom-up processes are needed. Additionally, the recruitment of right people were mentioned as an important factor, along with educating employees in innovation, to become agile and flexible, as well as to enable a change in the organizational culture.

"The syndrome "not invented here" is prevalent at many different levels in the organization" - Employee Company X Technology

In combination with the emphasize on continuous improvement and the resistance to change, interviewees expressed a low risk taking behavior in the organization. There are resources allocated to innovation, but these are usually dedicated to exploiting current businesses, and the general resource allocation is done on a year to year basis. In addition, there are formalized structures and processes in place, making the organization rigid and slow with many internal decision points. As a result, several of the interviewees stated that Company X

is ineffective when it comes to time to market. However, it is a consensus around the importance of being seen as more innovative, the need to become more agile and getting closer to the customer, which according to the interviewees could be enabled through less rigid structures and work methods. One area of improvement brought up during the interviews addressed creation and signing of contracts, which according to the interviewees is a time-consuming process that entails Company X being seen as an unattractive partner.

"If there is anything that we are good at in this company it is risk minimization, we don't take risks" - Employee Company X Technology

Furthermore, when asked about the cross functional collaboration between departments, a majority of the interviewees answered that it is inadequate but an important and vital factor to improve to achieve success in the future. There is a need to develop the communication channels and secure a continuous flow of information between departments. As of today, much work is made in silos and there is a lack of transparency, for instance considering the creation of strategies. These are first done separately at every department, after which they are merged once a year at an annual management meeting. In turn, when considering innovation strategies, there are many different innovation initiatives and there is no clear synergy between them. It is unclear directives regarding how innovation work should be carried out, which according to the interviewees are caused by top management's inability to give clear directives to middle management, entailing ineffective implementation of strategies. Additionally, the interviewees expressed that there is insufficient resource allocation when it comes to innovation, as well as no clear individuals responsible for the innovation process. Own time and freedom are regarded as not supported in the organization, which are seen as important to foster a creative thinking. Lack of time and resources creates a stressful situation and several of the interviewees argued that Company X has an inability to handle ideas from the external environment.

"In this company we tend to produce strategies in silos" - Employee Company X Purchasing

Moreover, the organization lacks a coherent definition of innovation. Depending on which person you talk to, different answers will be given. In turn, there is incoherence when it comes to measure innovation as well. Some interviewees states that measure innovation is about the number of patents and publications achieved, while others argue for a more qualitative than quantitative approach. If having a framework around measuring innovation, it was clear from the interviews that it will probably increase and facilitate the cross functional communication and collaboration.

"We need to develop new KPI's for innovation, but today we lack a coherent definition of innovation and how it should be measured in the organization" – Employee Company X Purchasing

A final general remark concerns the technologies and systems in place at Company X. Several of the interviewees states that the IT-systems are outdated and highlights their non-user-friendliness. Some of the interviewees saw great potential in improving the cross functional collaboration by implementing new IT-systems, as an easier platform can create a greater interaction between employees from different departments. In addition, it was argued that the external collaboration could be facilitated, as more compatible systems can simplify and smoothen the processes.

"The company's IT-systems are not exactly the newest ones, they are outdated" – Employee Company X Purchasing"

5.2 General findings regarding Company X Purchasing

From the time when the new Executive Vice President (EVP) for purchasing took office, the general consensus is that there has been an increased awareness in the organization about innovation and purchasing. The EVP's initiative to establish the unit Innovative Purchasing within the regular purchasing department, in combination with purchasing in recent time becoming its own department, has resulted in a greater recognition of the purchasing department in general, and more specifically an internal actor working with innovation.

"I think that the approach taken by the EVP for purchasing was proactive when establishing a seat at the table so to speak" – Employee Company X Purchasing

When asked about the unit Innovative Purchasing, a majority of the interviewees concluded that this is a bold decision made by the EVP, but nonetheless an important decision to take in order for the company to become more innovative in the future. Adding to this, a genuine interest was expressed regarding innovative purchasing and what their potential contribution could be to the rest of the company. It was stressed that this initiative hopefully can entail a better cross functional collaboration, as well as improving the innovation work within Company X due to purchasing's interface towards suppliers. However, a majority of the interviewees expressed a wish for a clarification regarding the new unit's role in the organization. The general belief is that purchasing has a long way to go before other departments regard them as an equal partner in innovation aspects, thus the stated importance for management to clarify Innovative Purchasing role and contribution to the organization, not least in terms of what purchasing should focus on regarding external sources of innovation. In addition, several interviewees talked about the need for management to map up existing innovation activities in the company in order to better steer all innovation activities in a coherent way.

"There is a clear need for management to better clarify innovative purchasing's role in the organization, also toward other departments in the organization – Employee Company X Purchasing

Furthermore, the majority of the interviewees expressed concerns regarding purchasing having too rigid processes and a too conservative business model, ultimately hindering the organizations ability to innovate. Therefore, it was argued that a separate process is needed to allow implementation of new ideas and handling less established suppliers. This process would enable employees within purchasing to work on an arms distance from the rest of the organization, increasing the department's agility to become more flexible and attractive toward others in the organization as well as toward external actors. As of today, the general consensus is that purchasing is unable to handle ideas from the external environment in an effective way.

"Purchasing are today very process oriented and slow moving, making it difficult for us to be flexible and adapt to changes – Employee Company X Purchasing

Moreover, all interviewees communicated a coherent picture regarding purchasing's strong cost focus, and its concentration on exploiting existing businesses compared to exploring new business opportunities that enable innovation. The usual approach is to work with known suppliers and known technology. Several interviewees stated that there is a lack of innovative

mindset at the purchasing department and request another mindset from Innovative Purchasing when it comes to open innovation, thus allowing the implementation of new ideas from both new and existing suppliers. In addition, the need of a relationship change with suppliers towards a trustful one was brought up, incorporating incitements as well as reward systems and not determine success only in monetary terms.

"Buyers are today very much focused on high-volume procurements and sign contracts with existing suppliers" – Employee Company X Operations

Another notion that was found during the interviews regards a wish for a more heterogenic set up of people in the purchasing department. The importance of a purchaser to have both a business mindset in combination with technical skills was emphasized, as it would facilitate the procurement processes both in terms of the ability to approach the right supplier and keep the costs down. It can also be seen from several of the interviews that people in the organization values having curious people in their teams when working with new developments and that curiosity is something important in order for the person to be open to changes and learn from mistakes. It was especially highlighted that curiosity should be a prerequisite for people working within Innovative Purchasing.

"I think it is important that the buyer possess technical skills if they want to be invited and contribute earlier in the development process" – Employee Company X Technology

Nevertheless, there is a wish among employees at Company X to include purchasing earlier in development processes, in order to secure another mindset and perspective regarding innovation. Employees at purchasing underline the aspect that other departments need to see that purchasing is here to help and support. Without this understanding purchasing's contribution will be limited, for instance when it comes to scouting new technologies as it requires an awareness about the strategy roadmap. However, some of the interviewees displayed the difficulties for the purchasing department to be invited earlier in development processes, due to their heritage in the organization as a mere cost driven department. As of today, much work are made in silos, and in order for purchasing to be integrated in earlier stages, it is underlined that the mindset at the department has to be changed to enable an effective internal- and external collaboration. Here it was highlighted that Innovative Purchasing can have a major role, transforming the mindset at purchasing and how other departments view them, becoming a contributor instead of a liability and establishing credibility.

"In principal, we always try to keep the purchasing involvement to a minimum in our early stages of development. We know this is something bad and it ends up punishing us in the end" – Employee Company X Technology

5.3 Company X Purchasing regarded as

From the interviews with employees outside of purchasing, it became apparent that a majority regard purchasing as a support function. Some of the interviewees expressed that purchasing is an organization that usually gets involved in the later stages of development processes, for instance when there is time for sourcing suppliers and price negotiations, or when contracts are needed to be established to enable an external collaboration. However, some interviewees stated that Innovative Purchasing can have a possible role in integrating the purchasing department in earlier stages and contribute with ideas from the external environment, especially from the supply base.

”Purchasing arrives in a phase when you already stated what to do. Then you source in one way or another, but purchasing has less innovation ability compared to the regular R&D department, since those are the ones stating what purchasing should buy”. – Employee Company X Technology

A majority of the interviewees considers purchasing as a facilitator of solely supplier innovation, due to its interface towards suppliers. Although new start-ups were identified as an additional external source, the general mindset was that purchasing should not be involved with other external actors, as other departments are better equipped to do that and it is unnecessary to do double-work. Concerns about purchasing taking a too big role with the new innovative initiative was brought up. It was argued that purchasing can contribute with an extensive mapping about possible suppliers, either when it comes to new technologies or current ones, as well as obtaining new innovative ideas from the supply base. Purchasing could also have a role in supporting smaller firms to become future Company X suppliers. Additionally, it is argued that purchasing’s CSR work should include finding a supplier that fulfills the technical requirements along with the environmental ones. Due to an extensive supply chain, it is important to have a complete mapping of selected suppliers to secure the company’s image.

”I believe that Innovative Purchasing´s main task should be to work with suppliers in order to obtain innovation and this need to be synchronized with our existing innovation strategies at the technical department”– Employee Company X Technology

However, for purchasing to successfully obtaining and integrating innovations from external sources, the patent department is seen as an important internal collaboration partner. Concerns were raised regarding purchasing’s inexperience when handling new innovative ideas, identifying them as a possible risk if partnering up with others without consulting the patent office.

“It´s important to acknowledge that the implementation of new disruptive innovations can create a lock in effect if being integrated further into the organization, therefore it is important to work with the patent office”” Employee Company X Technology

5.4 Company X Purchasing’s own view

As expressed on the general level, there is an unclear strategy regarding innovation within Company X. This is further displayed when considering the purchasing department, as interviewees stated that there are unclear directives how innovation work should be carried out. Even though Innovative Purchasing has been established, this function is still in its early stages and under development, knowing what to achieve but working with the question how to get there. Its strategy is still somewhat vague, although it was brought up during the interviews that Innovative Purchasing can contribute with a long-term perspective to purchasing.

“If we don´t know what our future strategy plan is for the next five to ten years, we will not be able to efficiently go out and scout or look for technologies to support our needs” - Employee Company X Purchasing

One aspect that differs from the majority of the organization is the view on what purchasing can facilitate regarding innovation. According to the majority of the interviewees from purchasing, the department have the ability to do more than only bring supplier innovation to

Company X. External sources such as research centres, universities, and other developing partners that not might work in the same industry as Company X was identified as potential actors. In turn, Innovative Purchasing is seen as a facilitator of bringing such innovation to Company X, both when it comes to new technology and new manufacturing processes. However, as of today, there is a need to have a clear business case to integrate new ideas into the organization. In addition, Innovative purchasing is seen as a function that has the ability to bring more effective processes and systems to purchasing, develop the internal work methods and enable purchasing to become more efficient, as well as fostering an enhanced customer focus. A majority of the interviewees expressed frustration regarding the internal systems in place, often causing activities to become unnecessary and time consuming. There are multiple systems in place in order to achieve the same objective, which ultimately can result in different outcomes.

"My goal is that I will still focus on our current supplier base, but then I will also spend at least 30 to 40 percentages of my focus on someone like a start-up company or companies that already have cutting edge technology and that potentially can become a development partner" – Employee Company X Purchasing

Furthermore, as seen on the company level, there is an inconsistency regarding the definition of innovation, which is further illustrated from the interviews with employees at purchasing. Since innovation initiatives within Company X Purchasing are a fairly new phenomenon, there is yet no clear definition communicated across the department. Thus, as also seen at the general level, there is no clear method on how to measure innovation, although different opinions exist.

"The purchasing organization will need to develop new KPI's for innovation, but we haven´t yet been able to take a decision on how they should look like" – Employee Company X Purchasing

A final remark gathered from the interviews at purchasing was the increased awareness about the connection between suppliers and image. As the suppliers have a clear association to environmental questions due to materials incorporated in their products, it was expressed that there is a need to foster better relationships to have the ability to affect their environmental work. The material cobalt has for instance been a hot topic as it is still unregulated, but where pressure from society entails that companies have to counteract its use to avoid negative publicity and image.

"When a material gets prohibited on the market we act quickly together with the supplier to prevent its use. Then we have other materials, such as cobalt that is not prohibited, but highly questionable, so we want to minimize the risk of gaining bad publicity from the media."
- Employee Company X Purchasing

General findings regarding Company X	General findings regarding Company X Purchasing	Company X Purchasing regarded as	Company X Purchasing's own view
CEO has increased the awareness about open innovation	Top-level management has increased the awareness about innovation and purchasing	Support function (CXT, CXO, others)	Unclear strategy regarding innovation
Recruitment of creative people is seen as important	Exists a positive attitude towards Innovative Purchasing	Facilitator of supplier innovation, (CXT, CXO, others)	Innovative purchasing enables a long-term perspective
Low risk taking behavior in the organization	A wish to clarify Innovative Purchasing's role in the organization	A need for purchasing to collaborate with the patent department (CXT)	Facilitator of more than supplier innovation
Formalized structures and processes	Rigid processes		Innovative purchasing can develop internal processes and systems
Inadequate cross-functional collaboration	Cost focus		Potential advantages with a higher customer focus
Strategies are made in silos	Focus more on exploit than explore		Unclear definition of innovation within purchasing
Insufficient resource allocation regarding innovation	A wish for more heterogenic set up of people in the purchasing department		Need a clear business case to be able to integrate new ideas
Lack of a coherent definition of innovation	A wish to include purchasing earlier in the development processes		Increased awareness about the connection between suppliers and image
Incoherent way of measuring innovation			

Table 5.1 Summarization of the empirical findings from the study

6. Exploring prerequisites for innovation at Company X

In this chapter, the empirical findings obtained during the interviews is compared to the gathered literature. The structure of the chapter will align to the research questions, implying that the overall situation at Company X is analyzed by applying the analytical framework presented in chapter 3, followed by challenges and opportunities for purchasing when it comes to innovation. Lastly, Innovative Purchasing's contribution is addressed.

6.1 Innovation capability at Company X

It is evident from the empirical findings that Company X lacks several aspects in their innovation effort. Although there is an increased awareness about innovation in the organization, that emphasize has been put on achieving an innovative climate and culture, and that there are many innovation initiatives active within the firm, it is also displayed that there exist concerns regarding the innovation effort and that there is a defective structure in place.

Addressing the first capability, namely *the systems approach*, it is apparent that the new CEO has increased the awareness about innovation, and especially open innovation, within the organization. As this aspect refers to the need for a holistic view of the innovation work taking place (Steiber, 2014; Colarelli O'Connor, 2008), it is however necessary to not only increase the awareness, the activities implemented need to align to create an effective outcome. For instance, it is evident from the interviews that strategies are made in silos and that there is a lack of cross-functional collaboration. These two aspects will be further analyzed below, but it is obvious that there is room for improvement regarding management's systems approach.

Regarding the *internal innovation network* and it's including components, it is apparent from the empirical findings that several of the areas are defective. Starting with *vision and strategy*, interviewees express an inconsistency regarding innovation strategies, as well as stating that there is no clear definition of innovation throughout the company. As Lawson and Samson (2001) states, the importance of a clear articulation of a common vision in combination with a linkage between vision, strategy and innovation cannot be stressed enough. Without this in place, it is hard to achieve an effective innovation management. Thus, as it is displayed that strategies are made in silos and that there is a lack of understanding throughout the whole organization, Company X must recognize how to find a better alignment. Moreover, interviewees uttered concerns regarding the *resource allocation* when it comes to innovation, ultimately stating that Company X has an inability to handle ideas from the external environment. Although some interviewees say that resources are devoted for innovation, there is no clear structure to effectively use them. In contrast, some states that there is a need to put more resources on innovation, especially at activities aiming at enabling more own time and freedom to foster a creative thinking, since there is a current emphasize on continuous improvement in today's organization. According to Lawson and Samson (2001) and Björkdahl and Börjesson (2012), an effective resource allocation is a necessity to enable an innovative environment, and something that Company X has to consider to become more innovative. Based on the views of Lawson and Samson (2001) and Björkdahl and Börjesson (2012), one can argue that Company X should definitely establish clear resource allocation channels and sponsors for innovation to successfully integrate new ideas.

Furthermore, it is evident from the answers gathered, that the *culture* in place at Company X in some cases prohibits innovation and especially open innovation. As Ekvall (1996), Lawson and Samson (2001), Colarelli O'Connor (2008) and Börkdahl and Börjesson (2012) argues, to foster an innovative environment, there must be a compatible culture and values in place that

enables the integration of external innovation, which comprises being open to external influences and having a risk-taking mindset. Contrasting to this, the empirical findings shows that the syndrome "not invented here" is apparent among employees at Company X, in combination with a low risk-taking behavior and a resistance to change. There is a fear of taking decisions that could lead to failures, prohibiting a risk-taking environment and the integration of innovative ideas. It is stated that these aspects has to do with the Company's heritage as being a successful player in its industry over a long time period. However, according to West and Bogers (2014), the "we do it best" or "not invented here" syndrome is one of the strongest barriers to open innovation and something that a company must be aware of before trying to incorporate such innovation. What do speak in favor of Company X is the increased awareness among top management about open innovation, as well as the mindset among employees that external partners are important to achieve success in the future. This in combination with the initiatives taken, for instance a planned innovation hub, can hopefully contribute to a change in the organizational culture regarding innovation. Adding to this is the expressed need to recruit the right people, more specifically pointing at creative ones, to foster a change in the organizational culture. Based on the view of Colarelli O'Connor (2008) and Steiber (2012) one can argue that this is a valid argument, as skills and talents are seen as a highly important factor for a company to be innovative. Thus, employing new people with the right mindset can be a vital factor to stay competitive in today's environment and a factor Company X should consider.

Moreover, when it comes to the aspect *organizational process*, the findings obtained illustrates a company with formalized structures and processes in place, entailing an organization that is rigid and slow due to many internal decision points. This in combination with an inadequate cross-collaboration ultimately led to interviewees stating that Company X is ineffective regarding time to market. Based on the reasoning by Lawson and Samson (2001), one can argue that being agile and flexible is a requirement to maintain or achieve a competitive advantage, as well as to be seen as an attractive collaboration partner. Thus, indicating that this is an important factor for Company X to reflect upon to keep its position in the marketplace in today's turbulent and dynamic environment. However, one step on the way is to more effectively work with *technology and digitalization*, implementing more effective and user-friendly IT-systems, which is something that Lawson and Samson (2001) argues being a facilitator of cross-collaboration and innovation in general. As of today, IT-systems are rigid and outdated, preventing an effective cross-communication. In addition, a coherence regarding how to measure innovation was brought up and a possible facilitator of cross-collaboration, which goes in line with what Colarelli O'Connor (2008) express, stating that *appropriate metrics* are an important aspect in innovation work.

Moving on to the *external innovation ecosystem*, Company X is currently working with external actors and has a rather broad network, although this is mainly done at Company X Technology. However, due to the cultural aspects discussed above, it is obvious that this is a potential area for improvement. Understanding and having a knowledge about its ecosystem is according to Björkdahl and Börjesson (2012), Steiber (2014), and Lawson and Samson (2001) a vital factor for a company in today's environment. In addition, which will be dealt with down below, purchasing can have a significant role in this work, due to their interface towards suppliers and their extensive network. However, Company X Purchasing is still under development in regard to this. What do speak in favor of an increased knowledge about the ecosystem surrounding Company X is primarily the established mentality that external actors are vital to achieve long-term success, along with an increased customer focus and recognition of their needs.

The review of the innovation capability at Company X reveals a company with many potential areas of improvement. However, several of the characteristics identified can be attributed to the principles of closed innovation, as outlined by Chesbrough (2003). Although Company X has adopted several parts of the principles behind open innovation, the company is colored by their heritage as a dominant player in its industry, implying that parts of a closed innovation strategy are still in place. One thing that has not been discussed so far is the concerns regarding the ability of purchasing to handle new innovative ideas, without jeopardizing intellectual property strategies, which further demonstrates a tendency towards a closed model. Nevertheless, it is apparent that the company itself has recognized its drawbacks, trying to transform towards an extended open innovation approach. As emphasized by Boudreau and Lakhani (2013) and Afuah and Tucci (2012), companies have to look outside their boundaries to stay competitive. This notion is supported by Chesbrough (2003), arguing that companies should use both external and internal innovations when trying to make technological advancements. For Company X, the need to further include suppliers as an external source of innovation is apparent and is something that will be further analysed in chapter 6.3.

Furthermore, West and Bogers (2014) argue that identifying and bringing in external sources of innovation is one thing, but integrating and commercializing the innovations are another thing that are central to achieve value to the company. As seen from the review, the internal innovation network within Company X lacks several important aspects, implying that transitioning towards an open innovation strategy as described by Chesbrough (2003) might not yield the intended results if there is no proper structure for integrating and commercializing external innovations.

6.2 Opportunities and challenges for purchasing regarding innovation

Considering purchasing and its role in open innovation, Pierangelini (2017) argues that this function has the potential to piloting the firm's knowledge absorption capacity strategy and culture, being capable of providing the firm with a sustainable and long term competitive advantage. This notion is further supported by Galunic and Rodan (1998), Khilji et al. (2006), Enkel et al. (2009), Luzzini and Ronzi (2010), Schiele (2012), Pierangelini (2017), Patrucco et al. (2017) Servajean-Hilst, 2014, and Servajean-Hilst and Calvi, 2018, which all stress the importance of the supply base as a source of innovation, indicating the increasing recognition of purchasing departments in open innovation. In addition, Song and Thieme (2009) and Servajean-Hilst and Calvi (2018) also emphasize purchasing's ability to extract external ideas from sources other than the supply base. With this in mind, the importance of purchasing in open innovation cannot be stressed enough, which is something that has got an increased recognition at Company X. However, it is evident from the empirical findings that employees outside of purchasing have not yet fully realized the possible contribution of the function, while at the same time the current innovation work within the function is insufficient, although improving. Purchasing is both regarded as a support function and a facilitator of solely supplier innovation. For purchasing to be able to leverage its potential, being able to contribute to the internal NPD process, with market intelligence, and workplace transformation, the department must get legitimacy throughout the whole organization.

Pierangelini (2017) presents four families that encompass the purchasing sphere of contribution, namely lack of capabilities, management complexity, organizational culture and lack of adequate resources, which are to an extent all apparent at Company X. From the interviews, it is evident that purchasing lacks certain capabilities to effectively facilitate innovation. There are rigid processes in place and there is a larger focus on exploit than

explore with a current emphasis on cost reduction. A wish for more heterogenic set up of people in the purchasing department was also emphasized during the interviews, indicating a possible need to increase the technical competence within the department. Obviously, this would for instance foster a more effective external- as well as internal communication, ultimately bringing credibility to purchasing. In addition, outdated IT-systems further complicate collaboration and ultimately the obtaining of external ideas. In turn, it was expressed that there is an unclear strategy regarding innovation, with unclear directives how innovation work should be carried out. Moreover, it is obvious that the organizational culture is another factor hindering an effective innovation effort. Resistance to change, the syndrome "not invented here", and the view of purchasing as a support function in combination with the departments own cost focus, hinders its full potential regarding innovation. As Pierangelini (2017) states, to fully exploit the potential of the department, purchasing should be regarded as a knowledge and strategic advisor, a knowledge facilitator, and not only having a product and cost transactional responsibility, which unfortunately is the case to a large extent in Company X. Lastly, interviewees expressed concerns regarding inadequate resources when it comes to innovation, especially concerning time restrains, which is a factor that undermines the team effectiveness and reduces the potential intelligence and innovation facilitator role (Pierangelini, 2017).

Specifically the cultural aspect is something that Patrucco et al. (2017) points at as an obstacle, addressing the status and maturity of purchasing as a critical point. As the authors states, without a proper status within the firm, purchasing will not be able to exploit its potential, which will affect the firms' ability to acquire, share and utilize knowledge. Purchasing involvement in certain activities, such as in strategic planning- and innovation processes will be limited. Consequently, it can lead to a loss of key business opportunities and competitive advantage for the organization. However, based on the view of Pierangelini (2017) and the empirical findings obtained, a twofold approach can be argued to be a necessity to accomplish a cultural change. As mentioned in the beginning of this chapter, the department must get legitimacy throughout the whole organization, thus management support is necessary, as well establishing trust, credibility and recognition at project level. Without this in place, the opportunities that purchasing enable will not be fully utilized.

6.3 Innovative Purchasing's contribution

What does speak in favor of Purchasing at Company X, is the mindset at top management within purchasing regarding innovation. A majority of the interviewees expressed that there is an increased awareness about innovation and purchasing, which has entailed that there is a wish to include purchasing earlier in development processes. A major contributing factor to this is the establishment of Innovative Purchasing, which goes well in line with what Pierangelini (2017) argues being a first step on the journey to transform a purchasing function to become more innovative. This notion is supported by Servajean-Hilst (2014) and Servajean-Hilst and Calvi (2018), arguing that such a function facilitates purchasing involvement in open innovation, foster ambidexterity and improve the relational capability. In turn, this is reflected in what was emphasized from the interviews, namely that this initiative hopefully can entail a better cross functional collaboration along with improving the general innovation work within purchasing. Hence, not only will this function enable a long-term focus to be incorporated in purchasing and facilitate cross-collaboration, it will build legitimacy and credibility to purchasing when it comes to innovation, ultimately resulting in an increased innovation capability throughout the whole organization.

Nevertheless, to achieve a solid foundation in the innovation space, Pierangelini (2017) states that not only are legitimacy and credibility needed, the creation of an identity is a

requirement. As emphasized during the interviews, it was a wish to clarify Innovative Purchasing's role in the organization, clarifying its contribution. It is however obvious when considering the empirical findings that Innovative Purchasing can both facilitate external- as well as internal innovation work, which is something that employees at Company X should require. The function has the ability to develop internal processes and systems, enabling a more agile and flexible environment, ultimately smoothening the purchasing process. It can also improve the work with external actors, such as increasing the current market intelligence effort, as well as fostering a better relationship with suppliers to more effectively obtain external sources of innovation.

One notion that came up during the interviews and that has not yet been discussed is if purchasing should work solely with supplier innovation, or include other external actors as well. From the interviews it is apparent that it is contradictory arguments in place between purchasing itself and the rest of the company. Purchasing see themselves as more than solely a facilitator of supplier innovation, while other parts of the organization emphasize suppliers as the major, and in many cases the only, external actor that purchasing should focus on. By taking insights from research made in the field, several authors, such as Simon and Thieme (2009) and Servajean-Hilst and Calvi (2018), emphasise purchasing being able of facilitating more than only supplier innovation, for instance working with research-centres, universities and start-ups. Thus, based on the authors view, it can be argued that Company X Purchasing should utilize its extensive network and facilitate more than solely supplier innovation. However, apparent from the empirical findings is that such work is on-going in other parts of the company. Hence, Innovative Purchasing can have a role in achieving a consensus regarding what purchasing should contribute with, to foster a more effective innovation work on company level.

A final aspect where Innovative Purchasing can contribute concerns environmental and social sustainability. As expressed during the interviews, this is an area of high importance, as it is interlinked with the image of the company. This goes well in line with what van Ark et al. (2017) emphasize, further indicating its relevance. More specifically, purchasing has identified themselves as having a major role due to its interface towards suppliers, as the suppliers have a clear association to environmental questions due to materials incorporated in their products. To avoid negative publicity and image, it is important to have control over the supply chain, something that was expressed as defective in some cases. Thus, Innovative Purchasing can take a role in fostering better relationship with suppliers to have the ability to affect their environmental work, as well as increasing the general market intelligence to increase the knowledge about the supply chain. To be seen as a valid partner for external actors and customers, one can argue that environmental aspects play a vital role, hence its importance.

7. Conclusion

This thesis set out to investigate general prerequisites of innovative work within purchasing and Innovative Purchasing's contribution. In addition, the capability for innovation in general at Company X was addressed. Hence, in this chapter, each research question is addressed, one by one, contributing with a summary of the overall results.

What is the capability for innovation at Company X?

At first glance the innovation work within Company X seems to be well structured and effective. The awareness about innovation has increased over the past three years, where innovation is emphasized as a highly important factor, both at management level and among employees, with many innovation activities on-going. In addition, the company is a dominant player in its industry, and have been so for a long period of time. However, when starting to scratch on the surface, it is evident that Company X lacks certain aspects to be regarded as a highly innovative firm, especially when it comes to open innovation.

The result from the review of the innovation capabilities, which are needed for a firm to be regarded as innovative, indicates that Company X has several areas of improvement. However, several of the characteristics identified can be attributed to the principles of closed innovation, and it is apparent that the company itself has recognized its drawbacks, trying to transform towards an extended open innovation approach with an increased innovation effort, for instance increasing purchasing involvement. Nevertheless, in this situation, what is concluded as important is to work with the whole chain, namely obtaining, integrating and commercializing, to achieve the benefits of external sources of innovation and create value for the company.

What are the main challenges and opportunities for developing innovativeness from a purchasing perspective?

Not only has the general awareness about innovation increased at Company X, purchasing has got an increased recognition as well. This has mainly to do with the mindset at top management, especially within purchasing, that has realized the great potential of the department when it comes to innovation. A clear sign of that is the establishment of Innovative Purchasing. Hence, the opportunities for purchasing to develop innovativeness has never been greater at Company X. However, due to the innovation characteristics in place at Company X, namely deficient innovation capabilities, as well as the inexperience of purchasing in innovation questions, there are many challenges ahead for the department.

There are especially four obstacles challenging the development of innovativeness at purchasing. First of all, there is a lack of capabilities at the purchasing department to effectively facilitate innovation. There are rigid processes in place and a larger focus on exploit than explore, with a current emphasis on cost reduction. In addition, there is a shortage of technical competence within the department. Moreover, the second obstacle refers to unclear directives how innovation work should be carried out, due to the current strategy regarding innovation is imprecise. In turn, the third obstacle comprises inadequate resources for innovation, specifically regarding time restraints. Lastly, and probably the largest obstacle, concerns the organizational culture, both at company level but also at the department itself. Resistance to change, the syndrome "not invented here", and the view of purchasing as a support function in combination with the departments own cost focus, hinders its full potential regarding innovation.

How can Innovative Purchasing contribute to Company X regarding innovation?

The strategic decision to establish Innovative Purchasing, taken by the EVP of purchasing, goes well in line with the approach described in research regarding how to transform the purchasing department towards innovativeness. It is described how such a function can facilitate involvement in open innovation, foster ambidexterity and improve the relational capabilities. Hence, and as evident from the study conducted, Innovative Purchasing can contribute to Company X when it comes to innovation in several ways.

First of all, this function can entail increased cross functional collaboration, as purchasing will have a contact point devoted to innovation. Thus, it will have the ability to bring legitimacy and credibility to purchasing, entailing an increased innovation capability in the organization. Moreover, this function will enable a long-term focus to be incorporated in purchasing, transforming the current exploit focus at the department, along with improving the general innovation work. Hence, it will facilitate both the external- as well as internal innovation effort, such as improving the work with external actors to more effectively obtain external sources of innovation and develop internal processes and systems, enabling a more agile and flexible environment and contributing to the integration and commercializing of external ideas.

8. Recommendation

Considering the findings obtained from the 28 interviews, it is evident that Company X is not as innovative as ought to be. In today's turbulent and dynamic environment, great emphasize has to be put on innovation efforts to maintain the position as a market leader in the industry. In turn, specifically one department at Company X has been identified as having the potential to increase its contribution regarding innovation to the firm, namely Company X Purchasing. In recent time an innovation journey has been initiated with the establishment of Innovative Purchasing, whereas the following chapter aims at providing specific recommendations as how to most effectively reach a successful transformation during the first 0-24 months. The recommendations build on the gathered results from the study, thus including the empirical findings and analysis, along with the discussion and conclusion. In addition to this, a SWOT-analysis has been created and used as a tool to summarize the insights from the study, see appendix 11.2. To bring further legitimacy to the recommendations, these are influenced by the recommendation list presented by Pierangelini (2017) and displayed as a priority list.

Implement small and numerous success stories

To obtain the right prerequisites for a successful transformation, there is a need to achieve *bottom up legitimacy* in the organization. Thus, to increase the integration of the purchasing function and gain trust, there is a need to prove *added value*[1]. However, the actions do not need to be extensive; by solving small and irritant problems that have not been handled due to lack of time or low priority, trust and confidence will be earned from internal customers. Another action could be to generate a *market information feed* to stakeholders in the company regarding new ideas or technologies, pricings, suppliers and commodities.

Considering the above, Innovative Purchasing has a role to identify actions that can contribute to small success stories, as well as carry through these. For instance, one action could be to facilitate the establishment of more *flexible partnership contracts*[2], ultimately fostering a more agile contractual process. In addition, a further recommendation is that Innovative Purchasing generates a *market information feed*, starting with spreading news regarding market insights and innovation to Company X Technology. This will hopefully strengthen the credibility of both Innovative Purchasing and Purchasing in general at this early stage at their innovation journey.

Communicate about the added value Innovative Purchasing can contribute with

Creating awareness across the company about *Innovative Purchasing* comes as a next step on the innovation journey. Based on the empirical findings, Innovative Purchasing has gained increased recognition throughout the organization, thus there is a request to clarify the role of Innovative Purchasing and what this function could contribute with. Hence, communication about the function's ongoing initiatives is seen as an important step to foster an *increased awareness* and *legitimacy* throughout the organization. However, in combination with the communication part it is a necessity to prove added value, otherwise there is a risk that unnecessary resistance will be created in the organization.

[1] Value other than merely cost savings etcetera.

[2] Evident from the empirical findings, it is requested to both speed up the contractual process as well as increase the flexibility towards smaller actors. By doing this, Company X can avoid being seen as non-innovative and miss out on new market opportunities.

Constitute a network of early adopters inside the firm to share knowledge
As a third step on the transformation journey, emphasis should be put on developing a *collaborative knowledge sharing environment*. Establishing an *internal cross functional network* is a necessity to progressively be able to change culture and enable a shift in how purchasing is perceived.

Thus, as a first step, there is a need to map up *existing innovation initiatives*[3] inside the firm to extend the knowledge of whom to collaborate with. However, this is an action already undertaken by Innovative Purchasing, entailing that the current action should be to *utilize the knowledge gathered* and *make use of personal networks* that employees within Innovative Purchasing obtain. In addition, it became apparent from the empirical findings that Innovative Purchasing possibly could *work more closely with the three core areas*[4] regarding innovation, whereas it is recommended at this stage to establish a network with early adopters within these areas.

Implement a supply market intelligence function and define the attributes
To strengthen the ability of purchasing to contribute to the firm's *absorptive capacity*, a necessity is to have a *coordination of the exogenous knowledge sharing*. Hence, the next step in the process is to implement a *supply market intelligence function* and define its attributes, to effectively obtain knowledge regarding innovation, suppliers and *best practices*[5]. However, this action is to a great extent already established due to the creation of Innovative Purchasing, although it could be further clarified what external sources of innovation are ought to be included. Based on the empirical findings and the research within the field of innovation and purchasing, external sources of innovation other than solely suppliers should be considered. In addition, *establishing a database* to collect ideas from the external environment is another aspect worth consider at this stage, which is something already under implementation.

Change organizational splitting, strategic/operational roles
Being able to both exploit current businesses and explore new ideas and opportunities, denoted as *organizational ambidexterity*, is an important aspect for Company X Purchasing. By an organizational *splitting between strategic and operational roles*, the *operational excellence* can be maximized and *team competencies* can be fully exploited. However, Company X Purchasing has already started an organizational splitting as Innovative Purchasing is clearly separated from the daily purchasing business, having strategic roles and responsibilities. Hence, this is a step on the way to separate the strategic and operational roles within purchasing, although there is a need to incorporate operational persons within Innovative Purchasing to enable a commercialization of new ideas, for instance project leaders. Moreover, when recruiting people, both internally and *externally*, it is a necessity to consider persons with the right characteristics, i.e. creative mindset, development prone and legitimate persons, to achieve a heterogenic group constellation.

Implement specific training modules for Purchasing
The sixth recommendation concerns the internal competencies. By *establishing specific training modules* that enable knowledge increase and the ability of purchasing to further strengthen its position within the firm when it comes to innovation. In addition, it will entail a

[3] Currently there are a lot of ongoing initiatives regarding innovation and unclear innovation management.
[4] Electromobility, connectivity and automation.
[5] Insights regarding innovation from other firms within different industries.

shift towards a *learning organization*, an important aspect for success. Thus, as have been identified during the study, implementing a *module for innovation* for purchasing and two specific modules for Innovative Purchasing, namely a *module focusing on technical aspects*[6] and *module for agile management*, is recommended.

Constitute and lead company-wide knowledge network

To further strengthen the *collaborative environment*, *a company-wide knowledge network* should be established. This will not only imply an increased knowledge sharing among employees, it will also contribute to progressively change the culture. Actions could comprise *weekly meetings*[7] across departments and the *implementation of IT-tools* that further facilitates cross collaboration, such as gaining automatic updates from colleagues from other departments. Such actions have already started to be implemented within purchasing, as there for instance is an *innovative newsfeed online* and a *monthly report* and *newsletter* that are being distributed, although a next step should be to *increase the reach* to include other departments as well. However, an important aspect is that discussion about the information and ideas distributed should be conducted elsewhere, for instance incorporated in a separate database, to enable an easy overview of the distributed information.

Innovation events

As a next step on the journey, *innovation events* should be implemented. These include seminars, workshops, lunch and learn, sprinting session etcetera. By taking this initiative, it will contribute to an *accelerated knowledge diffusion* and *awareness* about the importance of innovation and purchasing within the organization. For instance, one event could be to invite external partners, i.e., suppliers (new and existing ones), new-start-ups, universities etcetera, to participate in *innovation sessions*. This will entail collaborative knowledge sharing amongst the participant actors.

Obtain executive sponsorship

Due to the resistance level compared to the possible benefits being too high, the acquirement of executive sponsorship is placed at ninth place. However, by acquiring sponsorship from top management, *top-down legitimacy*[8] can be achieved along with gaining *access to the resources needed*[9]. There is an expressed need to get additional resources among employees at purchasing when it comes to innovation. Hence, to further *leverage the potential of purchasing* in the innovation effort, top-level management have to continuously consider and evaluate new ideas coming from the department, direct resources where most needed during the innovation journey.

Implement IT-tools for knowledge management and sharing, supplier innovation portal, innovation gamification

To be able to benefit from common knowledge and increase the permeation of new ideas, the implementation of *IT-tools*, a *supplier innovation portal*[10] and *innovation gamification*[11] is recommended as a tenth step. Additional objectives with this recommendation are to achieve

[6] As apparent, an increased technical competence is a necessity to further strengthen the cross-functional collaboration between purchasing and the technical department.
[7] Face to face meetings are seen as an important step at the innovation journey.
[8] Achieved to a great extent due to the establishment of Company X Purchasing and Innovative Purchasing.
[9] Both in terms of human resources and monetary aspects.
[10] A portal aiming at obtaining external ideas from the supply base.
[11] The implementation of game mechanics to non-game activities to induce certain behaviors.

a consolidation of the community of practice, to share ideas and knowledge, as well as *facilitate supplier integration*.

As expressed from employees within purchasing, the IT-systems in place are out-dated and *non-user-friendly*. It is apparent that the organization is in need of an upgrade within this area to enable more effective work processes. Thus, it should be considered if this should get an increased priority, to *facilitate the obtaining and integration of new ideas*. In turn, to increase the supplier integration and ideas stemming from the supply base, Innovative Purchasing has a role to *establish a supplier innovation portal* as well as *implementing innovation gamification* at this stage. However, it should be noted that gamification should first and foremost be used with existing suppliers, to evaluate its performance.

Implement ideas exploitation process
The eleventh recommendation concerns the implementation of a process for ideas exploitation, which aims at *accelerating the knowledge collection and diffusion*. As emphasized throughout the study, *open innovation* is about *obtaining, integrating and commercializing* on external ideas, thus indicating the importance to be able to more effectively *evaluate ideas* and *increase the rate of transformation in new products.* However, this is an aspect to consider in the later stage of the innovation journey, as the possible benefits are as great as the resistance level, even though the settings within Company X could enable an earlier implementation of such a process. As mentioned earlier, *a database* for collecting ideas is under implementation and a process incorporating *flexible governance*[12] has already been established. In addition, due to the rigid processes in place at Company X Purchasing, it is recommended to integrate new ideas in a separate innovation process.

Collaborate to define innovation in the firm
Trying to reach a *common definition of innovation* in the firm comes as a recommendation that should *be put in standby* until the settings has become more favorable. However, the empirical findings testify about an expressed need to clarify the concept, to *create momentum* and *awareness* in the firm. Nevertheless, there are other activities that should be prioritized, although it might be possible to postpone this activity and keep an open minded discussion about the subject.

8.1 Final remarks
Achieving success in open innovation requires that Company X become aware of the potential of Company X Purchasing in the innovation effort, not solely regarding the department as a support function. Purchasing has to be included in the early stages of strategic planning- and innovation processes and strategies have to be co-created. Hence, management has to include a more holistic approach, to enable a move from working in silos and foster a more effective innovation work. Giving purchasing top-down legitimacy and the necessary resources are prerequisites to facilitate the inclusion of the department.

However, to enable this inclusion, Company X Purchasing has to transition away from the strong cost focus and low-risk taking behavior. Here Innovative Purchasing has a vital role as it can foster an increased ambidexterity within purchasing and increasing the cross-collaboration and incorporation of external sources of innovation, such as suppliers, new-startups and universities, ultimately becoming a link towards other departments in the

[12] The establishment of a less restricted process, incorporating a long-term perspective and adaption of a risk-taking mindset.

innovation work. Thus, Innovative Purchasing has to incorporate agile work methods, thus improving the internal processes and systems hindering an effective integration and commercialization of external ideas. In addition, the creation of key performance indicators incorporating other factors than solely cost savings is a necessity to become more innovative.

Lastly, Company X Purchasing and especially Innovative Purchasing should take a lead role when it comes to environmental and social sustainability, due to its interface towards suppliers. Increasing the focus on these aspects will sustain and develop the image of the company as an attractive and valid business partner.

9. Implications for future research

The use of external sources of innovation has empirically been shown to increase a firm's innovativeness. Although there are a great amount of studies conducted touching upon new product development and open innovation, research regarding the role of purchasing within this field is still somewhat limited. Therefore, first and foremost, it would be interesting and most needed to further analyze how purchasing can and should contribute to a firm's open innovation effort.

Moreover, even though a set of general recommendations regarding how to successfully transform a purchasing department to become more innovative were applied in this study, the research within this area is inadequate. Additional studies have to be conducted to further increase the generalizability and validity of the recommendations given. In addition, research on establishing separate innovation groups or functions, solely working with innovation, is in need of supplementary research. Such studies have to comprise an analysis of the governance and structure of these functions, to bring legitimacy to their establishment.

A final implication of this paper is linked to the results and its large inside-out focus. The empirical findings in this paper are based on how employees themselves regard innovation and have less to do with how the external environment regards Company X. This is further illustrated in the SWOT-analysis established, as it primarily displays strengths and weaknesses. Hence, to obtain the outside-in perspective and more extensively identify external influences, i.e. threats and opportunities, it is recommended to conduct further analysis. One way to deal with this could be to conduct a new thesis within the field, namely how the surrounding environment regards the organization, to get a more complete view of the organization.

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11. Appendix

In this chapter a collection of the supporting documents for the thesis is presented.

11.1 Interview templates

This appendix chapter displays the interview templates used for the semi-structured interviews, both from the pilot study and the main study. However, it should be noted that neither are follow-up questions nor clarification questions presented.

11.1.1 Pilot study template

Questions

- If you talk about innovation at your department, what does that mean?
    - How do you currently work with innovation at your department?
    - How do you think that your department's way of working with innovation is functioning?
- If you talk about purchasing at your department, what does that mean?
    - How do you currently work with purchasing at your department?
    - How do you think that your department's way of working with purchasing is functioning?
- If you talk about innovative purchasing at your department/ together with another department/ other department, what does that mean?
    - How do you currently work with innovative purchasing at your department?
    - How do you think that your department's way of working with innovative purchasing is functioning?

11.1.2 Main study template

Introduction

Thank the person for taking time to do this interview
Thank you so much for taking your time to do this interview with us! We really appreciate it!

Introduce ourselves and explain why we are making this interview. State the preliminary thesis title.
We are making this interview as a part of our Master's thesis at Chalmers University of Technology. The data we collect will be used as anonymous input in order for *us to identify Innovative Purchasing's role in the organization. Our preliminary thesis title is "Innovation within purchasing".*

Present the character of the interview
The interview is semi-structured in order for us to facilitate an open discussion around the topic.

Ask if it is ok to record the interview
State that the recordings will only be used by us and not forwarded.

Set expectations for the time frame of the interview
State that the interview will take approximately 50-60 minutes.

Inform the interviewee that they are in control over the interview
If any question feels uncomfortable, please let us know and we will proceed to the next one.

……...
……...

Questions

Opening questions

- If you talk about innovation at your department, what does that mean?
    - How do you currently work with innovation at your department?
    - How do you think that your department's way of working with innovation is functioning?
- If you talk about purchasing at your department, what does that mean?
    - How do you currently work with purchasing at your department?
    - How do you think that your department's way of working with purchasing is functioning?
- If you talk about innovative purchasing at your department/ together with another department/ other department, what does that mean?
    - How do you currently work with innovative purchasing at your department?
    - How do you think that your department's way of working with innovative purchasing is functioning?

Vision and strategy

- What strategy do you have regarding innovation at your department?
    - How is it communicated?
    - What do you think about the strategy?
    - Any suggestions for improvements?

- What comments do you have that relates to Innovative Purchasing?

Resource allocation and idea generation

- What constitutes a new idea and where do new ideas usually come from at your department?
    - How do you deal with new ideas?
    - If there is a new idea that needs resources, how do you deal with that?
    - Any suggestions for improvements?

- What comments do you have that relates to Innovative Purchasing?

Culture and values

- Describe the mindset regarding innovation at your department?
    - How is creative behavior supported at your department?
    - What is important in order to foster and support a creative environment?
    - Any suggestions for improvements?

- What comments do you have that relates to Innovative Purchasing?

Organizational structures and systems

- What is an innovative organizational structure and system from your perspective?
    - How is it structured today?
    - What do you think about current structures and systems?
    - Any suggestions for improvements?

- What comments do you have that relates to Innovative Purchasing?

Technology and digitalization

- What does new technology and digitalization mean to you at your department?
    - How do you work with new technology and digitalization?
    - What do you think about the current status?
    - Any suggestions for improvements?

- What comments do you have that relates to Innovative Purchasing?

Appropriate metrics

- What is measured regarding innovation at your department?
    - How do you measure innovation?
    - What do you think of the current measurement techniques?
    - Any suggestions for improvements?

- What comments do you have that relates to Innovative Purchasing?

External innovation ecosystem

- What do you focus on regarding external collaboration at your department?
    - How do you work with external actors?
    - What do you think about your way of working?
    - Any suggestions for improvements?

- What comments do you have that relates to Innovative Purchasing?

- Regarding customer experience and branding, what focus do they have at your department?
    - How do you deal with the customer perspective?
    - What do you think about the current way of working?
    - Any suggestions for improvements?

- What comments do you have that relates to Innovative Purchasing?

- What role does environmental and social sustainability have at your department?
    - How do you deal with these questions?

    - What do you think about current ways of acting?
    - Any suggestions for improvements?

- What comments do you have that relates to Innovative Purchasing?

Conslusion

- Any aspects missing in the interview?
- Feedback regarding the interview?
- Interview improvements?
- Could you please state your role and what your current responsibilities are?

11.2 SWOT-analysis

	Helpful to achieving the objective	Harmful to achieving the objective
Internal origin	**Strengths** • **Increased awareness about open innovation in company X** - Both top-level management and employees in general have identified the need to work more with open innovation the customer in order to achieve long-term success for the company. • **Company X holds a dominant market position** - Company X: s dominant market position together with its strong brand helps the organizations to transition towards a more open innovation approach were current profits can be used to explore and invest in new business potentials. • **Increased legitimacy and credibility for the purchasing department in company X** - Top-level management for purchasing possesses the mindset regarding innovation. - Establishment of Innovative Purchasing by top-level management shows increased awareness about the purchasing organization and innovation. • **Establishment of Innovative Purchasing goes well in line with current research** - Stated to be the "missing link" in innovation work in organizations. - Stated to facilitate early involvement in open innovation. - Stated to foster ambidexterity in the organization. - Stated to improve the relational capabilities (both internal and external) for the company. • **Creative people at Innovative Purchasing.** - Innovative Purchasing unit consists of creative people and the group is somewhat heterogenic.	**Weaknesses** • **Company X holds a dominant market position** - Company X: s dominant market position has resulted in the organization having a heritage (path dependency). • **Hierarchical organization** - Traditional mindset which focuses on exploiting existing markets compared to exploring new market potentials. - The organization's many layers and decision points results in a slow-moving company. • **Closed innovation still at focus at company X** - The syndrome "not invented here" is still strongly prevalent in the organization. - Low risk-taking behavior in the company, with a strong focus of own ownership over the intellectual properties (IP). • **Company X Lacks the ability to secure the whole chain process** - Meaning more specific; obtaining, integrating and commercializing (unsatisfactory results). • **Deficient innovation capabilities at place in company X** - The organizational culture is not god when it comes to innovation; no own time, strategies are made in silos. - Unclear directives regarding how innovation work should be carried out by the different departments. • **Lack of early purchasing involvement in innovation developments at company X** - Purchasing regarded by others as a support function in company X. • **Deficient innovation capabilities at place in the purchasing department** - Purchasing currently has too rigid processes that hinders innovation work for company X. - Purchasing currently focus more on exploit than explore, therefore they lack a long-term perspective. - Purchasing currently focus on cost reduction as the single determinant for success. - Purchasing lacks technical competencies that are important in order to be able to communicate and collaborate better with the technical organization in the company. - Purchasing currently has unclear strategy regarding what and how innovation should be carried out.
External origin	**Opportunities** • Company X has existing relationships with external actors that can be used to accelerate the transition towards a more open innovation organization. • Strong brand and loyal customers increase company X chances of having the ability to sell (test and try) to already known customers and users. • Mergers and acquisitions can be used in order to buy new attractive start-ups or co-create innovation.	**Treats** • Risk being seen by others as an un-attractive collaboration partner due to the rigid processes and a conservative business mindset in place in the company (Image). • Ultimately risk being overrun by much smaller, agile and more innovative firms. • Risk of damaging the corporate image if not working more proactively and invest more resources in environmental and social questions (CSR).