

The Purchasing Function– a Catalyzer to Breakthrough Innovation

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Abstract

Title:	The Purchasing Function– a Catalyzer to Breakthrough Innovation
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Tutors:	Fredrik Nilsson – Associate professor, division of packaging logistic, Faculty of Engineering, Lund University. Christer Kedström – Associate professor, department of Business Administration, Lund School of Economics and Management, Lund University.
Issue of Study:	Today purchasing plays an important role when it comes to innovation and in the future it will be even more important for firms to have well-functioning purchasing departments. As the opportunity to outsource some of the production components' rise, the pressure on the purchasing department to contribute to innovation will increase. The question is how a procurement department can contribute to a company's innovation.
Purpose:	The aim is to investigate how and to what extent a purchasing department should work to support its company's innovation.
Method:	Data was collected through semi-structured interviews with purchasers and innovation employees at eleven case companies. For the frame of reference, academic articles and industry journals were studied. Based on both the theoretic and empirical data, a framework was developed.
Conclusions:	The study verifies that the procurement department is able to contribute to innovation by adding value which can be used in the innovation procedure. To succeed they need to perform activities with internal and external parties and believe they have a responsibility to contribute. It is also needed to allow the suppliers to take part of companies' innovations which should be encouraged by the purchasers.
Key Words:	Innovation, procurement, innovation-driven procurement, supplier-driven innovation, innovation partner.

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Lund, May 2012

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Introduction

This chapter aims to give the reader an introduction to this master thesis which combines innovation and purchasing. The background will give the reader a short description of the combined role of innovation and purchasing in innovation. The subchapter problem discussion contains today's issues about procurement and its involvement in innovation at a company. Further purpose, research questions and delimitations will be described.

1.1 Market Success Requires Innovation by Openness

Companies in high technology industries require fast innovation in terms of organization to retain market share and to survive (Spector, 2012). Therefore innovation is especially important for companies such as Sony Ericsson, Apple, Microsoft and similar, but they also need to carefully choose where and on what they should put their innovation resources. Research shows that only 5.5 percent of innovation initiative turns in to successful outcome in terms of Return on Invested Capital (ROIC), (Billington & Jager, 2008). Another research by Enkel et al. (2008) shows that knowledge which can be used in a company comes from clients (78 %), suppliers (61 %), competitors (49 %) and other research institutes (21 %). This means that, for example, 61 % of all suppliers sometimes come with valuable knowledge. Hence, clients, suppliers and competitors are important for a company to stay on the frontline of the industry and to contain innovation. (Enkel et al., 2008)

Innovation is essential for a company which wants to be competitive, but the traditional way to innovate, which is based on resources in house, is not always applicable today. Actually, the traditional approach to innovation can delay innovation. Therefore a newer form of innovation, called open innovation has been identified. It is based on two ideas; the first is that a company realizes that the best ideas do not always come from the employees and that people, who are not employed by the company itself, can bring external knowledge and input to a company. Secondly, companies must realize and accept that they are not experts on everything and that it is alright to outsource certain tasks which they do not have the right competence to perform. (Asakawa & Pontiskoski, 2009) Open innovation has the opportunity to compete against the traditional innovation and even "crowd" it out which will have affects in the long term for many companies. Open innovation is an upcoming theory that today's and imminent companies need to keep in mind. (Lakani & Tushman, 2012)

The purchasing department in a company handles raw materials and therefore has a big impact on costs of a product or service and is a gateway to external interfaces such as suppliers and their ideas. Therefore, purchasing is the base in supply chain management and a firm with a good purchasing department contributes in to a

company's results. (Purchasing desk, 2009) Thus, it is also central that purchasers work with innovation to help their companies to stay competitive.

1.2 Pressure on Procurement to Involve Suppliers in Innovation

To be innovative in today's competitive environment firms need to take help from their entire organization. Since purchasing is the base in the supply chain (Purchasing desk, 2009) they play an essential role in the company and therefore also in the innovation work. Purchasers should actively work with innovation together with other functions. If a company outsources a lot when it comes to components to their products the company is dependent on their suppliers. A company is thereby restricted to what their suppliers can innovate. (Güll, 2012)

Today, purchasing departments have more precious and important roles to play in a company than they had a decennium ago, especially when it comes to innovation. This is due to companies' increased interest in outsourcing parts of their production and while doing this, they automatically get an opportunity to receive more inputs for their innovation. The company management also plays an important role. Managers are looking to increase growth and to do that they would want to find better ways to innovate. Every department within the company needs to contribute in the best way to create an innovative company. (Billington & Jager, 2008)

Purchasers can search for new innovations externally which can give a company a whole new perspective (Billington & Jager, 2008). Carter et al (2007) thinks that it will be much more common to rely on purchasing and its ability to establish innovation via external sources such as suppliers. To enable suppliers' contribution, companies also need to create good relations with their suppliers so these can be a part of the company's production processes. Purchasers need to have an open approach to innovation and be a part of product development in an early stage. (Wynstra, 2006; Lewis, 1946). With this new way of working innovatively with open innovation, purchasing can, via suppliers make significantly better innovations happen, than the company would be able to perform alone. (Wynstra, 2006)

Innovation is currently a rather new task for purchasers and in the future it will be more important for firms to have well-functioning purchasing departments. As the opportunity rises to outsource some of the production units, the pressure on the purchasing department to contribute to innovation will increase. The purchasing department has despite this played a limited part in work efforts leading to innovation. This is not surprising since the department's performance often is measured in terms of cost down instead of value creation. (Billington & Jager, 2008) Additionally it is a subject that has been ignored in the literature, compared to the contribution of other departments such as marketing and R&D (Scheile, 2010). That is a shame since the procurement department has huge potential to contribute to

innovation, but has not yet reached a stage where it uses its full competence. It is therefore an interesting and meaningful subject to study in order to gain understanding in how the department should act in order to bring value to its company and support it in its competitive environment.

1.3 Purpose

The aim is to investigate how and to what extent a purchasing department should work to support its company's innovation.

1.4 Research Questions

1. What value can a purchasing department contribute with to its company's innovation?
2. How should the purchasing department perform to contribute to the company's innovation?
 - a) How should the purchasing department perform internally and when in the innovation process should those take place?
 - b) What activities should the purchasing department perform externally and when in the innovation process should these activities take place?
3. How should the purchasing department be organized to contribute to the company's innovation?
 - a) What roles should exist and what tasks should be covered by these roles?

1.5 Delimitations

Innovation within the frame of this study refers to innovation of the *product offering*. This is valid if nothing else is mentioned, but in order to capture as much value as possible, also innovation within *process technologies* has been included in some aspects. The reason is since the procurement department naturally affects those areas due to their role as a border to their firm. The definitions to the innovation types are found in chapter 3.1.

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2 Methodology

The following chapter will describe the methodology approach that has been used in this thesis. The chapter is structured according to the five stage research process model in figure 1 and contains a motivation to the chosen method as well as each step that has been performed. The chapter also covers how validity has been secured and how the conclusions have been drawn.



Figure 1; Five stage research process model (Stuart et Al, 2002).

2.1 Research Question

2.1.1 Theoretical Aim

The intention of this study was to gain understanding about procurement departments' role in innovation. It implies understanding how companies are currently working but also how their executives believe their companies could work in the future to improve their success in innovation.

To answer the purpose, the purpose was divided into research questions covering value, activities and organization that relate to the procurement department's contribution to innovation. A research question covering successful innovation in general was also formulated to provide the whole picture of innovation work and attach the procurement department to it.

The approach chosen for this study was theory testing and extension which are known as building upon currently existing theories (Seuring, 2009). Answers to the research questions were therefor searched for within exiting academic literature. Based on the findings within the literature, propositions were formulated and used as a foundation for an interview guide to test if it is applicable at companies which are known as innovative. However, the intention was to also capture additional input during the interviews to contribute to the theoretical knowledge.

2.2 Instrument Development

2.2.1 Cases

In order to answer the purpose, case companies were used to gain understanding about the subject. According to Seuring (2009) a case study is an empirical enquiry that aims to explain the relation between a phenomenon and the context. Since the aim is to understand if and how innovative companies' procurement departments contribute to innovation it was considered suitable to make case studies. There is

however different kinds of case studies, a *multiple case study* which is a comparative study aiming at understanding what is special with each case as well as comparing them in-between (Bryman & Bell, 2007; Seuring, 2009). The approach was chosen because it allows the authors to search for the uniqueness in each case, similarities between the cases, which may reveal what is seen as *best practices* within the field. To gain preferred depth in each case a suitable sample would be 4-10 case companies (Seuring, 2009). Since the intention was to gain both a width and depth, see chapter 2.2.2, the goal was to have approximately 10 case companies for qualitative research. To gain a deeper understanding the case companies was both suppliers and buyers.

2.2.2 Case Selection

The selection of cases was based on theoretical sampling, which implies choosing cases for a theoretical reason (Eisenhard, 1989). In order to do so, the choice of case companies was based on seven criteria. The criteria were developed based on the theoretical areas covered within the study and to reflect the purpose. Two additional criteria for the entire sample were thereafter developed based on the preferred features of the total sample, to make sure the spread of the companies are suitable for a potential theory extension. Then, employees at the chosen companies were contacted in order to book interview. Employees at both innovation departments and procurement department were contacted and if possible interviewed. According to Eisenhard (1989) a sample made by a wide range of companies enables the developed theory to be applied on wide range of companies. The reason for adding the last criteria was also to gain knowledge which might be isolated to a specific industry. The criteria setting were followed as far as possible but were complemented with additional interesting case companies that have proven to be especially strong at a certain criteria to strengthen the study. The seven criteria are presented below divided into theoretical criteria and sample criteria.

Theoretically criteria:

1. The company should be recognized as successful within innovation according to executives or researchers.
2. The company should be recognized as strong at open innovation or at partnership innovation according to executives or researchers.
3. The company should be recognized as having a strong purchasing department according to executives or researchers.
4. The company should be an Original Equipment Manufacturing (OEM) company.
5. Should be leading in amount of patents.

Sample criteria:

6. Should fulfill at least 3 out of the above 5 mentioned criteria.
7. The chosen companies must cover different industries (for example food, consumer electronics, automotive industry, etc.).

2.3 Data Gathering

The data gathering process was divided into two parts, one covering data aimed for the frame of reference, while the other one generated material for the empirical study. It was an iterative process with main focus on the first part in the beginning and on the second part in the end of the process.

2.3.1 Frame of Reference

The data collection started off with developing a frame of reference. The frame of reference is based on theories, academic journals, business journals and other written material. When searching for the material the authors used the search engines Summon and Google Scholar to browse search words related to innovation, procurement, buyer-supplier relationships and product development. The aim was to find material which could provide insight in the relevant subjects. In figure 2 below all search words are specified.



Innovation, ESI, partnership, innovation partner, procurement, sourcing, teamwork, teamwork for innovation, open innovation, co creation, sourcing, purchasing, supplier innovation, concept phase, concept development, vision studies, innovation-driven procurement, buyer-supplier relationship, innovation process, innovation culture, strategy, leadership, innovation network, patent strategy, patent sharing, technology roadmap, manufacturing driven innovation, customer driven innovation

Figure 2; Search words browsed during the data collection phase.

2.3.2 Empirics

The data collected for this study was performed by means of interviews and from secondary sources. The choice of method for each specific case company was made based on how accessible the company was. The most preferred method was to preformed interviews. The interviews were also complemented with material from secondary sources in order to get a more complete image.

2.3.2.1 Interviews

The interviews held were of semi-structured character. A semi-structured interview is based on an interview guide covering the topics of interest, but additional

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questions can be added during the interview. It is suitable for multiple-case study research since it enables comparison between the cases (Bryman and Bell, 2007). The preferred interviewees were purchasers involved in innovation, purchasers or employees holding a position within innovation. The interviews were performed face-to-face or by phone. In table 1 below the interviewed persons are presented.

Table 1; Shows the interviewed person at each company.

Person	Company	Position	Interview time
Annika Sahlström	Leaf	Director of Innovation	2012-03-23
Anthony Igoe	Oriflame	Sourcing Manager	2012-03-28
Christian Damborg	3M	Key Account Manager	2012-03-30
Eric Esboldt	3M	Global Sourcing Manager	2012-03-30
Henk Haans	Leaf	Strategic Buyer	2012-03-15
Harri Grohn	ABB	Strategic Sourcing	2012-03-29
Ingrid Landgren	Procordia food AB	Innovation Director	2012-03-06
Johan Nygren	Scania	Sourcing Manager	2012-03-13
Krister Froberg	Assa Abloy	Project Leader	2012-04-13
Dan Malm	Assa Abloy	Strategic Global Sourcing	2012-04-13
Lars Bergholtz	Tetra pak	Innovation Manager	2012-04-02
Nicklas Johansson	IBM	Global Sourcing Manager Nordics	2012-03-12
Per Håkansson	Sony Mobile	Global Sourcing Manager	2012-04-16
Per Lindqvist	Axis AB	Strategic Buyer	2012-03-08
Per Zander	Axis AB	Product Manager	2012-03-28

The interview questions were created based on a breakdown of the propositions to determine whether the case companies' way of working corresponds to the theory, see appendix 1. It was then followed up by an open question where the interviewee could speak freely about what their company is doing beyond what is already common knowledge. Then additional input was possible to capture to not only test theory but also extend it and to provide more complete answers to the research questions.

2.3.2.2 Secondary Sources

To collect secondary data each company name together with a concerned search word, same as in figure 2 were browse on the internet. This was repeated several times with different search words and ended up in input from industry related web pages, business reports and academic articles.

2.4 Data Analysis

In order to fulfill the purpose best practices activities were searched after within each case. The authors' intention was to evaluate the case companies' performance by understanding how much influence their procurement departments have on innovation. This means that the focus areas needed to be evaluated in order to understand whether a company performs best practice or not. It also implies that in this study, the majority is not necessarily right. The influence rate was judged by comparing the case companies with each other.

The analysis was made in two steps starting with a within-case analysis by doing write-ups for each case. A write-up is a description of the case which is necessary in order to understand the individual case (Eisenhard, 1989). The write-ups were made as descriptions divided into the theoretical research areas Engagement in Innovation, The Role of Procurement in Innovation and Buyer-Supplier Relationship Enabling Innovation to gain an image of the structure. It was also further divided into focus areas.

The second step involved searching for uniqueness in each case as well as cross-case patterns; this can be done by using categories or dimensions to see both similarities between the cases as well as differences. By looking at data in different angles one avoids biases when interpreting it (Eisenhard, 1989). In this study the above mentioned research areas were further divided into focus areas and all cases were structured into a matrix providing a clear overview. By doing so, strong performers stand out and best practices activities become clearing, which in turn is the foundation for the framework.

2.4.1 Framework Development

According to Eisenhard (1989) it is "the intimate connection with empirical reality that permits the development of a testable, relevant, and valid theory". Therefore the framework development took off by developing a concept model by consolidating different theories. This model was then further developed based on the empirical findings by adding or removing features. The concept model was transformed into a framework with an attached framework table breaking down the theoretical research areas into focus areas which in turn is divided into parameters. The empirical findings were finally used to confirm areas and adding additional parameters. The intention was to develop a framework which would show how the procurement department should work with innovation.

2.5 Credibility, Reliability and Validity of the Overall Process

To ensure the trustworthiness of this study, some aspects have been accounted for. As an attempt to maintain high credibility, data was collected by interviewing more

than one employee at the case companies were such possibility occurred. That was however not always possible due to unwillingness, like lack of time from the company's side. The interviewees were on the other hand possessing rather high positions which are assumed to imply them having good understanding about their companies and relatively long work experience. Both authors of this report attended all interviews to reduce the risk for personal interpretations, the interviews were recorded and notes taken down during or directly after the interviews by both interviewers. The minimum length of the interviews was equal for all but with room for extension depending on interviewees.

Concerning the frame of reference, books, papers and actions on the subject was studied extensively in the first half of the project. Therefor there may be a risk that some relevant aspects have been left out and some empirical findings, revealed in this study, already might have been presented by others. This risk should be taken into consideration by the reader of this paper.

By ensuring reliability of a study, the measurement of the concept need to be performed consistently (Bryman and Bell, 2007). To be certain about this, the semi-structured interviews were completed by following an interview guide to ensure the same information was collected from each company. Since all companies are different, the collected input can not to be completely consistent, however all interviewees were given the opportunity to provide information concerning the same areas.

3 Frame of Reference

In this chapter the frame of reference used in this thesis is described. The chapter starts with a concept image called Innovation Gatekeeper Pyramid, of how a company should work with innovation and procurement. The concept image was developed based on the frame of reference in this chapter. Every section ends with propositions that are established based on theory. The concept will in chapter 5 be analyzed and a framework will be established based on the concept image and empirics.

A draft of a concept image named; the Innovation Gatekeeper Pyramid, has been developed based on theoretic studies. The model describes how a company should work with innovation according to the theory, see figure 3. The pyramid has three corners, innovation, supplier or partners and internal coworkers. These parts should cooperate and exchange knowledge in order to get innovative. When it comes to innovation a company should have a culture and a strategy that allows and supports innovation. Companies also need to have a leadership that legitimizes innovation and supports an innovation process. Knowledge sharing and activities, such as technology roadmap and innovation meetings, should be performed between internal coworkers, the purchasing department and supplier/partners. Internal coworkers and suppliers/partners should have an open and honest relationship where they for example can split costs, profits and risks. If all this is performed at a company they will, according to this frame of references, be innovative. This image will later be used in order to analyze collected data as well as foundation for development of a framework.

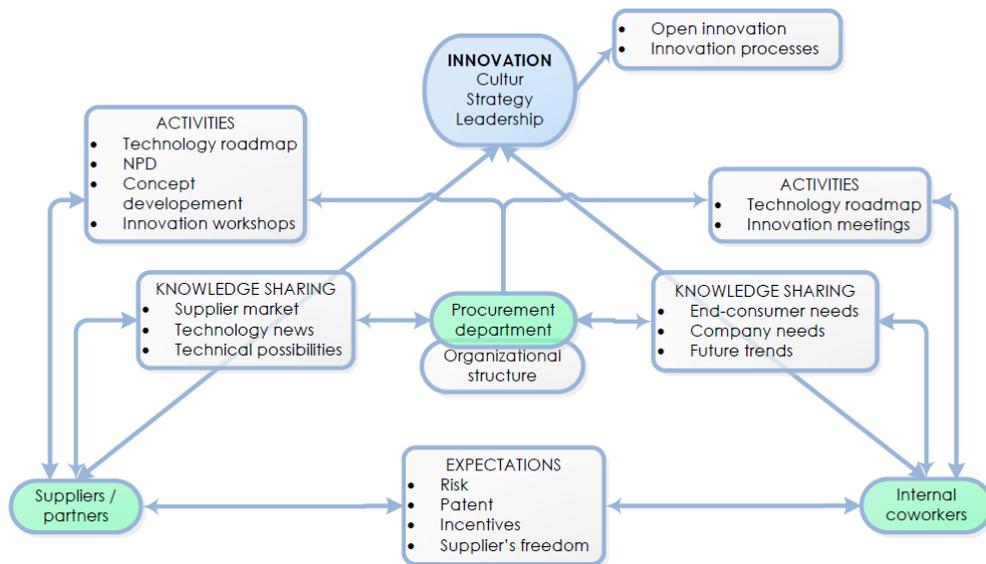


Figure 3; A draft of the relationship between different functions at the company.

3.1 Innovation Engagement

“Innovation is the successful exploitation of ideas.’ Innovation is not just about having lots of ideas – it’s about successfully implementing them. Whether it’s a product or a service – a mobile phone, a car or in the composites world a resin or gel-coat – it has to be something that customers need or want” (Jacob, 2003, page 104). Different types of innovation exists, the below mentioned are the ones that are focused upon within the frame of this study.

- **Product and service offerings:** Innovation may take place when a product or service offering is changed or when a new product is introduced to the market.
- **Process technologies:** This type of innovation is usually related to the relation between manufacturing and service delivery and results in increased product quality and reduced costs. To read more about these types of innovation please see appendix 2. (Davila, 2011)

Companies’ products of today have often short life cycles and therefore need new innovations continuously. Without innovation it is a question of when it will end for the company. It could depend on a new radical innovation from a competitor which takes the company’s customers or that it is one step behind. (Davila, 2011) To avoid this, different authors have their own theory for success. According to Tidd et al. (2009), the whole innovation process and its ability to contribute to consequent growth must suite the company. Dunpy (1995) thinks that innovation is a combination of entrepreneurial skills, feasible technology and knowledge about the customers’ need and what they want.

To succeed with innovation companies need to be managed in the right way, have a culture for innovation, focus on the customer and have an innovation process that supports new innovation including radical innovations. (Dunpy, 1995; Tidd et al. 2009, 2008; Davila, 2011)

To understand what leads to innovation and why some companies are more innovative than others, many companies have been studied in different ways. Nevertheless, no clear answer has been found, except from the fact that it varies from company to company. However, two things are convergent in previous company studies. Firstly; innovation needs to be managed since it is a process and not an event. Secondly; the effect of the innovation process can be manipulated and therefore influence the output. (Tidd et al., 2009)

3.1.1 What Leads to Innovation?

To manage innovation, companies need to study where they should put their resources. After such studies, the companies will more easily focus on the right things and thereby spend money and time correctly. Which sequentially lead to increased ability to succeed with innovation. To succeed with innovation it is also necessary for top management and CEO to pay attention to the below mentioned rules, called the *Six Innovation Rules*. It has been shown that companies that produce the best results tend to follow the rules. (Davila, 2011) To read more about these rules see appendix 2.

1. Exert strong leadership on innovation direction and decisions.
2. Integrate innovation into the business mentality.
3. Match innovation to company strategy.
4. Control the tension between value capture and creativity.
5. Neutralize organizational antibodies.
6. Cultivate an innovation network beyond the organization create the right metrics and rewards for innovation.

Based on the first draft of the Innovation Gatekeeper Pyramid- first draft, the mini concept image below describes key aspects regarding innovation within a company, see figure 4.

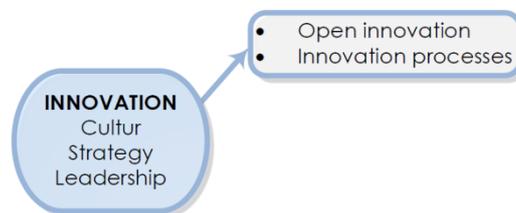


Figure 4; A mini concept image based on the draft of the innovation gate keeper pyramid.

3.1.2 Different Types of Innovation Strategies Enabling Innovation

It is important for a company to decide which type of strategy it should apply to contribute to innovation. The innovation strategy should go in line with the business strategy. (Davila et al., 2011)

There are two basic views upon innovation; *Play to Win Strategy* and *Play to not Lose Strategy*. (Davila et al., 2011) A Play to win strategy aims to produce products, services, strategies that competitors cannot copy. This strategy is the most common on, especially when it comes to high technological companies. Play to not lose strategy aims to ensure that a company stays competitive and follows the market. A company with this strategy has more incremental innovations in their portfolio and takes calculated risks. These two strategies can then be divided into Holman et al's

(2011) types of strategies; need seeker, market reader and technology drivers. Companies with market reader strategy focus on the market by looking at customers and competitors. They want to follow the market and do what is best for the market. Companies that are technology drivers are driven by new technology. These companies follow the technology development and want to come up with breakthroughs. Need seekers take help from customers to form the best products based on what customers need. (Holman et al., 2011; Davila et al., 2011) There are a lot of strategies and therefor it is up to the company to choose the most suitable.

3.1.3 Corporate Culture Enabling Innovation

“Strategic alignment and innovative culture is the key to successful innovation” (Holman et al, 2011). The same author writes that it does not help to spend more on R&D, since it does not lead to turnover if the customers do not want to buy the product. Instead a company should focus on their innovation strategy, business strategy and insight on what the customer wants. For example, Apple spends less on R&D than their competitors, thus, it is not the money the company spends on R&D that matters. Also managers need to contribute to the culture by thinking and acting in terms of risk, creativity, openness and collaborations. Both Holman et al (2011) and Davila (2011) write that the individuals are important; but even more important are the corporate culture in terms of behaving, thinking, feeling and believing in innovation. When all these are mixed together a culture for innovation is shaped. Holman et al (2011) as well as Davila (2011) write that to succeed with successful innovation, companies need to have the right culture for innovation.

3.1.4 Leadership Enabling and Promoting Innovation

A study from Management of Innovation and Technology by Blom (2012), shows that different types of leadership influence the innovation at the company. The type of leadership that is demanded by the employees is called *safety officer*. A manager that is a *safety officer* is characterized by not having as much knowledge about the innovation as the employees. The manager has also a low grade of proactivity in the employees' work tasks. Instead, the manager should protect the employees, leading them in difficult situations and help them if needed. They also help the employees to navigate in the organization. The management of innovative companies is important and need to act in the right way to succeed with innovation (Blom 2012; Rickard, 1985; Davida 2011)

3.1.5 Processes that Lead to Innovation

Companies need to have an innovation process to be successful in innovation. To succeed with an innovation process and to reach innovation, a lot of ideas, enough resources, testing equipment and knowledge about markets, technology and trends are expected from a company. Innovation requires many ideas, a process where

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these ideas are evaluated and a launch strategy. (Kekäle & Nyström, 2007; Tidd et al. 2009)

Both Kekäle & Nyström (2007) and Tidd et al. (2009) present similar innovation processes. The process begins with data collection, idea generation and evaluation of ideas. It is followed by idea testing and improvements are made if necessary. Last, Kekäle & Nyström (2007) have a step called launch to the market, while Tidd's et al (2009) have a capturing phase where one need to figure out how to benefit from the concept and how to deliver value to the customer. To read more about Tidd et al.'s steps see appendix 2. Kekäle & Nyström (2007) and Tidd et al. (2009) provide the same image of how an innovation process should look like and what it should contain.

Järrehult (2008) thinks that the innovation processes that Kekäle & Nyström (2007) and Tidd et al (2011) suggest does not produce any radical ideas since those tend to become thrown away in an early stage. Instead Järrehult presents a convergent and divergent innovation reactor, see figure 5. Järrehult's reactor starts with a lot of ideas that pass through a filter, in the input phase, so only the most relevant ideas enter the funnel. In the insight phase companies get insight from customers. Also inputs from competitors in form of new technologies will play an important role in this phase. Now, the idea generation phase can start of based on the knowledge collected in previous phases. There are holes in the funnel so ideas can spin in and out at different periods of time. In this phase the process of Kekäles & Nyströms (2007) and Tidd et al. (2011) takes place. Thus, Järrehult's reactor is similar to the innovation process of Kekäles & Nyström (2007) and Tidd et al. (2011), but it begins with a preparation phase. Therefore, Järrehult's reactor is more complicated and it takes longer time to develop innovation.

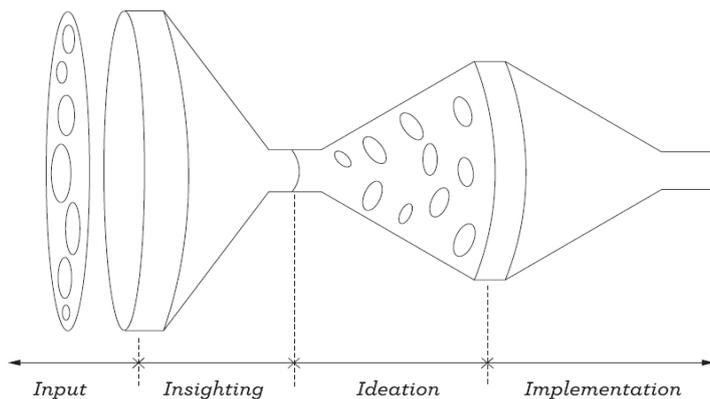


Figure 5; The innovation reactor by Järrehult (2008).

Propositions:

1. Innovation requires corporate management that applies the six innovation rules.
2. To focus on one innovation strategy is necessary for innovation.
3. To succeed with innovation a company needs to perform activities to search, select, implement and launch innovations.
4. A company needs to think, feel, behave and believe in innovation.
5. An innovation manager does not necessary need specific technical knowledge, but should be proactive, supporting and access a broad network.

3.2 The Role of Procurement in Innovation

The purchasing department is exposed to a new task which it traditionally is not contributing to, namely innovation (Billington & Jager, 2008). The department is a company's link to suppliers and its major task within this field is therefore to find suppliers which can contribute with their competences to the buying company's innovation. Innovation is rarely developed by isolated firms, and suppliers' input early in the product development process is almost equally important as customers' input (Johnsen, 2005; Scheile, 2005). A purchaser's role is similar to a gatekeeper's, since both possess knowledge crucial for an innovative product or process. Such knowledge concerns the supplier market, the suppliers' quality, delivery and price (Mogee & Bean 1976). Regardless of this, the purchasers' role has been ignored in the literature (Scheile, 2010). There are two reasons to why purchasers have actually not been contributing as much as they could. Firstly, since their performance measurement variables are cost related and not based on revenue generation. Secondly, the department is still seen as a support function which decreases the probability for them to be innovative. In order to handle the situation the managers need to believe that the procurement department is partly responsible for the company's innovation (Billington & Jager, 2008).

Based on the first draft of the Innovation Gatekeeper Pyramid, a mini concept image describing how procurement via internal and external interfaces can contribute to innovation at a company, see figure 6.

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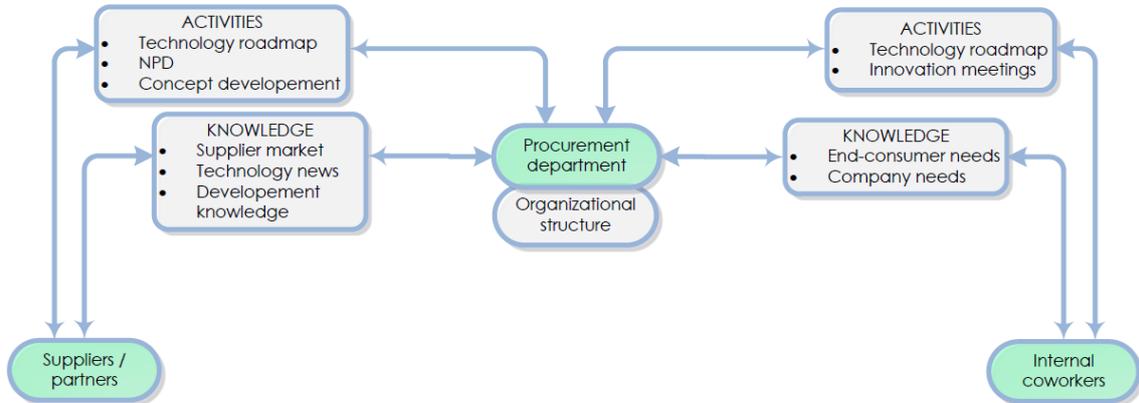


Figure 6; Mini concept image showing procurement opportunities to contribute to innovation.

3.2.1 Procurement Enabling Open Innovation

The purchasers' major role in innovation is being the link to external knowledge in terms of supplier capabilities (Johnsen, 2005; Scheile, 2005), hence, the purchaser is a cog-wheel enabling open innovation. Open Innovation is a term invented by Henry Chesbrough (2003, page 24), who define open innovation as; "Open innovation is a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology." By applying open innovation it could contribute to new innovations by supporting a company in coming up with the best ideas (Järrehult, 2008; Whelean et al, 2011). Product Innovation Engagering (2008) urges the importance of including the customer in the innovation process, and the difficulties with it, namely how to manage it in a process which is often kept in secret. Purchasers' task in bringing innovative ideas into the company can be identifying and attracting innovative suppliers by the use of innovation forums and agencies (Wanger, 2010). They can search for new components or technologies by market scanning (Scheile, 2010) or supplier scouting (Wanger, 2010) and involving suppliers in its strategy plan (Lichtenthaler, 2008).

3.2.2 Characteristics of an Innovative Supplier

An innovation partner is a supplier which is involved early in the product development and has a strategic role for the buying company (Axelson, 2011). They should not only understand the challenge but also limit problems to contribute with innovations (Scheile, 2005). The innovation partner should have responsibility for developing a module which is a part of the finished product finally assembled by the buyer. The situation is valuable for the buying company since it decreases the accumulation of capital as well as risks, since it is laid upon the supplier. It provides the supplier with increased possibility to gain financial profit. (Axelson, 2011)

For a supplier to be suitable as an innovation partner it should possess certain characteristics. One of those is that it should have insights into the downstream customer. It implies knowledge about customer's positioning and current trends that affect the customer's sales market. The supplier's knowledge within this field has a large impact on the success of the produced goods since it affects the cost and speed of the development and also the innovativeness of the product. (Wanger, 2010) According to Scheile (2005) the most innovative suppliers are the ones which are specialized and technically competent within a specific field. They have own development capability so that they can supply "complete products with high technology content" (Scheile, 2005). The supplier should also be physically located nearby the buyer and engaged in several innovation projects simultaneously (Scheile, 2005).

3.2.3 Technology Roadmap and Strategic Alignment

A Technology Roadmap (TRM) describes a vision within a technological field and is used in communication, planning and coordination purpose. It includes the steps and timeline needed to fulfill the vision as well as decisions that need to be taken and the required network to manage it (Rinne, 2004, Schiele, 2010). The decisions may concern make-or-buy determination and supplier selections. (Schiele, 2010) The TRM covers trends and is a tool to systematically handle the company's resources and what products to develop, including both breakthrough products and incremental products (Mohr, 2005). Since many firms' success depends on external competences the TRM should include utilization of external technologies (Lichtenthaler, 2008). It can therefore be used to, not only link the corporate strategy with the sourcing strategy, but also synchronize with suppliers' strategies. Strategy and technology is vital when involving purchasing in innovation. (Scheile, 2005) By engaging suppliers in strategic activities leverage affects the planning of development projects and long-term technology may be a consequence. Such activities are enabled by long-term relationships with key suppliers, since learning routines are established and both parties' capabilities can be utilized. (Wynstra, 2006)

3.2.4 Purchasing Organization and its Internal Interfaces

During 2007 McKinsey investigated purchasing departments at three dimensions and saw a clear difference between the high and low performing ones. The high performing ones managed to positively affect their company's financial results by cost-savings and increased Earnings before Interests and Taxes (EBITDA) stronger than low performers. Concerning purchasers' perception about their own role, top performers have more objectives than just cutting costs. They believe that their department can contribute to a culture of continuous improvement within the company. (Reinecke et al, 2007)

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High performing companies do also educate their purchasers through functional rotations to make them gain broad business experience. According to the authors it enables them to contribute to the discussion about product and service development discussions with suppliers and other stakeholders, which often leads to bigger savings compared to those which do not. (Reinecke et al, 2007)

In order to handle the balance between costs and innovation there need to be a sourcing organization supporting it. It is suitable with the three departments; operative procurement, life cycle procurement and advanced sourcing (Scheile 2010, Ellram, 1995). The departments should have different responsibilities where the life cycle team is responsible for the supplier selection and the advanced sourcing team is supporting the New Product Development (NPD) process (Scheile, 2010). Similarities can be drawn to purchasers' involvement in the NPD process, since it is according to Wynstra (2001) important to separate between purchasers handling operational and strategic issues, otherwise less urgent activities tend to be down-prioritized. Another way to support sourcing's involvement in innovation is to form commodities around supplier markets instead of types of materials or parts that are supplied. (Scheile, 2010)

When working with innovation purchasers need to collaborate with other departments since much of the work concerns processes and technology. Therefore Reinecke et al (2007) believe that when managing people and increasing collaboration between purchasing and other departments it contributes to improved quality and more successful innovations and Mergers and Acquisitions (M&A). Purchasers should also be involved in business planning such as the concept phase of product development. The same pattern was observed when purchasers collaborate with sales and marketing departments. The purpose of the involvement could be to explore how new innovations by suppliers and to understand if those can be included in new products and services. (Reinecke et al, 2007)

The procurement department has to rework their processes to easily understand the company's needs and match to what is available at the solver market. Billington and Jager (2008) believe that the procurement department will be evaluated based on their ability to create value for the company based on innovation. (Billington & Jager, 2008)

Propositions:

6. Involving suppliers, by open innovation, enables a company to generate ideas resulting in market success.
7. To contribute to innovation the buyer need to identify, attract and select the right suppliers

8. To contribute to innovation, the procurement department needs to have a department handling more strategic tasks.
9. To contribute to innovation, a purchaser needs suitable interfaces within the firms.
10. To contribute to innovation, a purchaser needs knowledge about the supplier market, technology news and development possibilities.
11. To contribute to innovation, a purchaser needs knowledge about end customer needs and company needs.

3.3 Conditions for a Buyer-supplier Relationship Generating Innovation

Based on the first draft of the Innovation Gatekeeper Pyramid a mini concept image has been developed and describes how suppliers/partners and buyers should cooperate in order to establish innovation, se figure 7.

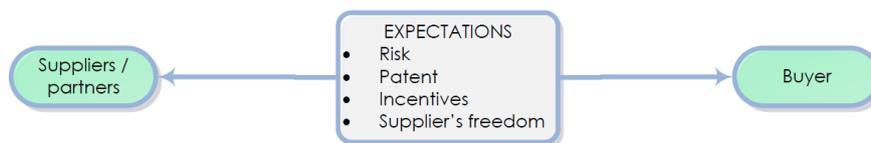


Figure 7; Mini concept image about collaboration between suppliers/partners and buyers.

3.3.1 Open Innovation within a Supplier Network

A company can build a supplier network which supports discontinuous innovation. In order to successfully use that kind of network the company needs to choose the right suppliers and build the network under the right circumstances. A common issue among firms which fail to launch innovation is that they get stuck in old relationships, having trouble creating new ones. Commonly occurring barriers, which are stopping firms from creating well-working relationships, are often failing on deciding upon how and where to search for the right partners. The relationship's conditions are a result of the companies' influence within the industry as well as their willingness to share information. Building high-performing networks is dependent on involved companies' ability to agree on intellectual property rights and trust. (Birkinsawn et al., 2006). The involvement of suppliers in innovation may take place in different ways, either the buyer or the seller or a combination of both can be the driving force.

Suppliers can support innovation as the initiative taker, a situation called Manufacturer-Active Paradigm (MAP). In such situations the supplier tries to understand the customer's need and creates innovative ideas based on that. When the buyer is driving the innovation it is called Customer-Active Paradigm (CAP), it

means that the customer selects a supplier which is asked to develop a specific idea. According to Von Hippel (1978) CAP is the most successful approach and he believes the reason to this is that the generated solution is more adapted to customers' requirements and current practice. The supplier might even have previously developed a solution for another customer which may be useful for the requestor (Wynstra, 1997). Such a situation, which is common in a buyer-supplier relationship, is called *the interactive effect*. (Wynstra, 1997). Billington and Jager (2008) refer to something called *seeker-solver network*, which means that the purchasers can use an online innovation network made by solvers when evaluating make-or-buy decisions. A solution can thereby be found or developed for a heavily decreased cost and development time, compared to if it would be developed internally (Billington and Jager, 2008). However, Foxall (1986) believes that for CAP to be fully used it should involve process innovation and in his study he develops the theory further to involve users in the innovation activities.

The importance of the supplier involvement is affected by the maturity of the concerned industry. For industries with low maturity the suppliers' input is according to practitioners not beneficial for innovation, while among those with a higher maturity, suppliers' support was considered important. (Johnsen, 2005) Sometimes an innovation is consolidated by several different technologies and it is necessary to merge different competences from different companies; this is called the *multi-competence effect*. To succeed with this it is important to build the relationship both on a long-term and short-term basis, as well as with both operationally and strategically concerns. (Wynstra, 1997)

3.3.2 Conditions

Incentives. In order to create a healthy relationship with the supplier that results in innovation, the conditions should be suitable for both actors. Suppliers tend to support companies that treat the fair by sharing the payback (Wanger, 2010). It should be a partner relationship between the parties that are intensive, characterized by trust and attached with many strings. The buyer should be or in the future be able to become an important customer for the supplier. The parties should preferably have several years of prior experience in collaborating with each other. (Scheile, 2005) In order to maintain innovative suppliers, those should be given freedom to plan activities and have the resulting profit as an incentive. Such treatment enables the buyer to fully utilize the suppliers' competence (Jensen, 2011). The supplier's cooperativeness is twice as important as his/her technical competences. (Scheile, 2005)

Business model alignment. To enable innovation partnership relations, managers in both companies need to evaluate what the partnership means for their own business models. The business model is what enables a company to realize its strategy and should create balances between the parties where both share risks and

rewards. Hence, the suppliers need to be clear with what they offer to the buying company. (Axelsson, 2011) This can be generally applied in a partnership relationship between a buyer and a supplier (Kannan & Tan, 2006).

Resource allocation. As soon as a deal is closed the buying company needs to analyze what financial, human, knowledge and management resources it needs during the development and allocate them (Axelsson, 2011). Exploring a co-location of engineers is necessary along with supporting the industrializing of a recognized innovation (Wanger, 2010). The analysis should be performed in collaboration not only with the supplier but also with customers and other partners. The result could be to develop a knowledge base in common. (Axelsson, 2011)

Management support. The management support is crucial for the success of the collaboration. That is partly since inter-organizational issues tend to occur when working under uncertainty. In this case the uncertainty might be technological feasibility or other risks. In order to handle this, the project team and project management should be monitored by the management. They should make sure there is a proper intra-team communication and information sharing, that the buyer's and the supplier's staff are treated equally and that these can influence decisions. Both parties need to support each other and to be committed to the project. (Wanger, 2010)

Joint processes. The two companies are to develop joint processes for knowledge exchange. This usually implies that the supplier needs to be a part of the buyer processes, since it is often the buyer processes that are value creating. This is affected by the technological uncertainty, the more uncertainty the higher is the requirement on joint processes. This kind of processes should therefore be developed after the need for knowledge is settled, but be kept flexible so that one can adapt them over time. (Axelsson, 2011)

Arenas. "Arenas for operative collaborations" (Axelsson, 2011) imply online forums where the parties can perform the processes and exchange information. Or that employees from the supplier work at the buying company to handle the project. It is important to have several arenas to create strong bonds between the company and between individuals. For the supplier to handle the buyer interfaces, they need to have proper internal systems settled. (Axelsson, 2011)

Joint improvement programs. Innovative suppliers should take part in joint improvement programs with the buyer. Supplier development programs tend to result in increased amount of process innovations but also product innovations. (Krause, Scannell, & Calantone, 2000; Tracey & Tan, 2001; Watts & Hahn, 1993). The improvement programs also have indirect effects such as breeding a network of innovation suppliers to be hired when necessary. (Scheile, 2006)

Innovation meetings and workshops. In order to involve a procurement department in the NPD process it is essential to have detailed steps to follow so that they automatically become involved. The steps may include innovation meetings with suppliers and cross functional innovation budgeting committees which support the innovative culture Scheile (2010). Another important tool used to involve sourcing in the NPD process is innovation workshops with suppliers, see appendix 3. The suppliers should consider the meeting as an opportunity to do some “competence marketing”. (Scheile, 2010)

Patent strategy. The intellectual property right called patent is considered being a key value driver. A patent strategy is based on three dimensions namely intent, strategy and portfolio management. The three keystones mean that a company ought to have clear reasons behind its patent applications as well as to know how it will manage to create value based on the patent. A patent strategy should support a company’s attempt to reach its goals (Gilardoni, 2007).

Many companies are dependent on patents owned by external parties and the number is increasing. This is a common reason behind the choice of a business partner especially within the high tech industry (Gilardoni, 2007). According to Appleyard’s (2003) study on the semiconductor industry, the knowledge accumulation is moving from the buyer to the supplier. It implies that the supplier possesses the production knowledge, which in turn increases the pressure on the buyer to successfully manage outsourcing. The situation provides the suppliers with the power to affect the development pace and direction of the semiconductor industry (Appleyard, 2003). A large patent portfolio may however increase the bargaining power since it frightens the other party and can therefore be used as a tool in barter (Gilardoni, 2007; Jell, 2012). It would also decrease risks such as competitors understanding the company’s patent portfolio strategy or the risk of becoming sued. This situation has however given rise to a so to speak *patent race*, where competing firms are trying to surround their products with patents, which in turn prevents the innovation process (Jell, 2012).

In a study by Bensaou and Anderson (1999), buyers within the automotive industry showed a tendency to invest in knowledge at the supplier which were not commonly known, the assumed reason to this is to get hold on unique supplier competences. On the other hand, the likeliness to be supported by investments from the supplier in *follow-up knowledge* is larger when it concerns general setups which the supplier can use in other projects since the supplier can apply economics of scale. (Bensaou & Anderson 1999)

Propositions:

12. Both the buyer and the supplier can drive innovation by generating ideas and propose them for their partners.
13. To contribute to innovation with its knowledge and development possibilities, the supplier needs knowledge about the customer's strategy, company needs and end consumer needs.
14. To succeed with innovation, the buyer-supplier relationship needs to be fair by balancing risk taking, profit sharing and influence.
15. To succeed with innovation, the buyer and the supplier need to establish goals in common by having activities such as innovation workshops, technology roadmaps, synchronizing business model etc.
16. Companies that prefer to own patents gain advantage by the ownership.

4 Impressions from company realities

This chapter presents compression of collected data from different companies. The chapter aims to describe the views of different companies on innovation and the role of purchasing in innovation. Data is collected through both interviews with employees in different companies and through secondary data gathering. The collected data will be consolidated in three diagrams. The data will then be analyzed in chapter 5 and a framework based on theory and empirics will be established.

4.1 Companies in Focus

Interviews were performed at companies within different industries in order to get a wide picture of how companies work with procurement and innovation. Also second sources were used to capture interesting innovative companies. Here below are the investigated companies introduced. Details about the interviewed companies can be found in appendix 4.

4.1.1 IBM

The multinational software company International Business Machines (IBM) is and has been world leading in patent generation and is the creator behind many groundbreaking innovations. The company has been appointed as one of the world's top 100 innovative companies during 2011 by Reuters (Thomson Reuters, 2011). IBM is also known to be among the world's top ten innovative companies and is according to Holman et al applying a need seeker strategy (Holman et al, 2011).

IBM develops, sells and markets products and services based on the latest technology within hardware and software. They offer consulting services in business modeling and strategy development and manage the implementation and education needed by the customer. IBM works and invests in development and possesses one of the world's largest research centers. (IBM, 2012)

4.1.2 3M

3M (Minnesota Mining and Manufacturing) has been appointed as one of the world's top 100 innovative companies (Thomson Reuters, 2011) and is among the world's top ten successful innovative companies due to its need seeker strategy (Holman et al, 2011). 3M is a company known to adapt ideas early and turn them into well-established innovations (Von Hippel et al, 1999).

3M is an American based conglomerate providing products for several industries such as the electro- and telecommunication, the medical care, the office supply, the security industry and the automotive industry. However, it is mostly famous for the adhesives, its first breakthrough innovation. (3M sverige, 2012)

4.1.3 Oriflame

Oriflame is a Swedish company within the cosmetics industry which has reached its success due to its service innovation (Blomqvist et al, 2010). It considers itself as innovative and has launched several innovative projects such as the EcoBeauty concept. Oriflame has an unusual business model based on a large sales force made up by 3.6 million private sellers that are working with face-to-face sales and are surrounded by a close customer group. This enables the company to be directly in touch with its end consumers, compared to other cosmetics brands that are sold by a retailer. The company's manufacturing is partly in-house and partly outsourced to external suppliers. (Oriflame, 2012)

4.1.4 Tetra Pak

Tetra Pak is engaged in development, manufacturing and marketing of packaging solutions for liquid food products. With its innovative ideas, the company changed forever the way food is packaged and transported around the world (Lundberg, 2009). According to Tetra Pak innovation is; "when experiences are transformed into new products and services or into new processes and working methods" (Tetra Pak, 2012).

4.1.5 Axis AB

Axis is a company that produces network video around the world and is market leader within sales of network videos. They operate in different segments, for example in banking, healthcare, retail, government, city surveillance, transportation and education. (Axis, 2012) Axis won an innovation prize at the world's leading security show in Bringham for one of their innovations (Axis, 2003).

4.1.6 Sony Mobile

Sony Mobile is a company owned by Sony Communication which is a leading company within for example video, audio, games and communications. Sony Mobile is an international company that sells mobile phones all over the world. They have revenue on 6.3 billion euros and over 8,000 employees. Sony would be recognized as one of the world's most successful companies within innovation according to Blomber Business weekend (2010).

4.1.7 ABB

ABB is a leading company within products and systems for power transfers to different kinds of industry automation (The ABB group, 2012). In Thomson Reuter's Top 100 Global Innovators (2011) ABB is named as one of the top companies within innovation. ABB also focuses on innovation and says that it is innovation that makes

it possible for them to maintain long term competitiveness. (Innovation: Investing in the future, 2012)

4.1.8 Scania

Scania is a company that produces and sells high quality trucks and components for trucks and buses all over the world. In Thomson Reuters' Top 100 Global Innovators (2011) Scania is named as one of the most innovative companies in the world. Scania has also been recognized as strong in open innovation and in partnership innovation (Ollila, 2011).

4.1.9 Assa Abloy

Assa Abloy develops locks and safety system for doors. Assa Abloy is the biggest supplier of locks in Sweden and has main markets in Europe, Asia and USA. (Assa Abloy, 2012) The company is operating in a slow moving market and has high standards and goals when it comes to safety. Assa Abloy feels a need to supply and satisfy their customers with the newest and the safest technologies possible. (Froberg & Malm, 2012)

4.1.10 Leaf

Leaf is the leading company within sugar confectionery in Scandinavia. It stands for high quality and has brands like Malaco, Läkerol and Algrens bilar. Since Leaf is operating in a fast moving industry it always has to develop new innovations that are targeted to the end-customers. Leaf is producing different kinds of candy to 50 countries all over the world. (Leafsweden, 2012)

4.1.11 Procordia

Procordia is a company that produces foodstuff to retail stores in Europe. The company has a lot of trademarks like Felix, Ekströms, Risifrutti, Fun Light, Grandiosa and more. Procordia is a part of the Orkla concern and Procordia is a market leader in 75 % of all the product categories that they have chosen to operate in. (Ingrid Landgren, 2012) In November 2011 Procordia won the most prestigious prize at Orkla Growth Awards for highlighting the importance of advertising and innovation in brand-building activities (Orkla, 2011). Hence, Procordia has always been one step ahead their competitors and have an innovation and marketing department that make this possible (Aru, 2011).

4.2 Comparisons of Companies

In order to compare and analyze the empirics, tables with all the collected data was established. The data collected when interviewing the 11 companies were summarized in three diagrams. The diagrams show where the companies are placed in relation to each other within the areas; engagement in innovation, procurement's

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role in innovation and conditions for buyer-supplier relationship. This is the same areas that appear in the Innovation Gatekeeper Pyramid table in chapter 5.1. To understand the details making the foundation for each diagram, see tables in appendix 4. Each company is placed in the three diagrams based on how these perform within each area. When looking at all three diagrams, 8, 9 and 10 it is easy to see which company that works best according to the model. This makes it also easier to analyze the collected data and develop a framework for how to work with innovation and procurement. The diagrams are used as a base for the analysis in chapter 5 and discussion in chapter 6.

In figure 8 where buyer-supplier relationship is plotted against procurements role in innovation 3M and Oriflame were scored as the best companies. This is based on their way of working with their suppliers and how much the procurement department participates in innovation at the company. At these two companies the procurement departments are involved early in the innovation process and contribute a lot. They also have freedom to come up with new ideas which are well cared for within the company. 3M and Oriflame have good and close relationships to their suppliers which makes it easier for the companies to use the suppliers' competence when it comes to innovation. The suppliers can also trust the companies and vice versa, which enable the close collaboration. Since 3M and Oriflame scored high on both buyer-supplier relationship and procurement's role in innovation they were placed in the upper right hand corner.

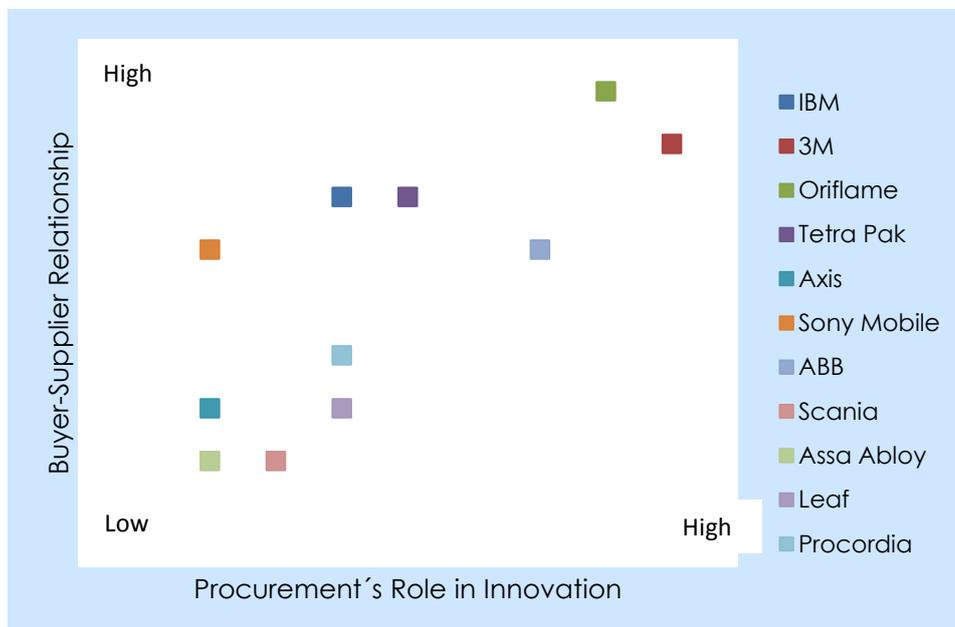


Figure 8; Shows the plot for buyer-supplier relationship against procurement's role in innovation.

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In figure 9 where engagement in innovation where plotted against procurement's role in innovation, IBM, 3M and Oriflame scored as the best companies. All three companies have a well-established ways to work with innovation as well as strategy, culture and leadership enabling innovation. These have put much effort into innovation and have managed to make it permeate the company. All three companies have also scored high on procurements role in innovation which is further described below.

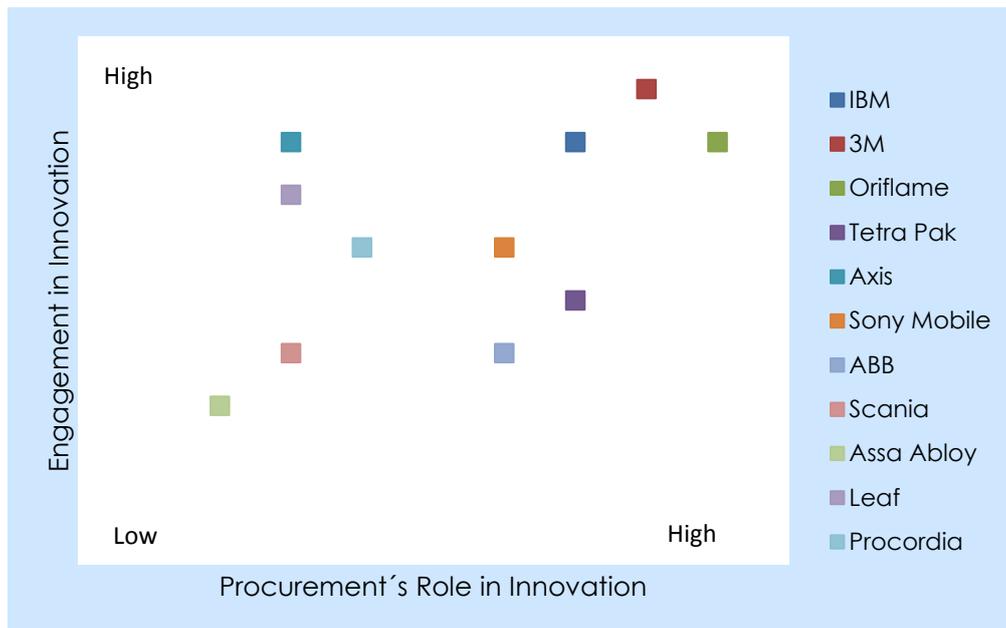


Figure 9; Shows the plot for engagement in innovation against procurement's role in innovation.

Figure 10 shows a plot for engagement in innovation against buyer-supplier relationship. In this plot 3M and Oriflame are again the best scoring companies. This is obvious since they have scored high on the other two diagrams as well and the same parameters are on the shafts. 3M and Oriflame are two companies which have high engagement in innovation thanks to their work and willingness to be innovative. They also have a close and good relationship with their suppliers, which makes it possible to take advantage of each other.

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Figure 10; Shows the plot for engagement in innovation against buyer-supplier relationship enabling innovation.

As named below, all three diagrams will be used in order to analyze, discuss and draw conclusions from the collected data. In all reasoning later in this thesis the base will be these diagrams.

5 Companies' Realities Analyzed

The chapter starts with a developed framework called the Innovation Gatekeeper Pyramid based upon theory and empirics. The framework presents how a company should work with innovation and what the procurement can do to contribute to innovation. The framework is present both as a picture and an associated table. Furthermore an analysis of all areas and focuses in the framework are described in depth and discussed.

5.1 The Innovation Gatekeeper Pyramid

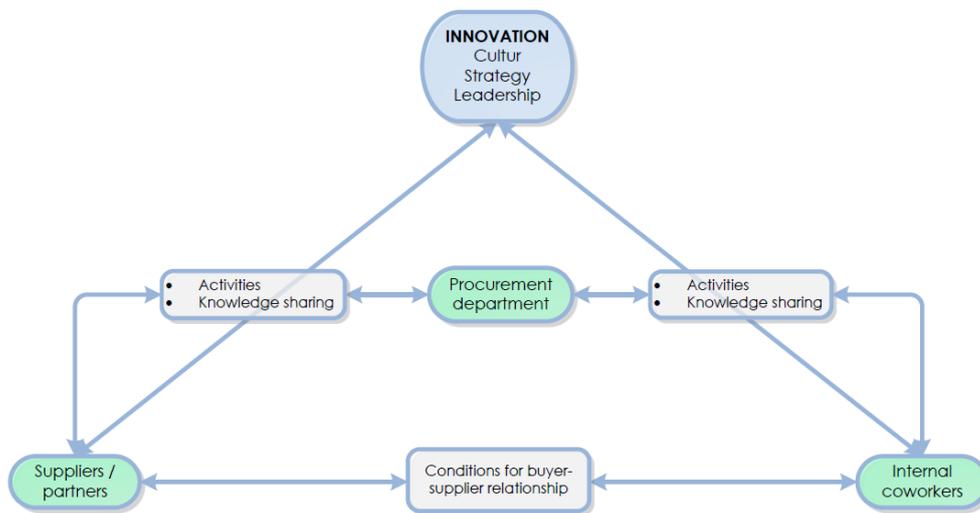


Figure 11; The Innovation Gatekeeper Pyramid.

Figure 11 shows a framework called the Innovation Gatekeeper Pyramid which is based on the concept image and empirics. Similar to the concept image, this framework has three corners; innovation, internal coworkers and suppliers or partners. Knowledge sharing and activities should be performed between internal coworkers, procurement department and suppliers or partners. In order to get a relation between internal coworkers and suppliers or partners, conditions should be determined and accepted by both or all parties. To get a deeper understanding and better knowledge about our framework, see table 2.

Table 2; Shows the Innovation Gatekeeper Pyramid table.

Engagement in Innovation	Leadership	<ul style="list-style-type: none"> • Innovation director • Operational innovation manager
	Strategy	<ul style="list-style-type: none"> • Main focus on one strategy

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		<ul style="list-style-type: none"> • Perform activities to fulfill the strategy • Collaboration between departments for innovation
	Culture	<ul style="list-style-type: none"> • Think outside the box mentality • Freedom to innovate for employees • Resources to innovate • Everyone expected to contribute • Interaction in between divisions
	Innovation process	<ul style="list-style-type: none"> • Should enable open communication • Either a documented process or innovation integrated in daily activities
The Role of Procurement in Innovation	Value contribution	<ul style="list-style-type: none"> • Find right suppliers for innovation • Knowledge about suppliers' competences • Knowledge about new technologies • Ensure suppliers share innovative ideas • Ensure suppliers' ideas are captured internally • Manage NDA and patent agreements • Link between internal and external interfaces • Generate innovative ideas • Provide general support
	Internal interfaces	<ul style="list-style-type: none"> • Technical staff • Product team • Innovation team
	External Interfaces	<ul style="list-style-type: none"> • Old suppliers • New suppliers • Potential suppliers
	Organization	<ul style="list-style-type: none"> • Divided responsibilities after e.g. technology, supplier group, project, operational, strategic
	KPI	<ul style="list-style-type: none"> • From the top divided into specific KPIs for each department
Conditions for Buyer-Supplier Relationship	Risk	<ul style="list-style-type: none"> • Risk taking is necessary • Should be carried by both parties • Project specific
	Patent	<ul style="list-style-type: none"> • Industry specific and depending on business model

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		<ul style="list-style-type: none"> • In case of co-development, ownership, shared ownership or exclusivity is necessary
	Incentives	<ul style="list-style-type: none"> • Buyer pays for development • Supplier guaranteed project • Increased opportunity for supplier to get project • Supplier decreases own costs • Profit divided between parties
	Knowledge sharing	<ul style="list-style-type: none"> • Two directions • Customer needs • Company's needs • New technologies • TRM • Regular updates • Formal meetings
	Activities	<ul style="list-style-type: none"> • Well prepared workshops included competence marketing, new technologies • Sites visits • Regular updates • Formal innovation meetings
	Supplier freedom	<ul style="list-style-type: none"> • Project specific • Commodity vs. non commodity situations • Solution development by suppliers • Freedom within an restricted area • Depending on buyers and suppliers competence

5.2 Engagement in Innovation

5.2.1 Strategy

Holman et al (2011) and Davila et al (2011) recommend that a company should focus on one of the three strategies namely; need seeker, market reader or technology drivers. However, according to the empirics, four of the interviewed companies focus on all three strategies at the same time, but had innovation projects driven by customer needs. That goes in line with Holman et al's (2011) statement that the most successful companies apply the need seeker strategy. The below mentioned proposition is thereby partly supported.

- To succeed with innovation a company needs only one innovation strategy – *partly supported*

The companies perform activities to fulfill their strategy, like having data systems where ideas are collected and enabling all employees to contribute with their ideas. Free time in the calendar for the employees to use for an innovative purpose also occurs at three of the companies. Additionally, two of the companies have lead words or KPIs measuring innovation.

5.2.2 Culture

Innovation culture has proven to be essential for the general innovation engagement in the companies. This is featured in terms of how the companies view innovation; some companies believe that all employees can and should contribute and provide forums and tools to enable it, which are related to strategic activities mentioned in the previous chapter. 3M, IBM and Oriflame have an organizational project structure which requires everyone to take part in the innovation work. At least three companies have limited the innovation activities to a department working specifically with innovation or technical development. According to Holman et al (2011) and Davila (2011), having a culture that supports innovation imply thinking, feeling, behaving and believing in innovation, which in turn can be translated into focusing on innovation strategy and customer insight, which is supported in the previous paragraph; Strategy. It also implies having management taking risks and being open for opportunities and creativity and acting accordingly. That in turn is supported by 3M having activities such as innovation communities between divisions sharing ideas, and by Tetra Pak and Axis having an organization and data system supporting ideas from individual employees. Also IBM, Oriflame and Leaf are supporting the importance of an innovative company culture by emphasizing the importance of allowing or expecting everyone to contribute. Due to those different features the below proposition is considered supported.

- To maintain a culture enabling innovation, a company needs to think, feel, behave and believe in innovation - *supported*

Additionally, Holmen et al (2011) and Davila (2011) recommends that innovation culture should be a part of the entire company and very well communicated, which sometimes has been obvious and sometimes less clear, and may have affected the overall impression of the companies' engagement in innovation.

Companies like Scania and Assa Abloy seem to be lacking a culture supporting innovation. Those two companies work with products having heavy pressure on verification and requiring long development time. The innovation culture could perhaps depend on the development time of the products.

5.2.3 Leadership

Propositions were developed as a foundation for the leadership study and answered below.

- To succeed with innovation, corporate management needs to apply the seven innovation rules – *partly supported*

Concerning the first above mentioned proposition it is partly supported since only four of the *Six Innovation Rules* were touched upon in the empirical data. The innovation rules are further described in appendix 2 and are analyzed separately accordingly.

1. *Exert strong leadership on innovation direction and decisions* – examples of this can be seen in Leaf and Procodia having Innovation Directors leading the innovation work and being responsible for the success of it. 3M claim their top managers are pushing innovation.
2. *Integrate innovation into the business mentality* – IBM claims that their entire organization is expected to contribute to innovation. Leaf communicates that everyone is welcome to contribute. Axis, Tetra Pak, Sony Mobile and encourage employees to contribute with ideas through the use of IT-systems. All companies have to some extent R&D departments.
3. *Match innovation to company strategy* – not sufficient data collected to answer.
4. *Control the tension between value capture and creativity* – At least five of the studied companies invest in ideas that either generates added value for the end-consumer which allows the company to charge a higher price or ideas that boost the company's brand image.
5. *Neutralize organizational antibodies*– not sufficient data collected to answer.
6. *Cultivate an innovation network beyond the organization create the right metrics and rewards for innovation* – all investigated companies has networks made by at least suppliers and customers, these are involved in innovation direct or indirectly, by at least producing parts to the innovation or providing a base for the idea.

All of the investigated companies are however successful in innovation and market leaders or among those, within their industries. This implies that following all six innovation rules are not required to become successful.

Concerning the second proposition below, different types of innovation leadership or the absence of it was observed within the studied companies.

- An innovation manager does not necessarily need specific technical knowledge, but should be proactive, supporting and access a broad network – *supported*

Since Leaf and Procordia, have decision makers responsible for the innovation activities and the outcome of those, the proposition is considered supported. The remaining companies did not mention any Innovation Director but maintain their innovation in a more decentralized manner, by allowing and encouraging cross-functional project teams or product teams drive innovation. Hence, the view on leadership differs from company to company.

5.2.4 Innovation process

The below proposition highlights four steps that is necessary for a company to perform in order to succeed with innovation.

- To succeed with innovation a company needs to perform activities to search, select, implement and launch innovations – *partly supported*

In order to answer the proposition, each of the steps is discussed separately, since this study is mainly focused on the very first idea generation phase, only one of the steps has been fully investigated. The second step is supported by two of the companies according to below. Thereby the reason to why the proposition is partly supported.

- *Search* – nine out of eleven companies follow market trends, customer needs or technical possibilities. All companies work actively with generating new ideas as well as keeping their eyes open for ideas that may turn up unexpected.
- *Selection* – four companies has informed about a selection step.
- *Implementation* – not sufficient data collected to answer.
- *Capture* – not sufficient data collected to answer.

IBM and 3M, both offering service solutions, work with innovation as a part of their regular on going day to day processes, similar activities takes place but not in the given sequence. Kekäle and Nyström (2007) and Tidd et al. (2009) claim that those four steps should be performed, but not necessary in a specific order or manner. Also Axis and Oriflame work with innovation on a rather non-formalized way. These four companies do also have a strong innovation culture where everyone is expected or encouraged to contribute. Correlations can therefore be seen between the

process and the companies' innovation cultures. Companies with a strong innovation culture do not have a clear innovation process since innovation is an integrated part of the employees' work and vice versa. Axis and Oriflame do however believe that they are in a need of having a more formalized way to capture internal ideas.

5.3 Procurement's Role in Innovation

5.3.1 Value contribution

There seem to be two types of firms, those where the procurement departments are expected to contribute and those where the common opinion is that innovation simply is not a part of their tasks. Often, the procurement department acquires information which others at their company do not possess. Sometimes the department works as a catalyzer for innovation by encouraging suppliers to be innovative and support the buying company. The procurement departments of the two companies within the food industry were less involved with innovation than others. Concerning the engineering companies, was both of the opinion that innovation is just not the purchasers' task. Purchasers at the companies providing service projects appeared to affect innovation more than the average.

Compared with the frame of reference, purchasers' involvement and value contribution is a rather new phenomenon, which may be the reason behind why companies within some industries seem to contribute more than others. With other words, some are rather progressive, while others are a bit behind in this development. A keystone behind contribution is that purchasers themselves need to believe that it is partly their responsibility to contribute to innovation. Such a view does not exist at the companies where the purchasers stand for low contribution. Procurement has been mentioned as a service function only. One of the companies takes this a step further and claims that the department would "help out with anything that the development team needs and wants". This was considered to be an issue at Tetra Pak, where the innovation team wishes their procurement department would be more flexible, so that they do not have to "go around" them. The contribution did also depend on the individual purchaser's knowledge. A purchaser with greater technical knowledge is generally more able to contribute than other purchasers, which is supported by three companies. To handle this at least one of the investigated companies required their employees to maintain a minimum knowledge level.

A general opinion among the interviewees at the procurement departments is that they need to become involved in the development project as early as possible since it allows the purchaser to influence the project more. The purchasers can then at an early stage, start looking for suppliers and provide inputs concerning the suppliers' competence and resources. Proposition two is thereby affected by at what time period the purchasers get involved and also are supported. According to the

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empirics this can also lead to a close and open relationship. In some cases, the suppliers communicate directly with the innovation department to brief ideas, which saves time and resources.

Procurement departments can according to the interviewed companies, contribute to innovation by performing the activities below mentioned:

- Find new suppliers that better suits the product specification
- Propose cost reductions
- Present ideas generated by suppliers internally and make sure those are captured by the firm
- Encouraging suppliers to turn to the company with their ideas
- Establish fair relationship and agreements with the supplier
- Share information with the supplier so that they can support the company in the right direction
- Be the link between the external and internal departments
- Coming up with innovative ideas.
- Share supply market knowledge internally
- Share previous experiences with the suppliers internally
- Ensure that the company is supported by suppliers when needed

This imply that the below mentioned propositions are supported.

- To contribute to innovation the buyer needs to identify, attract and select the right suppliers - *supported*
- To contribute to innovation, a purchaser needs knowledge about the supplier market, technology news and development possibilities – *partly supported*
 - Development possibilities are not supported by the study.
- To contribute to innovation, a purchaser needs knowledge about end customer needs and company needs – *supported*
- Open innovation involving suppliers enables a company to generate ideas resulting in market success - *supported*

5.3.2 Internal interfaces

The internal departments that the purchasers are in contact with differ from company to company. All companies seem to value defined and well known connections between procurement and other departments, beside an innovation department, to get an effective flow of ideas. At seven of the companies the purchasers work towards internal project groups and is mentioned to be a bridge between internal developers and suppliers. At three of the companies, purchasers

work directly with Innovation Departments. Based on those aspects the proposition mentioned below is considered supported.

- To contribute to innovation, a purchaser needs suitable interfaces within the firms - *supported*

When drawing lines to the frame of reference, purchasers should have a wide internal network made by co-workers from both the development department and the marketing department. In addition to that, it does not necessarily have to be the market department or development department separately, but instead they could be working together as a team. The procurement departments do also need to be invited to forums related to innovation in order to contribute with their input.

5.3.3 External interfaces

All companies' purchasers are in contact with suppliers. Depending on if it is an operational purchaser or strategic purchasers they need to have different external interfaces. An operational purchaser should negotiate price and volume with current suppliers. Strategic purchasers are often in touch with new suppliers, other strategic suppliers and keep an eye on suppliers which might not be occupied by the firm at the moment but are under assessment, details can be found in appendix 4, table 9. They work on a more long-term perspective and contribute to the companies' innovation through the supplier. For more details see appendix 4.

5.3.4 Organization

According to previous studies, it is important to make a clear work division between different procurement departments at the company. At the studied companies were that division was clear, such as at IBM and 3M, and the contribution to innovation seemed to be large. Six of the investigated companies have three departments which cohere with Scheile's (2010) and Ellram (1995) studies. Three companies had a clear division and did still not contribute to a great extent, but instead focused on price pressure and supplier selection. That is assumed to be partly due to a very small workforce and thereby lack of resources and partly due to a pessimistic approach to their own ability to contribute to innovation. Further details can be found in appendix 4. Three companies did also urge the importance of having educated purchasers with much knowledge in their commodity.

The below proposition is however considered to be supported, since the division of assignments are needed, but also enough resources and accurately educated staff.

- To contribute to innovation, the procurement department needs to have a department handling more strategic tasks. - *supported*

5.4 Buyer-Supplier Relationship Enabling Innovation

5.4.1 Patent

Depending on the companies' strategies and business models, there are different preferences for whether to own patents for co-developed ideas or not. For Oriflame, Assa Abloy and Axis patent ownership is necessary to maintain the uniqueness of products at the market. IBM and 3M need to possess the right to offer the patented concept to their customers and cannot risk to be locked in by their suppliers. Scania and ABB prefer to own patent to avoid dependency on one supplier. On the other hand, the empirical material provides examples of companies; Leaf and Procordia, that do not wish to own patents, since their business models are based on product sales, and user exclusivity for a certain period of time is therefor enough. The following proposition is thereby supported since patent ownership generates added value for the companies that prefer to own patents.

- Companies that prefer to own patents gain advantage by the ownership – *supported*

5.4.2 Incentives and risks

Different types of incentives to encourage suppliers to contribute in innovation projects are seen among the studied companies. Five companies consider themselves as naturally attractive among suppliers due to e.g. a strong brand name, low risk projects or high production volumes. Four companies have a strong brand name but choses to pay for or share development costs anyway, while two companies guarantee the innovation supplier to produce the innovation if it becomes a part of a product launch. The two latter alternatives go in line with recommendations brought up in the frame of reference. Two companies work actively with maintaining a good reputation and good relationships with the supplier in order to make suppliers approach the buyer when they have new ideas. It is interesting to see that there is quite a difference between companies that actually are rather similar. The below proposition is however partly supported since some companies manage to succeed in innovation without having a balanced relationship, even though it might be considered to be fair as long as there is a high payoff possibility.

- To succeed with innovation, the buyer-supplier relationship needs to be fair by balancing risk taking, profit sharing and influence – *partly supported*

5.4.3 Knowledge sharing

According to the theoretical framework, information should be shared in two directions, so that both supplier and buyer share information. It enables the creation of a relationship which generates innovation since the parties may share information

about roadmaps and project specific plans. This takes place among seven of the studied companies, though the information is often limited to the restricted area which the supplier is involved within. The restricted area may be a project, concept or a TRM within the suppliers working area. Suppliers do also usually support the company with new techniques and ideas, which is observed at seven of the companies. The below proposition is therefore supported.

- To contribute to innovation with its knowledge and development possibilities, the supplier needs knowledge about the customer's strategy, company's needs and end consumer needs - *supported*

5.4.4 Activities

Seven of the interviewed companies perform activities enabling innovation together with their suppliers, according to the theoretic descriptions. The activities are often taking form as workshops with the intention to find and capture new technologies at the supplier market. The supplier is then allowed to show off its capabilities and ideas, a type of competence marketing. The buyer gets the opportunity to present roadmaps, customer needs and market trends. The workshop is planned and held in different ways depending on company and is included in a variety of companies. Some prefer to only invite preferred suppliers while others welcome all interested actors. Most workshops are driven by the buyer and are restricted to a certain technological area. The workshops require preparations by both parties prior to the meeting and the supplier usually receives feedback from the buyer company. After the workshop is held, a sequence of actions should take place internally, to ensure that interesting ideas are captured. The relevant ideas should also be followed up externally to bring it towards realization. It is corresponding to the theory but executed in different ways. Other commonly occurring activities are visits at the supplier sites and occur at; at least three of the companies. The proposition below is partly supported since at least seven of the companies work with innovation workshops sharing ideas and future plans, but concerning synchronizing business models there are not enough input gathered to support or deny it.

- To succeed with innovation, the buyer and the supplier need to establish goals in common by having activities such as innovation workshops, technology roadmaps, synchronizing business model – *partly supported*

5.4.5 Supplier freedom

According to Jensen (2011), suppliers should be allowed freedom to plan activities. Scheile (2005) states that innovative suppliers should be able to supply a complete product with high technology content and have responsibility to develop a module which is a part of the final product (Axelsson, 2011). That is supported by five of the studied companies. The collected data do however show that the supplier freedom

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depend on if it concerns commodity order or solution development. If the parties are to develop a solution together, then the supplier competence is needed to a greater extent and the supplier gets more freedom within a certain area. Similar pattern is seen depending on the competence balance between the firms. The less knowledge the buyer has within an area the more freedom is given to the supplier, thereby the freedom becomes project specific. At least six of the companies collect ideas from the supplier and evaluate it to determine if it may be interesting for their projects. The below proposition is thereby supported.

- Both the buyer and the supplier can drive innovation by generating ideas and propose them for their partners – *supported*.

6 The Key Stones in Innovation-Driven Procurement

This chapter presents a discussion about innovation and procurement which is featured in a model called Innovation-driven Procurement. The model describes how a procurement department should work with innovation and suppliers and how it should be organized in order to succeed with innovation.

6.1 Linking Procurement to Innovation

The analysis of the studied companies' reality in the theoretic light covered by the previous chapter has generated a deeper understanding about the links between innovation and procurement. The many keystones in those two working areas were presented in the Innovation Gatekeeper Pyramid and its table. The links between procurement and innovation turn out to be clear see figure 11, when focusing on the direct and indirect effects of the theoretic areas; *Engagement in innovation, The Role of Procurement Innovation and Conditions for Buyer-Supplier Relationships*. The more engaged a company is within innovation, the greater the purchasers' responsibility to contribute to innovation becomes. The general innovation engagements result as well in strong buyer-supplier relationships, risk taking and reasonable conditions which in turn positively affect innovation.

The balance is illustrated in figure 12 called Innovation-Driven Procurement model, and intends to frame the features of a purchaser's ultimate role and a procurement organization with the capacity to enable innovation. The figure also captures how the supplier could be managed to allow and encourage its contribution to innovation. Innovation culture is applied to the purchasing organization and to the relation between the parties. The figure is developed based on both frame of references and collected empirics.

Both mentioned models developed within the frame of this study are based on both previous research as well as the comprehension gain by studying companies' way of working. Some of their contents are supported by both parts, others by only one of the sources. Since it is based on previous research which is applied on a general basis, and the studied companies are from several different industries, it is also supposed to be able to apply at companies within different industries. Then of course since some features have only been found within certain companies and it is therefore difficult to say whether all features can be applied at all companies. The authors believe that the models should be adapted to the specific environment that can be found at the company.

6.1.1 Engagement in Innovation

The innovation culture turned out to affect the companies' way of working, and is considered by the interviewees to be vital for their companies' success. The culture can be created by activities, possibilities and expectations, and the other way around, an environment of innovative people can be fully utilized by adding structure in terms of official activities and expectations. The innovation process can be adapted to the culture where the process should enable innovation, without risking discouraging innovation. That is in turn related to the leadership at the company.

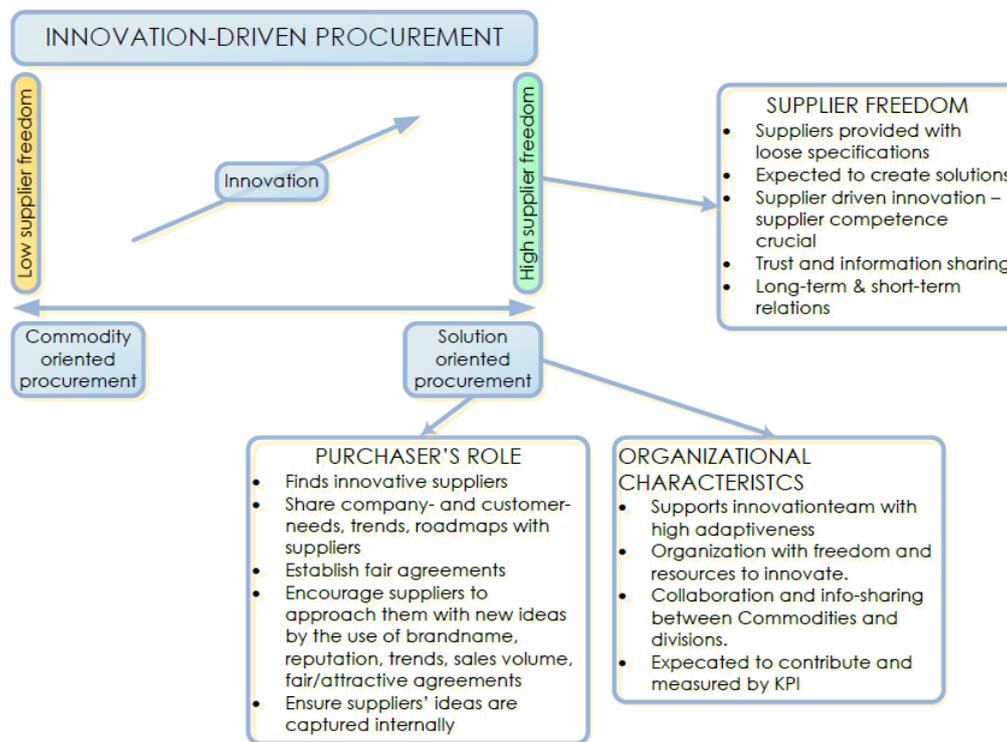


Figure 12; Shows the Innovation-Driven Procurement model.

Leadership enabling innovation can be shaped in different ways and adapted to the culture at the company. A balance between taking decisions and guiding ideas to the right internal forum seems to be important for managers to enable innovation. Furthermore it is important not to discourage innovation by setting too many limits.

Eight of the investigated companies had innovation that is driven based on consumer needs, even though their innovation stood on three legs made by Technology, Market and Need-driven strategy. This appeared in different ways, such as having projects driven for a direct customer or by taking innovation decisions based on consumer needs. These needs were also in one or another way communicated to suppliers to manage to fulfill the needs. Sometimes the buying

company interprets the consumer-need data and transforms it to trends before it is transferred to the supplier. At service companies on the other hand, it is clearer that actual customer needs are communicated, since these companies have direct customers as end-users. It would be interesting to know more about if communicating needs or trends have different effect on innovation.

6.1.2 The Role of Procurement in Innovation

The procurement department can apparently through its gatekeeper role, add value to the innovation work in several ways. In order to do so, the department needs to consider itself as valuable and believe that contributing to innovation is a part of the department's responsibilities. The surrounding internal environment needs however to be supportive and to enable the purchasers' contribution by e.g. inviting to innovation meetings, sharing information in time and capturing the purchasers' input.

Most companies seem to have different purchasing roles, allowing the purchaser to focus on a specific area. In that way strategic tasks get the attention they deserve instead of having the more urgent operational issues prioritized. Therefore it seems reasonable to ensure enough resources to be available in the procurement department to make room for innovation related work activities. This would in turn enable a flexible and supportive procurement department that is able to think outside the box.

The purchaser is often the bridge between internal and external coworkers, receiving input and ideas from two or more camps. This increases the importance to share those ideas with others in e.g. internal communities involving only purchasers or a cross functional range of people. Information and knowledge should also go in the opposite direction to the supplier. This is often is the responsibility of the purchasers. Although sometimes, developers and innovation staff tend to contact suppliers directly in order to brief new ideas. It seems like such situations include a risk of missing out of valuable information, since the purchaser, who possesses a position that includes regular contact with the supply market, gains wider market knowledge.

6.1.3 Buyer-Supplier relations

As previously commented, innovation is not created by a firm in isolation, but in collaboration with others. A lot in this collaboration depends on how and to what extent the competence of each involved firm is used in the project. In order to use the supplier's competence as much as possible, one must allow and require the supplier to make contributions to innovation. This is done by keeping specifications loose or only briefing/presenting a problem, which needs a solution, and then expecting from the supplier to provide potential solutions to the problem. By such

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means both firms to drive innovation, the buyer by consolidating different techniques and the supplier within a restricted area by using their core competence.

To establish fair agreements prior to the execution of a project is considered to be fundamental for a relationship that is enabling innovation. Fair agreements can be defined differently depending on the situation and the parties, but the suppliers need to feel that they gain by supporting the buyer in innovation. If the buyer's brand name is well-known and associated with strong achievements, high volumes and safe investments, it is usually not an issue. In other situations the purchaser can create an image of being open-minded and having the ability to capture ideas. It can be done by decreasing the risk for the supplier by guaranteeing the supplier the opportunity to produce the innovated item during a certain period of time if it becomes relevant for a market launch. The buying company could also choose to carry the development costs such as engineering hours at the supplier.

Concerning the risk sharing in a buyer-supplier relationship, the input collected during the study is considered too inconsistent to draw any definite conclusions. Our general comprehension is however that the buyer should adapt the risk sharing after the size of the supplier and the situation, in order to create a strong relationship that enables innovation. This is a way to avoid sacrificing innovation due to a too heavy risk carried by one of the parties.

7 How can purchasers contribute to Innovation?

In this last chapter, the conclusions of this study are presented. The conclusions are based on the frame of reference, the interviews and the performed analysis to capture the best ways for procurement to work with innovation. Answers to each of the research questions are provided in a structured way. Suggestions for future research are also provided in this chapter.

The purpose of this thesis was to investigate how and to what extent a purchasing department can work to support its company's innovation. In order to full fill this purpose the research questions below have been answered.

1. What value can a purchasing department contribute with to its company's innovation?

A purchasing department can contribute a lot to its company's innovation as long as they get involved early in the idea generation. Purchasers can preferably contribute with the following;

- Find new suppliers that better suites the product specification
- Propose ideas for cost reductions
- Present ideas generated by suppliers internally and make sure those are captured by the company
- Encouraging suppliers to turn to the company with their ideas
- Establish fair relationship and agreements with the supplier
- Share information to the supplier so that they can support the company in the right direction
- Be the link between the external and internal departments
- Come up with own innovative ideas
- Share supply market knowledge internally
- Share previous experiences with the suppliers internally
- Ensure that the company is supported by suppliers when needed

2. What activities should the purchasing department perform to contribute to the company's innovation?

Activates that purchasers can do to contribute to innovation is correlated to the value they can accomplish. Hence, through activates value are created. Both external and internal activities should be performed in order to create an innovation network that helps a company being more innovative.

- a) **What activities should the purchasing department perform internally and when in the innovation process should those take place?**

Internally, the procurement department should participate in meetings with other departments to for example share roadmaps. This could take place in an early stage in the idea generation process. Then, the procurement department could start looking for right suppliers early and thereby get more time to evaluate and choose the right one. Purchasers are the link between suppliers and the company and present the ideas from the suppliers to the company and vice versa. The purchaser should also be adaptive and available as support for or in innovation teams.

b) What activities should the purchasing department perform externally and when in the innovation process should those take place?

The procurement department should visit the suppliers regularly to see what is coming up and to shape a good relationship. Also, they should arrange workshops with the preferred suppliers where they together can come up with new ideas. After the workshops purchasers together with other departments in the company should evaluating the ideas. It is important that purchasers shape a big and close network with the suppliers in order to use suppliers' competence.

3. How should the purchasing department be organized to contribute to the company's innovation?

The procurement department should be organized in adaptive, cross functional teams with freedom and resources to innovate. Then, innovation has potential to be a part of the daily work for the employees. Purchasers should also support the innovation teams. Information sharing between purchasers and other departments should be a part of the normal work and prioritized.

a) What roles should exist and what tasks should be covered by those?

In a procurement department there should be at least one person that has time and resources to use for innovation. These or those individuals should therefore have a more strategic role while other purchasers focus on the operational. Then, both the strategic and operational wok will be prioritized.

7.1 Final remarks

This study has finally brought forward some implications for both academics and practitioners. In the theoretic aspect, the two theoretical areas innovation and procurement have been merged and procurement has been viewed through innovation theory glasses. It has been complemented with input from the practical business world which has resulted in two models; *Innovation Gatekeeper Pyramid* with its table and *Innovation-driven Procurement*.

For practitioners within procurement who intend to contribute to their companies' value creation, the Innovation-driven Procurement model provides guidelines in how to organize their department. It shows what activities to perform and by whom, as well as how to manage resources in a beneficial way. For some companies it may be

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a controversial mindset, since many are currently measured based on cost savings, and will therefor require managerial effort and cultural changes.

Since it seems like differences in the way of working occur depending on what industry a company is active within, could it be interesting to further investigate the specific industries to understand differences and reasons behind differences. It might depend of the timeframes for the company's products, if the products' requires long development times or if their market windows are longer or shorter. It is interesting since the timeframes may pressure the procurement department to different degrees.

Another question that turned up during the study is the view upon customer needs versus trends. It seems like some companies' tend to share raw customer needs with their suppliers while others communicate future trends which is considered as customer needs turned into what the company believe will be the next big thing at their market. To gain further understanding in what different affect that types of information sharing have on innovation might be valuable, since it may affect the suppliers' ability to contribute with their ideas and capabilities.

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Per Zander (Product manager, Axis AB) interview 2012-03-28.

Appendix 1 – Interview Questions

1. Could briefly describe your innovation process which aims to generate innovation for new products?
 - a. Which departments are involved?
 - b. Are you organized in a special way to encourage innovation?
 - c. How is innovation a part of your corporate culture and strategy, and do those reflect each other?
 - d. What kind of leadership for innovation do you have?
 - e. How do you think you can optimize your innovation process?
 - f. What do you think is the most important element for successful innovation?
 - g. Are you willing to invest in projects with low ROI, compared to your usual risk factor?

2. What does your purchasing department's organizational structure look like?

3. Do buyers collaborate with the “innovation department”?
 - a. What is the purpose of these teams?
 - b. What activities do the teams perform?
 - c. What value can the purchasing department contribute with?
 - d. How much influence do they have compared to other team members?
 - e. What kind of innovation is the purchasing department working with?
 - f. How do you manage the balance between costs and innovation?

4. Could you describe your relationship with suppliers?
 - a. How do you share the risks with supplies?
 - b. How do you tackle questions regarding patents with your suppliers?
 - c. Based on which factors do you choose suppliers?
 - d. How do you attract your suppliers to make them support you with innovation?
 - e. Do you have specific vendors that are innovation partners?
 - f. How does the purchasing department search for new technologies among suppliers?

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- g. Do you communicate your customers' needs to your suppliers?
- h. How are your suppliers involved in innovation?
 - i. In which phase of the development projects are vendors involved?
 - ii. How does the collaboration look like?
 - iii. How much freedom do the suppliers have?
 - iv. What kind of input do you get from the suppliers?

Appendix 2 - Innovation

Types of Innovation

There are two types of innovation, called *Business Model innovation* and *Technology Innovation*. Business model innovation involves how to create, sell and deliver value to customers. Technology innovation involves the change of technology which generates innovations. Within those two areas there are six levels of innovation and following types of innovation have been used since they are most suitable for this thesis. (Davila, 2011)

Product and Service Offerings

Innovation may take place when a product or service offering is changed or when a new product is introduced at the market. It usually has a huge effect of the company's sales since it affects performance of the product and provides increased customer value. An example of this kind of innovation is a release of a new generation Smartphones or a part of a product which changes the offering and results in the attraction of new customer group e.g. low fat oil at McDonalds. (Davila, 2011)

Process Technologies

This type of innovation is usually related to the relation between manufacturing and service delivery and results in increased product quality and reduced costs. It is unknown by the customer by increases the value delivered and the competitiveness of the products. For companies developing commodity products it is a usual approach, and may take place within production, transmission and distribution of the products. (Davila, 2011)

The six Innovation Rules

1. Exert strong leadership in innovation direction and decisions

Strong and clear leadership from the top manager through the whole organization should support, motivate and reward the right activities in order to inspire innovation. Bill Gates, A.G. Lafley and Jorma Ollila, are all CEOs and have made their companies accomplished innovation, by strong and good leadership. As a part of the leader role, a manager has to make important decisions for the company. Managers have to choose an innovation strategy, amount of investment and what should be included in the innovation portfolio.

2. Integrate innovation into the business mentality

Innovation at a company must be communicated and integrated throughout the whole organization. To accomplish innovation there are two things that companies should think of. The first concerns technology; companies need to have focus on

research and development (R&D). The second is about strategy; companies have to define and communicate a business model. With attention on both of these a company is enabled succeed with sustainable innovation.

3. Match innovation to company strategy

Companies need to determine what types of innovation and with what quantity they should pay attention to. This shall match the company's overall strategy. The innovation strategy is selected depending on what that best suits the market, the external competition and what is best for the company. The innovation strategy needs to be clear and communicated throughout the whole organization so that all employees can do their best to help their company reach its goals.

4. Control the tension between value capture and creativity

Creativity which does not result in value will not contribute to the company's strength and sustainability. A company therefore needs power in both creativity and value capture. Therefore the manager must have a balance between value capturing and creativity in mind.

5. Neutralize organizational antibodies

A company needs to neutralize the organizational "antibodies" that attack new innovations. The antibodies probably come from employees who are afraid of what the new innovation will lead to. The antibodies will attack the most radical innovation and try to destroy them. If the past radical innovation was a success the antibodies will not be as strong. The managers need to create an environment which allows radical innovation and have the courage to change and innovate.

6. Cultivate an innovation network beyond the organization and create the right metrics and rewards for innovation

To succeed with innovation a company needs to have the right network both inside and outside of firm. Innovation requires developing and maintaining this network as a force to succeed with innovation. It could be effective partnerships with the suppliers, customers or other external parts. (Davila, 2011)

Innovation Steps from Tidd et al (2011)

Step 1: Search: New products and services are discovered and a lot of ideas are developed. At this step, signals, inputs and potential changes from for example the market are detected. The ideas can be anything from a new product or service to a new working approach. Ideas can come from employees, suppliers or customers.

Step 2: Selection: The first selection is made at this step. The ideas that fit the overall business strategy and the market pass this step and continue to step three.

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The ideas that do not fit the company are out. This selection is important since the ideas that pass this step become an innovation concept.

Step 3: Implement: In this step the ideas becomes real concepts, many ideas can here be pulled together to an innovation. Of course, knowledge also plays a key role. Knowledge from the market and technologies helps the company to see if the idea is possible and if there are any demands on the market.

Step 4: Capture: In the last step companies figure out how they can get benefits from the concept and how to deliver value to the customer. This is a critical step where companies find out if they will earn something from the innovation.

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Appendix 3 – Procurements’ Role in Innovation

Network Model

The network model is a theoretical model based on actors, activities and resources. The relationship between the actors is affected by interests that the actors have in common. This means that if one actor in the network has an idea or develops a product, other actors might have an interest in it even though it was developed for another purpose. According to the authors this usually happens when there is a relationship between a buyer and a seller; such a situation is called the *interactive effect*. The network model can also be applied when a product is consolidated by several different technologies. It is useful here to merge different competences from different companies when being innovative; this is called the *multi-competence effect*. To succeed with this it is important to build the relationship both on a long-term and short-term basis, as well as with both operationally and strategically concerns. (Wynstra, 1997)

Barriers Preventing Firms from Building Well-Working Suppliers Relationships

- Finding the right partners to engage with – which market domain to start searching in, how extensive should the search be and how easy is it to find suitable partners? The scope of the industry affects this possibility and the willingness to think outside the box.
- Forming relationships with them – a company’s possibility to form relationship is based on its past relationships, how influential it is within the industry and how willing the company is to share information.
- Building high-performing networks – Overcome barriers such as opinions about how to handle intellectual property rights and trust in the commercial relationships. (Birkinsawn et Al, 2006)

How to Perform Innovation Meetings and Workshops

1. Supplier selection - the selected group of suppliers should be chosen in order to cover all relevant technical fields.
2. Meeting preparations – before the meeting takes place a topic for the meeting, based on common interest should be settled. The level of details of the preparations should also be decided so that both parties can be equally prepared. Attendants from R&D, purchasing, marketing, strategy and/or production can be invited.

3. Meeting - The goal of the meeting is to agree about a new project to launch.
4. Tracking results - The ideas generated from the meeting need to be followed up afterwards.
5. Closing - Takes place when ideas either are implemented in projects or closed down. Scheile (2010)

How to Succeed with Innovation Networks

Launch Multiple Experiments

Start with introducing some pilot projects to be posted in some online innovation networks. Make sure not to oversell the concept to managers in the beginning. The procurement team needs to collaborate with R&D and form the challenges in a suitable way, where the issues are divided in parts of which can be solved as single problems. They may also need to collaborate with the legal department when doing so, to make sure Intellectual Property rights are handled. Also reasonable incentives need to be set up for the solver. They also have to master the skills needed to capture, sort, analyze, manage, and respond to the responses. (Billington & Jager, 2008)

Track Results and Build Bridges

At the second phase it is time to document, track and discuss the projects to understand what to learn from them. The pilot projects need to be evaluated in terms of “the costs of the solutions developed, the interest levels of potential solvers, the numbers of solutions they offer, the actual success rates, and eventually the returns on investment”. What is important to learn is to write a proper wish list based on internal needs. Once again the collaboration with other departments especially the R&D department is necessary. It is however also crucial to ensure the internal R&D do not feel threatened from the external scientists. (Billington & Jager, 2008)

Lay Foundations of an Innovation Culture

All the projects should be gathered under one roof, a so to speak change program. Both purchasing managers and C-level managers need to be involved. Purchasing managers need to drive the change and focus on the cost-efficiency, while C-levels have responsibility to include it in the culture. Appointing an “innovation process champion” who will become the expert may be a step in creating the right culture. (Billington & Jager, 2008)

Appendix 4- Collection of Data

Engagement in Innovation

Strategy

This area includes everything related to the company’s innovation strategy and how they manage to fulfill it, see table 3.

Table 3; Consolidation of companies’ view on strategy.

IBM	Everything IBM does is innovative – all employees try to improve everything.
3M	3M has a KPI measuring the amount of sales that is generated by new products created in the last 5 years. Encouraging innovation is having a policy allowing all researchers to spend 20 % of their working time doing anything they want, i.e. providing them with the freedom to explore new ideas. Understanding the customers' future needs and discussing roadmaps and how 3M can support the customer in achieving their roadmaps is vital.
Oriflame	Due to Oriflame’s closeness to its consumers and the consumers' insight that this relationship generates. The innovation is consumer need driven. Oriflame can easily perform consumer need investigations when needed.
Tetra Pak	-
Axis	Axis has the core value “Act as one, think big, always open” about innovation that permeates the whole organization.
Sony Mobile	Intend to maintain an innovative image at the market and thereby prioritize innovation before costs, which is usually appears when evaluating and implementing new techniques before gaining any cost apprehension. They combine different techniques which finally become an innovation at the market.
ABB	ABB focus on customer needs and are market-driven.
Scania	-
Assa Abloy	-
Leaf	Leaf has three types of innovation projects, called <i>Line extension</i> , if it is for example a new flavor, <i>Range renovation</i> , e.g. if an ingredient is switched out and <i>Front-end project</i> , if Leaf do not know when or if a launch is possible. When it comes to risks Leaf is not willing to take financial risks, but can risk to be neglected by retailers which may happen if a product does not sell according to plans.
Procordia	They shape a strategy based on a roadmap before they start a project. It is important to have the customer and trends in focus.

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From the first step in the innovation process all employees must have in mind what the product should cost. The employees at Procordia have extra time in their calendar when they can be innovative and do whatever they want in order to “think outside the box”. Their innovation is driven by Production and Technology, innovation and marketing.

Culture and Leadership

This section brings forward the characteristics of each company’s culture that enables the generation of innovation and the employees' contribution to it. The managerial settings that encourage innovation are also brought forward in the table 4 below.

Table 4; Consolidation of companies’ view on culture and leadership.

IBM	Innovation is a part of everything they do, their employees' focus is on constantly trying to find new solutions and improvements.
3M	3M’s 40 divisions are collaborating closely and the combination of their technologies may result in new products or innovation for a completely different area in 3M. Internal communities gather for this purpose. Innovation is driven from top management and down.
Oriflame	Everybody can come up with ideas - It is their responsibility to capture all ideas by evaluating whether they are useful today, tomorrow or not at all. It is also important to provide feedback so that people continue to generate ideas.
Tetra Pak	<i>“Innovation is in the air, Tetra Pak has always been innovative so it is like a heritage”</i> - Bergholtz. Data systems are enabling all employees to contribute to innovation. Engaged people need to be encouraged with freedom and resources. It is however a small group of people who actually are contributing to innovation.
Axis	Axis has a core value about innovation permitting the organization and the employees to “think outside the box”. Employees tend to support each other in innovation across divisions.
Sony Mobile	The employees at Sony Mobile tend to talk frequently about innovation, it is however not always captured by the firm. All employees are able to contribute with patentable ideas.
ABB	Most of innovation developments take place inside ABB at their production department.
Scania	-
Assa Abloy	-
Leaf	Innovative ideas are collected from all employees, customers and

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	suppliers, they listen to everyone. To have a better contact with the production plants in all counties Leaf has an innovation manager at each seat. They also have an innovation director.
Procordia	Procordia has an innovation director

Innovation Process

This section shows whether the companies have innovation processes or not and provides a brief explanation of the sequence of actions leading to innovation, see table 5.

Table 5; Consolidation of companies’ view on innovation process.

IBM	Innovation is a part of everything they do. They do not follow a single innovation process, but instead, innovation is a part of all processes.
3M	-
Oriflame	Oriflame does not have an innovation department; instead the company is using product teams. Both the R&D and marketing teams have innovation workshops frequently, where they do brainstorming on improving things and on doing things in new refined ways. It can be driven with a project focus or more generally for an entire category. Oriflame works with two types of innovation, packaging driven innovation or product driven innovation, or a combination of them both.
Tetra Pak	The company’s idea pipeline is filled up with innovative ideas and maintained. They are active within the very first phase and determining whether an idea may become a project or not. To support innovation, Tetra Pak has an innovation process and a steering committee evaluating ideas. The steering committee consists of representatives from both the material team and the process team. These are meeting twice a month. In order to enable ideas coming from all employees at the company they have a data program where ideas can be posted. All ideas posted are evaluated by the steering committee and the idea generator receives feedback on the concept. Often the committee has to be in contact with the idea generator during the evaluation process in order to get hold on details about the idea. Sometimes the idea generator can even participate in the evaluation process. It is necessary to make prototypes when working with innovation. If needed the committee arranges idea generation workshops, to which people, who are known to be creative, are invited. Usually a specific regular group of people is present, but the company is always making sure that there are new attendees.

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Axis	New products can come up in different ways; from the group New Ideas under the technology department, from New Businesses outside the technology department or from the Product management that has the responsibility for product areas. Ideas can also come from function ideas, i.e. improvements of existing products. Axis has a stand-alone department that works with new projects. The marketing and the development departments are involved in innovation. Operations get involved in the concept phase. Axis has a new Business Department that works with new concepts outside the core business. Employees can come up with new ideas that they can propose to the new business department. If the idea is accepted the employee can switch job and only work with his/her new idea. Another employee will then take over this employee's regular tasks. There is no reward for the idea generator, so that might be something that could be further developed to boost the process according to the interviewee. This leads to the fact that many proposals come from different employees. Nonetheless today there are too few opportunities for the employees to brainstorm ideas with other employees.
Sony Mobile	They have a process including the following steps; pre-study, vision-study, development and launch. The idea innovation takes place within the two first steps and includes evaluation of ideas to determine if they can become a part of a product.
ABB	ABB has a documented development process that is based on the customers' needs. Innovation is driven by the product department which asks their sales companies to come up with new ideas. The ideas are then developed further at the development department at ABB. In the whole innovation process ABB focuses a lot on the market and its own view of future needs.
Scania	Their innovation process starts with a phase including research, concept development and prototype construction. During the next phase, the concept is tested by a market launch. In the last phase, things that not ended up as predicted are being followed up. Inputs to the yellow phase can come from research (when it considers new technologies or something that not is on the market today), the market (when customers or market companies come with an input of what the customers are requesting), law requirements (if a law is changed) or from benchmarking (when competitors come up with something new that Scania wants to copy). The critical point for Scania is to produce prototypes as soon as possible to see if the concept is sustainable and to involve the purchasing department early in the process so that this can look for supplier.
Assa Abloy	Assa Abloy has a product innovation process where new products

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	are being developed. Inputs to this process can come from new technology already existing on the market or other identified market needs. If the input is new technology, a technical development process is taking place parallel with the innovation process. Since Assa Abloy's products have long sustainability on the market and high safety demands, it takes a long time for a new product to be introduced to the market. Decisions to start a new development process are taken by the company's senior management. This is possible because Assa Abloy does not start that many projects each year. If it is a smaller project or an improvement of an old product, a product developer can take the decision.
Leaf	The company has a stage gate process for innovation that takes less than one year until launch. The process also includes manufacturing staff.
Procordia	The company has an innovation process that includes different departments at the company.

The Role of Procurement in Innovation

Value Contribution

The procurement departments at each company have different roles in innovation. Table 6, highlights how each of them contribute to innovation and what additional value they bring.

Table 6; Consolidation of companies' view on purchasers' value contribution.

IBM	Purchasers are expected to contribute to innovation. Purchasers contribute with supply market knowledge and share previous experiences among each other. The purchaser needs to have much knowledge within their commodity area to manage to claim the best option the supplier can offer. To manage they must get involved early in service project processes, to be able to contribute to the final solution with innovative ideas.
3M	The purchaser is willing to assist the team in anything they want and need. Purchasing works as a clear middle hand but their own responsibility is within costs, among other things adapting the balance between costs and innovation after each project's cost restrictions. The purchasing department is also participating in innovation by advising NPD-teams of potential suppliers and options for the supplier communities. If their developers are looking for something specific, purchasers can in a similar way, check availability at the market and retrieve knowledge about which supplier to collaborate with.

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Oriflame	<p>Their tasks are to ensure that the suppliers are supported with good ideas and that the suppliers' ideas are well provided for within the borders of the firm. They are continuously encouraging their suppliers to generate ideas which can contribute to innovation. Oriflame also tries to maintain a good relationship with the suppliers, so that these choose to turn to Oriflame as their first hand choice when briefing their new ideas, instead of approaching competitors. The suppliers should know that they can make "good business" with Oriflame and that Oriflame will listen to them if they come up with some crazy ideas.</p>
Tetra Pak	<p>Influence: sourcing is not very influential. The procurement department is attached to a project as soon as the innovation team knows that it will become a high-volume project. Sometimes they include purchasers at an earlier stage so that they can start evaluating vendors. Bergholtz believes it is possible to improve the relation between the departments as well as enabling for purchasing to contribute more to innovation. The procurement department could change its attitude towards innovation and increase its flexibility so that this not always is by the book. Purchasers could also support innovation by searching the market for new creative suppliers.</p>
Axis	<p>Procurement contributes to new product development after a project is created when it concerns software. If it concerns hardware, a purchaser supports R&D to shape a project. The purchaser gets information about the projects for the upcoming 36 months twice a year and contributes by making sure there are suppliers available which are able to deliver modules. The supplier needs to be able to sell the same module to other customers. In order to increase their contribution they want to map the suppliers' capabilities, and involve R&D in the activity, it would also increase the collaboration between Operation and Procurement.</p>
Sony Mobile	<p>Sony Mobile manages the supplier in a certain direction, by informing the supplier about future trends, in such means the company is providing the supplier support in innovation. The procurement department is the decision maker due to its responsibility for the commercial perspective. The procurement department can thereby influence whether the company should venture or not.</p>
ABB	<p>The procurement department gets involved early in idea phase by looking for suppliers. According to Grohn it is not up to the procurement department to contribute to the innovation at a company. The procurement department works together with the development department to ensure that the suppliers are matching</p>

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	<p>the needs that ABB has. ABB has purchasers that are more technical and those who are more commercial, the technical tend to contribute more to innovation.</p> <p>The interviewee does not believe the procurement department can contribute a lot to innovation.</p>
Scania	<p>When the purchaser is involved at an early stage of the innovation process, the company contacts suppliers to collect suppliers' input in a project.</p>
Assa Abloy	<p>The purchasing department is a service organization to the company's operating organization and support developers in finding suitable suppliers. This takes place first when the idea is a product project.</p>
Leaf	<p>The procurement department has the financial responsibility alone and together with the innovation department it chooses suppliers. The procurement department ought to be a part of the innovation process at an earlier stage in the future. Benefits are generated if purchasing gets involved early in the process: 1. Purchasing departments get more time to choose supplier. 2. Innovation departments can establish a relation with the suppliers earlier which hopefully leads to a closer relationship. 3. Innovation departments can also contribute to find suppliers.</p>
Procordia	<p>If Procordia comes up with a new product on its own, the procurement department will normally not be involved. Within Orkla there are purchasers that support all innovation departments in the concern.</p>

Internal Interfaces

When the procurement department works with innovation purchasers need to work towards internal co-workers within different departments and under different conditions. Those co-workers are specified for each company in below table 7.

Table 7; Consolidation of companies' view on purchasers' internal interfaces.

IBM	Project group and other purchasers.
3M	The company has certain cross-functional teams working with innovation at certain customers' request. Purchasers are the gateway to developers at 3M.
Oriflame	Innovation workshops together with the R&D and marketing departments.
Tetra Pak	Tetra Pak prefer a more flexible purchasing department. Sourcing interface: innovation goes around the sourcing department. The innovation department collaborates with the procurement department when working with larger projects.

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Axis	Procurement and R&D travel together to suppliers to see if they have the right quality and if they could deliver the right products in time. Twice a year a follow-up meeting is maintained where new products, that is about to be launched within the next six months, are presented and sourced.
Sony Mobile	Purchasers work as a bridge between developers and suppliers.
ABB	The procurement department works together with the development department to ensure that the suppliers are matching the needs that ABB has.
Scania	-
Assa Abloy	-
Leaf	Purchasers are contacted as soon as a supplier is needed for an innovation project.
Procordia	The innovation department and Procurement department collaborate closely and together they attend meetings a couple times a month where they talk about new products and how they can help each other in the innovation process.

External Interfaces

The purchasers do often have colleagues at other firms, such as account managers at current suppliers, see table 8. It can also be contacts at companies, which are not yet signed up for a project; so called *speaking partners*.

Table 8; Consolidation of companies' view on purchasers' external interfaces.

IBM	All kinds of suppliers.
3M	The corporate purchasers are the first to establish the contact with brand new suppliers.
Oriflame	All kinds of suppliers.
Tetra Pak	Suppliers.
Axis	Suppliers.
Sony Mobile	Current suppliers, sometimes new suppliers.
ABB	Suppliers.
Scania	Suppliers.
Assa Abloy	Current suppliers
Leaf	Current suppliers (The innovation department often contacts new suppliers on its own).
Procordia	Suppliers.

Organization

The purchasing departments' organizational structure and role descriptions in terms of tasks relevant for innovation are brought up in below in table 9 if available.

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Table 9; Consolidation of companies' view on the organization of procurement.

IBM	3 departments in a matrix organization; 1. <i>Sourcing function</i> - evaluates suppliers and handles negotiations. Works with Innovation by sourcing innovative solutions and supports development of existing solutions. <i>Compliance function</i> – is composed of project managers and advisers involved in complex procurement projects. Innovation for them is finding innovative solutions from or together with suppliers to provide a suitable solution to IBM's customers. <i>Operation function</i> – is responsible for administrative purchasing and is located in Bulgaria. Innovation within this department implies improvement of systems to simplify work for themselves, customers and clients within the procurement projects.
3M	3 departments in a matrix organization; 1. <i>Sourcing function</i> - evaluates suppliers and handles negotiations. Works with Innovation by sourcing innovative solutions and supports development of existing solutions. <i>Compliance function</i> – is composed of project managers and advisers involved in complex procurement projects. Innovation for them is finding innovative solutions from or together with suppliers to provide a suitable solution to IBM's customers. <i>Operation function</i> – is responsible for administrative purchasing and is located in Bulgaria. Innovation within this department implies improvement of systems to simplify work for themselves, customers and clients within the procurement projects.
Oriflame	Three departments: Strategic sourcing: choosing supplier, developing them, and making sure they have the right ones globally. Day to day management with supplier, NPD. They have a team within color, skincare, hair care etc. Indirect spend purchasers - Non-products: catalogue, transport, conference.
Tetra Pak	-
Axis	-
Sony Mobile	Strategic buyers which are working in development projects, Commodity buyers are working in high volume phase, Operational buyers are purchasing spare parts.
ABB	
Scania	Scania has three procurement departments in direct materials for buses and trucks. Within each department, there is a <i>Quality Engineer</i> ensuring each supplier's quality, a <i>Production Purchaser</i> managing existing suppliers and a <i>Project Purchaser</i> supporting the development team.
Assa Abloy	A strategic buyer for the areas; mechanics, electronics and materials.
Leaf	A strategic buyer for each procurement area made by raw-material

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	categories. Local buyers taking part of product projects. Operational buyers managing orders etc.
Procordia	A purchaser working specifically with innovation.

Buyer-Supplier Relationship Enabling Innovation

Patent

Companies often have a patent strategy, specifying whether they prefer to own patents or not, see table 10. When developing an innovation together with a supplier the ownership is either agreed upon, shared or goes according to first come first served rule.

Table 10; Consolidation of companies' view on patent sharing with suppliers.

IBM	Prefers to own patents since the company needs to be able to resell it to its customers.
3M	Prefers to own patents, defined in an agreement prior to the project. Patents are seen as an asset, being used in other projects or to license out, since there is a lot of sharing between the company's 40 divisions.
Oriflame	Prefers to own patents but can imagine sharing the ownership with a supplier. That has however not yet happened.
Tetra Pak	Tetra Pak established patents before involving suppliers, but has some mutually owned patents.
Axis	Prefers to own the patents if possible in order to increase safety, it mostly concerns product concepts. But sometimes looks for mutual collaborations with suppliers. If suppliers own patents they sometimes intend to take it over.
Sony Mobile	Project specific.
ABB	Prefers to receive support from consultants instead of suppliers, since ABB does not want to depend on one supplier.
Scania	Prefers to own patents to avoid dependency.
Assa Abloy	Prefers to own patents to prevent plagiarism and be first to market launch.
Leaf	Prefers not to own patents since it enables Leaf to let the supplier pay for development costs. The supplier would neither develop anything for Leaf if they were not able to sell it to others.
Procordia	Has no intention to own patent since it is not their strategy and the short product lifecycles. The intention is to earn money on the products.

Incentives, Attractiveness of Buyer and Risk Sharing

In order to encourage a supplier to contribute to innovation there are direct and indirect actions to take. These are described in the table 11 below. The parties in a buyer-supplier relationship need to decide which company should claim the responsibility of the risk or if it should be shared by both companies. The settings for the risk sharing at the companies are described below.

Table 11; Consolidation of companies’ view on incentives, attractiveness and risk sharing.

IBM	To be IBM’s supplier and to increase cost efficiency to increase the own profit. IBM attracts suppliers by supporting them with innovation, but also by means of the strong brand name and IBM’s well-known complex solutions. Expects the suppliers to carry the risk for the deliveries.
3M	The innovation development supplier is always guaranteed to produce for the project for a certain period of time. The supplier would otherwise not agree on supporting 3M in the development. 3M attracts suppliers by its reputation. 3M has a history of taking projects that may seem small in the beginning and manages to make them grow to a significantly larger size. Share it in terms of sales.
Oriflame	The innovating supplier is offered to produce for the project.
Tetra Pak	Attracting suppliers to support them by their brand image. Incentives: Good supplier relations are very important. It is preferable if these are honest. The parties usually share the development costs equally.
Axis	Axis tries to obtain a win-win situation for both parties. In cases requiring much development, Axis can sometimes
Sony Mobile	-
ABB	If ABB needs help from a supplier ABB pays for the development costs, but this also leads to the fact that ABB will be dependent on that supplier and have to purchase from them.
Scania	Scania pays the suppliers to help the company with innovation. Scania would like to build trust towards their suppliers so they can help each other. To attract the suppliers to work with Scania, the company is willing to pay the supplier for development cost. Scania takes a large risk if it is a small company and vice versa.
Assa Abloy	-
Leaf	Leaf’s suppliers are supporting Leaf in anything that enables the supplier to sell to Leaf, it is seen as the suppliers’ marketing investments. Another incentive for the supplier is that Leaf prefers that the supplier is able to sell the innovation to other customers as well to gain commercial advantages.
Procordia	Orkla is a big collaborative corporation with strong brands that many

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suppliers prefer to work with, since it implies low risk and high potential for making profit; thereby no additional incentives are necessary. Splitting the risk with the supplier is a way to establish a better relationship with the suppliers. Important to set an agreement early in the processes.

8.1.1.1 Knowledge Sharing

Sharing knowledge between the parties is necessary for innovation, but not revealing too much and risking to be exposed so that the competitors' gets hold on the knowledge. How the case companies handle the challenge is described in table 12.

Table 12; Consolidation of companies' view on knowledge sharing with suppliers.

IBM	It depends on the project, sometimes their own customer restrict them from sharing too much information due to confidentiality reasons.
3M	Communicates customer needs to the supplier. To share technology roadmap are up to each division to determine, but if they do, it is shared between the technical people.
Oriflame	Supplier provides Oriflame with new idea, and Oriflame want to link the suppliers to the end-consumer insight so that the suppliers can translate this data to product ideas.
Tetra Pak	3-4 closes would by own initiatives provide Tetra Pak with innovative ideas.
Axis	Axis communicates customer requirements and the project concepts so that the supplier understands the full concept. Axis also visits the supplier to discuss ideas generally.
Sony Mobile	The suppliers can be managed in a certain direction by sharing information with them about future trends.
ABB	ABB prefer to not get too involved with the supplier to decrease the risk of being dependent on the supplier.
Scania	Having a close relationship to suppliers so they can trust the company and come up with inputs and new ideas. If a supplier comes with an idea they get the production order if the idea becomes a product.
Assa Abloy	Suppliers support by developing specifications for Assa Abloy
Leaf	To make suppliers support them in innovation they inform them about projects, they share category strategy. The innovation responsible also believes that it is necessary to share future plans.
Procordia	The suppliers provide Procordia with ideas and market analysis. Procordia share customer needs with preferred suppliers.

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Activities

In the table below, table 13, activities performed with suppliers by the companies are presented.

Table 13; Consolidation of the companies' view on activities performed together with their suppliers.

IBM	-
3M	Suppliers are invited to present their innovative ideas. When determining the suppliers' capabilities they tend to spend time at the supplier's site. 3M's R&D department evaluates suppliers' innovations to determine what 3M can do with them. 3M makes sure agreements concerning potential risks and problems are established before the collaboration starts.
Oriflame	They actively encourage suppliers to generate ideas and contribute to innovation. Preferably it is a customer. Strategy meetings with strategic suppliers twice a year.
Tetra Pak	-
Axis	Axis has a supplier conference, of which all preferred suppliers can be a part. Here Axis can present what its customers want.
Sony Mobile	They manage to capture innovative ideas from suppliers by inviting the suppliers to present their ideas at innovation days. At these conferences even suppliers can come up with new ideas. Sony Mobile also works with technical roadmaps.
ABB	-
Scania	-
Assa Abloy	-
Leaf	Workshops together with the suppliers to find new ideas.
Procordia	Innovation workshops with innovation suppliers take place twice a year, in order to take part of suppliers' ideas within a specific subject and/or market information. Internal attendees come from the innovation department, the market department and the purchasing department. A generated idea is further developed within the company and if it results in a product, then the idea generating supplier is offered to produce it.

Supplier Freedom and Influence

In order to gain as much value as possible from the supplier, this need to be given freedom to use their capabilities, see table 14.

Table 14; Consolidation of companies' view on supplier freedom and influence.

IBM	A supplier is allowed freedom within a certain area. When IBM needs a predefined commodity from the supplier, then the partner
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	gets involved to a limited extent and during a late phase in the project. In other cases IBM needs to develop a solution together with the suppliers, which is a common situation. IBM's customers do sometimes restrict the company from involving suppliers too much, since it implies sharing information, which preferably is not spread.
3M	Sometimes 3M asks the supplier very openly if they can find a solution to the company, the supplier is then driving the innovation, depending on the project.
Oriflame	-
Tetra Pak	The suppliers with whom Tetra Pak already have established relationships with, can provide them with innovative idea which Tetra Pak need to evaluate how they can use their ideas. That group of suppliers is limited to 3-4 suppliers.
Axis	The suppliers deliver modules that Axis assembles. They prefer to increase the supplier's responsibility for parts of the development; this is necessary since the development time becomes shorter and the complexity of the projects increases.
Sony Mobile	They manage to capture innovative ideas from suppliers by inviting the suppliers to present their ideas.
ABB	-
Scania	Suppliers help Scania changing the products if these are of low quality or if other improvements can be made. Suppliers might come up with changes that can lower the costs.
Assa Abloy	Key suppliers are involved in the innovation process and support Assa Abloy to develop specifications for the products.
Leaf	To be supported in innovation by preferred suppliers, Leaf briefs a concept and the problem which needs to be solved and requests the supplier to find a solution. When the supplier developed a solution, Leaf adapts the solution to their manufacturing.
Procordia	Suppliers can come with their own proposals that Procordia further develops.

Relationship Status

In the table below, table 15, relationship between the companies and their suppliers are presented.

Table 15; Consolidation of companies' view on relationship status.

IBM	Maintain long-term collaborations with suppliers to make them become innovative.
3M	If the development concerns a new and unavailable material, then the supplier is involved early.
Oriflame	-

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Tetra Pak	It is important for Tetra Pak to maintain good relationships with their suppliers, this implies relations built upon trust and honesty. Tetra Pak communicates the projects' risk factor.
Axis	Axis would like to involve the supplier more and give them more responsibility, but today there is too much complexity in the projects. The company would also like to have further dialogs with the suppliers in areas that are outside Axis's competence.
Sony Mobile	-
ABB	Since there is a long life cycle on ABB's products, the company has the time to build close relations to their preferred suppliers.
Scania	Scania is a conservatively sticking to the same suppliers as long as possible. The reason to that is that Scania prefers building up trust for their suppliers so they can come with inputs. The risk with this is that Scania may become little negative to new ideas and products.
Assa Abloy	-
Leaf	-
Procordia	-

Supplier Selection and Evaluation

In the table below, table 16, the companies' supplier selection criteria's are presented.

Table 16; Consolidation of companies' view on supplier selection and evaluation.

IBM	Scania is a conservatively sticking to the same suppliers as long as possible. The reason to that is that Scania prefers building up trust for their suppliers so they can come with inputs. The risk with this is that Scania may become little negative to new ideas and products.
3M	Technology the supplier can offer quality on the supply. Responsiveness to technical needs and plant needs timeliness of delivery cost.
Oriflame	The supplier selection is based on the location of the supplier; if they for some reason intend to have the manufacturing in a certain country. How sustainable the supplier is and how capable it is to provide Oriflame with innovations, is also monitored.
Tetra Pak	To get the project, the supplier is selected based on commercial factors and the decision is taken by the innovation and procurement departments.
Axis	Based on price, competence, access to new technology, quality and size of the company.
Sony Mobile	-
ABB	These suppliers should always deliver on time and to the right price.
Scania	-

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Assa Abloy	Key suppliers are chosen based on niche, knowledge, costs and location.
Leaf	Final selection of suppliers is based on commercial issues.
Procordia	Innovation suppliers are selected based on quality, price and level of innovation.