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**TOWARDS SUPPLIER MANAGEMENT'S
EFFICIENCY AND VALUE CREATION**

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ABSTRACT

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This research assesses potential for increasing supplier management's efficiency and value creation. The research focuses to indirect procurement in a case company, which is researched with anonymity. The research is qualitative by nature and utilized case research methodology combined with action study approaches, thus the researches has a role in case company's supplier management project implementation during 2017. Research is consisted of literature review, interviews, observations and reviewing and analyzing case company's internal documents.

The research results show that procurement function has been concentrating to supplier managements for years or even decades. Priority areas of efficiency and value-adding actions has been recognized and clearly defined, but notwithstanding, practical implementation has a need for further development, according to case research. The key development areas in supplier management are increasing internal information collection and sharing and deepening supplier collaboration. According to the study, by fulfilling these needs a buying company can increase value-creation of procurement function by involving key suppliers early to development and planning actions and by collecting ideas from them. Ideas can be transformed into process or product innovations that increase business profitability.

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Tämän tutkielman tarkoitus on tutkia mahdollisuuksia toimittajahallinnan tehokkuuden ja arvonlisäyksen tehostamiseksi. Empiriatutkimus keskittyy epäsuoraan hankintaan kohdeorganisaatiossa, jota käsitellään nimettömänä. Tutkimus on luonteeltaan laadullinen ja hyödyntää tapaustutkimuskäytäntöä osana toiminnallista tutkimusmenetelmää, sillä tutkija osallistuu kohdeyrityksen toimittajahallintaprojektin ohjaamiseen vuonna 2017. Tutkimus koostuu kirjallisuuskatsauksesta, haastatteluista, osallistumisesta sekä kohdeyrityksen sisäisten dokumenttien tarkastelusta ja analysoinnista.

Tulokset osoittavat hankintatoimen keskittyneen toimittajahallintaan jo useiden vuosien, ellei vuosikymmenten ajan. Painopistealueet tehokkuuden ja arvonlisäyksen kannalta on tunnistettu ja selkeästi määritetty, mutta käytännön toteutuksessa on tapaustutkimuksen perusteella kehitettävää. Tärkeimmät kehityskohteet toimittajahallinnassa ovat sisäisen tiedonkeruun ja tiedonjakamisen lisääminen sekä toimittajayhteistyön syventäminen. Vastaamalla näihin kehityskohteisiin ostava yritys voi tutkimuksen mukaan lisätä hankintatoimen arvontuottoaan osallistamalla avaintoimittajat kehitys- ja suunnittelutoimiin aikaisessa vaiheessa sekä keräämällä heiltä kehitysideoita, jotka innovaatiotyöstöllä voidaan muovata yritystoiminnan tuloksellisuutta lisääviksi uusiksi toimintamalleiksi tai tuotteiksi.

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1 INTRODUCTION

Today, no firm leader thinks that the business can persist and succeed performing independently of its network of stakeholders and suppliers. In fact, the core competency of a firm is in its capacity to continuously gather and implement capacities arising from collaborative relationships. (Ross 2015) A paradigmatic change of supply management is that firms nowadays compete more as supply and value chains instead of self-governing individuals. Supplier management offers an opportunity to capture the synergy of intra- and inter-firm integration and management. (Lambert et al. 1998)

Supplier management strategy is an approach to improve suppliers' performance and capabilities to meet the needs and requirements. Supplier strategy aims to respond to the new demands, to decrease the number of suppliers to collaborate with and to establish long-term supplier relationships. In that way businesses can more effectively manage the strategic supplier relationships. (Ndubisi et al. 2005) It is noted that instead of price and quality, the buyer-supplier relationship determines the real value addition of procurement function. Supplier management combines related functions into a proficient, continuous process which is driven by relationships founded on trust, shared risk, and mutual benefit. (Ross 2015) Therefore it is essential for this thesis to evaluate how to make procurement and supplier management actions as efficient as possible, in order to maximize value creation from the buyer's perspective.

With effective supplier management strategy, the buyer is able to bridge the gaps between its own expectations and suppliers' competences. Supplier management can undoubtedly decrease costs of the supply chain. In addition, numerous intangible benefits are achievable by involving suppliers in product and business development activities. With continuous improvement efforts from buyer's side, suppliers can learn about demands and ways of working, which supports them to be more effectual in meeting the buyer's expectation. Supplier relationship strategies help organizations enhance communication, share information and knowledge, improve decision- and innovation-making, and thus, upgrade performance. (Ndubisi et al. 2005) Aim of this thesis is to provide not only an academic framework but also a pragmatic guide how to achieve strategic objectives and enhancing effectiveness and value creation mutually with suppliers that have been evaluated to be the most profitable ones.

This thesis is a part of Master's Degree studies of Lappeenranta University of Technology, School of Business and Management and major of Supply Management. Commissioner of the thesis is a large, globally-acting corporation founded in Finland. It was noted during the studies in Lappeenranta University of Technology that there is a gap between supply management academics and practitioners. In firms, procurement function tends to focus on monetary aspects of procurement. In science, procurement is often reviewed from partnership network point of view and procurement function's success is justified with intangible value-adding possibilities of it. This research was conducted in order to add knowledge of supplier management and especially to assess supplier management's potential for efficiency and value creation.

1.1 Research Questions

According to Saunders et al. (2009), importance of clearly defined research questions cannot be overemphasized. Key criteria of success of the research success is, whether one can draw clear conclusions from the research data. The extent to which the researcher can do that will be determined by the clarity with which the initial research questions are posed. In addition, clear research questions will act as a focus for the research that follows. Thereby, the research questions are presented next.

Academics undoubtedly agree that with effective and strategic focused supplier management, firms can achieve numerous advantages from the relationships established with the selected key suppliers. However, lack of clear strategic target and incoherent behavior in buying company's procurement typically leads to challenges in supplier relationship management. Thus, the main research question of this thesis is, how to create efficient and value-adding supplier management process?

In addition, the research questions and sub-questions are presented in table 1 below. There is an academic debate of the core functions of supplier management. In order to generate an understanding of the concept, the first sub-question evaluates the factors of efficient and value-adding supplier management. The second sub-question focuses on the case company and the key development areas in the current supplier management process. Finally, as a combination of the first two, the third sub-question assesses, how supplier management process can be improved.

Table 1: The research questions

Main research question:		
How to create efficient and value-adding supplier management process?		
1st sub-question SQ1	2nd sub-question SQ2	3th sub-question SQ3
What are the components of efficient and value-adding supplier management?	What are the key development areas in the current supplier management process of the case company?	How supplier management process can be improved?

Focus areas of the research are efficiency of working methods and value creation possibilities achievable with the supplier management and buyer-supplier collaboration. Objective is to firstly, rationalize the need for strategic and systematic approach to supplier management and secondly, assess renewed value creating possibilities in the case company.

1.2 Research Design & Methodology

This research is a qualitative study. The topic of the thesis is examined by a single case study. Research focuses to a single case findings in large Finnish, globally acting corporation during years 2016-2017. Supplier management is examined empirically in indirect procurement function. Theory part is limited into areas of efficient procurement actions and secondly, creation of value by supplier management. Framework created based on the literature review is used as a structure for the empirical part. However, empirical part is limited to review research question from case company's perspective: results are based on singular case findings. In addition, research is based on procurement perspective and supplier point of view is excluded from this research.

Research outline is described in figure 1. There are two different interviewing methods utilized: semi-structured interview explores development areas of current way of working and secondly, in-depth interview assesses value adding possibilities based on suggested development ideas. The collected data and previous studies of the subject are analyzed and findings are presented in empirical part of this thesis.

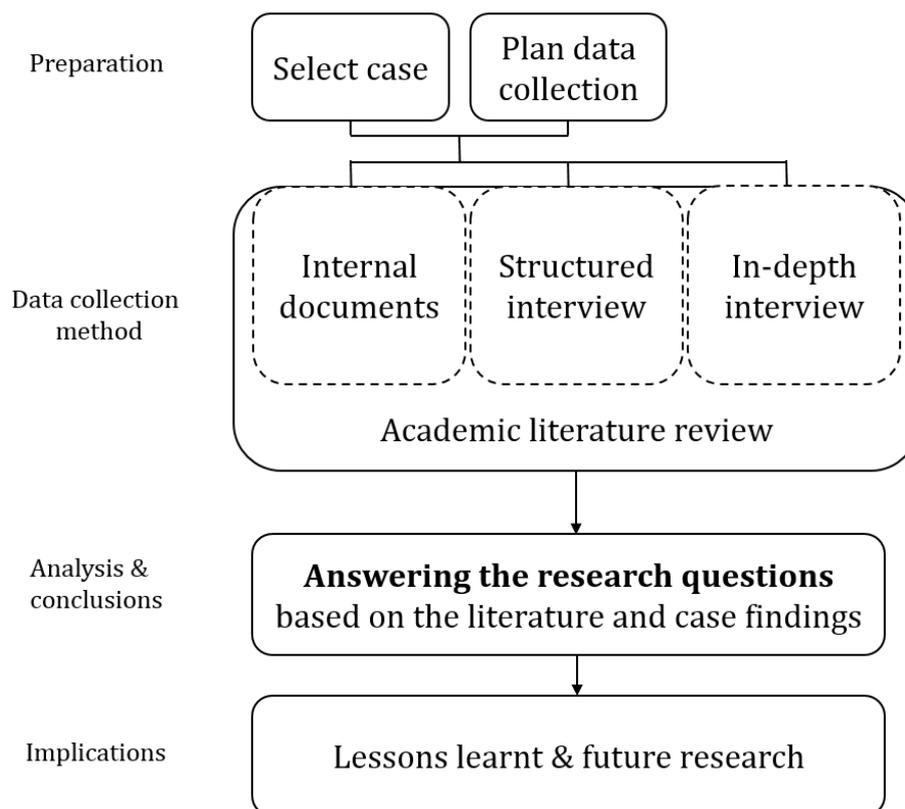


Figure 1: Outline of the research

Research philosophy refers to the progress of creating knowledge. The adopted research philosophy covers assumptions about the way the researcher views the worlds. There are two main alternatives for research approach: deduction and induction. Deduction focuses on testing theory whereas induction focuses on building theory. Approach of this research is induction that emphasizes to acquisition of an understanding of the meanings, understanding the context, collection of qualitative data, consciousness of that the researcher is part of the investigation process and less concern with the requirement to generalize. With induction, data are collected and a theory developed as a result of the data analysis. (Saunders et al. 2009) Research data of this thesis is collected by combining two interviewing methods: semi-structured and in-depth interviews. Supporting data is collected from case company's internal documents.

This research follows interpretivist perspective. The interpretivist approach views reality subjectively and it is based on meanings and understanding. Interpretivists believe that researchers cannot be separated from their research subject and knowledge is subjective and socially structured. The aim of the research is understanding, rather than making predictions. Interpretivist

typically accepts that the knowledge generated by the result is not permanent but relative to the time, context and culture in which the study was conducted. Interpretivist researchers are interactive and participatory during the research. (Saunders et al. 2009 & Reference 2016)

1.3 Research Structure & Terminology

As presented in figure 2, Stuart et al. (2002) describe five stage research process model which includes steps of setting research questions, developing instruments, gathering data, analyzing data and disseminating information and knowledge gathered by the research. In this thesis, first chapter sets target for the study by defining the main research question and three sub-questions. The first chapter of the study covers introduction that will not only initialize the topic of supplier management but also outline the structure and limitations of the thesis, define research questions and give short explanations for the main concepts used. For sake of clarity, the definitions of the key concepts are collected to table 2.

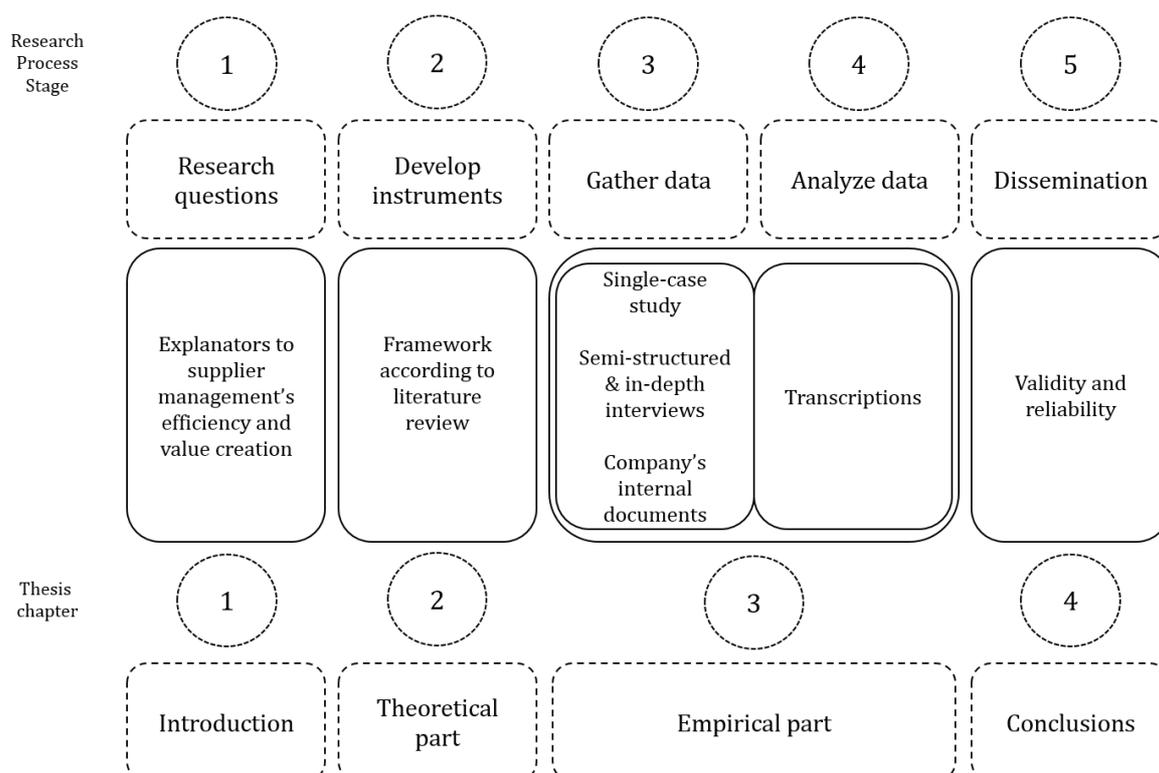


Figure 2: The five stage research process model (Adapted from Stuart et al. 2002)

Theoretical part in chapter two first explains, what does supplier management mean and how the concept has developed. After that, the focus moves to supplier management efficiency in terms of mature way of doing procurement, strategic management, core functions, information sharing and communication and finally, digital way of working. Value creation alternatives are discussed afterwards. Focus areas of value creation possibilities are integrating supply and value chains, lean philosophy in order to achieve best value for money, attraction as a basis for buyer-supplier collaboration, early supplier involvement and as last but not the least, supplier enabled innovations. Based on the literature review, a framework of this research is constructed and presented.

The framework is utilized as a basis of assessing the topic from the case company's perspective. In other words, the review of empirical findings are obtainable in chapter three. For sake of clarity, empirical part starts with presenting data collection and analysis methods used in this thesis. Finally, research results are disseminated in the last chapter four, which concludes and discusses the research findings. In addition, practical implications for the case company are presented.

Table 2: Definition of the key terms

Term	Definition
Collaboration	"Cooperative arrangement in which two or more parties work jointly towards a common goal" (Business Dictionary 2017)
Innovation	Innovation is a new product, service or process, which creates economic value for the company (Case company's internal document).
Key supplier management	Continuous process, together with supplier relationships on which the buying company heavily depends, of integrally coordinating, developing, and maintaining key supplier relationships by a focal buying company (Ivens et al. 2013).
Procurement	Purchasing or sourcing of goods, commodities, and/or services at the best possible overall total cost of ownership available from time to time, in the right quantity and quality, at the right time, in the right place and from the right source for the direct benefit or use of Company or any its nominees on contractual terms and conditions. (Case company's internal document)
Stakeholder	Representative from firm's other functions or other collaboration party who has interest or is involved in procurement activities (Case company's internal document).
Supplier	An external party providing, whether actually or potentially, directly or indirectly, Buyer with any material, equipment, goods, commodities and/or service under or arising out of a contract or an order (Case company's internal document).
Value	The monetary, material or assessed worth of an asset, good or service in terms of the amount of other things for which it can be exchanged or in terms of some medium of exchange (Investopedia 2017 & Dictionary 2017).

2 THEORETICAL PERSPECTIVE OF SUPPLIER MANAGEMENT

Oldest written delivery agreement is estimated to be more than five thousand years old. It is a clay tablet with contract of delivering aromatic oils for money regularly, once a month. Target of Marco Polo's and Columbus' adventures was to source new products from new international markets. Industries started to develop after the middle ages and it was noted already on 1830's that by focusing on purchasing and supply management the manufacturing costs can be decreased. Thus, it shall be concluded that procurement and supplier management are not recent concepts. However, a growing scientific attention it began to achieve during the 1900's. (Iloranta & Pajunen-Muhonen 2008) It is likely that the concept of supplier management keeps on developing. Current megatrends of the research field are networks, partnerships and collaboration. Thus, there is a strong possibility that the concept of supply chain, which refers to interrelated flows of distinct actions performed by individual firms, blends more and more during the forthcoming decades and new model is rather supply network management.

2.1 Supplier Management is Managing Firms' External Resources

In a firm, procurement function is responsible of management of organization's external resources. Business's activities, maintenance, management and development require diverse set of products and services and different knowledge and know-how from outside of the firm. Procurement aims to exploit supplier market possibilities in order to satisfy end-customers' need in desired way that maximizes firm's overall profit. (Iloranta & Pajunen-Muhonen 2008) In other words, procurement is responsible of the acquisition of commodities, such as materials or finished products and services. Because of its noteworthy impact on incomes, costs, and operational efficiencies, procurement is also a crucial enabler of supply chain strategy and supplier management. (Ross 2015)

There is some confusion in the use of procurement related terminology in the existing literature of the field. In addition to purchasing or buying, also procurement and supply management are often used as comparable terms. Essentially, they all refer to material or service acquirement appearance and are highly important for business. Procurement refers to acquisition of the commodities according to the needs. (Ritvanen 2008) All of the procurement activities which result to receiving an invoice from the supplier. Terms included to procurement are purchasing and

sourcing. Purchasing and sourcing differ: in purchasing, the need identification has already been done and in sourcing starts from identifying the need. (Iloranta & Pajunen-Muhonen 2008)

Description of term supply differ in America and Europe. In America, it refers to warehousing products related to indirect procurement (spare parts, general supplies and office suppliers). In Europe the term is wider and refers to managing procurement, deliveries and warehousing of the goods. The terms of supply management, supply chain management and supplier management are even wider. They include tasks such as supply market intelligence, mapping new suppliers, centralizing purchases, reducing amount of suppliers, supplier enabled innovations and supplier collaboration. (Iloranta & Pajunen-Muhonen 2008)

The ultimate goal of procurement function is to purchase services and products from the accurate source, at the precise specification, in the right quantity, for distribution at the right time and to the right place (Monczka et al. 2005). In addition to this alignment, procurement is also responsible of supply base and supplier management in order to maximize the benefits and value achievable by effective buyer-supplier collaboration. According to Allee (2002) value network is a conception related to collaborative partner relationships. It describes the interchange of value between parties. Grudinschi (2014) argue that when people from firm's internal and external functions cooperate, they offer value to each other. Achievable benefits increase the motivation to collaborate. However, strategic management of value networks is required in order to create value.

Attitude towards suppliers has changed from the mid 1900's. Purchasing volume is no longer the priority in the cost management mentality. Quality of the commodity is more important than the price and organization's internal and external human resources form a team that can create additional value to the business. Supplier relationships shall typically be based on long-term, versatile and active co-operation. Supplier development is important for managing supply chain costs and quality of the goods shall be developed by joint actions. (Iloranta & Pajunen-Muhonen 2008)

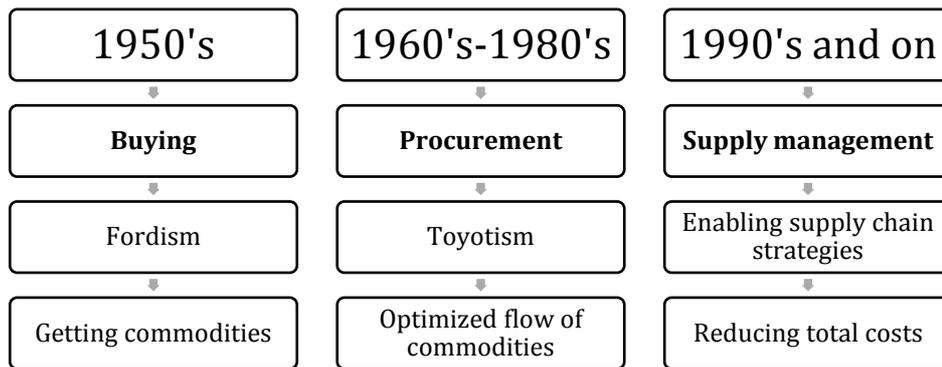


Figure 3: Development of purchasing function

Recent development of purchasing function's role is summarized in figure 3 above. Focus has moved from simply getting commodities to optimizing the supply flow and finally to reducing total costs. These three aspects are not paradigmatic shifts but implying a widened role of purchasing. Purchasing as buying refers to duties when buying goods and services required and making sure that the basic function is acquired at satisfactory conditions. (Ritvanen 2008) Henry Ford's series production model, Fordism, is a typical example of this kind of behavior: purchases consist of the constant parts and costs were relatively easy to contract by bidding the deliveries with alternative suppliers from the markets. (Iloranta & Pajunen-Muhonen 2008)

Purchasing as procurement focuses to acquisitioning and optimizing the flow of materials: not only price but also volumes and time aspects are assessed. (Ritvanen 2008) This more open model compared to buying is seen as a Japanese way of working in car manufacturing business. Toyota stated already in the 1940's in their purchasing principle that cooperation with supplier shall be developed. (Iloranta & Pajunen-Muhonen 2008)

Purchasing as supply management increases the scope even further in order to reduce total costs. Aim includes focus areas such as the formation of supplier structures, the development of suppliers' capabilities and decreasing amount of administrative routines. (Ritvanen 2008) It was noted on the 1980's that flow of incoming and outgoing goods is a unite stream. Cross-organizational teams started to being seen as partnerships, which was a long step towards supply management as an entity. Gradually, the concept of supply chain management led to an understanding that whole supply chain is leadable likewise an organization. (Iloranta & Pajunen-Muhonen 2008)

2.2 Efficiency of Supplier Management

In the academic world, there have been numerous attempts to formally define an efficiency measure of for the end to end of a supply chain. This topic is still growing and more research is needed to support the analytic modeling to company specific contexts and situations. For example, as presented in figure 4 below, Silva et al. (2009) provide a suggestion where P is the number of supply chain partners, w_i is the weight that measures the rank of the partner in network, and f_i is the contribution of each of the associates to the cost of the supply chain in monetary units.

$$P_{SCM} = \sum w_i \times f_i$$

Figure 4: Formal measure of supply chain efficiency (Silva et al. 2009)

From this thesis' point of view, supplier management as a concept is abstract and has no possibilities to be numerically evaluated in a successful manner. Hence, literature review from now on focuses mainly to intangible aspects of supplier management. As a benchmark, industrial management scholar representative Järvinen (2015) has researched how to develop supplier management process. It is brought up that flexible and effective actions in supplier management are required in order to meet business environment demands that are changing rapidly. The key development areas are inter alia establishing partnerships that enable early supplier innovations, keeping delivery accuracies on a high level, rearranging capabilities and managing human resource diversities and overall improvement of work quality and simplifying ways of working. It is highlighted that partnership sourcing and optimal supplier networks are requirements for sustainable growth in the future.

2.2.1 Focus on Core Functions

In general, supplier management involves four distinct flows, which are i) requirement information from buyer to seller, which starts all forthcoming actions, ii) the movement of commodities, iii) transfer of ownership from seller to buyer and iv) payment. Coordinating these flows

requires integration of supply chain partners to ensure optimal flow. This interactive coordination engenders a relationship between parties. (Bagchi & Skjoett-Larsen, 2003) Similarly, stated by Ross (2015) procurement is an essential function found at the central of all organizations. The main supplier communication channel is the purchasing department that is responsible of collaboration with the suppliers. Thus, procurement function is typically identified as a key enabler of supplier strategies.

Supplier management aims for teamwork with suppliers, so that a firm can develop a new product competitively and manufacture goods or services efficiently. Accordingly, topics such as shaping the purchasing strategy, supplier selection, collaboration, and supplier management have been broadly studied. (Park et al. 2010) Regarding to challenges of supplier management, it has been noted that the management of inter-organization relation in the supply chain is a problematical matter. (Theodorakioglou et al. 2006) It has been argued already twenty years ago that when trying to manage the multifaceted relationships between firms, there is no absolute best practice, because there is large amount of context-related variables. The most beneficial practice is a mixture of procedures appearing within a distinct time frame, to deliver competitive advantage to businesses. (Lamming 1996)

In order to generate a holistic view of modern procurement focus areas, two definitions from 2000's and on are compared next. Perspectives of Axelsson & Wynstra and Hallikas et al. are relatively similar: procurement focuses to business strategies, sourcing new suppliers in order to mitigate risks, evaluating and following up suppliers, collaborating and communicating with suppliers, identify and describe the needs in order to achieve sustainability and add innovation work.

Active procurement seeks value-adding possibilities and aims towards developing the business. In practice, procurement e.g. seeks new supplier markets and communicates the ideas and needs to selected suppliers, visits and audits the suppliers in order to evaluate their knowledge and resources. In addition, procurement describes the organization's needs and demands in order to develop new solutions mutually with the suppliers. In an ideal case, the buying and supplying firms elaborate in order to develop supplier enabled ideas into innovations. (Axelsson & Wynstra 2002)

In comparison to Axelsson & Wynstra, Hallikas et al. (2016) pinpoint that procurement is a strategically important function that shall be concerned to. In addition to strategic importance, procurement has an essential role in accomplishment, follow-up and enhancement of sustainability. It has been pointed out that firm can only be as sustainable as the firm's supply network is. Sustainable procurement function has a positive impact to execution of sustainability mentality across the whole corporation. Another important factor of procurement is risk identification and mitigation. Study results show that sustainability practices has an effect to risk mitigation: the more sustainable procurement principles a firm follows, the higher is the probability of ability of risk mitigation.

Lambert et al. (1998) determine three key elements of supplier management as presented in figure 5: business processes, network structure and management components. Supply chain management is based on defining and/or deciding, i) the relevant supply chain participants with whom to link processes, ii) which processes shall be integrated with each of these participants and iii) what level of management shall be allocated for each aspect.

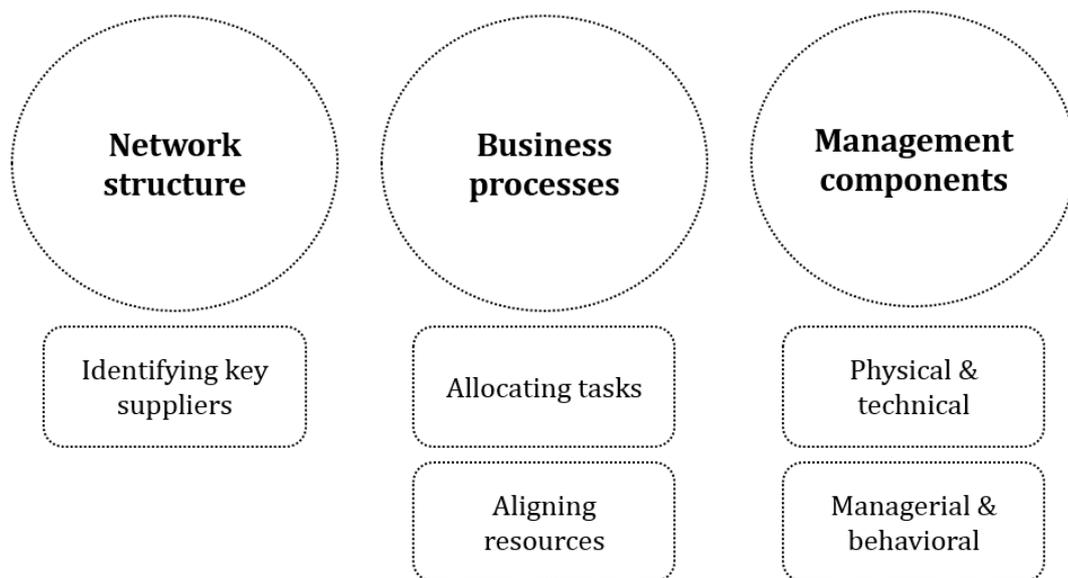


Figure 5: Elements of supplier management (Lambert et al. 1998)

It is necessary to recognize the members of supply chain and evaluate, which of these members are critical, and thus should be allocated managerial attention and resources. Task of allocating scarce resources is crucial. An essential premise is that there are certain management components that are common across the supply chain. These components can be divided into two main

categories. The first category, physical and technical management include planning and control methods, structures of work flow or activity and organization, communication and information flow facility structure and product flow facility structure. The second category, managerial and behavioral management include management methods, structures of power/leadership and risk/reward, culture and personal attitudes.

2.2.2 Strategic Supplier Management

Development of the procurement and supply management can also be evaluated from the maturity point of view. Reck & Long (1998) and Chambers et al. (2009) have divided procurement maturity into four stages. Reck & Long evaluate the maturity from organization point of view and Chambers et al. from the supply network point of view. In order to compare these two, the viewpoints are presented next. It shall be noticed that both of these models or definitions lack the competition viewpoint and hence, works only in a theoretical level. The 'highest level' of dynamic and adaptive supply chain does not take into account the fact that firms operate in markets in which competitors exist. While supply chain is being fully flexible, the possibility of leaking the value creation in the companies increases.

Reck & Long (1998) streamline that as a part of an organization, procurement has four maturity steps. First one is passive, in which procurement function does not have a strategic direction and it reacts to other functions' needs. Second maturity step is independent by nature: procurement adapts latest methods and techniques but its strategic direction is not aligned with the corporate direction. Third one is supporting that refers to corporate strategy support role that procurement has. Methods and techniques are adapted in order to strengthen the competitive position of the firm. Integrated procurement is fully aligned with the corporate strategy and supports achieving common targets. Procurement workers are cross-functionally trained and they have stable communication channels with other functions of the firm. Development of the expertise is focused to strategic elements and performance is measured based on procurement's effect to corporate's profit.

As presented in figure 9 below, Chambers et al. (2009) argue that supply chain strategy has maturity stages from 1 to 4 as follows: i) functional supply chain management, which is very immature by nature, ii) internal supply chain integration, iii) external supply chain collaboration

and iv) dynamic, adaptive supply chain, in which companies are affiliated with their supply chain partners and the chain is bendable to interact and adjust to dynamic and rapidly changing environments.

It can be concluded that one option for adding efficiency in supplier management is to aim towards mature, dynamic stage of procurement. Topic is reviewable from intra- and extra-organizational perspective. Erhun et al (2008) have developed a model with a single supplier and a single buyer who interact multiple times before the buyer sells her product in the end customer. It is argued dynamic approach is beneficial for the supplier, the buyer, and the end customers. They all benefit from multiple business opportunities versus a singular procurement agreement. Dynamic procurement is regularly used to mitigate demand risk. Dynamic sourcing reduces prices in terms of being able to walk away from the table. The supplier knows the inventory positions and understand the economics of the buyer such that shortage concerns can be fulfilled rapidly. Moreover, in order to at some point of the relationship to be able to walk away from the table, buyer shall first clearly define its' strategic goals and communicate them to the supplier. Strategic management aspect of the supplier management is presented in the next chapter.

Strategic management operations have two major aspects: it is formed of i) formulating the strategy and ii) implementing the strategy. Strategic planning helps coordinating these both. It can be stated that all business is based on achieving financial benefit. Owner of the firm sets targets and corporate management, typically together with the government, plans how to achieve the targets and creates the corporate strategy based on those objectives and plans. It was argued already by Sokrates that good leader plans resources carefully in order to achieve targets. (Iloranta & Pajunen-Muhonen 2008) From supplier management perspective, managing a wide network of partnerships require strong strategic management. Clear targets and objectives create a basis for a strategy process. (Kämäri, 2010) In addition, the strategic significance of a supplier is resolved by relationship dependencies and the future potential for relationship development (Ivens et al. 2013).

Companies may have differentiating objectives for strategic target of supplier management. Lintukangas (2009), in her literature review, has identified four of them, starting from the most frequently mentioned: i) Coase's & Williamson's transaction cost economics, which bases its

arguments on economics, ii) Pfeffer's and Salancick's resource dependency perspective, argues that to attain resources, firms need to interact with others controlling the resources, iii) Axelrod's & Aumann's game theory, which explains that game player considers selections between cooperation and acting selfish and iv) Penrose's & Wernerfel's resource based view, that state that alterations in competitiveness can be described with resources and capabilities.

In addition to topic of resource, which is stressed above, Ross (2015) has argued that supplier or supply chain management is one of the leading operations management strategy for firms seeking to create and maintain competitive advantage in today's global markets. In companies it has been recognized that their capacity to continuously reinvent competitive advantage depends not only on leveraging their internal capabilities but also on their ability to rely to their channel partners. However, there is an inconsistency with this argument. In everyday life, companies typically tend to focus on their internal core functions instead of the abilities provided by suppliers and stakeholders.

It is argued that capability of supply management is the key originator of the existence of supply (or supplier) strategy. The role and strategic status of supply management varies. Depending on the context, role can range from engaging in supportive activities to being a source of competitive advantage. Moreover, also the existence of supply strategies vary and three types of firms concerning the issue can be identified: i) firms that have a written supply strategy; ii) firms that have made strategic principles concerning supply situations but do not have supply strategy in written form; and iii) firms that do not have any kind of supply strategy or strategic principles. (Lintukangas et al. 2013)

Nag et al. (2007) states that among academic world, it is commonly stressed that the area of strategic management is disjointed and lacks a clear identity. This skepticism, however, is opposite to the success that strategic management has appreciated in the academic literature. According to Ndubisi et al. (2005), supplier management strategy is used by the buyer to improve suppliers' performance and capabilities to meet the needs and requirements. By contrast, Theodorakioglou et al. (2006) call the same phenomena supplier policy. Supplier strategies or policies aim to answer to the new market dynamics, to reduce the number of suppliers that cooperate with and to establish long-term supplier relationships.

It is pinpointed by Hallikas et al. (2016) that linking strategic planning to supplier management is crucial, as well as supplier involvement in business development processes. Hence, focus on supplier collaboration has an important role in procurement actions. Supplier relationships require clear and concrete target setting and clear definition and description of mutual ways of working, especially in conflict situations. Active search of new co-operation areas and performance measurement were seen as important aspects as well.

Previous target-setting oriented interpretation differs from that of Iloranta and Pajunen-Muhonen (2008) to some extent: in the 1960's and 1970's procurement's resource based planning expanded to long-term planning. According to this school, strategy is a good plan, and an output to the science is SWOT-analysis. However, in the 1990's strategic planning was heavily criticized: planning mentality cannot respond to rapidly changing market environment. Planning orientation lack noticing the impact of continuous learning. In addition, strengths, weaknesses, opportunities and threats are not stable and simple facts but heavy dependent to situation. Hence, organization structure and strategy shall be developed interactively. Important role in strategic planning shall be human and mental resources and continuous learning.

Some current strategic issues and new developments of supplier management can be divided in to three categories: supplier selection, supplier performance evaluation, and supplier contract negotiation. The objective of the supplier selection is to choose from a potential list of suppliers the ones that best suit. Objective is also to determine how many suppliers the firm needs, and how much business shall be allocated to each supplier. For each product category, the suppliers and their performance has to be evaluated for the criteria such as company profile, used technology, commodity quality, delivery accuracy and business flexibility. In addition, the importance of establishing a long-term relationship with selected, fit-for-purpose suppliers is critical. (Bhatt et al. 2014)

In comparison, in figure 6 below, Park et al. (2010) suggest a framework for supplier management in strategic manner as follows. Firms shall select suppliers who are appropriate for the firm's strategy. The suppliers' impact to the firm's performance shall be evaluated through the collaboration. According to evaluation, the quantities of supply will be attuned and the support and development for the suppliers can be changed. For an efficient supplier management, a comprehensive understanding of all of the work related to supplier management is necessary.

It is stated that the strategy work is based on a continuous loop of improving the shaping of purchasing strategies, supplier selection, collaboration and supplier involvement and finally, supplier assessment and development.

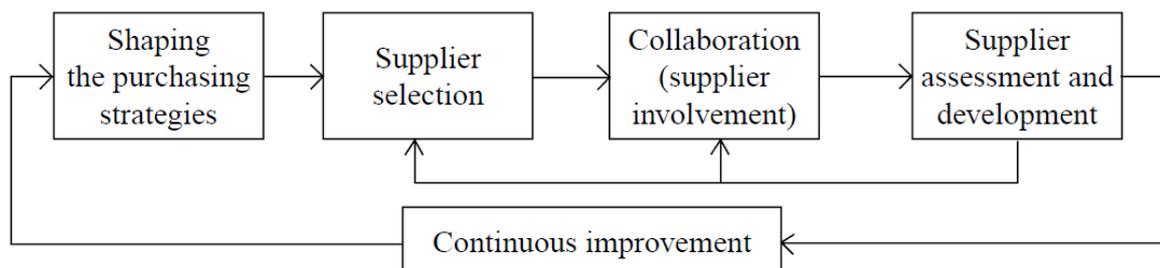


Figure 6: Framework for strategic supplier management (Park et al. 2010)

There are multiple tools for building a supplier strategy. Commonly used tool is SWOT-analysis which is based on evaluating strengths, weaknesses, opportunities and threats of the supplier relationship. According to previous studies, it is evident that some supplier selection and assessment criteria vary in different applications, and specialists agree that there is no one best method in all applications. Parthiban et al. (2013) provide an extended model for SWOT analysis for supporting supplier selections and evaluations. Model with ten additional criteria is visualized in figure 7 below.



Figure 7: Extended SWOT: supplier selection & evaluation (Parthiban et al. 2013)

Previously, the strategy of the firm focuses on the organization's own resources and competences. After a paradigmatic change in the 1970's, new focus areas of strategic management have been inter alia competitive advantage, a resource-based view, transaction cost economics,

core competencies and knowledge assets. Modern way of thinking is by relying the concept of cooperative strategies, through strategic alliances and partnership networks. (Grudinschi 2014) Oghazi et al. (2016) provide a guide for implementing supplier management strategies, as presented in table 3:

Table 3: Guide for operationalizing supplier strategies (Oghazi et al. 2016)

Guide for operationalizing supplier strategies	
Strategic sub-processes	Operational sub-processes
<ul style="list-style-type: none"> • Review of corporate strategies 	<ul style="list-style-type: none"> • Supplier segmentation
<ul style="list-style-type: none"> • Identification of supplier segmentation criteria 	<ul style="list-style-type: none"> • Supplier manager persons and/or teams
<ul style="list-style-type: none"> • Guidelines for degree of differentiation of agreement 	<ul style="list-style-type: none"> • Internal review of the supplier segment
<ul style="list-style-type: none"> • Framework of metrics 	<ul style="list-style-type: none"> • Identifying opportunities of the supplier
<ul style="list-style-type: none"> • Guidelines for sharing process improvement benefits 	<ul style="list-style-type: none"> • Develop agreements and communication plans
	<ul style="list-style-type: none"> • Implement agreement
	<ul style="list-style-type: none"> • Measure and report performance

There are several obstacles identified related to supplier management strategies and their implementation. Obstacles can strike or prevent the implementation to happen. These obstacles are the lack of trust, communication & common goals, common tools, commitment, willingness, specificities of the IT-system, high degree of formality, oversized security requirements, inflexibility, and integration costs. However, it is argued that unity is strength. Obstacles can be mitigated by establishing mechanism that create sense of belonging to wider industrial entity. (Oghazi et al. 2016) It can be concluded that the key focus areas in achieving this feeling of belonging are communication, commitment and mutual trust.

This chapter has shown that there are various approaches to strategic planning in the field of supplier management. To conclude, some strategic management academics have stressed the field's disparate, uncertain nature. Whatsoever, it is argued that strategic management's apparent weakness seems to be its strength. Its flexible boundaries and natural diversity act as a

common ground for scholars to flourish, without being constrained by a dominant paradigmatic rules and principles. The success of strategic management thus suggests an alternative view of academic communities. Strategic management, as an entity that is dynamic and flexible by nature, is being held together by a common, underlying, but absorbent core. (Nag et al. 2007) Hence, instead of trying to too accurately to define the one and only strategic objective and clear-cut methods of achieving it, companies are advised to focus on their core function which helps them to build strategic objectives based on their existence. Topic of procurement's core functions is discussed in the next chapter.

2.2.3 Sharing Information & Communication

Improving a supply chain can take many forms, but it always involves strategic thinking and sharing of information. Procurement management must take a holistic view of the business and supply chain risks and rewards in order to perfect the network and gain the benefits. (Maturi 2012) Information sharing is probably the most important concept behind the supply chain management theory and supplier management. The efficiency of a supply chain and supplier relationships is a sum total of efficiencies at different nodes of a supply chain. Supplier management efficiency would increase if proper information sharing is conducted in the process. (Bhatt et al. 2014)

It is stated that information sharing concentrates on information flow about demand only upstream in the supply chain: from buyer to the seller, which is called also vertical information sharing. Information sharing has three components: information sharing supporting technology, content of information and quality of information. The objective of information sharing about the forecast of demands is to improve delivery performance. (Bhatt et al. 2014)

There are also more complex approaches among the academics. According to Hansen (2009) information sharing in buyer-supplier relationship occurs not only vertically, but also horizontally and in a disseminated way. Three facets of information sharing are visualized in figure 8 below.

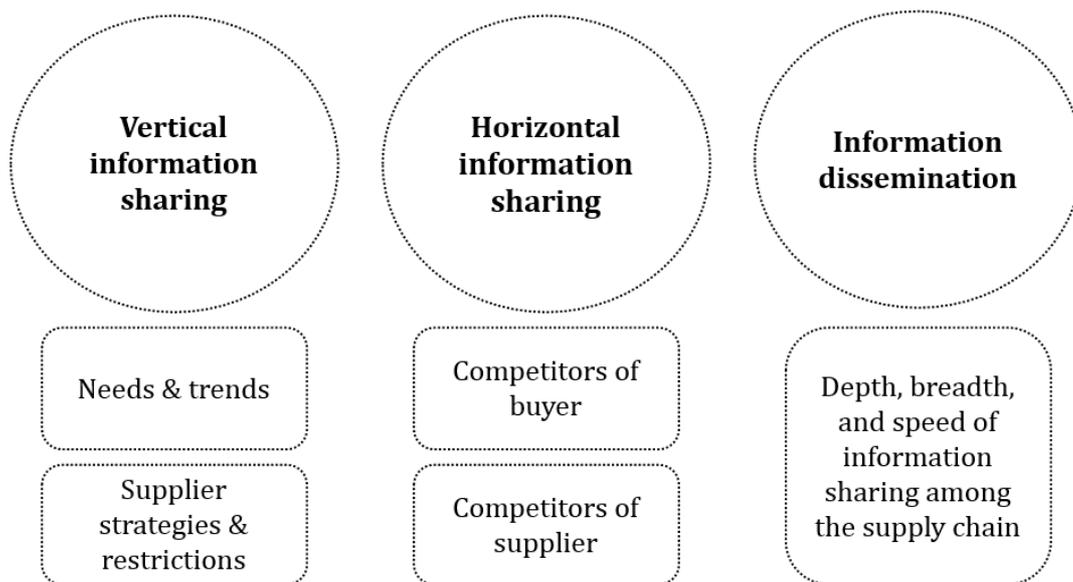


Figure 8: Facets of information sharing (Hansen 2009)

For sake of clarity, in this thesis, it is assumed that information sharing is only tool for communicating. Communication is the essential part of supplier management. Paulson (2007) has streamlined that in order to accomplish a successful strategic supplier relationship, firms need to share, share and share some more. The more information is transferred along a supply chain, the less risks exist of disruption of supply chain. It is advised firms not to just send over orders to the suppliers: pre-negotiate purchases and delivery schedules. Suppliers shall be partners and they have to be encouraged to collaborate: e.g. moving inventories closer to the buyer in order to cut down lead times and increase inventory velocity.

In terms of information sharing and communication, firms are recommended to invest foremost to the core of the business and adapt to one another. Information distribution is the biggest form of cooperation, and every key person in the relationship should be involved in the relationship management. In a model in figure 9 trust and commitment are both the result and the influencing factor of the relationship. They are affected by adaptation, bonds, shared values, communication, satisfaction and cooperation. The interaction approach has an effect on the relationship: it affects supplier relationships directly and trust and commitment indirectly. (Luhtio 2015)

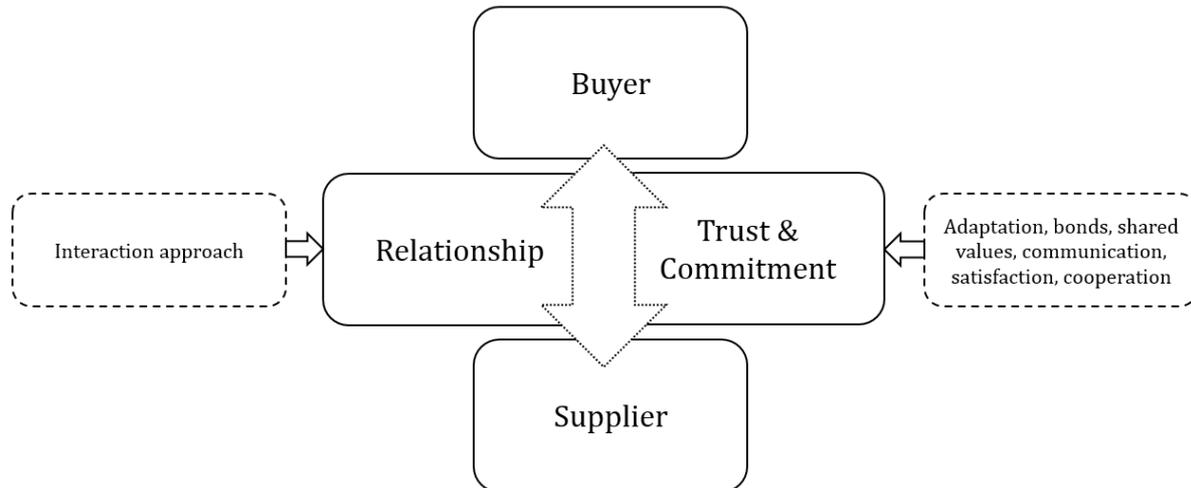


Figure 9: Relationship, trust & commitment (Adapted from Luhtio 2015)

Prahinski and Benton (2003) have studied supplier development programs in terms of communication. Authors summarize that when buyer uses collaborative communication for the supplier development, it is perceived by the supplier as an effective tool to increase the quality of a relationship. Collaborative communication includes three key aspects: indirect influence strategy, formality and feedback. However, it is concluded that only informing supplier evaluation does not ensure enhanced supplier performance unless the supplier is devoted to the buyer. Buyer influences the supplier's commitment through improved efforts of collaboration and commitment.

It can be concluded that in procurement and supplier management, silence is not golden. Similar findings have been introduced in other studies. When focusing on bidding process between buyer and multiple suppliers, it is noted that communication leads to a competition between fewer, but more aggressive bidders, which causes more allocative efficiency and a decrease in the additional cost of the business and hence, benefits the buyer. The expected surplus increases with the amount of information transmitted. (Ménager 2013)

It is an unarguable fact that suppliers have become an integral part of supply chain and product design. How should the communication be established with them? Effectiveness of computer-mediated in contrast to face-to-face communication channels have been researched. Empirical studies have an uncoherent core. There is a positive connection between knowledge exchange and supplier relationship performance, measured both in terms of effectiveness and efficiency.

It has been noted that e-mail can perform similarly to face-to-face communication, transferring accurate and vivid information and having a positive relationship to knowledge sharing. It is stated that video conferencing has no noteworthy effect on knowledge exchange. Surprisingly, the effect of web-based tool is significantly negative. (Thomas 2013) Notwithstanding, firms increasingly invest in web-based tools for enhancing supplier relationships. Digital way of working is the topic of the following chapter.

2.2.4 Digital Way of Working

Digitalization is a phenomenon that has been extensively studied after the technological breakthrough. While globalization and increased competition has forced firms to seek supply chain superiority, simplicity of use and affordability has enhanced the adoption of information technology for participating the supply chain. Information and communication technologies enable executing business transaction electronically. It is commonly acknowledged that companies are gradually executing possibilities provided by e-business. The development of technology has promoted the expansion of tools that are probable to improve supply chain performance radically, through greater levels of process efficiency and combination. (Bagchi & Skjoett-Larsen 2003, Cagliano et al. 2003)

General topic e-business, i.e. the use of Internet-based tools to support business processes shall be classified into smaller entities. Cagliano et al. (2003) argue that Internet tools can be categorized as e-commerce, e-procurement and e-manufacturing. Another classification is distinguished between e-commerce, e-procurement and e-collaboration. e-Commerce supports firms to identify and answer rapidly to changing demand captured over the Internet. e-Procurement allows companies to utilizing the Internet for procuring and handling materials, products and services. e-Collaboration assists coordination of numerous decisions and actions beyond transactions over the Internet.

e-Business applications have enriched the supply chain efficiency through the capacity to access wide-ranging information, automate workflows, open a direct channel, and link multiple end customers and suppliers. Such applications have reduced the operating costs, reduced lead-time, improved service levels, and eliminated transaction faults in a supply chain. (Lee & Wang

2002) Efficient use of information systems ensure smooth flow of information related to purchasing, commodity design and development, market intelligence, scheduling of production, payments and other information for managing collaboration among the actors in the supply chain. Information integration enables management to observe the operations of organization in totality and in a holistic manner. Integration requires coordination of disparate functions and organizations, sharing knowledge and information among parties, sharing data of design and manufacturing and sharing forecasts and delivery scheduling. Information integration makes inventory and production visible through the whole supply chain and enhances collaborative planning and forecasting. (Bagchi & Skjoett-Larsen 2003)

e-Collaboration exists in a range of functions, such as information sharing, collaborative planning and product or service development. (Cagliano et al. 2003) Fedorowicz et al. (2008) argue that e-collaboration within and between groups will enhance creativity, which enables cross-functional innovation and decrease barriers and inefficiencies among human resources.

Advanced information and communication technologies that enable e-collaboration improve team work, especially when groups need to exchange information and make decisions across business and countries. The organizational purpose of new relationship tools is to empower innovations that add value and expand flexibility and decrease lead time in global business actions. At the team level, proper use of ICT adds understanding and knowledge among distributed persons and team participants, strengthen reuse of shared information and knowledge, and make more effectual task management and allocation through networks. From an individual point of view, ICT increases creativity through the decrease of routine work, will lessen idle time and allow personal interactions within a group. (Fedorowicz et al. 2008)

The elements affecting the adoption of e-collaboration tools are argued to be trust, complexity of products and product volume and frequency. Trust is argued to have the strongest influence on the implementation of collaboration, followed by complexity of products and product volume and frequency. (Chong et al. 2009) Lampinen (2017) has researched best practices in implementation process of e-sourcing. It is pinpointed that current trend in Finnish companies is to use similarly several digital systems to cover most of the sourcing related processes. Reasoning is that integrated systems are complex and difficult to use. However, it is requested that there shall be an integrated system that would be able to cover the entire sourcing process.

According to Lampinen (2017), it is assumed that in there a shift towards one integrated cloud based system that is easy to use and have all the necessary functionalities in the future. To compare, Iloranta and Pajunen-Muhonen (2008) highlight that the top of e-hype has gone years ago. However, there is still some minor discussion of how portals and e-auctions are going to revolutionize procurement and ensure minimal costs. For most of the companies, e-tools are practical tools among others. They revolutionize ways of working only partially. Digital tools shall be used professionally, but in a realistic ways and for the right things.



Figure 10: Tips for implementing e-sourcing (adapted from Lampinen, 2017)

As presented in figure 10 above, Lampinen (2017) argues that change management is one of the key factors in succeeding in the implementation of e-procurement. Change shall be managed by internal communication and training. Besides to change management, implementation requires also project management and active, high-quality internal communication. Benefits of digitalization of the procurement shall be communicated early on and continuously during the implementation. Besides communicating the benefits, in order to share best practices, there should be concrete examples on how the system can be used. Staff needs to be involved in the process change early on and shall be supported by training, preferably by internal key users of the system.

2.3 Value Creation Capabilities of Supplier Management

The term 'relationship' is an emotive one. The world in general suggests closeness, friendship, liking, warmth, even intimacy. In other words, relationship refers to parties being linked together in some way. Parties' behavior has some impact on the actions, behaviors or feelings of the others. Thus, relationship is two or more parties interacting with each other. Parties will only enter if they perceive something attractive or positive within the relationship. Buyer-supplier relationships can therefore be considered in terms of the value that is added by it. Relationships shall be based on 'win-win'-concept that means that the relationship is beneficial and valuable for all of the parties. Relationships can add value in three ways: by more closely meeting the requirements, by engendering a feeling of trust and belonging and by enhancing quality of goods or services. (Godson 2009)

Drickhamer (2001) suggest that future's successful firms' success is based on strong relationships established. All participants mutually agree the ways and processes for creating value and exchanging information and hence optimize productivity and profitability of the whole value chain. Accordingly, it has been stressed that is suggested that the underlying value creation potential of supply (or supplier) management locates in i) the knowledge accumulation based on relational exchange covering the collaborative supplier relationships and learning inside an organization, ii) an understanding of customers' demands and iii) supply (or supplier) management as a strategic asset of firm. (Kähkönen & Lintukangas 2012) This triple value creation is presented in figure 11 below.

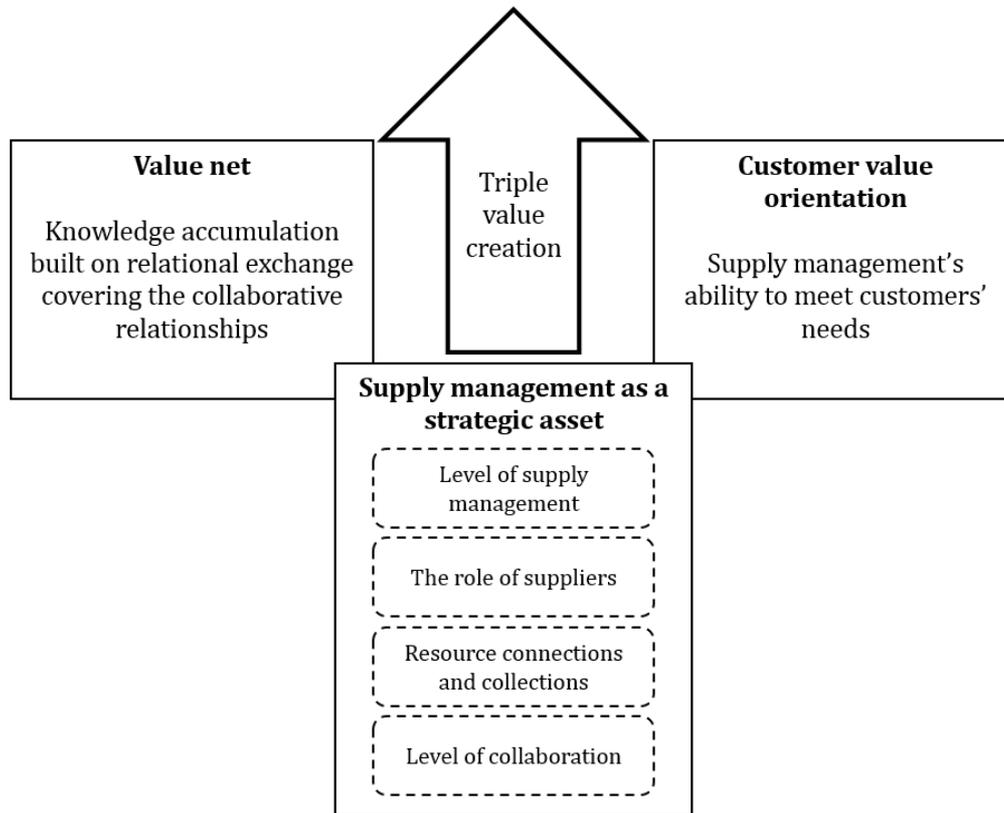


Figure 11: Triple value creation (Kähkönen & Lintukangas 2012)

Controversially, the most of the companies are far from this ideal. Firms tend to focus on one-to-one relationship with slight integration of processes. Merging digital information technology offers chances for collaboration and sharing information. Yet for the awaited cost savings to be realized, parties must be able and willing to trust one another. For the relationship to be effective, internal management work shall be done first: heritage management practices need to be removed and barriers between business functions and suppliers need to be lowered. People need to change how they work and how they measure success. (Drickhamer 2001) Tips for this are proposed next, with first focusing on integrating supply and value chains.

2.3.1 Value in Chains

Michael Porter illustrated a concept of value chains on 1985. A value chain is a set of firm's activities in order to deliver value for end-customers. The way in which value chain activities are executed regulates cost levels and impacts profits. Rather than looking at cost types, model focuses on systems. Parts of the systems can be divided into two as presented in table 4 below:

primary and support activities. (Porter 1985) End customer's demand is typically the best criteria of additional value. Usually the best measure of activity's value adding capability is work efficiency and low cost and cost effect. It shall be noted that also supplier can have a tremendous affect to the value. Innovations for developing new product or technology, brand quality or opening new markets are examples of that. (Iloranta & Pajunen-Muhonen 2008)

Table 4: Value chain activities (Porter 1985)

Value chains	
Primary activities	Support activities
Inbound logistics	Procurement (Purchasing)
Operations	Human resource management
Outbound logistics	Technological development
Marketing and sales	Infrastructure
Service	

According to Bagchi and Skjoett-Larsen (2003), integrated supply chains would enable firms to compete better. Supply chain management refers to integration of key business processes from customers to suppliers that provides commodities and information that increase value for stakeholders such as customers. Supply chain consists of network of facilities and actors that procures raw materials and either physical or immaterial components such as work force, know-how, transforms these into final commodities and makes these available to the global marketplace for consumption. The interfaces in supply chain are enabled by information systems providing access to each other's business.

Lee (2000) proposes that there are three extents of supply chain integration: i) information integration, which refers to sharing information of e.g. production plans, inventory status and business forecasts, ii) coordination and resource sharing, which includes realignment of decisions and responsibilities, and iii) organizational relationship linkage, which include communication channels between parties, performance measures and sharing common visions and objectives. Stevens (1989) lists four stages of supply chain integration: disjointed operations within company, limited integration between departments or functions, internal integration of the holistic planning within a company and true supply chain integration. Cagliano et al (2003)

have a similar point of view, as they pinpoint that Internet adoption commonly follows incremental strategies that go from a limited to a broader use of e-business tools along the supply chain, starting from external processes and consequently integrating internal ones. Widespread usage of the Internet is probable to be paired with close collaboration relationships, while limited implementation is often related to efficiency of information sharing.

Hallikas et al. (2016) researched also innovation related topics. According to the results, in order to add value, firms constantly seek new ways of working and try new ideas. However, the level of innovativeness in procurement is on relatively low level on average. Challenges of innovation work are linked to difficulties in setting targets and key performance indicators and developing systematic procedures for collecting and developing supplier enabled innovations. Procurement workers were not encouraged towards innovation work with for example idea competitions. Similarly, procurement innovations were not coordinated or facilitated in the organizations.

Lean philosophy is applicable to supplier management, and together with joint efficiency it is related to value creation of a firm. It is argued that the key factors of implementation of lean philosophy and enhancing value creation are i) generating a match between the buyer, suppliers and end customers through a trusted atmosphere, and ii) cooperative productivity between suppliers and buyers. The success of the advantage is determined by balancing these factors. Lean is a vital problem: it may be challenging to get people out of their work area to allow them to be able to adjust their ways of working and to share knowledge. Executive commitment is essentially required to hold lean philosophy sessions with a specific targets. Regarding starting lean actions, one can expect an improved workload, with a reduction in the quantity of staff. (Shamah 2013) To some extent, lean thinking can be seen as focusing scarce resource to the most important tasks in order to achieve best possible results.

Three academic perspectives of procurement's value creation are summarized to figure 12 below based on perspective of best value for money. According to the literature, a continuing change on how to evaluate successful procurement has occurred in past years. Indeed, in so far as economic proficiency is concerned from a price saving criterion for measuring success, decisions have changed to a multi-criteria method. Numerous dimensions of quality, as well as price levels, are reflected. The most usual way to express the change is to say that procurement

ought to deliver the best value for money. That refers to that both monetary and non-monetary components of an offer are to be deliberated. (Dimitri 2013)

Similarly in Lintukangas' and Kähkönen's study (2010), the supply management performance is monitored from i) financial measurements measuring supply management's monetary impact on firm's overall profit and ii) non-financial measurements measuring supply management's internal service capacity. First of all, it was found that the supplier relationship competency has a positive effect on observing of supply management performance. In addition, the effect of capability is more influential on non-financial than on financial measurements. However, it is apparent that in practice the development of non-financial measures requires firm's holistic view about the supply management and its connections to overall business.

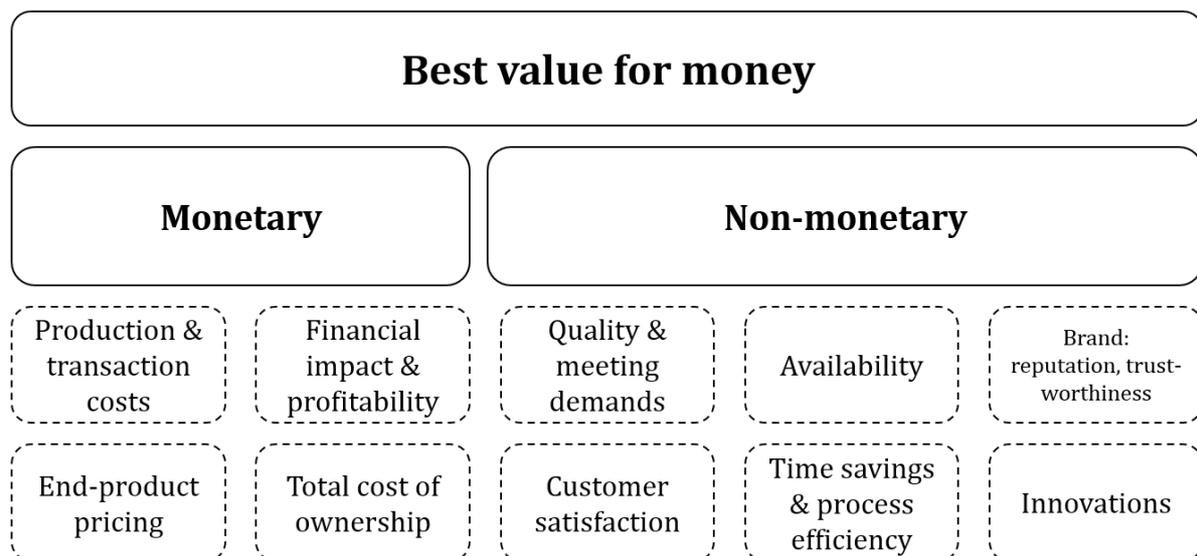


Figure 12: Value creation abilities of procurement

Effectively planned and accomplished procurement processes deliver numerous direct advantages. Procurement has a central role in realizing business and operations planning intentions regarding e.g. production, supply chain delivery, flexibility, quality, and costs. Financial impact of procurement affects the financial profitability and stability of the supply channel. The efficiency of procurement has a direct influence on the business capabilities and the supply chain to respond effectively to market demands. (Ross 2015)

According to a survey conducted by Hallikas et al. (2016), procurement function has an important role in value-adding for the firm's business. To sum up: procurement adds brand appreciation and reputation, brand's trustworthiness, increases end-customers' customer experience, helps meeting end-customers' needs and enables quick response for changing demands. Procurement also solves commodity availability challenges rapidly and enables competitive pricing of the end product.

2.3.2 Attraction Facilitates Collaboration

Personal and social relationships are essential in buyer-supplier relationships because human beings prefer conducting business with people they know and like. Supplier relationships have several forms. At one extreme there can be a very loose relationship characterized by market competition. At the other extreme are deeply collaborative relationships where all of the actors seem to act as one organization. There is no the correct form of relationship. Suitability is determined by the exact context in which the supply situation exist in. There has, however, been a noticeable move towards a greater use of collaborative supply relationships. The reason for this is logical: the delivery of value to end customers is an increasingly complex business. The customers themselves have become more challenging and less likely to give devotion to suppliers who do not fulfil their precise needs and requirements. (Godson 2009)

The noteworthy increase in outsourcing the non-core functions over the past two decades has powered researchers' attention in the benefits of buyer–supplier relationships. As collaboration in buyer-supplier relationships have increased, the performance, and the fact that there are socially entrenched dimensions has been researched. It is stated that knowledge is limited in terms of the different extents of social capital and their irreplaceable offerings to relationship performance. (Krause et al. 2007) It is said that in order to improve value creation and value transfer by supplier management, it is not enough to optimize and coordinate management and control systems. The attraction between buyer and supplier is important in developing relationships. Attraction is achievable through a range of perceptual methodologies and actions, which improve performance between members. Three behavioral constraints of supplier management are expected value, trust, and dependence. These modules of attraction interact to draw parties closer together or push them apart. Threefold model of attraction between buyer and supplier is presented in figure 13 below. (Hald et al. 2009) It is concluded, that attraction, including

aspects of value, trust and dependence, is the basis for collaboration between buyer and supplier.

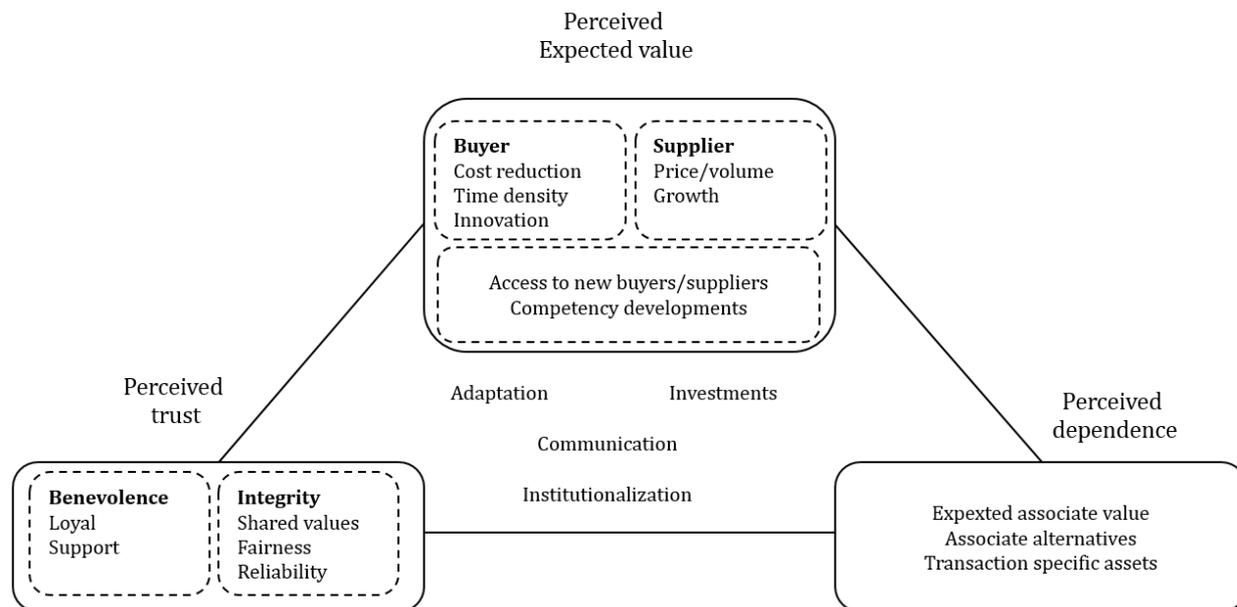


Figure 13: Attraction in buyer–supplier relationships (Hald et al. 2009)

Firstly in the model is the attracted party's perceived expected value of being associated. Value is a combination of both extrinsic and intrinsic value modules. Secondly, with the capability to moderate the value, is the involved member's perceived trust in the other. Third, capability to moderate value also is the attracted member's perceived dependence on the other. Trust and dependence (or commitment) are evaluated in the following sections.

Similarly with above, Hansen (2009) points out that collaboration in buyer-supplier relationship require trust. Trust have two facets; organizational and individual. Organizational facet refers to trust towards the supplier and individual facet to trust towards the representative person of the firms. Value-related evaluation terminology include co-creation, transaction, collaboration and co-production. When trust level both in organizational and individual level are high, the type of relationship is co-creation. Controversially, when both trust levels are low, the type of relationship is transaction. When organizational trust is high and individual trust is low, the type of relationship is collaboration. Vice versa, when organizational trust is low and individual trust is high, the relationship is co-productive by nature. Bagchi and Skjoett-Larsen (2003) ar-

gue that organizational integration encourages a sense of belonging to the supply chain. It enhances generating trust among participants. Trust endorses collaboration and decision delegation, decreases irrational performance and uncertainty.

Dependence, in other hand commitment, between firms is an important state to founding performance goals, and provides value to buyer in terms of capital accumulation with suppliers. Diverse proportions of social capital have distinctive effects depending on performance targets: cost and total cost, versus quality, delivery, and flexibility. Cognitive capital as shared values, and relational capital as buyer-supplier dependence explain buyer performance accomplishments in cost and total cost. In contrast, in explaining buying firm performance in terms of quality, delivery and flexibility, cognitive capital in terms of shared values, and structural capital in terms of supplier development actions were more significant. Common explanatory are commitment to the relationship and cognitive capital. (Krause et al. 2007)

Collaboration is a way to share social capital between buyer and supplier. There are many appearances to collaborative relationship. Some are mostly focused to cost reduction and the creation of superior efficiencies. Other relationships are more concerned with connecting the more strategic resources that reside within supply chains, such as knowledge and innovation. The choice of the most appropriate supply relationship is therefore a function of what a company wants to achieve through such a relationship. All the parties to the relationship need to share the same objectives. Collaborative supplier relationships are not easy or soft options - they require resources to guarantee that the best members have been recognized and they need continuous maintenance. Most of the companies usually operate a range of relationships with the suppliers. (Godson 2009) From procurement's perspective, value adding is achievable by using cross-functional collaboration. Procurement is usually based on team work between cross functional groups in an organization. Procurement participates in many processes, which have own targets. Hence, organization shall have a clear common vision for all of its sub functions. Efficiency is creatable by changing functional way of thinking into process thinking, in which cross-functional team are aiming towards a common objective. (Järvinen 2015)

Kähkönen and Lintukangas (2012) have studied value creation potential in supply management stressing the importance of cooperation, as well as resources and capabilities of the process.

Instead of focusing only on dyadic relationships, relations shall be reviewed from wider perspective of networks. It is argued that supply management has a significant role in shaping the value creation ability of a company, thus having a notable value creation potential which affects firm's performance and competitive advantage, as presented in figure 14 below.

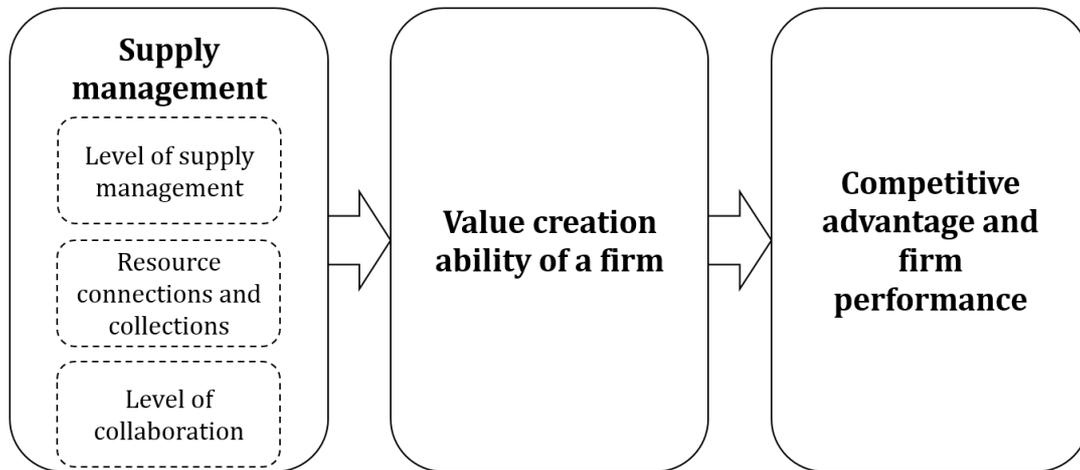


Figure 14: Connecting supply management, value creation and competitive advantage (Kähkönen & Lintukangas 2012)

In comparison to the model above, the ability to leverage social capital within relationships is also seen as a primary driver of value creation. Despite the rank of strategic partnerships, the process by which social capital accrues within buyer–supplier relationships and participates to buyer performance developments is not implicit. Model of value adding in terms of improved buyer's performance is presented in figure 15 below. (Lawson et al. 2008)

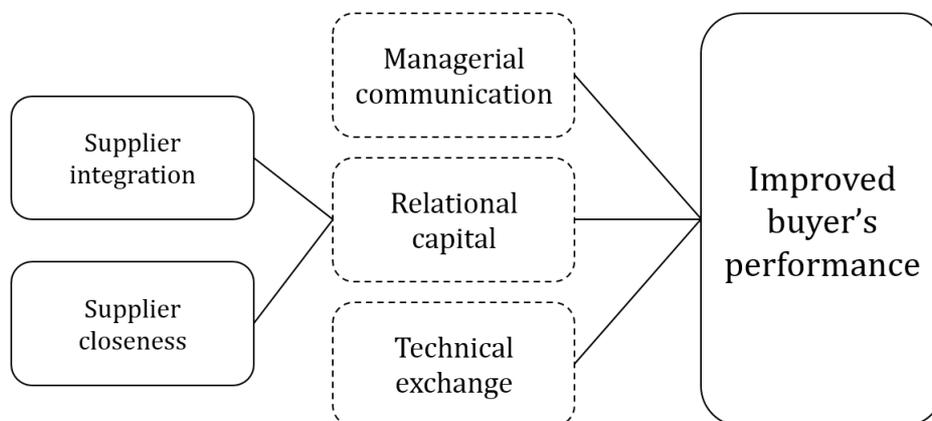


Figure 15: Supplier improving buyer's performance (Lawson et al. 2008)

Supplier relationship management is a policy that outlines how the firm interacts with suppliers in order to control and measure the financial consequences of the supplier relationships and to identify changes in supplier relationships. In Finland, nearly 40 % of the firms develop their business processes together with their suppliers. Only less than 10 % of the respondents did not measure their supplier collaboration. (Lintukangas et al. 2014)

Value adding possibility of procurement can also be streamlined with term of proactivity. Proactive procurement is an opposite of a reactive one that is relatively passive by nature and based on routines. Reactive procurement reacts to changes when they have already happened, proactive procurement instead tries to pre-affect to change and tries to steer them to the right direction. (Iloranta & Pajunen-Muhonen 2008, 62-63) Proactive procurement adds value by e.g. coordinating purchasing in centralized way, participating to product & specification development, mitigating quality risks beforehand, focusing to joint problem-solving with suppliers, decreasing amount of suppliers, lowering the monetary value of the warehouses, sharing information with suppliers and aiming towards long-term collaborating with the key suppliers and relevant stakeholders. (Baily et al. 1998)

Key aspects of optimal procurement's cross-functional collaboration are inter alia change management, organization culture, decision making process, expertise, building up consensus, maintaining satisfaction and team efficiency. Change management as a part of organization culture define efficiency of team work. In cultures in which cross-functional teams manage processes and have a power to make decisions, results of procurement actions are efficient. In comparison to persons, teams tend to make better and more productive decisions. Making use of organization expertise help handling issues. Involving experts and specialists to cross-functional procurement team typically shorten lead times in knowledge building and enhances value adding. (Sollish & Semanik 2007)

In contrast to previous positive sides of collaborative relationships, researchers have found also a dark side of this kind of action. The study of Villena et al. (2011) confirms that constructing social capital in a collaborative buyer-supplier relationship positively affects buyer performance. However, if taken to an extreme, it can decrease the buyer's capability to be objective and make effective decisions and boost the supplier's opportunistic behavior. In other words,

there is a paradox surrounding social capital created by collaboration. It can increase performance, but it can also damage performance.

The challenge of balancing between short-term price savings and long-term supplier relationships is present. A bias towards short-term price savings or long-term relationships may depend e.g. on management's interests, significance for firm's competitiveness and lack of appropriate capabilities. (Lintukangas & Kähkönen 2010) However, it is argued that collaboration is discussed widely, but in fact companies are run very incompetently with sometimes obviously inaccurate data. When that is spread around, companies are spreading around imprecise information and collaboration a lot faster. Supplier relationships have a long way to go toward suggesting solutions that are spreadable among the companies. Integration remains problematic, both for sharing information between firms and linking numerous point solutions within an organization. Other issues pinpointed are inter alia security, intellectual property, trust and competition. Struggling in competitive situations is not just between products and services, it is between business models and value chains. (Drickhamer 2001)

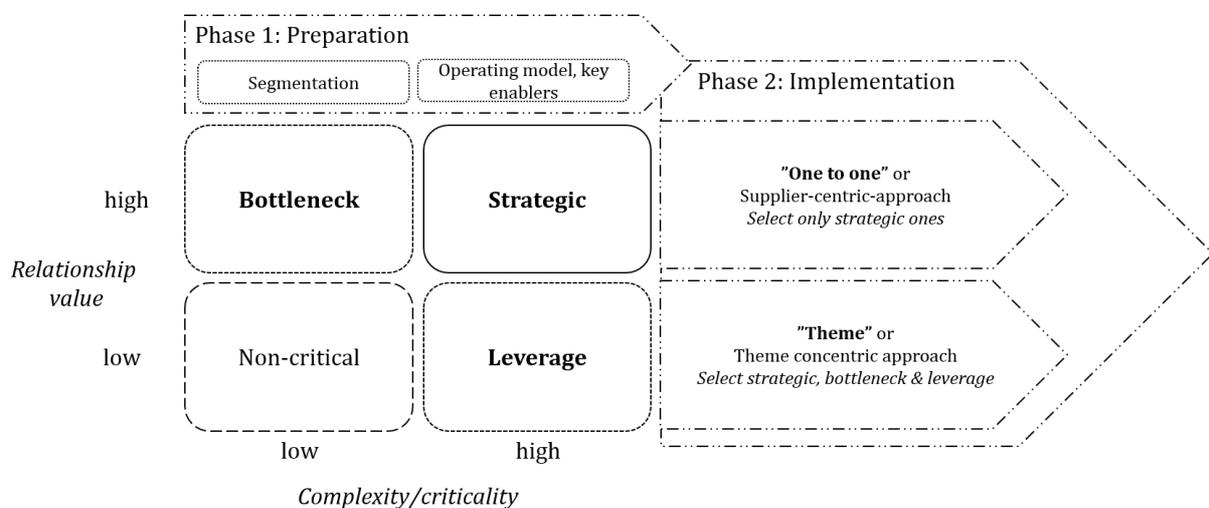


Figure 16: Practical collaboration approach (Adapted from Hales et al. 2011)

Hales et al. (2011) have illustrated a two-phased approach for supplier collaboration. Approach is interesting from this thesis' point of view. In the first phase, buyer prepares by examining its suppliers and operations. Because firms should cooperate only with selected range of strategic suppliers, it's important to foremost segment the supply base to control the best potential part-

ners. As the figure 16 above shows, segmentation is based on Krajllic's matrix and thus, it assesses, which relationships are most valuable and which inputs most critical or complex. In comparison, see value creation segmentation model created by Moeller et al. (2006) in figure 17 below. Equally important with segmentation is piloting an internal assessment of the current operating model: i) capability of integrating the supply base in a collaborative manner, ii) responsive person of interfacing with the supplier, iii) current status of communication channels, iv) mapping potential internal obstacles that might prevent value creation in a relationship. The second phase implements the collaborative relationship. Depending on targets, the buyer may engage the supplier on i) a one-to one basis, aiming to holistic understanding of the significance and value, or use ii) a theme community approach targeting to several suppliers at the same time. (Hales et al. 2011)

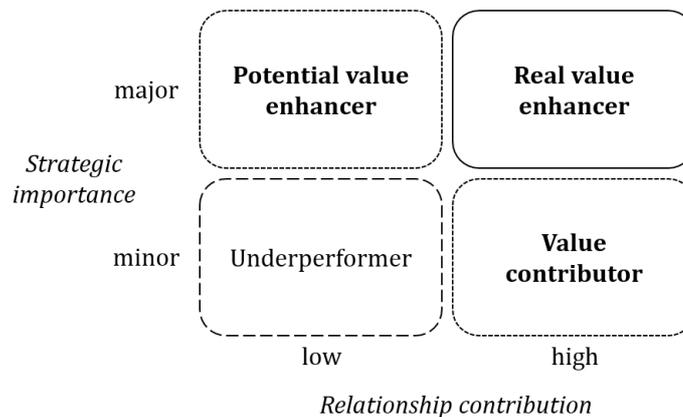


Figure 17: Supplier portfolio's value creation alternatives (Moeller et al. 2006)

To summarize, collaborating is typically seen as a value-adding behavior, but it is essential to keep in mind that there are negative aspects as well. Järvinen (2015) highlights that cross-functional procurement teams are conducted by different personalities and human beings. Their cultural background, education, role in the organization and behavior styles vary. They might have worked in the same position for long period of time and hence, ways of working are deeply adopted and somehow permanent. Buyer's and supplier's organization culture's different kind of values, norms and behavior styles are important to keep in mind in everyday work. However, cross-functional collaboration can add value by making use of expertise among the organization. An individual has not such expertise to be able to solve these complex problems (Kirby 2014).

2.3.3 Early Key Supplier Involvement

The more the relevant supplier converts involved with and experienced of the buyer's strategies, needs and projects, the more the supplier recognizes that it can secure forthcoming business opportunities. The supplier is thereby more motivated to work on customer-related development and innovation activities, ultimately promoting the buyer as well as itself. (Henke & Zhang 2010) Who are then the suppliers that need to be involved to buyer's strategic planning and other related activities as early as possible?

Only a restricted number of relationships have a significant impact on a firm's performance (Pardo et al. 2011). Key suppliers are gradually seen as strategic resources of buyers, which need careful nurturing to exploit and utilize their potential for value creation. What are the key suppliers? It seems that there is no joint vision of how to exactly define the concept, and simultaneously the terms preferred supplier, partnership, and key suppliers are often used as synonyms.

Key supplier management activity is an interplay between a formal key supplier management system and a collaboration process including elements of interchange, coordination and alteration, as well as balancing the short-term and long-term objectives within the relationship. Developing a sufficient key supplier management process is not easy task. The difficulties relate to the challenges in identifying and discussing the aims of the relationship, and concerning the short term and long term orientation. Wide-ranging deliberation of the resources and value creation of the firms within the relationship. The effects of one party's actions are permanently subject to the opinions of the other party, and thus the better the firms know each other the better the relationship performs. (Makkonen & Olkkonen 2013)

Firms may have difficulties with key supplier management. Difficulties can be categorized around three proportions: i) the challenges in implementing supplier portfolio methods; ii) the constricted view of value co-creation with suppliers, and iii) the lack of combination of the purchasing with other functions. Combining resources with suppliers is not always apparent for the purchasing function within companies because of their lack of knowing of how value co-creation with suppliers could be applied. In addition, modifications a firm is ready to make to

maintenance key supplier relationships are limited by the difficult integration of internal stakeholders. A rather surprising academic suggestion is to distinguish procurement and key supplier management and handle key supplier relationships from an additional layer in a firm. Suggestion is based on a hypothesis that purchasing functions simply cannot transform into key supplier management function, either because of not displaying ad hoc -capabilities or because of their different strategic mission. To sum up: key supplier managers are not going to symbolize purchasing managers: they are complementary policies to manage suppliers. (Pardo et al. 2011)

Early supplier involvement refers to integrating suppliers' capabilities in the buyer's supply chain system and operations. Partnerships are shaped with suppliers to in order to utilize their technological expertise in e.g. design and manufacturing. The relationships between the supplier and the buyer are crucial in early supplier involvement. The benefits of using early supplier involvement are perceived to be significant by many academics and practitioners in the supply management. (Dowlatshahi 1998)

For example, the early involvement of suppliers can shorten lead times of deliveries and lead to sharing of new ideas between parties. Notwithstanding, about 30 % of Finnish companies did not involve their key suppliers in business/strategy planning. It is rather uncommon to have key supplier participating in buyer's project team or involving business and strategy planning. Key supplier involvement is more commonly used in new product design and development. (Kähkönen et al 2014) Six steps of prerequisites and recommendations for early supplier involvement are listed to table 5 below.

Table 5: Implementing early supplier involvement (Dowlatshahi 1998)

Prerequisite	Recommendation
1. Establish a formal plan and structure and name responsible person in charge	5. Make sure that tasks in early supplier involvement are interdependent with one another and performed simultaneously if applicable
2. Select suppliers with long-term relationships	6. Develop a regulatory information of early supplier involvement
3. Create an effective cross-functional team	
4. Ensure top management's support and involvement	

Supplier integration or early supplier involvement has been researched in terms of role of key suppliers and supplier involvement in product development and planning phase. On average, early supplier involvement is seen as important factor of procurement. Supplier relationship that is based on partnership typically adds supplier commitment already in the product development stage of the process. It is commonly noted that suppliers have a high interest in being involved to product development of the companies. Key supplier meetings and their effect to collaboration are seen as important factors. However, key suppliers' involvement to strategic business planning and project work were rated to be on low level in Finnish companies during the research. (Hallikas et al. 2016)

2.3.4 Supplier Enabled Innovations

Innovation as one of the simple ways in which a business forms and maintains a competitive position in the markets. Among other sources, suppliers are recognized as having exclusively large innovation potential because they know what the buying firms are doing and need and. In addition, in buyer-supplier relationships, mechanisms for knowledge transfer are typically in place. Buyer's collaborative activities that tend to support supplier innovations are i) involving suppliers in the buyer's processes (or early supplier involvement, as discussed in the previous chapter, ii) acting openly and sharing timely accurate information with suppliers and iii) working with suppliers to assist them increase competitiveness in quality and cost. (Henke & Zhang 2010)

As discussed previously in this thesis, supplier collaboration and key supplier management in order to add value is not a one-way street. Innovation is usually crucial for the growth. A flow of innovation can improve when relevant suppliers are intimately involved. (Hales et al. 2011) In addition, it is noticed that supplier relationships could enhance value to the buyer as innovation partner in terms of e.g. benchmarking purposes, for reputation improvement, and to recognize internationalization potential (Ivens et al. 2013). Companies gradually rely on the collaboration of suppliers in their innovation processes. However, not all proficient suppliers are eager to collaborate with all buyers, and thus, achieving preferred customer status with key suppliers becomes essential. (Schiele 2012)

As visualized in figure 18, if the buyer involves the supplier in its processes, shares information and offers support, it will add supplier's willingness to invest in innovation generation activities and share ideas. However, competition is tight and suppliers typically have multiple clients: in order to maximize benefits, buyer shall also take into account that objectives are set mutually and clearly, time schedules for deliveries are on rational level and price reduction pressure is not too heavy. The model helps firms of aligning themselves with innovative suppliers in order to build innovation generating network of suppliers. With these principles companies ensure that it is maximizing its opportunities for gaining innovations from its suppliers' in terms of knowledge, skills and capabilities, and thereby improving its competitive advantages while strengthening its supplier working relations and supporting and developing the suppliers. (Henke & Zhang 2010)

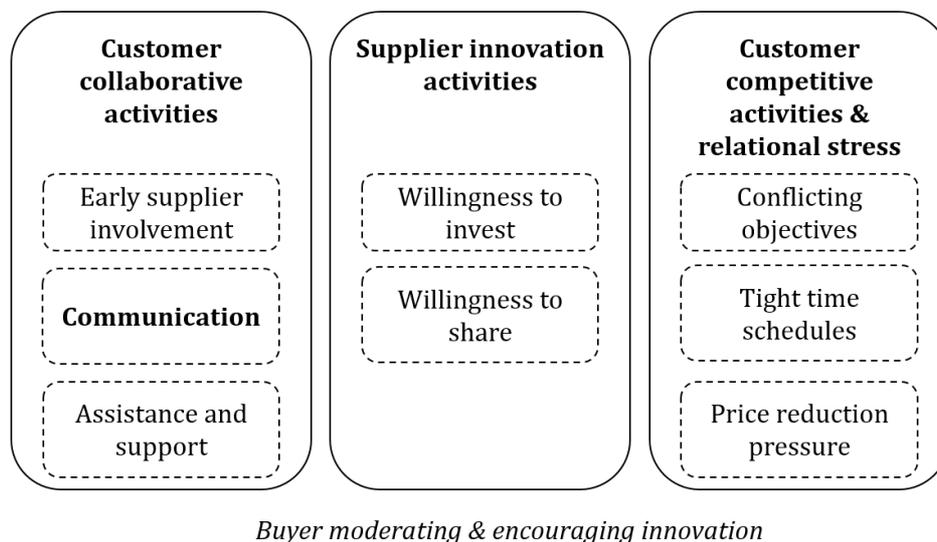


Figure 18: Increasing supplier innovations (Henke & Zhang 2010)

In comparison, Slowinski et al. (2015) have researched and listed best practices for supplier enabled innovations that benefit a buying firm. From buyer's perspective, nine better practices for reinventing supplier innovation relationships are listed below. In addition, the same authors have developed a support zipper model for implementing a communication schedule between buyer and supplier. It is noteworthy that buyer and supplier shall nominate an account manager for the collaboration in order to enhance innovation work. The best practices according to Slowinski (2015) are the following: i) align internally relevant functions, ii) define internally 'product' and 'innovation', iii) manage supplier innovation portfolio in a systematic manner, iv)

establish an effective communication structure, v) create common language, vi) keep organizational responsibilities updated, vii) create and nurture trust, viii) found flexible decision making structures and ix) apply expressive metrics.

Steering team typically communicate 1-2 times/year, in top-to-top meetings, to discuss a single project or all shared projects. Focus on the meeting shall be in strategic topics. Research or project managers and teams meet frequently to discuss project details and progression. However, Key Account Manager and Key Supplier Manager are preliminary contacts; they communicate up and down the zipper and are informed about all projects between the two companies. (Slowinski et al. 2015)

On the other hand, Hallikas et al. (2016) researched innovation related topics in Finnish companies. According to the results, in order to add value, firms constantly seek new ways of working and try new ideas. However, the level of innovativeness in procurement is on relatively low level on average. Challenges of innovation work are linked to difficulties in setting targets and key performance indicators and developing systematic procedures for collecting and developing supplier enabled innovations. Procurement workers were not encouraged towards innovation work with for example idea competitions. Similarly, procurement innovations were not coordinated or facilitated in the organizations.

Winter and Lasch (2016) argue that firms have to assess the benefits of supplier innovations before their realization. In addition, typically it is not enough to consider a supplier innovation from the supplier evaluation or innovation evaluation perspective. Both perspectives are necessary in order to decide on the realization. The evaluation procedure includes i) the analysis of the initial situation, ii) the determination of the evaluation criteria, iii) the determination of evaluation dimensions, iv) the collection of data, v) the realization of the evaluation, and vi) the analysis of the evaluation results. One shall be determine what kind of supplier innovation (product, process, or service) has to be evaluated, if it is a radical or an incremental innovation, and at which maturity level (from idea status to applicable innovation) the supplier innovation exists. Depending on the specific supplier innovation, appropriate evaluation criteria have to be selected. The purpose of evaluation dimensions depends on the type of the innovation. After these steps, the supplier innovation can be evaluated, analyzed and finally, followed up.

However, there has been speculations that preferred customer status might come at the expense of higher prices. However, it seems that firms undoubtedly profit from supplier innovations, but in addition they may profit from knowing if they are preferred customers. It is argued that companies that flop to become preferred customers of leading suppliers may find it problematic to develop technology or competition leadership. (Schiele 2012) Similarly, Ellis et al. (2012) state that buyers are more and more looking to suppliers for innovations that enhance the competitive position. There are alternative methods for buyer to access supplier innovations: early supplier involvement, as discussed before, and relational reliability affect positively to preferred customer status. It is noted that preferred customer rank is positively related with supplier's willingness to share technologies with the buyer.

2.4 Components of Efficient and Value-Adding Supplier Management

In order to proceed with the case study, it is essential first to assess, what is the topic that is discussed. The first sub-question of this research is: What are the components of efficient and value-adding supplier management? Topic is explained based on the framework that is based on the literature review. Literature highlights are described in details in previous chapters two and three. Procurement is acquisition of the commodities and management and optimization of supply network and its parties. In order to maximize efficiency of actions and thereby create additional value, procurement focuses inter alia to identifying organization's needs, adapting business strategies, collaborating with suppliers, and finally, increasing mutual innovation generation.

According to Hales et al. (2011), as value chains go through rapid changes, effective relationship management has become increasingly important. Thus, partners become more important in generating value. Most firms are familiar with supplier relationship management, in which a buyer seeks to maximize the value contributed by its suppliers. Essential for procurement function is to maximize the benefits of supplier management. Literature review -based framework of supplier management's efficiency and value creation, from buyer's perspective, is visualized in figure 19.

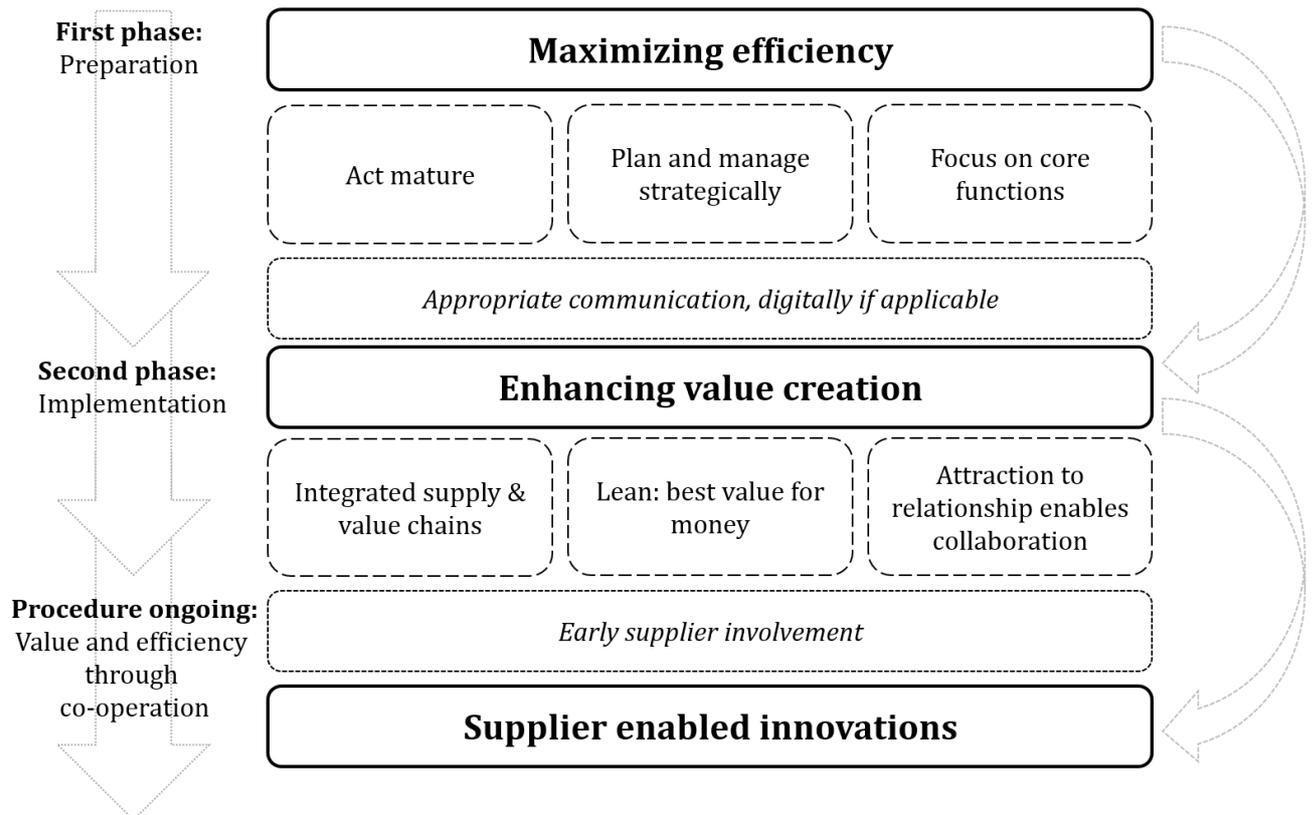


Figure 19: Framework of supplier management's efficiency and value creation

In comparison, Lintukangas (2009) argue that supplier relationship management capability is formed offive elements as follows: i) commitment to the relationship, ii) daily operations to manage relationships, iii) extending trust, iv) dynamic communication and v) ethical performance. The firms with ability to manage supplier relationships are dedicated to develop their supplier relationships in a joint way, have a capacity to coordinate their supply chains effectively, target towards trustful relations, communicate dynamically with suppliers and follow valid supply processes.

First stage of the framework is to assess firm's abilities for maximizing efficiency. Company shall evaluate whether its procurement function is on mature level or not, and in case needed, develop actions towards more mature mindset that is integrated and dynamic by nature. A purposeful strategic management plans firm's resources carefully in order to achieve targets that shall be clearly defined and communicated before implementing the new way of working. By focusing on the core functions, firms shall select suppliers who are suitable for the company's

procurement strategy. The selected suppliers' impact to the firm's performance shall be evaluated through the collaboration. As a result of the evaluation, the supply amounts will be attuned and the assistance and development for the suppliers can be changed. (Park et al. 2010)

In the beginning of implementation stage of the process, firms are advised to focus on their communication habits. For supplier management to happen most efficiently, direction from the buyer is required. Communication plans and expectations, together with the division of strategic road maps that helps the supplier better to meet the buyer's needs. In addition, open communication creates a helpful and trusting atmosphere that facilitates and increases the supplier's assurance to the relationship. (Henke & Zhang 2010) According to Lampinen (2017), it is not a question whether or not companies should implement digital procurement and communication tools but how the adoption is done in a successful way.

Supplier management is an iterative process, especially in terms of efficiency and value creation. However, from this case point of view, the cornerstones of supplier management is collaboration, which in best cases results to supplier enabled innovations. In order to ease idea and innovation process, suppliers shall be involved to buyer's business processes as early as possible.

3 EMPIRICAL PERSPECTIVE OF SUPPLIER MANAGEMENT

As already presented in the introduction chapter, this thesis is based on a qualitative single-case study. Thus, the case shall be clarified. As presented in figure 20, in the other hand the case is a Finnish company's procurement function and a certain implementation project related to it. In turn, the aim of this thesis is to provide not only an academic framework but also a pragmatic guide how to achieve strategic objectives and enhancing effectiveness and value creation. Thus, case is also a phenomena of value creation of efficient supplier management.

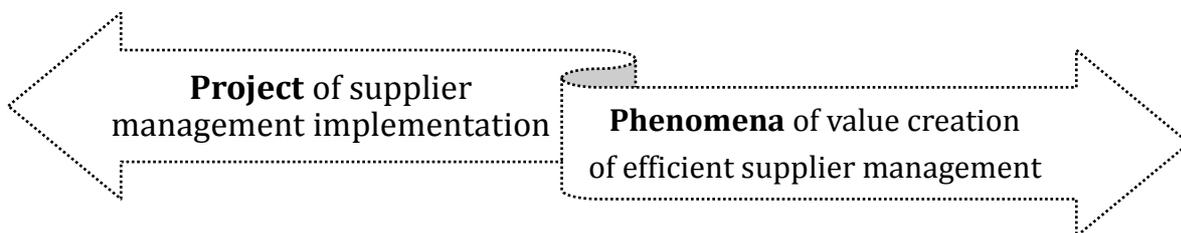


Figure 20: Twofold definition of the case

During 2010, the case company unified two separated purchasing departments into one, centralized and globally-acting procurement function. Reason for integration was the notification that both of the departments used same suppliers, but notwithstanding, agreed contracts independently. It was assessed that monetary benefits, such as volume-based price discounts were achievable by combining purchases to be conducted in a centralized procurement function. In early years of this centralized procurement, the focus was primarily on operative purchasing tasks but also sourcing actions. Objective was to establish internal product and service categorizations and find most suitable suppliers base for each category. However, annual target-settings were based on price savings.

The forthcoming years expanded the focus of procurement towards deeper supplier management. Case company sets annual goals for its operations. Target for year 2016 was to create value beyond cost savings and for year 2017 to move towards digitally driven, strategic focused supplier management. In recent years, the case company has started implementing new process of supplier management, focusing especially on service providers, to whom the major spend of indirect procurement is being addressed. Focus of the contractor management implementation project widened lately and product providers were added to the scope. Hence, the amount of

vendors included to supplier management actions is now larger than ever. Case covers little less than ten thousand active suppliers globally.

The empirical part of the thesis assesses the ways of working in the case company. Objective is to evaluate the current state of supplier management and list practical implications for improving the process. For sake of clarity, before moving to analysis and research findings, data collection methodology of this study is being presented in a separated chapter.

3.1 Data Collection & Analysis

The data for this research is collected mainly from primary sources by interviewing. Primary data is collected with face-to-face interviews. For clarity, quotes of the interviews are highlighted with italics. Research starts with an attempt to create a holistic view of the current situation in the case company. Interviewees were selected purposively with the objective of ensuring a representative sample in terms of position, department and work experience. Two different interviewing methods are executed: semi-structured interview and non-structured in-depth interview.

Semi-structured interview sample is collected by quota sampling with 14 representatives from total population of 56. In order to prevent data overlap, interviewees were different than the participant in the in-depth interview. During the time period of semi-structured interviews, procurement organization is divided into three groups: Technology Sourcing, Service Sourcing and Purchasing. Headcount is largest in Purchasing, second largest in Service Sourcing and smallest in Technology Sourcing. Hence, quota of Purchasing group is eight persons, Service sourcing four persons and Technology Sourcing two persons, as presented in table 6. Interviews were conducted on a structured basis and interview questions were developed around three main categories: current way of working, pros and cons and finally, best way of working. In total, fourteen interviews, each lasting approximately half an hour were conducted.

Each interview was recorded using a digital voice-recording device. A summary of key points that emerge from undertaking the interviews is produced. Key words of the interviews were collected to Excel and the key words were categorized into seven categories: i) external cooperation and communication, ii) internal data collection and sharing, iii) efficiency, iv) supplier

base management, v) risk management and predictability, vi) systematisms and vii) innovativeness.

Table 6: List of participants of semi-structured interviews

Reference	Position	Work experience in years
Purchaser 1	Purchasing	5 >
Purchaser 2	Purchasing	10 <
Purchaser 3	Purchasing	5-10
Purchasing specialist 1	Purchasing	10 <
Purchasing specialist 2	Purchasing	10 <
Purchasing specialist 3	Purchasing	10 <
Purchasing specialist 4	Purchasing	10 <
Purchasing specialist 5	Purchasing	10 <
Sourcing manager 1	Services	5 >
Sourcing manager 2	Services	10 <
Sourcing manager 3	Technology	10 <
Sourcing manager 4	Technology	5-10
Sourcing manager 5	Services	5-10
Sourcing manager 6	Services	5-10

In-depth interview was held on April 2017 and took 52 minutes. Interviewee is Category Lead with more than 20 years global procurement experience. The interview was recorded with digitally and transcribed into written form. Emerged questions or topics of the interview were inter alia defining supplier management, evaluating value-creation possibilities of it, development areas of the current supplier management procedure and streamlining the strategic objective of supplier management implementation project.

Data analysis of interviews is based on reduction. Reduction refers to simplifying, selecting and transforming the transcribed data. Data reduction does not only happen after the data has been gathered but also before. Researcher decides on several aspects of the case, such as the conceptual framework and data gathering approach. Data reduction continues as the study project proceeds in terms of coding, selecting and summarizing. Data display refers to organized and structured information that has been put together so that conclusions can be drawn. Displaying the data helps the reader understand the case and make actions based on that understanding, and its aim is to assemble the information so that it is easily accessible and compact (Miles & Huberman 1994). Coding is one of the most central forms in analyzing qualitative data. It refers to gradually reducing the large amount of data gathered from the qualitative study. Researcher

should not get overwhelmed with the amount of data gathered but code as early on as possible and review the transcripts several times. Then the researcher shall connect the theoretical concepts with the found patterns and interconnect the data. (Bryman & Bell 2007) Based on the above discussion, the audio transcripts interviews have been simplified and transformed in written form in order to find patterns of the data. Following, the data has been shortened by coding. Codes are based on the literature review.

Supportive secondary data is collected from case company's internal documents, e.g. procurement principle, supplier management instruction, project management instruction and project plan of supplier management implementation. Data is reduced and analyzed by referencing and summarizing the key points to the next chapter, which aims to present the project history of past couple of years.

3.2 Background of the Supplier Management Implementation Project

Latest project of supplier management implementation was initiated in January 2017. It is highlighted in project management instruction, that the project is always a unique undertaking. Despite all the similarities among projects, the role of project management is critical for the success of the project. Project management must be committed to achieving the project objectives. Instructions and tools are useful and help the project management, but they will never guarantee success. Individuals, teams and co-operation make successful projects. Projects are very challenging as project management must deal with issues without having direct line management control on individuals. Setting clear decision making practices and developing a good co-operation among the project team and other parties is not happening automatically. If the project is not actively managed, the result will be confusion and issues start to emerge, most of which are not desirable.

Procurement principle of the company states: "Procurement department acts in compliance with laws and regulations, and only does business with such suppliers that are expected to act in the same manner. Initial compliance with laws and regulations is ensured within supplier selections. Procurement department is committed to operate with integrity to suppliers meaning treating them professionally, fairly, and equally – based on objective factors and excluding personal preferences or interest. Co-operation with suppliers is professional, targeting safety,

sustainability and fairness, as well as prompt, transparent and traceable. Supplier performance and relationship management are conducted based on segmentation and corresponding planned activities."

The case company's procurement management team has defined that the main target of supplier management is to manage contract, improve the performance and develop the collaboration and interaction with the supplier in a systematic manner. Suppliers shall be prioritized i.e. segmented in order to focus and invest in suppliers, which are of strategic or critical importance. Supplier relationship management should be implemented in prioritized order based on the segmentation. Relationship management shall have a clear structure, defined roles and responsibilities and targets to secure and improve the performance and collaboration with the selected supplier. In addition, performance of suppliers shall generally be measured, preferably in a comparable way and with measures aiming for continuous improvement.

There are four generic phases in use in case company's project management: initiation, planning, executing and closing, as presented in table 7. In the initiation phase, project benefits and justification are clarified. In a project plan, an impact and benefits of the project have been identified as i) visibility to indirect supplier base, ii) ability to recognize and effectively address the most critical / important / valuable suppliers, iii) real partnerships can be recognized and established resulting in tangible mutual benefits, iv) supplier collaboration, supplier enabled Innovations and supplier performance measurement are processed in more harmonized manner, v) procurement's working procedures described and aligned which leads to efficiency and compliance, vi) supplier management is producing considerable additional value to case company in terms of safety, quality, timely deliveries, resource availability, risk mitigation, procurement workload and/or cost and finally, vii) an overall improvement of supplier performance and predictability thereof.

It can be concluded that target of the supplier management implementation in the case company is clearly defined, as described above. Hence, the need for supplier management project is justified. Identified alternatives are compared and screened for selecting one alternative to proceed to next phase. Bidding of internet-based supplier management tool was made earlier and one

digital service provider was selected. Implementation of supplier management tool with contractors started two years ago. Large amount of product suppliers will be registered to the system within the implementation project ongoing.

Table 7: Phases, tasks and practical actions of project management

Initiation	Planning	Execution	Closing
<i>Benefits and justification of the project</i>	<i>Development of selected alternative</i>	<i>Implementing planned activities</i>	<i>Ending the project, evaluation</i>
Understanding the structure and components of the supplier base and key members of it in order to add value mutually and in systematic manner.	Roughly 10.000 suppliers to be screened and relevant sample of them to be registered and information continuously to be updated in supplier management tool by nominated supplier coordinator.	Identification, segmentation and basic information collection of the selected key suppliers. Evaluating responses, informing statuses to suppliers, creating approved suppliers' list.	Estimating the success of the project. Handing out end products.

In the planning phase, one alternative is developed to such detailed level that definite estimates of scope, resources, schedule and costs, from which the last is company confidential information. Estimations are made to achieve targeted benefits by execution of the plans. Scope of the supplier management includes a little less than ten thousand suppliers acting globally. All of the case company's procurement department's teams and team members are participating the project, although core team of the project is consisted of a representative of each procurement team. Time schedule and project milestones are presented in appendix 3.

In the execution phase plans prepared in preceding phase are executed within authorized scope, cost and schedule targets. In the last stage, project is closed and evaluated. Verification of achieving targeted benefits is performed and lessons learned is prepared to improve project performance. Execution has already started and the project is closing in December 2017.

3.3 Development Areas of Supplier Management

A project is defined as a temporary initiative, which has been organized for achieving defined benefits. In this case, the project is supplier management process implementation, which aims to implement supplier management process in indirect procurement in an organized manner. In general, supplier management refers to the systematic management of supplier performance, relationship and contract lifecycle.

The current way of working is based on a five-staged framework as presented below and visualized in figure 21. The ongoing supplier management process starts when suppliers are being sourced. Contracts are being made and appropriately managed: all agreements are subject to case company's contract management principles which instructs how to identify risk position and guides to negotiating, approving, executing, administering and managing the contract. Supplier performance is constantly measured and evaluated. Target is to steer supplier's performance to the right direction and examples of measuring areas are scorecards with key performance indicators such as feedback surveys, financial status, health/safety/environment/quality evaluations, delivery accuracies, expediting reports and service levels.



Figure 21: Case company's supplier management process

Supportive tasks of supplier management are i) defining supplier related roles, organization and governance, ii) change management including trainings and culture, iii) systems and enablers, which in practice refer to digital tools used and iv) supplier segmentation, which is a basis for the yellow pages of the supply base. Suppliers are being segmented to strategic, critical, volume and routine suppliers. In addition, suppliers are sorted based on their qualification: one is either rejected, potential, approved or preferred supplier, from which the last option requires good and proven track record on performance in terms of safety, quality, schedule compliance and/or availability. In other words, new supplier cannot directly be a preferred one: case company expects to have an experience of the relationship before nominating the supplier as a preference.

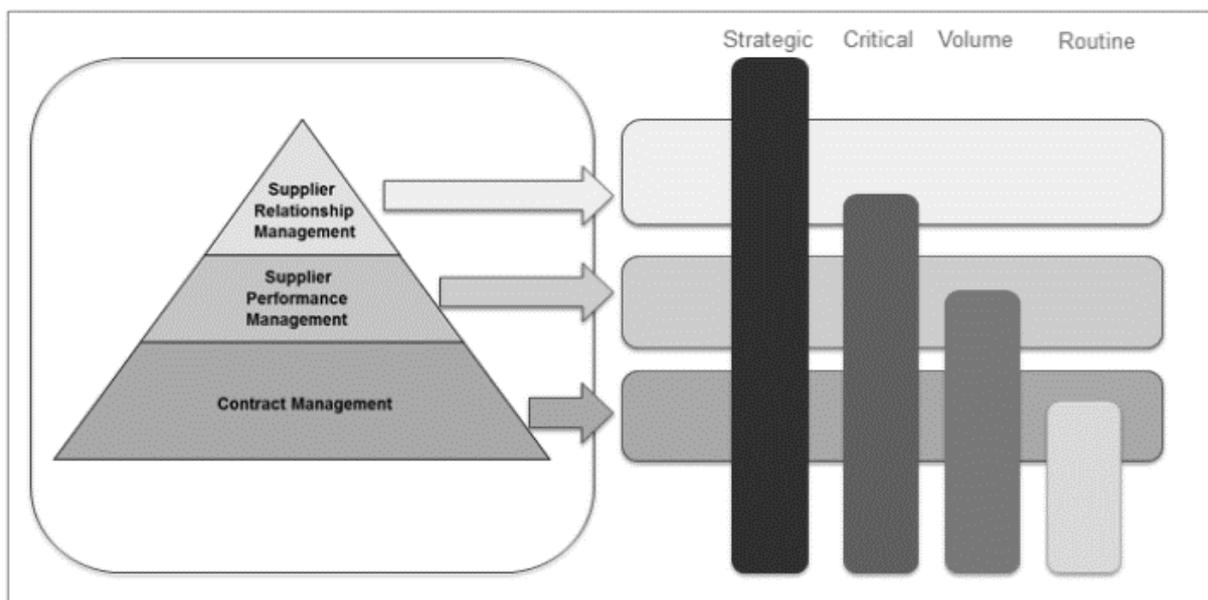


Figure 22: Depth of supplier management in the case company

As presented in figure 22, case company has utilized three-level supplier management philosophy, according to which the most important suppliers (typically strategic and critical ones) deserve the most comprehensive collaboration including all levels of supplier management: i) operative level, i.e. contract management, in which the contract can be e.g. frame agreement or purchase order, ii) tactical level, i.e. case company is willing to measure and follow suppliers' performance and steer it to a desired direction and iii) strategic level, i.e. the deepest form of supplier collaboration in which the relationship is nurtured and e.g. participants' strategic roadmaps are shared in order to align. It has been argued that the existing model is quite a heavy and requires unnecessarily much resources from the procurement department. It is typical that

the discussion topics in the meetings with the suppliers are operational by nature and deep collaboration is not achieved. In addition, it has been criticized that the meetings are not appropriately prepared and there is not e.g. a proper agenda or memo of the discussions available beforehand or afterwards.

In the case company, the approval of a project is based on justification and targets, which have been set for the project. Decisions for the project are made based on a proposal, which defines targets for performing the required tasks. This project proposal for supplier management implementation requires gaining an understanding of current state. In this research, the information is collected with structured interviews for 14 representatives from case company's procurement department. Aim of the interviews was to map opportunities to improve processes and thus, achieve the best value of resources allocated to supplier management.

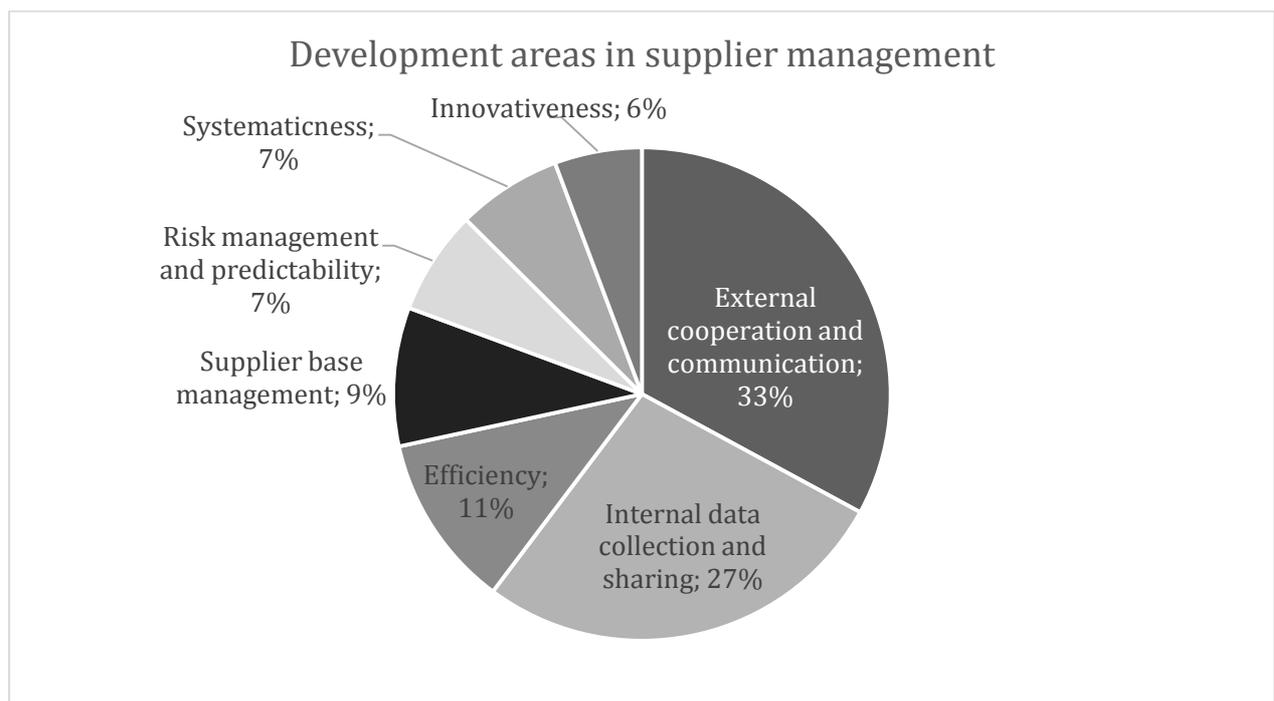


Figure 23: Key development areas of supplier management in the case company

As the figure 23 above shows, it can be concluded that the key development areas in the current way of working in the case company's supplier management process are external cooperation and communication and internal data collection and sharing. Hence, the specific targets of this

research is to fulfil the development areas brought up in the semi-structured interviews, especially supplier collaboration and information sharing within the procurement organization members and to internal stakeholders.

Importance of supplier base management, supplier selection and especially collaborating with the relevant ones cannot be overemphasized. As interviewee number three (3/14) states it: *"In my responsibility area there is more than four hundred supplier alternatives, but active cooperation exists with only less than thirty of them. Enhancement of the cooperation should be improved by supply base management and allocate resources to suppliers who are ranked as to the top priority class from our perspective."* Interviewee eight (8/14) approves with this and adds: *"People who work in procurement organization should be able to review the supplier base efficiently and to have access to short summaries of suppliers' statuses."* Tenth interview expands this argument by bringing up the need of strategic thinking in order to have a sight to the "big picture" of key suppliers' operations, focus areas, resources and development opportunities. It was also being mentioned that development opportunities include also innovation work: *"Key suppliers' ideas of future development are fundamentally significant to us. They know the products and services best."*

Collecting, saving and maintaining information of suppliers is obligatory. It was argued by interviewee number two (2/14): *"Information collection and sharing needs to be enhanced. It is typical that someone in the case company has got relevant knowledge of for example supplier's manufacturing situation, product or service quality, financial situation, workload, resources or changes in business management. However, this information is not available in a summarized, common form and majority of the info is achieved by accident."* Interviewee nine (9/14) pinpoints: *"We in procurement should have a visible and transparent supplier selection and evaluation practices. Especially with service providers, in worst case scenario, selections and rankings has sometimes been based on personal chemistry which cannot be measured or objectively justified."* It was also mentioned during the second interview that tools for information sharing shall be developed: in case company, there are existing platforms for info sharing, but systems and archives overlap and tend to be incoherent and their data is not utilized efficiently.

Need for common supplier data bank was somehow mentioned in ten interviews of total fourteen. The case company has implemented an internet-based supplier management and electronic bidding tool lately. However, during the interviews, the usage level of it is inadequate. One reason is that people in procurement organization are not familiar with the system. Most of the interviewees agree that case company should store supplier relationship related data to a selected platform, but they cannot address what is the correct place. Thus, instructing procurement staff is relevant. Interviewee eleven highlights: *"All of us meet, discuss and collaborate with suppliers every day. The information of those conversations and for example knowledge of their performance level is important to be shared with colleagues. It is not a professional way of working that transcriptions of supplier relationship management, such as memos, feedbacks and even claims, are being lost and hence, forgotten."* When asking clarifications of methods for saving this information, the interviewee suggests that not only the procurement representative but also supplier could be responsible of saving relevant documentation to a certain place, which saves time and resources of the buying company.

During the interview twelve (12/14), the same topic of data bank was discussed. It was mentioned that all of the supplier relationship related information is not secret. Information should, to some extent, be shared internally but maybe also outside of the organization. Stakeholders in the case company need the knowledge as well. For example, case company's designer engineers who plan the investment projects need to know what products and services is recommended to use, i.e. who are the frame agreement suppliers to select from. He also deliberated the pros and cons of sharing information of approved suppliers to the markets: *"In case the suppliers know which manufacturers we prefer, they could deepen their own relationships with those and service us better than before."*

However, there are limits to information sharing as well. Interviewees notified that over-leakage of secret data results to problems. One challenge of existing supplier management process is that not only procurement staff but also stakeholders interact with the suppliers. It may lead to an inconsistent information flow: accountants, engineers, mechanics and lawyers prefer different aspects and define quality in a dissimilar way. Thus, a need of selected contact person was brought up in five interviews of total fourteen. Contact person had different titles: global account manager (GAM), key account manager (KAM), supplier coordinator, key supplier manager (KSM) and so on. However, all of these refer to a same phenomenon: a selected person

or a team should have the responsibility of collecting and sharing supplier relationship related information and create an overall understanding of the current situation and future direction of the relationship. It is a noteworthy fact that this kind of role is new in the case company: until October 2016, procurement organization had separated functions for strategic sourcing and operative purchasing and those parties interacted quite rarely. Viewpoint of the same supplier might have been quite unlike.

Before continuing with the development and improvement of case company's supplier management process, it needs to be highlighted that the development work of supplier management has started years ago. Lots of supportive material exists and countless hours have been spent while brainstorming and discussing the topics with procurement members. However, the content of those discussions is not available in a summarized form. Thus, while interviewing persons, who are all permanently working for procurement organization but have not participated to supplier management implementation before, it emerged rapidly that awareness of the supplier management project has to be increased.

Project management instruction advices that an approach must be different depending on the nature of the project. Project management model can be defined depending if the target solution is clear or not clear and if the project goal is clear or not clear. In this case, target of supplier management project is relatively clear as presented previously, but some unclear aspects are and will remain due to supplier management's iterative nature and personal features of each supplier, which effect supply base's and value networks characteristics significantly. As highlighted in figure 24, in this case the supplier management project is a mixture of deployment project and adaptive project, which both have some clear aspects but also some vague characteristics.

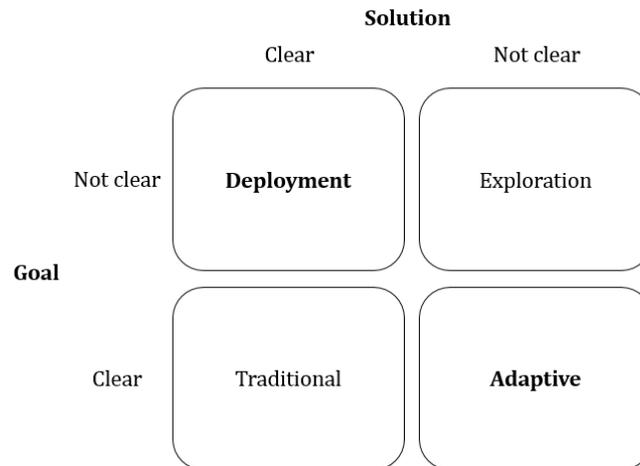


Figure 24: Case company's project classifications

Adaptive project has still some alternatives under study and not all final decisions on the scope have been made. Project goals are already clear, but the detailed justification and benefits are still worked upon. Resource plans, time schedule and budget are defined, but formal change management process is rarely utilized as the nature of the project is to still adaptively seek for the best solution. In this case, resources are scarce and after starting the implementation project in January 2017 (appendix 3) it was immediately notified that procurement staff has relatively strong resistance to a change that is inevitably required when implementing new process. Goal is clear: supplier management process shall be implemented in the case company by the end of year 2017. Solution of how to do it properly is still under construction.

In the other hand, deployment projects, in which the solution is clear but lack of understanding the ultimate goal of their usage exist, tends to be rare. Examples could be IT-systems and tools, which are underutilized or redundant at the moment and new applications and uses are developed for existing assets. In this case, during the semi-structured interview it was repeatedly brought up that in case company one current issue in procurement and supplier management is that there are multiple overlapping IT-systems and lack of know-how of exploiting them all efficiently. Procurement toolbox is wide: during this research, there are at least three ERP systems for purchasing products and services for different internal customers, one system for spend management, one internet-based tool for bidding & supplier management and two overlapping alternatives for supplier collaboration data repository. In ideal case all of these procurement-related actions were operated in one digital system. In practice, IT development, especially in large global corporations, typically require so detailed planning and large amount of resources

that "one-ERP"-idea is not realizable during the short time schedule of the supplier management project. However, it has been noted in the case company that some IT development shall be done and instructions for procurement tool usage shall be established and clearly communicated.

It can be concluded that the movement from operative purchasing towards digitally driven, strategic focused supplier management, which is the annual target for year 2017, is a paradigmatic change in a case company. Hence, there are many aspects to be taken into account and tasks to be fulfilled. Gradually, the new way of working is essential in order to compete in the rapidly fluctuating environment of supply management, nevertheless one cannot rush into changes. It is essential to first evaluate, what is the current status of supplier management and then assess, which aspects yell further development.

3.4 Improvement of Supplier Management Process

The structure of this chapter is first to assess the current state and especially evaluate how actively supplier management activities have been done in the case company. After having a big picture of current state of the procurement and supplier management, focus moves to defining roles, resources and responsibilities of persons or teams involved to supplier management actions. Improving actions are shared to short term and long term incentives due to the fact that there is a lot of development work and in case aiming towards success in all of the factors, it is required to have a longer time period than is allocated for the existing implementation project which lasts a year in total. During this research roughly half a year has already passed. Finally, based on the research findings, two most essential aspects for improving supplier management are discussed from empirical point of view: supplier collaboration and supplier enabled innovations.

3.4.1 Current state of procurement organization and supplier management

In the case company, a survey-based assessment of a current state of supplier management has not been performed lately. Latest report available is based on results from an era of decentralized procurement, which existed more than seven years ago. However, one can suppose that the overall situation, which is summarized in table 8, has not radically changed. Even though

supplier management is evaluated to have a high strategic importance for the case company, the self-assessment of a focus group evaluated the grade to be below the middle level in all of the evaluated aspects. It was being noted that there is no supplier segmentation framework. In addition, supplier relationship management is often reactive and event-driven. There is a limited supplier integration and alignment of processes, thus procurement often by-passed by users when issues seem overly technical. Selected quotes from procurement: *“We treat all suppliers the same.”*, *“We have no visibility to the contracts that other business areas have negotiated”* and *“Often it is someone else contacting suppliers, not us”*

Table 8: Status of supplier management

Supplier Management –related results from Autumn 2009 self-assessment

	1		7	
There is a reactive approach to supplier management, only talking to suppliers when problems occur; no segmentation of existing supplier base		3,56		Supplier management follows a targeted approach, differentiated by supplier segments (key, potential, transactional)
Negotiations are based on alternative and or competitor's prices and performance		3,33		Negotiations are based on offer and total added value (annual cost reduction targets), lead time reductions and service levels
There are multiple contract databases and ad-hoc compliance mgmt.		3,11		We centrally log contracts and pro-actively manage contract information and compliance data
Suppliers are viewed as resources not assets. Collaboration is limited to a few problem solving meetings and there are generally short term agreements.		4,00		Long term agreements and a partnership approach with key suppliers, joint process and product improvements with regular target measurement
KPIs are handled manually and individually in each department, sporadic performance measuring for top suppliers only. Results of supplier evaluation are not consolidated		2,33		There is a enterprise wide supplier performance tracking system, where reporting and tracking is automated and consolidated for all of our suppliers
How important do you believe each of the following components is in driving procurement performance for the best companies in your industry? (1=not at all important; 7=extremely important)				
	1		7	
Supplier management is not important		4,78		Supplier management is very important

Similarly to those previous finding, more recent in-depth interview assesses: *“Current maturity status of the case company is young: in scale from one to six, the grade is evaluated to be two. Procurement function tend to focus on routine purchases and operative aspects. Way of working is reactive by nature.”* Hence, the way of seeing procurement needs first to be dramatically changed: procurement department is no longer an office placing purchase orders but a part of decision-making mechanism of the whole corporation. Procurement department's representatives shall be early involved to business management and investment project planning, which means also having an awareness of business needs on early phase of planning.

3.4.2 Supplier management responsibilities, roles & resources

According to internal document, by supplier management, the procurement organization to responsible of deliver value for case company by defining joint business opportunities and by developing suppliers and their capabilities for mutually beneficial business relationship. Supplier relationship management is carried out within collaboration groups of three different level and depth and with different focus areas. Highest level of collaboration is strategic by nature and focuses on partnership culture, behavior, common growth and innovation projections as well as roadmap alignment between case company and supplier. Tactical collaboration aims to performance and continuous improvement in operational collaboration as well as coordinating and ensuring the implementation of the contracts. Operational collaboration is keen on contract implementation through day-to-day transactions and ensuring quality, delivery and cost compliance. Amount of resource alignment per each supplier segment is illustrated with vertical bars in figure 25 below. It is argued by the in-depth interviewee: *"No matter what is the key word or title of the meeting, collaboration meetings tend to focus to operational aspects and also strategic or tactical meetings participants' resources are allocated to strategically non-relevant discussions."*

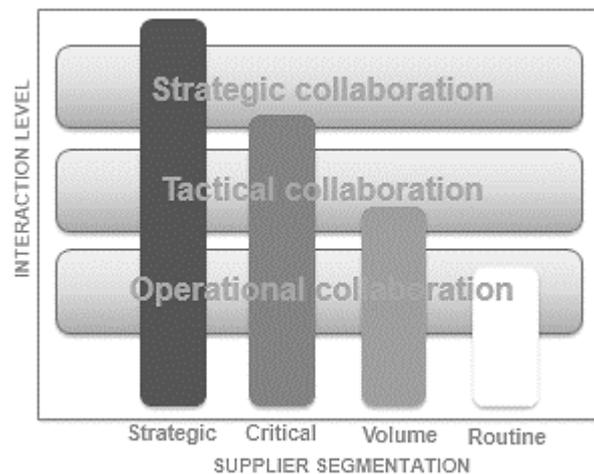


Figure 25: Resource alignment for each supplier segment

According to case company's supplier management instruction, the existing supplier management model, roles have been described in the RACI-matrix in table 9, where the roles have been

defined as follows. R stands for responsible, A for accountable, C for consulted and I for informed. It can be concluded that roles and responsibilities are clearly defined, but, as one of the semi-structured interviewee pinpoints: *"I have no clue of my new duties in practice."*

Table 9: RACI-matrix of roles and responsibilities

Action	Task	Procurement	Stakeholder	Supplier
Conduct supplier segmentation	Create collaboration plan for defined suppliers	R/A	C	
	Cooperate and collaborate according to plan	A/R	R	
Phase-out of a Supplier	Report an issue on supplier performance	R	R/A	R/C
	Agree on corrective actions and schedule for corrections	A	C	C
	Follow-up on corrective actions	A	C	C
	Inform supplier on closing of a supplier relationship	A	I	I

As one can summarize, there are lots of efforts needed to fulfil all of the above mentioned factors and aspects of supplier management. Hence, existing human resources shall be allocated in a new way. Instead of constantly placing purchase orders, procurement members shall learn new ways of working. However, work must be started from the basics and hence, the first short-term action awaited from case company's procurement team members, as defined to be the identification and classification or segmentation of selected suppliers. After that, general information of the selected key suppliers shall be collected by submitting the self-evaluation questionnaire. Responses are evaluated and suppliers are being informed of their status on scale of approved or rejected. Approved suppliers' list is being generated simultaneously: suppliers are listed to the supplier management tool, which works as a requested supplier data bank.

3.4.3 Short-term actions of supplier management

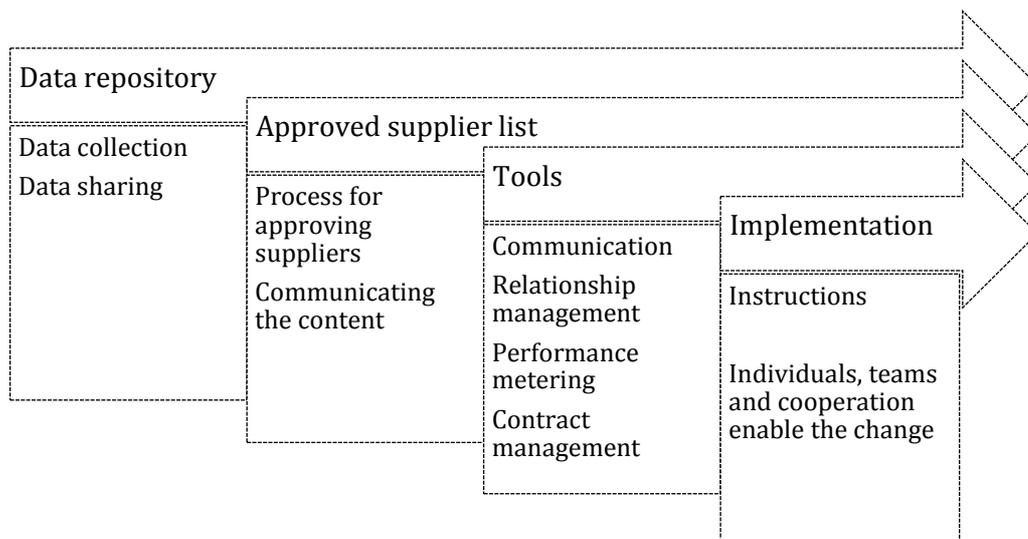


Figure 26: Short-term incentives of developing supplier management

Short-term incentives are discussed next. As summarized in the figure 26, the in-depth interviewee states that developing the existing process has four practical steps. First: *"We need formally implement a common data repository in digital form and in internet-based cloud format."* All the documentation related to supplier collaboration is advised to be stored in the common data bank, in which each supplier has an own section and ability to administrate information related to them. Case company's procurement members have also an internal section for confidential information. However, a current challenge is that in the supplier management instruction there is at least eight different locations for supplier related data mentioned, which most probably lead to uncertainty among persons which are not deeply familiar with the topic beforehand. There are different storing places for enquiries, supplier self-evaluation questionnaires, memos and other similar documents, frame agreement, purchase orders, audit reports and claims. ERP's are not interrelated to those locations. In addition, innovation tool is a separate function and during this research, utilized mostly not by procurement but other departments of the case company.

Each supplier should have a visibility and editing rights to their own section. The case company has already implemented a supplier management tool, which has a supplier self-evaluation questionnaire unit. It consists of general section, category specific sections and finally, a section that is visible only to the case company. Common sections focus on basic information. Category specific sections are categorized according to the commodities your company provides. Final

sections of the questionnaire are for case company's internal use only. Internal section A is supplier qualification, which includes information of supplier segmentation and qualification, scorecards and agreement statuses. Internal section B is supplier auditing and focuses statuses and reports of supplier audits. Internal section C is supplier collaboration and in which the basics supplier collaboration shall be defined. To pinpoint: the self-evaluation questionnaire tool as it is, is rather simple and does not enable complex data management and sharing.

Second, by evaluating the basic information collected, case company creates a list of approved suppliers. Suppliers should be selected based on predefined criteria according to which the evaluation is done. The criteria should cover all relevant requirements, features and qualities of the service/product and supplier with defined weights. The procurement process, including selection criteria, suppliers involved and bids received, and especially bases and reasons for final decision should be well documented to ensure transparency.

Third, case company needs to ensure that they have sufficient tools for communicating to suppliers, managing the relationship, measuring suppliers' performance and managing contract lifecycle. Amount and quality of supplier management related topics shall also be increased. It is argued by the interviewee: *"Right persons need to know how supplier relationships are developing. Development work should be iterative by nature; decisions should be based on previously discussed topics."* Hence, communicating and data storing is crucial. All communication channels are recommended to use, however most effective way is to communicate in digitalized way, because content can be directly saved to the data storage place. Controversially, when thinking about time savings, most suitable communication channel is estimated to be phone call.

Last step is to implement the process accordingly and make sure that there are relevant instructions and support models for procurement staff to be able to fulfil their roles and responsibilities. In addition to a common database, the case company has also nominated a responsible contact person to the key suppliers. The contact person is called supplier coordinator and aim of the role is to be able to generate a holistic view of the supplier relationship, manage the relationship in close cooperation with relevant internal stakeholders, track suppliers' performance through supplier scorecard to ensure that contractual obligations are met and manage the contract lifecycle. Primary driver of the supplier relationship management is to deliver value

for case company by defining joint business opportunities and by developing suppliers and their capabilities for mutually beneficial business relationship. Accordingly, as a repetition from chapter 3.2, it is stated in the project management instruction: Instructions and tools are useful and help the project management, but they will never guarantee success. Individuals, teams and co-operation make successful projects.

3.4.4 Long-term actions of supplier management

In the long run, the actual supplier relationship management can be initiated. According to an internal document, setting targets for supplier collaboration require i) defining meeting levels, which in the case company are operative, tactical or strategic, ii) define relevant participants on each supplier segments' meetings or other collaboration forums, iii) drafting meeting agendas, iv) mapping relevant supplier performance metrics and v) agreeing methods for follow-up of actions and as a last but not the least, vi) instructing and training or otherwise making sure that all relevant procurement members have sufficient support for taking on their new role as supplier coordinator.

Buying company shall be able to manage the supply chain in a way that supplier base is wide enough to fulfil the needs and to react rapidly to changes. *"To proceed, we have to add their human resources to our organization, automatize routine procurement tasks and make sure that supplier coordinators can effectively focus on supplier management and proactive ways of working with the suppliers. Ideal situation is that supplier coordinators can add efficiency and value by being able to fully focus on core functions, which are not to send purchase orders and follow up delivery accuracy."*

The interviewee reckons that supplier management process is efficient in case the buying company is able to review and evaluate the supplier base in a systematic way and recognize the most relevant or the key suppliers. In long term, efficiency increases in case the buying company, mutually with the selected suppliers, can develop and deepen their relationship as far as is required. Assessment of the depth of the relationship is based on the value-adding possibilities of the supplier. Value creation ability vary between the suppliers: all of the supplier are not as important as the others. Supplier potential shall be recognizable by the buyer. Attraction to

the relationship is important to achieve from the key suppliers. Power relations between supplier and buyer may have a significant effect to the collaboration. A small supplier cannot control a large buyer and vice versa. Mapping of the power relations can be mathematically, by calculating the buying company's spend percentage of the whole turnover of the suppliers. In addition to the quantitative methodologies, strategic maps and focus areas can be evaluated and aligned if applicable.

Aligning strategies and enabling early supplier involvement inter alia fastens delivery times and ensures the availability of goods and services. In addition, early supplier involvement optimizes case company's productivity and production process. Price levels of goods and services can be decreased with involving suppliers to the project and product planning. To conclude, in the case company, according to in-depth-interview: *"The overall target of supplier management is to harmonize a balance by compromising procurement's scarce time resources and benefits achieved with it."*

According to case company's internal documents, strategic collaboration is typically executed with the supplier segmented as strategic supplier. Focus and objectives of strategic collaboration are long term initiatives such as common growth, innovation projections and roadmap alignment between parties. Forums for strategic collaboration are face-to-face meetings among high executives from both parties. Strong emphasis of the meeting is put on identifying shared view of the future collaboration opportunities. Agendas of each supplier level collaboration meeting are suggested in appendix 2.

Tactical collaboration is typically executed with suppliers that are segmented as critical or volume. Focus of Tactical collaboration is mid or short term initiatives driving for performance and continuous improvement. Tactical collaboration accumulates and ensures aligned implementation of the different contracts. Forums for tactical collaboration are meetings among manager level participants from both parties in form of core team meetings, commodity category progress meetings and agreement follow-ups.

Operational collaboration is executed with suppliers to ensure the continuity of the everyday transactions and co-operation to ensure quality, delivery and cost compliance in contract implementation. Operational collaboration can also be divided into different groups depending on

the work description, work area or other concrete entity. Frequency of the operational collaboration can vary depending on the nature of the contract from a daily follow-ups to e.g. monthly video call sessions. However, a strong emphasis of the meetings is to ensure smooth operational co-operation on a daily basis.

Unlike the varying meeting practices based on different level of collaboration, the need for communication plan is common for collaboration in every case. Communication plan is created for internal communication and for supplier communication. Topics to consider are inter alia i) key messages, ii) information sharing: how and with which channels will information be shared and made accessible to the relevant people, iii) relevant organizations/departments and persons which need to be aware of relationship and iv) frequency: how often do the parties expect to hear from/meet with each other.

3.4.5 Supplier collaboration

While observing the case company's supplier management situation, it is pointed out that remarkable recruitments and team structure arrangements have been made lately for maximizing benefits of contract management and analyzing and metering procurement processes and suppliers. However, the division of supplier management is defined to be threefold and the third, still in some way lacking aspect is supplier relationship management. There are instructions available for this, but it is opined by the in-depth interviewee that to some extent, the content is not clearly communicated to the relevant persons.

In ideal case, supplier relationship is based on a fluent process which benefits both of the parties and whole supply network. By collaborating with suppliers, parties are able to discover new cooperation methods and innovations. Case company's viewpoint is expanded and amount of knowledge and know-how remarkably added by adding supplier network perspective to the one's view. However, all of the ideas generated in the supplier network may not result to actions, but it is essential to even preliminary evaluate their feasibility. Innovation work requires that the buying company is able to listen and collect suppliers' suggestions of processes, products and/or specifications. Buying company should have an ability to internally process the ideas and enable tracking a potential of the suppliers. In addition to innovation point of view, in-depth interviewee assesses: *"Value is achievable also by having long-term and long-lasting*

relationships, which are aiming towards development and tailoring the ways of working according win-win mentality."

Supplier collaboration instruction of the case firm initiates that supplier relationship management is an iterative, ongoing process of engaging suppliers to ensure that case company and suppliers are continually improving the business relationship and performance to achieve safety, quality, schedule compliance, availability of the commodities and total cost of ownership in all aspects of collaboration. Core of the supplier relationship management is i) to maintain a holistic view of the relationship, ii) to organize and orchestrate collaboration model in order to review relationship and performance and iii) to keep track of performance and improvement action record and to escalate emerging issues.

Correspondingly to the last point, the in-depth interviewee recognizes that there are challenges in partnerships. Major challenge is the opportunistic behavior of the supplier partner: in case a supplier realizes their irreplaceable role, they might also start to behave differently, e.g. increasing the price levels or lengthening the delivery times. It has been noted that suppliers tend to press their advantages. In order to mitigate the risk of opportunistic behavior, case company makes sure that the competition is an ongoing process, or alternatively, the case company owns a part of the supplier. Interviewee summarizes: *"Having supplier alternatives is risk management."* Other risks identified in the project plan document are i) lack of resources, such as HR, time and know-how, ii) too tight time frame which, mixed with other challenges, might result to lack of human resources' willingness to participate the project, iii) ability to successfully categorize suppliers due to unambiguous matrix, iv) lack of stakeholder involvement and engagement, v) multiple overlapping digital tools and systems which cause uncertainty and resistance to change, vi) inability to combine category specific minimum criteria, supplier selection and audit requirements into a unified form cause uncertainty and resistance to change and vii) lack of ICT support.

As a conclusion, an ideal case is that there is not only one but a few suppliers for each product or service category. The optimal amount of suppliers is depending on the category risk and spend estimations. According to supplier collaboration instruction of the case firm: based on the segmentation process case company ensures that management efforts and resources are focused on the right suppliers. Segmentation is based on the i) supply risk, i.e. impact on business

continuity, availability and ease of procurement and ii) adjusted spend, which refers to relative impact of profitability, i.e. what companies want to achieve together, level of management's commitment and engagement, ability to develop and align processes, accuracy of key performance indicators, availability of resources, duration of venture, organizational design and culture and potential areas of conflict and their mitigation. Based on the segmentation, a tailored supplier collaboration model is created.

Supplier collaboration model specifies the suitable and appropriate level of supplier relationship management activities, such as cyclical supplier relationship related meetings, including formats and roles for these, and other regular interaction modes, carried out with selected key supplier. Each supplier segment has a different set of basic interactions, requiring different effort and with slightly different roles. Level and depth of the supplier collaboration is defined by the supplier coordinator in close cooperation with the procurement team and relevant stakeholders.

When supplier collaboration discussions or meetings are planned, the reasoning the need for the meeting and targets shall be clearly defined and relevant participants are identified. Agenda is predetermined and shared with participants before the meeting, and in addition, meetings and action points with responsible persons for the follow-up are documented. It is crucial that information sharing, e.g. issue escalation path, with relevant persons is ensured. Typical elements of supplier collaboration are inter alia roadmap discussions, business reviews, supplier performance reporting routines, regular, standardized Supplier evaluations, contract management and compliance procedures and standardized approach for issue escalation and corrective action. For sake of clarity, supplier collaboration model should preferably be agreed as a supplement in the frame agreement.

3.4.6 Supplier enabled innovations

Before moving to innovation related empirical data, it is crucial to first assess what are innovations and how can they be processed. Innovations are always based on ideas. The case company has described "Innovation" as a new product, service or process, which creates considerable economic value for the company. "Innovation process" as a whole, in the other hand, includes the idea process or initiative process, evaluation of the ideas, their possible implementation and the invention disclosure process. Ideas can be implemented, for example, in a R&D of other project, directly in business operations, in refineries or in common functions. The idea and initiative processes together are the front end of the innovation process.

The case company has a processes and tools for managing ideas in the front end of innovation process. There is a certain internet-based idea tool that is a platform for all employees to present, develop and discuss their ideas within the company. The innovation tool has more than fifteen sections or "baskets" for different kinds of ideas such as procurement, sustainability, products, processes, communication and out of the box -notions. Basket teams meet once per quarter and decide on implementation or archiving of ideas, identifying innovation needs and challenges and proposes pre-studies. It is stated that the cornerstone of the innovation work is only to share the idea. The idea is then open for comments, basket team evaluations, pre-studies and finally, decision of implementation or in some cases, archiving it. Implementation may lead to e.g. new project proposals, implementation within an ongoing project, direct implementation, waiting for more suitable situation or invention disclosure.

In the innovation tool, there were only less than five ideas submitted from procurement department during last year. The low amount of ideas is conflicted with the fact that the amount of collaboration performed by procurement is huge. Numerous suppliers are being contacted every day by procurement which includes more than fifty persons. Those discussions inevitably lead to hearing hundreds or thousands ideas annually. Controversially, those ideas are not systematically stored even though the case company's management team has clearly stated that *"Innovation is at the core of our business. We strive to create cleaner solutions for the future."* Ideas can come from anyone in the organization and they are everyone's responsibility.

Case company has a role for persons handling the innovations registered to the tool. Responsibilities of the innovation coordinator are to take care that new ideas are dealt with and evaluated in due time, and further actions for ideas are agreed upon. The innovation coordinator has overall responsibility for the activity of basket teams, (s)he assists the teams and basket owners, coordinates pre-evaluations and manages the pre-evaluation budget (idea process). Coordinator also coordinates activities, workshops and courses for innovation facilitators, organize annual and communicate innovation activities together with the corporate communication unit.

Basket owners with the nominated basket team, in the other hand, leads the basket team and is responsible that ideas are dealt with in due time, makes decisions in unclear situations. The innovation coordinator assists the basket owner in all tasks. Basket team consists of the innovation coordinator and relevant business representatives and specialists. The basket team meets at least once in every quarter, depending on the need. Basket team makes decision about further actions which are approval, waiting or archiving. Implementation of an idea can be decided based on the expert evaluations and after relevant bodies have been consulted (experts, production sites, business units, project managers, etc.). The final decision of the approval and implementation or archiving is made by the basket team based on the expert evaluation and after consultation of necessary bodies in the business unit, line organization or projects. Initiative for a new R&D project, however, is taken to the R&D project steering group. Flowchart of the innovation process is visualized in figure 27 below

While observing the case company's procurement department it became rapidly clear that the majority of the population are not familiar with the innovation tool or the innovation process. During a unformal discussion of this topic, an anonymous source brought up: *"I know the tool. I also had an idea, but my colleagues were not enthusiastic for registering it anywhere. They were afraid that it might cause extra work for them and finally ends nowhere."* It can be concluded that using existing tools need to be heavily encouraged. In the end, according to anonymous source, registering the idea without team's support led to implementation in the business and in addition, a monetary bonus for the idea creator.

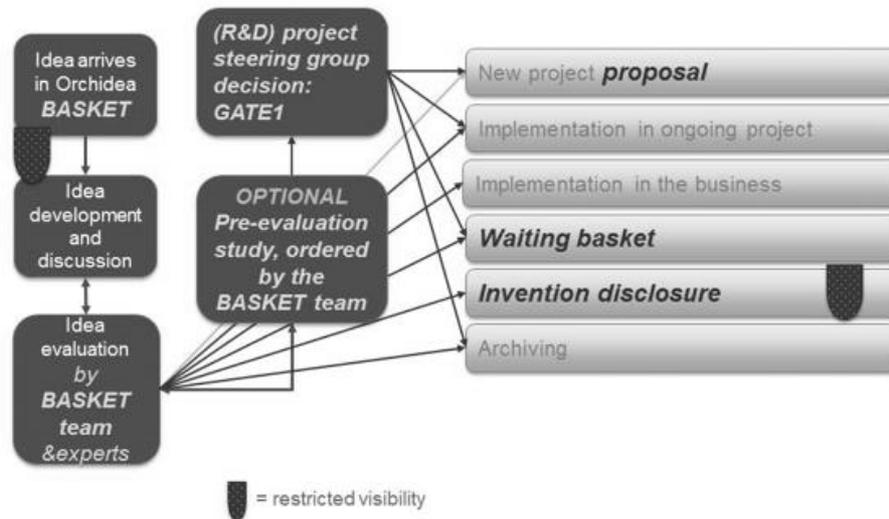


Figure 27: Innovation process flow chart

Existing innovation process model focuses to ideas coming inside the organization. There are two alternatives for proceeding with supplier enabled innovations: either procurement representative register the idea on his or her name, or the tool is developed with a supplier-module being added to it. Benefit of the first option is faster implementation: there is no need to wait for technical solutions and IT-work. Benefit of the second option is more professional way of working which involves also the suppliers to the innovation work. In addition, when knowing the supplier's representative that presented the idea which might lead to implementation and added value, credits and recognitions can be addressed correctly.

4 DISCUSSIONS

There is a certain theoretical article that is especially preferred by the in-depth interviewee and hence constantly brought up in discussions of developing case company's procurement department and supplier management processes. The newsworthiness of that article is continuously being criticized by the researcher and hence, vivid debate has been going on during this research. Due to the active discussion of the article in the case company, the content of it is not included to the theoretical part of the report but to the conclusions-part. Kraljic (1983) has stated that purchasing must become supply management. It is noteworthy that during this research, the argument is 34 years old.

"Few companies today can allow purchasing to be managed in isolation from the other elements of their overall business functions. Greater integration, stronger cross-functional relations, and more top-management involvement are all necessary. Every facet of the purchasing organization, from systems support to top management style, will ultimately need to adapt to these requirements. Concrete changes in the organization will be required to establish effective organizational relations, provide adequate systems support, and meet the new staff and skills requirements."

(Kraljic, 1983)

Focusing only to operative purchasing tasks make companies vulnerable to competitive pressure. Value adding possibilities are achievable by enhanced strategic awareness, greater flexibility, and stronger entrepreneurial thinking. (Kraljic, 1983) It is nonsensical that all this has been discovered so long time ago, and notwithstanding, companies keep struggling with the same issues year after year. The idea of concluding this thesis was born on a Saturday evening, when randomly discussing with a farm caretaker from a small town in northern Karelia in Finland. He stated that everything has already been invented. It is essential to exploit what has already been discovered.

Thus, after summarizing the answers to the research questions, a practical guideline or managerial implications for the case company is being presented. Guideline is based on case company's internal documentation from years 2009-2017. Instead of inventing anything new, case

company is advised to process all of the precious data, information and knowledge that it already possesses. For sake of clarity, the most relevant supporting documents are available in appendixes. Validity, reliability and finally, suggestions for future research are being presented in the end of this report.

4.1 Answering the Research Sub-Questions

The first sub-question is: What are the components of efficient and value-adding supplier management? Answer was generated with a literature review, which focuses on supplier management's potential for making procurement actions and processes more efficient and value-adding by nature. Term of procurement refers to material or service acquirement and supplier management is an essential part of it. Belief of supplier management's core components developed by time: roughly from the 1950's to 1970's focus was on buying, during 70's and 80's in procurement and finally, starting from the 1990's, in the supply and supplier management. This research focuses on modern way of thinking. Thus, in the 2010's, the primary goal of procurement and supplier management are efficiency and increase of value generation. Core components of efficiency are focusing on core functions of the firm and department, acting strategically, sharing information and communicating, digitally if applicable. Core components of value-adding are companies unifying their supply and value chain and attend to adding their attraction in order to achieve and maintain collaboration. Supplier management's value creation in its ultimate end is based on early supplier involvement, which might lead to supplier enabled innovations. In a best case scenario, those innovations are feasible in business in order to add profit. Findings are summarized to figure 19, which completes the theoretical chapter.

The second sub-question is: What are the key development areas in the current supplier management process of the case company? It is being assessed from empirical point of view by first getting familiar with the existing supplier management process and after that, exploring the topic with semi-structured interviews. According to the findings, the key development areas are external cooperation and communication and internal data collection and sharing.

Table 10: Answers to sub-questions

Sub-question	Short answer
<i>What are the components of efficient and value-adding supplier management?</i>	<p>Efficiency</p> <ul style="list-style-type: none"> • Focus on core functions • Strategic actions • Sharing information • Communicating, digitally if applicable <p>Value creation</p> <ul style="list-style-type: none"> • Companies unifying their supply and value chain • Collaborating with suppliers • Early supplier involvement • Supplier enabled innovations
<i>What are the key development areas in the current supplier management process of the case company?</i>	<ul style="list-style-type: none"> • External cooperation and communication • Internal data collection and sharing
<i>How supplier management process can be improved?</i>	<p>Short-term actions</p> <ul style="list-style-type: none"> • Ensuring sufficient procurement tools and know-how <p>Long-term actions</p> <ul style="list-style-type: none"> • Enhancing supplier collaboration • Collecting innovations

The third sub-question, how supplier management process can be improved, is also reviewed empirically, by utilizing an in-depth interview and getting familiar with internal documents. It is noteworthy that the amount of internal documentation, instructions and guidelines is massive and they cover roughly a time period of ten years; 2009-2017. There are multiple ways to improve the supplier management process and according to interview, actions are twofold. Short-term incentives are based on ensuring that tools and know-how for supplier management exist internally, especially in procurement department. In the long run, the actual supplier management can be implemented, in terms of collaboration meetings and thus, collecting innovations from the supplier base and especially from the selected key suppliers. Short answers to the sub-questions are collected to table 10.

4.2 Creating an Efficient and Value-Adding Supplier Management Process

An answer to the main research question, how to create efficient and value-adding supplier management process, from case company's perspective, is surprisingly simple: one shall follow its own guidelines. Own internal material covers honorably the topics stressed in the academic literature and it can be assumed that consultants who have created the guidelines are professionals in field of procurement and supplier management. In addition, these topics has been researched a lot during last years, not only in academic world but also in the case company. In the case company, multiple consults and specialists have given their advices, which are uploaded and saved to mixed share-points and databases. It is recommended for the case company to ensure that supplier management related data is easily accessible for the relevant persons involved to the process.

From scientific point of view, a framework of efficient and value adding supplier management has been presented in chapter 2.4, figure 19, of this report. As a summary in figure 28 below, the framework presents three phases of supplier management process creation: preparation, implementation and finally, process up and running. From theoretical perspective, first phase aims to maximizing efficiency, second to enhancing value creation and as a whole, enabling supplier innovations. Empirical evidence of its accuracy is reviewed next.

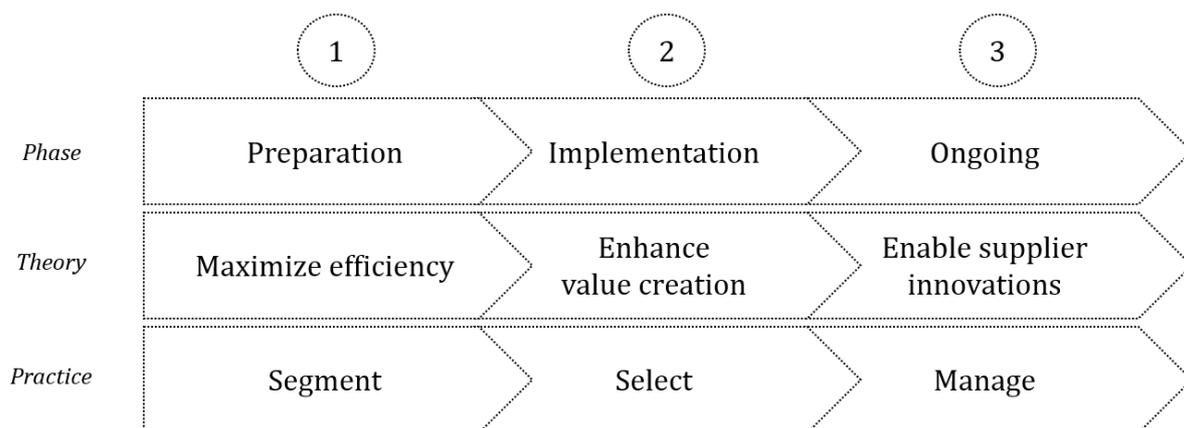


Figure 28: Three perspectives to efficient and value-adding supplier management

In practice, case company's internal instruction advices to first segment, then select and finally to manage suppliers. As presented in figure 29, these predigested guidelines suits not only for

sourcing new suppliers but also managing existing supplier more suitably way, in order to achieve efficiency and value creation. The case company is advised to focus primarily to work with the existing supplier base because base consists of massive amount of suppliers. Estimation of the quantity is ten thousand suppliers for indirect procurement, and hence, need for reducing supplier base by identifying the most relevant ones is justified. Resource allocation is more profitable in case the company is able to detect the most relevant key suppliers for deep, strategic collaboration.

As presented in figure 10, Lampinen's (2017) guideline for implementing a new procurement process is based on tips as follows: i) manage change, ii) communicate, iii) train internally, iv) bring up the benefits of the change, v) share best practices and vi) provide concrete examples of the ways of working. The guideline is generalizable and applicable for the case company. In order to support case company's supplier management project management, from a large amount of relevant data, some of the most beneficial documents are collected to appendixes of this report.

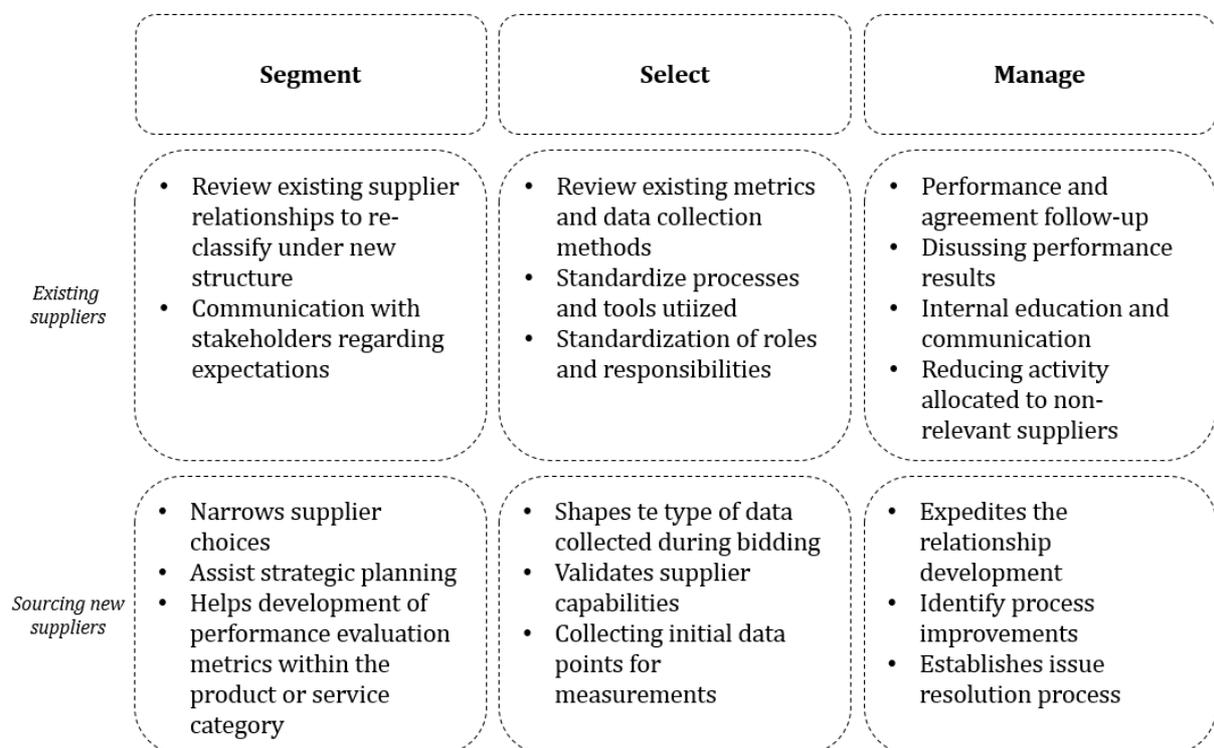


Figure 29: Supplier management instruction

Segmentation phase enhances efficient and value-adding supplier management in terms of reviewing existing supplier relationship network and permits re-classifying supplier portfolio in an iterative manner, according to rapidly changing environment and market demands. Segmentation also increases communication with stakeholder regarding expectations for suppliers. Theoretical models and tips for utilizing segmentations are available in figures 16 and 17 of this report. According to those models, supplier can be categorized as strategic, bottleneck, leverage and non-critical ones, or alternatively, as real value enhancers, potential value enhancers, value contributors and underperformers. In practice, not only suppliers but also internal ways of working should be assessed and segmented. A survey material for high performance procurement questionnaire is available in appendix 1. According to the data collected with the questionnaire, procurement managers can allocate development actions to most crucial sectors. As an option to this comprehensive questionnaire, a simplified and faster survey of current state of supplier management is adaptable according to table 8.

During a *selection phase*, procurement members, in close cooperation with relevant stakeholders, review and assess existing supplier performance measurement methods and ways to gather related information. In addition, tools and processes are being harmonized in order to ensure transparent and systematic way of doing procurement and supplier management. This target requires also standardization of roles and responsibilities, which can be easily described in RACI-matrix, from which an example is given in table 9. As presented in figure 28, this selection phase is comparable to the theoretical perspective of value creation capabilities of supplier management, which is discussed in chapter 2.3. Repetition of the findings is available in chapter 4.1 and summarized to table 10. A crucial factor of this selection or value creation phase is communicating of roles and responsibilities of the process related members not only from buying company's procurement department but also from relevant internal stakeholders and suppliers. According to findings of this research, most essential for the buying company is to clearly inform what is required from supplier coordinators. Role description to be disseminated is available in appendix 2.

The management-phase refers to follow-up of performance and agreement compliance, which in practice require collaborative discussion with suppliers and stakeholders. In addition, procurement managers shall ensure that internal education and communication is sufficient and

covers relevant areas, i.e. constantly focuses to the most relevant topics and points. By interacting, procurement managers are able to act strategically and hence, reduce resources and activities allocated to non-relevant suppliers. In practice, management phase focuses on involving suppliers to strategic planning and providing their suggestions for developing buying company's actions to more beneficial direction. Most natural way of collaborating and innovating is to arrange sufficient electronic platforms for communication and to schedule also face-to-face meetings if applicable. Agendas differ; operational, tactical and strategic meetings shall have their own agendas, as presented in appendix 3.

For the case company, in which sufficient tools and theoretical models exist, the most crucial factor is to ensure that tools and techniques will be adopted by procurement members and especially by those who will in the near future act as supplier coordinators. This task require first of all appropriate training methods and support structure: it is not beneficial to force members to act in a role against their will. The general objective is to segment supplier base to ensure all suppliers are profiled and assigned an appropriate relationship status which defines the nature of the relationship including the level of resources and collaboration between parties. Aim is to drive supplier development and integration to optimize total cost of ownership. Segment supplier base to ensure all suppliers are profiled and assigned an appropriate relationship status which defines the nature of the relationship including the level of resources and collaboration between parties. Supplier management process is iterative by nature, as presented in figure 6. Thus, progress shall be constantly be measured and actions reshaped in order to pursue world-class procurement actions.

Characteristics of maturity level of procurement is being discussed from a theoretical perspective in chapter 2.2.2 and in empirical perspective in appendix 4, from which the case company is advised to aim towards highest level of Master's leading practice. It can be concluded that in master's level, supplier management is based on joint teams defining key performance indicators, setting targets and discussing results and analyzing and resolving deviations. Suppliers are grouped into different segments and segment strategies range from spot buys to strategic partnerships with selected key suppliers. Buyer's and supplier's representatives act as a team, which is collaborating with strong business relationship motivation to achieve mutual profit. With the key suppliers, agreement cover a long period of time and include appropriate communication and information sharing channels and forums, digitally if applicable.

To summarize the research findings, it has been noted that fulfilling the basic requirements of procurement, such as focusing on core actions, managing strategically, sharing information and using digital tools, as presented in chapter 2.2, is simply not enough in order to success in rapidly changing competitive environment. The novelty of this thesis is based on findings that strongly encourages to increase amount of value creation in terms of integrating supply chains from end customer to supplier, enhancing relationships' attraction from supplier perspective and thus add collaboration. Attempts to high-quality exchange of data, information and knowledge in terms of collaborative relationship management and thus joint value adding activities will, according to the theoretical and empirical research findings, lead towards efficient and profitable relationships between buying and supplying firms.

4.3 Validity, Reliability & Suggestions for Future Research

The main driver of this research is not to provide generalizable results but rather provide an in-depth understanding and practical or concrete recommendations for the case company. According to Saunders et al. (2009), validity and reliability of a study refer to the repeatability, credibility and generalizability of the results. Validity focuses whether the findings are really about what they appear to be about. Reliability can be linked to the way of how data has been collected, processed and analyzed. The researcher has implemented the research process with honesty and sincerity. Research material has been managed with care, without modifying the information. Interviewees have answered reliably based on their own experiences and point of views, which supports the validity of the study. Interviewees are specialists within their field. Hence, on the other hand, interviewees' personal experiences and attitudes may weaken the reliability of this study

Framework utilized in the research was created based on theoretical findings generalizable to other related studies as well. The empirical research sample for this study was conducted of fifteen different procurement specialists from the case company, interviewed by two different methods of semi-structured (14) and in-depth interviews (1), which can be considered to be a good sample size and methodology for a qualitative research. Anonymity of the interviewed persons and case company alike also contributes to the reliability of the research since they were able to express their opinions without the distress of publicity.

In addition to the sample size, also the data collection method used is a reliable procedure since all the techniques used were somewhat similar to one another. Interviews and the data collected was analyzed in a same way. Data was analyzed in a matter that did not modify the gained insights. Raw data was handled in a transparent way by transcribing the interviews and by analyzing the interviews in detail during the study. The data collection methods, data collection itself and analysis phase was also described in detail in beginning of empirical part of this study, which increases transparency of the research and thus contributes to the reliability of the research.

However, it needs to be noted that the empirical part of the study only focused in a single company in a certain industry, and thus the findings could vary between companies and industries. Emphasis was to examine indirect procurement actions: direct procurement is not being assessed in this research. Although, both empirical findings and academic journals indicated similar findings and thus the belief is that the results would remain quite similar even though other departments' or companies' representatives would be interviewed. Another challenge of this research is that the researcher is herself working as a project manager of supplier management implementation and thus, observations are subjective to some extent.

An interesting viewpoint for future research could be to study suppliers' point of view in the supplier management processes in order to map their preferred communication platforms and forums and opinions of perceivable benefits of the actions. It would be also important to investigate, how much the suppliers activity in the collaboration meetings possible benefits for the buyer company and how the activity can be increased. Another practical suggestion for future research is to test the framework in figure 19 and guideline in 29 either in another case company or industry, or alternatively empirically from suppliers' perspective. As last but not least, it would be extremely interesting to longitudinally research, whether the paradigm of supplier management remains the same for 30 years from now. It has been doing so: situation has not been varying a lot since 1983 when Krajlic presented the legendary argument of need for procurement to become supply management.

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APPENDICES

Appendix 1: High Performance Procurement Questionnaire

Supplier relationship management

Which of the following best describes your organizations approach to supplier relationship management and development:

- A formal program exists with a dedicated team appointed to enhance performance
- A formal program exists, which is implemented by individuals
- An informal approach is adopted by procurement
- No formal or informal approached exist

How would you describe the general level of communication/interaction between procurement and its suppliers?

- No interaction / procurement works in isolation
- Ad hoc interaction betweenp and suppliers
- Procurement is reactive to supplier requests
- Procurement is proactive in dealing and working with suppliers
- Procurement drives and actively contributes to collaboration with suppliers

Procurement have implemented formal relationships with selected suppliers (e.g. representatives of supplying organization participate in the procurement annual planning meeting)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

How often do Procurement visit their key suppliers?

- Infrequently
- Once a year
- Once every 6 months
- Once every quarter
- More than once a quarter

Do procurement develop and review strategies to segment suppliers into clearly defined groups to help drive tactical and strategic approaches to supplier relationship management?

- Supplier segmentation does not exist
- Supplier Segmentation is informally implemented
- Supplier Segmentation process is partially implemented
- Supplier Segmentation process is fully implemented
- Supplier Segmentation process is fully implemented and supported by the organization

Individual supplier strategies are developed according to specific product or service or product and are reflected in final sourcing strategy, e.g. global contracts, single source, multi-source, spot buying, annual bidding etc.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

How often are key suppliers involved in formal procurement strategy sessions to help set strategic direction?

- Never
- Irregularly
- Quarterly
- Monthly
- More than once a month

Supplier management information is adequately captured and managed in support systems, delivering the expected added value?

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Supplier Development

What percentage of suppliers does the formal supplier development program cover?

- No supplier development program exists
- 0-25 %
- 25-50 %
- 50-75 %
- more than 75 %

Procurement integrates with customers' and suppliers' internal processes to ensure non value added steps are eliminated and business processes are streamlined.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Supplier Integration

Procurement provides key suppliers with accurate and timely information, e.g. demand, product changes etc, through an integrated communication flow from customers through to suppliers

- Strongly agree
- Agree

- Neutral
- Disagree
- Strongly disagree

How widely has vendor managed inventory been discussed and implemented within the business?

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Supplier Innovation

Innovative solutions are sought and offered by suppliers in order to minimize costs, e.g. VMI, ERS, JIT, IT integration, telemetry

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Suppliers are involved and actively support the new product design process to help reduce material and/or service cost.

- Suppliers are integral part of design process;
- Common practice for suppliers to be involved
- Suppliers are generally involved
- Suppliers are occasionally involved
- Not involved

Supplier performance management

For what percentage of suppliers do you monitor performance criteria for?

- No supplier performance measurement program exist
- 0-25 %
- 25-50 %
- 50-75 %
- more than 75 %

Procurement set joint key performance indicators with their suppliers to align common goals.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Suppliers are incentivized and rewarded for achieving common goals and meeting targets, such as cost reduction, lead time reduction, quality improvement, etc.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

How often is supplier performance reported to suppliers to ensure that they are meeting agreed service level agreements and targets?

- Never
- Ad hoc
- Regularly

Procurement sets ambitious performance targets for suppliers and tracks their progress against target.

- Yes
- No

The majority of Procurement's balanced metrics which capture supplier performance include;

- Cost/price
- Process excellence
- Customer focus
- Supplier innovation
- Balanced metrics not developed

Contract management

In the categories you manage, what % of spend is covered by a formal signed contract/agreement?'

- No contract exists
- 0-25 %
- 25-50 %
- 50-75 %
- more than 75 %

We are creative in our deal making strategies, e.g. use hedging, price indexing, joint ventures, open book arrangements

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

What percentage of agreements have performance improvement incentives with both positive and negative impacts for a range of key indicators (e.g. cost, quality, delivery, cycle time) that are measured through a detailed supplier assessment program with risk/reward structures

- None
- 0-25 %
- 25-50 %
- 50-75 %
- more than 75 %

What percentage of agreements have gain sharing arrangements (improvements shared between you and your supplier) based on value delivered?

- None
- 0-25 %
- 25-50 %
- 50-75 %
- more than 75 %

What is the level of responsibility of the procurement department in the overall contract management process?

- Procurement is end responsible with a clear cross functional teamwork with the business representatives
- Procurement is end responsible but structure in place to capture business input is on ad-hoc basis
- Procurement is structurally involved in contract mgmt process but not as the end responsible
- Procurement is only involved in contract mgmt process when issues arise
- Procurement is involved in developing the contracts but not in the contract mgmt process

Contract information is available for users (ordering people, approvers, accounts payable) at the appropriate predefined level?

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Appendix 2: Supplier Coordinator Role Description

Primary driver of the Supplier Relationship Management is to deliver value for case company by defining joint business opportunities and by developing suppliers and their capabilities for mutually beneficial business relationship. Role as a supplier coordinator include gaining and managing;

- Holistic view of the supplier relationship
 - Collect and maintain supplier and supplier relationship related information in the data bank
 - How parties interact with each other
 - What are the benefits of the relationship for each party
- Relationship management
 - Develop and manage relationships / partnership with nominated key Supplier(s)
 - Set targets for each Key supplier: meeting agendas, meetings, action lists, follow-up etc.
 - Ensure supplier management in place is producing considerable additional value to case company, in terms of safety, quality, timely delivery, resource availability, risk mitigation, and/or cost, or showing credible capability thereof (as may be applicable)
 - Focus on value adding actions such as supplier enabled innovations
 - Manage relationships with internal stakeholders and work proactively with users to identify, forecast and reduce demand and standardize specifications to reduce total cost of ownership
- Supplier performance management
 - Track suppliers' performance through to ensure that contractual obligations are met
- Contracts & Claims
 - Manage the lifecycle of the contract: contract administration and contract management incl. ensuring contract compliance and close out contracts with removing not valid contracts from repository

Appendix 3: Agendas for Supplier Collaboration Meetings

Strategic collaboration	Tactical collaboration	Operational collaboration
<ul style="list-style-type: none"> • Business reviews • Strategic reviews and expectations and opportunities for the future • Growth projections, new innovations, products, services and references • Safety topics • Summary of the collaboration • KPI follow-up from the Tactical / Operational forums • Spend and contract coverage • Development and improvement actions • Deviations • Escalated issues from Tactical collaboration 	<ul style="list-style-type: none"> • Minutes of the previous meeting • Target and KPI follow-up • Operation <ul style="list-style-type: none"> ○ Follow-up of the contract implementation; suitability of the contract, identified issues ○ Spend and contract coverage ○ Follow-up of the action list ○ Future operational plans ○ Escalated issues from operational collaboration • Other current topics 	<ul style="list-style-type: none"> • Minutes from the previous meeting or alternatively review of the Action list • Follow-up of the contract implementation • Findings on the contract implementation in practice; feasibility, suitability, identified issues, changes and additional requirements • PO and invoicing process • Operational Collaboration, such as safety, scorecards, status of KPI's, deviations, updating the action list • Other current topics

Appendix 4: Leading Practices

Attribute	Novices	Experienced	Masters
Joint teams set performance goals and monitor progress	Few meetings with strategic suppliers to discuss performance and resolve issues.	Joint teams to address and resolve issues / problems.	Joint teams define KPI's, set targets, discuss results, and analyze deviations.
Segmentation of supply base	No segmentation of existing supply base.	Importance of key suppliers recognized and reflected appropriately.	Suppliers grouped into different segments.
Category defined on transaction or relationship continuum	Supplier relationships within each category at a transactional level; contracts may be in place, but little thought given to desired relationship with category's supply base.	Consideration given to the degree to which the category should be transaction-based or relationship-based. Based on internal and external complexities of the category and its importance to the success.	Categories are assigned a general procurement strategy based on desired point of relationship continuum. Strategies range from spot buys to strategic partnerships.
Focus supplier relationships on mutual goals	Typical buyer/ seller relationship characterized by hard negotiation to drive down cost. Buyer performance is measured on hard cost savings.	Open business relationship characterized by consistent point of contact. Use of category manager and the frequent exchange of ideas. Buyers include supplier "partnership" philosophy.	Buyers and selected suppliers act as a team. Strong business relationship motivating each side to work for mutual profitability. Long-term agreements and intensive cooperation with mutual knowledge sharing. Partnerships to share risks, benefits and development cost and win-win. Suppliers integrated along value chain. Key suppliers to strategic planning.