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Master Thesis

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The incentives, benefits and challenges of increased collaboration in supply chain relationships

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Abstract

The global business environment is far more competitive today, than just a few decades ago, and the quest for sustainable competitive advantages in the market therefor requires the development of dynamic capabilities, such as collaboration and coordination in the supply chain, which go beyond the individual company's inherent resources. In order to be competitive in the global market, companies should increasingly be able to act as supply chain networks, instead of single entities competing against each other. There has been a tendency to focus primarily on the internal environment of companies, while the focus on building strong relationships between focal companies and suppliers have been neglected. However, this has received increasing attention in recent years. This thesis sets out to examine the benefits that arise when increasing the intensity of strategic collaboration in the supply chain, but also to shed light on the challenges that companies meet when attempting to exercise this task. It also examines the measures of collaboration that companies should implement in order to improve collaboration in the supply chain, and whether increased collaboration between focal companies and suppliers lead to dynamic capabilities that improves the competitive advantages of the companies.

The topic in question is analyzed primarily using Alexander's theory of inter-organizational collaboration and coordination, Barney's resource-based theory and the theory of dynamic capabilities as presented by Teece. Additionally, the ideas and frameworks of a range of scholars who have researched the topic previously, support these theories. The analysis is based on qualitative data, in the form interviews with managers of focal companies and supplier companies and a set of speeches held at a conference on the topic. The companies who have been interviewed are all production companies, and are part of an initiative by Danish Industry called 'Stram Kæden', which has set out to improve the collaborative efforts of Danish companies. A conceptual framework is created and applied in order to analyze the qualitative data that have been collected.

The thesis ends up proposing a revised conceptual framework, adding measures and challenges of collaboration that have not been addressed to a large extent in previous research. In this it is found that managers of supply chains should be especially focused on trust building, top management support, the internal culture of the companies and supplier ownership and autonomy, for supply chain collaboration to be effective and thereby lead to superior performance in the market by the entire network of companies.

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Introduction

Supply chain management is a boundary spanning activity, implicating that cross-functional and inter-organizational efforts are important, and it is argued that collaboration and integration of processes is key to success in the supply chain. This should not only take place within firms, but between firms as well. These inter-organizational relationships are thus increasingly important in ensuring business success and competitive advantages in the market, as competition and the search for competitive advantages in the market have accelerated the past decades (Chen, Daugherty, & Landry, 2009; Fawcett, Wallin, Allred, & Magnan, 2009; Soosay, Hyland, & Ferrer, 2008). For the supply chain strategy of businesses to be successful, they should include a focus on integration, cooperation and collaboration, which demand aligned objectives, open communication, sharing of resources, risks and rewards (Soosay et al., 2008). The effectiveness of supply chain networks, partly determines their overall competitiveness internationally and against competing technologies (Petrick, Maitland, & Pogrebnyakov, 2016).

One of the industries that has proven to be quite successful in the area of supply chain collaboration for many years is the OEM industry. A study has shown that 72 % of the financial performance of OEMs can be explained by their supplier relationships (Appendix 9), which highlights the importance of this issue for companies. The same study has been made in other industries as well, where the results are somewhat similar. Following the latest financial crisis, it seems there has been a tendency to focus on trimming companies in order to achieve productivity growth, and supplier collaboration has not been a priority. This is a clear problem, as the argument is that effective supply chain collaboration can be an important factor in increasing productivity growth (Mortensen, 2016b).

The topic of supply chain collaboration is not a new phenomenon. In recent years, a large amount of research has been conducted in the area of collaboration in supply chains, and a vast amount of this literature has been reviewed for the purpose of this thesis. What this thesis then seeks to do is compare the practical experiences of companies engaging in increased collaborative efforts in the supply chain, to the findings of theory and previous research. This is done through a case study of companies involved in an initiative called 'Stram Kæden'. The project is initiated by Danish Industry (DI), which focuses on increasing collaboration in a range of supply chains. The focus is on strategic collaboration, centering on efficiency, quality and innovation improvements. The companies have around 60-80 % of their operational costs located outside the focal company (Dansk Industri, 2015), and, with a tendency to increasingly outsource more complex and finished products to the suppliers, an even larger part of the costs may be situated outside the company in the future (Wiegand, 2016). This clearly highlights the importance for companies to focus on supply chain collaboration and relationships; as a CEO of one of the case companies states: *"A company is never better than its worst supplier"* (Jørgensen, 2016). 95 % of the companies who participated in the project stated that their suppliers are strategically important to their business, but only 50 % said that they actually focus on and allocate resources to the area of supplier development and improving relationships (Tholstrup, 2015). This thesis then seeks to look into the experiences of the companies who then engage in increased collaboration in their supply chain. A range of benefits arises, but they also face challenges and obstacles in the process of improving supply chain collaboration. It is the argument of the thesis that Danish companies are falling behind in terms of the maturity levels of supply chain collaboration, and that there are several areas in which they need to improve their efforts. At the same time, it is found that the efforts they are currently employing have already lead to several advantages for them.

Following this, the thesis seeks to answer the following research question and sub questions:

What are the benefits and disadvantages of increased intensity of collaboration and coordination in supply chain networks?

- *How is higher intensity of collaboration reached through collaboration measures?*
- *Does increased supply chain collaboration provide the companies with dynamic capabilities that lead to competitive advantages in the market?*

While the analysis is based on the experiences of Danish companies, who are primarily operating in the Danish business environment, it is argued that the findings are scalable to the international business environment as well, and that the findings, as such have implications for international business strategy.

The research question is answered on the basis of a theoretical foundation, which consists of collaboration theory (Alexander, 1995; Thompson, 2011), a vast amount of previous research in the area, and last the resource-based view (J. B. Barney & Clark, 2007; Grant, 1991), which provides the basis for discussing whether supply chain collaboration leads to companies developing dynamic capabilities.

Delimitations

The topic of supply chain collaboration involves a large range of factors, and can be studied from many different perspectives, and hence choices have been made in terms of industry and angle of investigation. The limitations of this thesis are briefly presented in this section.

First of all, the focus is on production or manufacturing companies, as it is argued that the supply chain dynamics and relationships may be very different in retail or service industries.

Secondly, the focus is on the strategic or critical suppliers (whose products are either high in volume or of high risk to the focal companies), as no focal company will have the incentives, or the resources, to engage in close partnerships with all of their suppliers. So the relationships that are merely transactional in nature are not important for the purpose of the thesis.

Lastly, it is important to state that, while the analysis is based on empirical data obtained from Danish companies only, they are all part of an international business environment, and the processes and relationships they are engaged in can be replicated in their international relationships. Also, it is not found that the experiences of the Danish companies vary significantly from that of companies in other countries. As such, the findings are not argued to be delimited to the Danish business environment, but have implications for international business as well.

Structure of the paper

The thesis takes on a deductive structure, as the chosen theory is tested through the sampled empirical data (Ankersborg, 2011), conducted primarily through interviews. It takes on a structure that creates a logical flow in order to follow the argumentation of the thesis.

The following section, *section 2,* presents the theoretical framework that is the basis of the analysis of the thesis. The main theories are those of coordination in inter-organizational relationships (Alexander, 1995), the resource-based view (RBV) and dynamic capabilities (J. B. Barney & Clark, 2007; Teece, 2009). It is supported by a literature review that looks into how researchers have addressed the topic of supply chain collaboration previously, and how the RBV and collaboration in supply chains have been connected previously. This review of literature has also provided an understanding of the tools, incentives, benefits and challenges that have been found in supply chain collaboration. This creates the foundation to compare the empirical findings to both theory and previous research. The section is divided into 5 parts, and is concluded by presenting a conceptual framework, which will be the basis for analysis and discussion.

Section 3 describes the methodology, research design and research approach of the thesis, and provides arguments and reflections as to how this thesis contributes to the already vast research in the area of supply chain collaboration. The research is highly qualitative in nature, and is based on a few in depth interviews with people that are central to the organizations and to supply chain management. This method is different from many of the previous studies of the topic, and this is addressed in this section as well. The section also briefly describes the case companies and the quality of the interviews that have been conducted.

Section 4 summarizes the main findings of the research conducted in the thesis, based on both primary and secondary data. It seeks to quantify the findings in a highly simple manner, in order to detect some of the main issues of supply chain collaboration.

Section 5 provides an analysis and discussion of the qualitative data, in which the findings are analyzed in relation to the conceptual framework, while the implications of the findings are simultaneously discussed. The section concludes by presenting a revised conceptual framework, in which factors that have not previously been highlighted by the theoretical foundation are added to the framework, as they are found to affect the intensity of collaboration in supply chains.

Lastly, *section 6* is a short conclusion of the thesis, including suggestions for further research in the area.

Definitions

Prior to presenting the theoretical framework of the thesis, a brief outline of central concepts, which will be mentioned and applied throughout the thesis, is provided.

Supply chain management (SCM): The process of planning, executing and controlling interdependencies of activities, carried out by different supply chain members. It is set of approaches that are implemented to efficiently integrate suppliers, manufacturers and stores, so that goods are produced and distributed in the right quantities, to the right location at the right time, in order to minimize system-wide costs. This is done by exchanging information between suppliers and end customers within an extended supply chain (Gunasekaran, Lai, & Edwincheng, 2008; Simatupang, Wright, & Sridharan, 2002; Zare Mehrjerdi, 2009).

Supply chain linkages: Explicit or implicit linkages that firms create with the critical entities of its supply chain in order to manage the flow and quality of inputs from suppliers into the firm (Tan & Cross, 2012)

Coordination and collaboration: Coordination in supply networks encompasses multiple forms of relationships between customers and suppliers with different degrees of longevity and formality. The longer-lasting relationships with greater amounts of trust and pooled resources are labeled as a 'collaboration' (Petrick et al., 2016). Throughout the thesis, the concepts of coordination and collaboration are termed simply as 'collaboration', and are not as such differentiated.

Inter-organizational coordination (IOC): All types of coordination that buyers and suppliers gather through their supply chain activities, implying their ability to search for, analyze and act on supply chain issues from both supplier and buyer perspectives (Cheng, Chen, & Mao, 2010; Tan & Cross, 2012).

Competitive advantage: competitive advantages are created when a firm is able to create more economic value than the marginal competitor in its product market. Several firms in one industry can hold competitive advantages, as a firm with competitive advantage does not need to be the best performer in all dimensions (J. B. Barney & Clark, 2007).

Sustained competitive advantage: when a company is creating more value than the marginal firm in its industry and when other firms are unable to duplicate the benefits of this strategy, a sustained competitive advantage arises (J. B. Barney & Clark, 2007).

The theoretical foundation

Various studies have taken different approaches to explaining supply chain coordination, such as transaction cost theory, network theory and resource-based theories (Barringer & Harrison, 2000; Cao & Zhang, 2010; Gulati, Nohria, & Zaheer, 2000; Tan & Cross, 2012). The main theoretical aspects drawn upon in this thesis will be that of collaboration and coordination in supply chains or inter-organizational networks and an extended resource-based view of the firm and the development of dynamic capabilities. The idea is to see whether it is found that the tools and modes of coordination that increase the intensity of collaboration in the supply chain also have the ability to develop valuable resources and dynamic capabilities for the companies involved in collaborative activities.

Inter-organizational coordination and collaboration

This section will present theories of coordination and collaboration, and the factors that enable and inhibit inter-organizational collaboration (IOC) between firms, as this will be one of two main foundations for analysis in the thesis. Collaboration and coordination literature and theory have been applied in many different areas of research ranging from supply chain collaboration (Petrick et al., 2016; Prajogo & Olhager, 2012; Soosay et al., 2008; Subramani, 2004) to global political economy (Aggerwal & Dupont, 2011; Cooper, 1985) or humanitarian relief issues (Balcik, Beamon, Krejci, Muramatsu, & Ramirez, 2010; Kovács & Spens, 2007). The tools and types of coordination vary from research area to research area, and in supply chain collaboration it is the more generic tools such as contracts and other forms of formalization, along with informal types of coordination such as joint training, meetings and conferences, that are the most common (Alexander, 1995). This section looks into the more generic theories of coordination and collaboration, while a latter section will go further into the connection between collaboration and supply chain management in particular.

IOC recognizes interdependencies between companies and deals with ways of coping with these interdependencies. Thompson focuses on the internal aspects of organizational design, and argues that organizations grow in order to incorporate what would otherwise be serious contingencies (Thompson, 2011). In the same way it may be argued that, in IOC, companies grow networks and engage in tighter links in order to avoid contingencies. One theory of organization is exchange theory, which explains organizational relations and behavior by resource exchange, and proposes this as the main incentive for companies to engage in IOC. Organizations often exist in an environment, where resources are critical, and therefor other organizations' resources are critical for survival (Alexander, 1995). This theory aligns well with the extended resource-based view, which will be returned to later on, and justifies why the resource-based view is applied to the issue of supply chain collaboration.

Collaboration is best described as an inter-organizational relationship type, in which companies agree to invest in resources, mutual goals, information sharing and joint decision-making. It is formed as a mean of sharing costs, pooling risk and gaining access to complementary resources (Soosay et al., 2008). The structures of collaboration provide a good basis for analysis and research, and are relevant to this thesis as these structures are needed in the process of connecting decisions and actions of several organizations, for the purpose of undertaking tasks that could not be accomplished is the organization was acting on its own. The interaction between companies transforms them from isolated, independent units into parts of a system (Alexander, 1995). It is these interactions, and the practical implications of them, that will be the focus of this analysis.

Enablers and inhibitors of inter-organizational coordination

There is a range of aspects that can either enable or inhibit IOC, and it is the argument of this thesis that firms need to improve the ways in which IOC is enabled, in order for collaboration in the supply chain to work effectively. The following table lists some of the main factors that are found to affect IOC (Alexander, 1995):

Table 1: IOC Enablers and Inhibitors

Enabling IOC:	**Inhibiting IOC:**
A pluralist world view will stress innovation and cooperative action	A narrow world view focused on local concerns and the organization's mission
Socialization of members, leadership attitudes and staff training may increase accessibility to other organizations	The same factors may inhibit IOC, if a self-centered culture is fostered.
A culture of trust is vital for IOC to happen	Rapid turnover of personnel
Task standardization	Task customization
Acknowledging that cooperating may help solve shared problems or achieve collaborative learning.	If exchange of data and resources is perceived by managers to be a threat to the control of valuable information.
	Many benefits of coordinated efforts may be difficult to weigh against the costs of coordinated efforts.
A history of good relations with other organizations	Underestimating the time and resources that needs to be dedicated.

If there is a lack of IOC between organizations, due to a failure to recognize the interdependencies among the companies, then managers must assess the feasibility of changing attitudes. If that can be done successfully, then there has to be an assessment of the organizational characteristics of the other company—are they outward-looking, innovative, adaptable with good people in boundary spanning roles or are they rigid, formalized, hierarchical and self-focused (Alexander, 1995)? This assessment of partners is also emphasized in literature on supply chain collaboration, and will be returned to as it is also an important aspect in the analysis.

Supply chain collaboration

This section seeks to relate the theories and ideas of coordination and collaboration to SCM in particular, and hence focuses on the collaborative supply chain and the elements that foster the success of this.

Today, manufacturing firms are becoming increasingly focused on core competencies, which increases the reliance on their strategic suppliers. The trend is therefore to build long-term relationships with suppliers, rather than continuously engaging in short-term contracts. The relationship with suppliers is, to a greater extent, enhanced into a strategic level, where suppliers are considered an integral part of a company's operations. Focal companies use fewer suppliers over a longer period of time (Prajogo & Olhager, 2012). This tendency will also be explored in the analysis later on, as it does contribute to concerns for the companies, as well as bringing advantages to their operations.

Collaboration tools

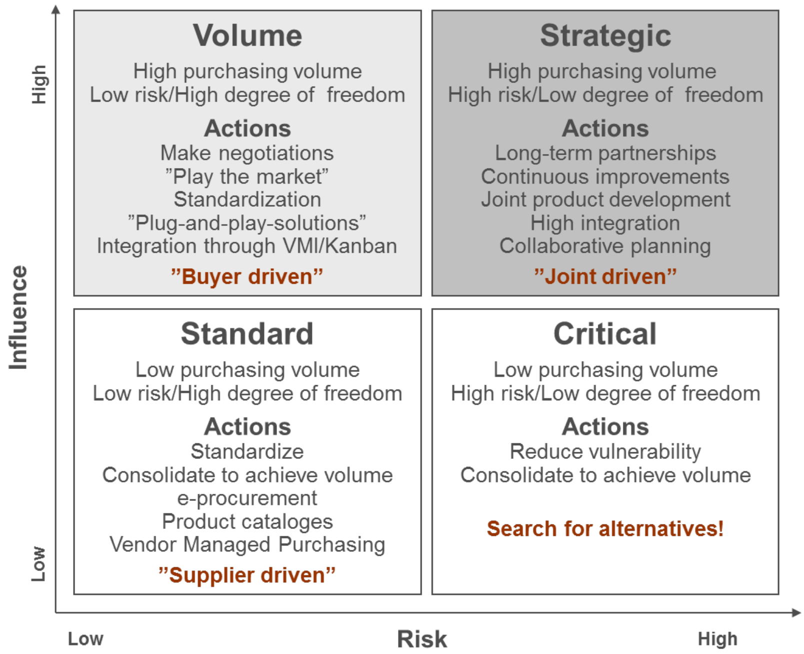
The type of interdependence that links a pair of organizations will have a significant impact on the form of IOC that they adopt. In supply chains, which are the object of this thesis, companies will often exhibit sequential interdependence, where one unit's output is the input for another unit in separate organizations. If the input is relatively standard and widely available in the market, then sequential interdependence is easily mediated through purchase or contract. However, if the interdependence involves an exchange that demands more transaction specific resources, then other coordination mechanisms may have to be implemented (Alexander, 1995). In this thesis the focus is on those activities that go beyond merely purchasing and contracts, as the suppliers are of critical or strategic nature to the focal companies. As such the interdependence often involves exchanges of more transaction specific resources.

There is a range of ways that companies can organize their collaboration activities, such as strategic alliances, joint ventures, cooperative arrangements, virtual collaboration, vertical, horizontal and lateral integration (Soosay et al., 2008). Cooperative arrangement may be the type of collaboration that best describe most supply chain relationships, as it emphasizes the sharing of resources in pursuit of business goals and the redesigning of both process and products. In cooperative arrangements, companies also shift from the aforementioned contractual and mere purchase relationships into more trusting relationships, where the parties are encouraged to take a more long-term view of relationships (Soosay et al., 2008). It is also the argument of this thesis that these types of relationships increasingly are the future of supply chain collaboration. Within the supply chain and cooperative arrangements integration may take different forms, for example vertical integration, which has long been a major way of expanding organizational domains in order to reduce contingencies (Thompson, 2011). Vertical integration between supplier and producer enables a better physical and information flow through, for example, inventory management or transportation systems. Horizontal integration occurs, as opposed to vertical integration, when organizations at the same level of the supply chain form cooperative arrangements, like sharing a warehouse or manufacturing capacity (Soosay et al., 2008; Thompson, 2011). This latter type of integration will, however, not be the center of the thesis, as the focus is on buyer-supplier relationships.

Whereas these types of collaboration are all related to the more strategic level of IOC, there are a number of more concrete and specific activities or types of linkages, that will be termed here as the collaboration tools. These include both informal and formal collaborative mechanisms that companies can implement. The informal tools include interpersonal contact and informal channels of communication, such as telephone contacts or *ad-hoc* meetings. It is argued by Alexander that these informal tools may be the most common ones found in IOC. Formal coordination tools may be more structural coordination devices, such as formalization and standardization of tasks through blueprints and schedules. It also includes linkage devices such as inter-organizational agreements and contracts that assign responsibilities and regulate resource exchange (Alexander, 1995). While Alexander argues that informal tools were the most common ones in 1995, this thesis argues that today, as collaboration in supply chains become increasingly important, more formalized tools are necessary in inter-organizational activities. Another important set of tools that companies may implement in IOC, which are highly relevant in today's environment, are information sharing tools, which include both structural tools such as committees, task forces or collocating activities, and also the organization of meetings, conferences and seminars, where the goal is to enhance the parties' appreciation of mutual problems (Alexander, 1995; Yu, Yan, & Cheng, 2004). This form of collaboration is one of the main components of IOC detected in the analysis in this thesis.

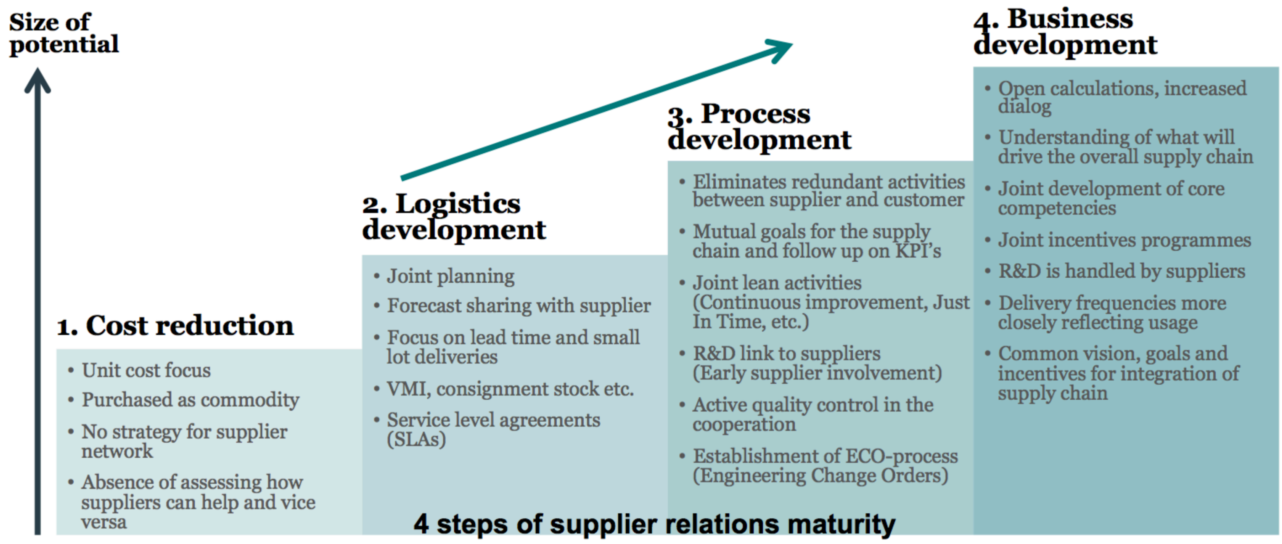
In the context of supply chain management, collaboration can be viewed as an act of properly combining a number of objects, in order to achieve a common 'chain goal', where supply chain efficiency is achieved through supplier capability and a strong interface between buyer and supplier (Chakravarty, 2014). The nature of collaboration and relationships between buyers and suppliers vary across the supply chain, and focal firms often develop only their critical or strategic suppliers, as not all suppliers are capable of supporting buyers in their strategic objectives (Chakravarty, 2014; Walbom, 2016a). This is also the case for the companies studied here, as the focus of collaboration is only on the suppliers that they see as strategic to their core business. The figure below illustrates what characterizes these suppliers (Dansk Industri, 2015), and it is seen that the actions that should be emphasized in order to reach increased intensity of collaboration are that of forming long-term partnerships, joint product development and collaborative planning.

Figure 1: Krajlic' Taxonomy of Suppliers



Supply chain relationships can be defined by various levels of maturity, and it is argued that, with standard and volume suppliers, it is perfectly adequate to be situated somewhere around level 1 or 2. It is, however, important that companies manage to transfer their relationships to levels 3 or 4 with the few strategic suppliers that they have, and this is found to be quite a challenge for the companies of the analysis. The figure below illustrates the levels of maturity that supplier relationships can exhibit (Dansk Industri, 2015), and will aid in determining the types of relationships that are found between the case companies.

Figure 2: Supplier Relationship Maturity Levels



The groundwork for successful collaboration among independent firms is based on high levels of mutuality and the focus of collaboration. Mutuality strengthens the closeness that is needed in order to better coordinate activities and it arises when there is complementarity and coherency of activities among the partners or members of the supply chain. Complementarity of processes is shaped when chain members collectively manage interdependencies between logistics activities, in order to create value. Coherency of understanding refers to the degree of reasoning that arises across organizational borders, through disseminating common understanding. In order to accomplish coherency among chain members, they need to share information and knowledge that helps all parties understand the process interdependencies (Simatupang et al., 2002). These two factors will be highly relevant to the analysis later on in the thesis, as they lay the groundwork for the companies' understanding of collaboration efforts.

Besides mutuality, the focus of collaboration is important and emphasizes the operational, strategic and organizational linkages among the companies. These linkages refer to the interface between companies, where they need to make joint decisions. The operational linkages are focused on the integration of independent processes and information flows, and enable, for example, coordinated distribution and logistics (Petrick et al., 2016; Simatupang et al., 2002). Strategic linkages are those that add value through the core competencies of the companies involved or create a wider innovative capability than that of each individual company, such as coordinated new product development (Petrick et al., 2016). The organizational linkages consists of the interconnected actors who argue their own interests while trying to carry out collective action at the same time (Simatupang et al., 2002). These modes of collaboration may lead to higher profitability throughout the supply chain, if mastered (Simatupang et al., 2002; Zare Mehrjerdi, 2009). It is particularly the operational and strategic linkages that will be the nexus of this analysis, as the organizational linkages focus more on the actor and bargaining power part of business, which are not the main focus of the thesis.

The following table summarizes some of the collaboration modes that have been found in research to be employed by companies in order to increase the intensity of collaboration in the supply chain, and are argued to do so, by improving operational and strategic linkages (Chakravarty, 2014; Simatupang et al., 2002; Zare Mehrjerdi, 2009).

Table 2: Collaboration Modes

Collaboration mode:	**Characteristics:**
Integration (strong form of collaboration)	- The supply chain becomes integrated, when a chain of organizations is involved in the designing stage, manufacturing process, shipping and delivery and end customer service. - Integration makes sure that transactions among organizations interface with existing internal and external applications.
Logistics synchronization	- The market mediation function of a supply chain. Matching the variety of products with customer needs. - Should focus on core activities and subordinate supporting activities → ensuring value creation. - It is ensured through customer definition, customer value identification and value chain process design. - Reduces uncertainty, variability and lead-time → reduces inventory costs and increased customer service levels.
Automation	- The automation process of supply chain collaboration is enabled through the information sharing about inventory, sales, demand forecast, product planning and production scheduling.
Information sharing	- Avoiding asymmetric information, which is usually inherent in supply chains, as members have private information, they wish to keep. - IT is a key enabler of information sharing, and may help partners gain visibility of customer demand, resource planning and contract issues. - Information sharing acts as the glue that integrates all chain members.

Incentive alignment and co-operative norms	- Defines how the decision makers are rewarded or penalized for the decisions made. - Avoid incentive schemes that are based on local costs and short-term concessions, as they do not add value to the end customer. - Create incentive schemes linked to global performance, reflecting both value creation and profitability → incentive alignment. - Agreed standards of conduct
Collective learning	- The practical learning that partners gain from one another creates understanding and capabilities, which can help implement logistics improvement initiatives in the chain. - Transferring knowledge is key in the change process, through personal communication, reports or joint training.
Trust	- When trust is high and managers can depend on each other's information, decisions can be made easier and faster. - Products and ideas are able to flow freely and may help the processes of design, implementation and management, which is value creating to all parties. - Partnerships can easily exist in the absence of trust; however, the effectiveness of the partnership will be hindered. - Trust is not a major factor in transactional relationships, but is critical in strategic relationships.
Relationship-specific investments	- Non-transferable investments, such as modified platforms for information exchange, training and relocation of facilities for proximity.

These modes of collaboration play an important role in integrating the supply chain network, which is important as companies are increasingly leveraging the specialized competencies of their suppliers in order to generate customer value, and benefit from collaboration through joint development of products and processes by sharing resources. Supplier integration is achieved through the blending of supplier and buyer activities, using both buyer and supplier resources. For this setup to be effective, strategic suppliers should be involved early on in activities such as design, engineering, production and sourcing, as this makes the supplier a stakeholder in the development process and creates a larger sense of responsibility, which furthers trust and inter-organizational learning (Chakravarty, 2014). Furthermore, some of these collaboration modes combine a number of fragmented skills enabling the companies to gain new skills from each other, which enables the companies to close skill gaps. It is also important that all partners contribute unique capabilities in order to maintain influence in the supply chain and, as collective learning continues, trust grows among the parties, which increases the possibilities for further innovation and performance improvement

(Simatupang et al., 2002). This idea is largely connected to the ideas of the extended resource-based view and dynamic capabilities, which one of the following sections will go further in to.

Companies have to accept the fact that collaboration may necessitate certain changes in operations and an alignment of incentives of the partners, which requires an equitable sharing of risks and rewards (Chakravarty, 2014). This is one of the challenges that proves difficult to some companies in the process of increasing intensity of collaboration.

The collaborative supply chain

As already emphasized, the idea behind closer collaboration in supply chains is that companies are not able to compete in today's business environment on their own, as customers are more demanding and competition is accelerating. Therefore companies engage increasingly in supply chain collaboration in order to reduce risks and share rewards, which may lead to better overall performance (Zare Mehrjerdi, 2009). The main drivers of supply chain collaboration are both cost and customer oriented. The cost oriented drivers are those of cost savings, higher efficiency and lower inventory levels, while the customer oriented drivers are improved service levels and responsiveness to market needs (Chen et al., 2009). The vision of supply chain collaboration should be built on a number of principles for it to work efficiently, namely: quality leadership, customer focus, driven by demand, collaborative partnerships, integrated information systems and strategic partnership and trust (Zare Mehrjerdi, 2009). These principles will be investigated in relation to the cases of the analysis.

This development within SCM has been termed the 'collaborative supply chain', and another strategy related to this is the responsive supply chain (RSC), which also accommodates the changing competitive environment by creating flexibility and responsiveness. The RSC is defined as a network of firms that is capable of creating wealth in a competitive environment by reacting quickly and cost effectively to changing market requirements, developing a suitable network of collaborative companies based on their core competencies, and by leveraging people and information in a speedy manner (Gunasekaran et al., 2008). Some scholars have named collaboration as the driving force behind effective SCM, and say that collaboration may be the number one core capability (or dynamic capability) for companies. The optimum performance by companies engaged in supply chain collaboration is achieved through a focus on reducing costs, accelerating operations and improving quality in both the focal companies and the supplier companies. By gaining cross-company visibility and control, companies can identify and pursue opportunities for improvements in the supply chain processes and, as such, both suppliers and buyers may benefit from supply chain collaboration (Zare Mehrjerdi, 2009). While collaboration may be the driving force behind effective SCM, it is, however, found that many companies are only in the early stages of IOC, as managers spent significant resources on 'navigating their own harbor', rather than focusing on forming external relationships (Chen et al., 2009). This is why the topic is highly relevant to explore, in order to determine some of the factors that are currently not being executed effectively.

When managing these collaborative supply chain relationships, there is a range of factors that managers should focus on. A main factor, which has also been mentioned in the theory section, is that of trust, flexibility and commitment. Furthermore, companies need to focus on creating a good organizational setup for information sharing. Lastly, managers in both focal companies and supplier companies need to focus on conflict resolution and acting as fair and strong partners. When setting up these collaborative arrangements, one also needs to focus on the strategic aspects of the situation that the companies find themselves in if they wish to create long-lasting relationships. Choosing the right collaborative partners is crucial, and is carried out by matching inter-organizational needs and capabilities. The involved companies also have to clearly define the goals of the collaborative arrangement beforehand, and often this has to be formalized. The level of formalization may vary, but is always important as it sets the expectation for the strategic collaboration, and hence is necessary for performance of the collaborative relationship (Alexander, 1995; Dyer & Nobeoka, 2000; Yu et al., 2004; Zare Mehrjerdi, 2009). This is also emphasized by the collaborative ideas of formal arrangements, as mentioned in the theory section.

When companies want to form an RSC, there are a number of enablers or factors that they need to engage in. The enablers of RSC can be identified as strategic planning, virtual enterprise and knowledge & IT management (Gunasekaran et al., 2008). Strategic planning is needed in order to achieve agility in the supply chain and, as achieving agility requires radical changes in business processes, there are a number of strategies that can be employed in order to facilitate strategic planning: a network of collaborative firms, supply chain partnering, IT systems, top management support, employee empowerment and development of contract manufacturers. The virtual enterprise is also a way to achieve more agility in the supply chain by developing partnerships based on core competencies and, is in a way, an extreme form of collaboration. As each partner brings core competencies to the partnership, the success of the project depends on all companies working together as a single unit. This form of collaboration or integration usually proves very difficult, and a range of strategies need to be implemented in order to adopt the desired collaboration intensity: strategies of communication, training and goal deployment, strategy for supplier selection, developing and maintaining relationships and empowerment of teams (Gunasekaran et al., 2008). The RSC also has to be supported by a framework for data management and knowledge sharing. The role of IT and knowledge sharing will receive attention in a section on its own, as it is one of the main enablers of success in the collaborative supply chain (Croom, 2005; Devaraj, Krajewski, & Wei, 2007; Fawcett et al., 2009).

An industry that has received attention for many years in relation to effectively managing supply chain collaboration is the OEM industry. For years Toyota was mentioned as the prime example of how to manage lean production and supplier networks, but in recent years, however, they have received criticism and have been less successful in these efforts, especially in the wake of the financial crisis (Appendix 9).

However, it makes sense to briefly describe the tools and collaboration modes that were employed by Toyota when they were at their best as these are all argued to be necessary when forming a solid foundation for collaboration in the supply chain. It is largely argued that the relative productivity advantages enjoyed by Toyota for many years can be partially explained by their ability to create and manage network-level knowledge sharing processes (Dyer & Nobeoka, 2000). They have also managed to foster close collaborations in technical exchange, product development, production planning and in coordinating component supply and demand (Fane, Vaghefi, Deusen, & Woods, 2003).

It is argued that it has been difficult for US firms to reach the same type of collaborative efforts, as there is much greater reluctance to share information and trade secrets.

Furthermore, there has been reluctance and unwillingness to acknowledge the need to accept new ways of thinking, and an acknowledgement that the supply chain systems should be reflect a larger commitment from the anchor companies, the employees and the suppliers. The collaborative supply system in itself is not fairly complicated, but establishing and implementing it is exceptionally demanding (Fane et al., 2003).

Companies who wish to improve collaborative efforts in their supply chain may take away some of the learning that Toyota's development of supplier networks has brought. They might do so, through the development of ties among focal companies and suppliers. Weak ties are established through mere communication and getting the right people to talk to each other (Dyer & Nobeoka, 2000). This may actually be a difficult task in itself, which is also emphasized by one of the companies in the analysis. Stronger ties can be developed between focal company and suppliers, by having people assigned to supplier development and have them create a norm of knowledge sharing and openness (Dyer & Nobeoka, 2000). Trust and commitment among supply chain members enable them to work even closer and address common challenges and changes in the market (Chen et al., 2009). These are all issues that are found in the analysis to be the main focus of the companies, but also areas that they still struggle with.

Knowledge management and information sharing

Throughout literature on supply chain collaboration, IT management and knowledge sharing is mentioned as a key enabler. It is argued that information sharing through e-business technologies is a fundamental element of supply chain collaboration (Gunasekaran et al., 2008; Subramani, 2004; Yu et al., 2004).

The integration of information flows is an essential part of supply chain collaboration in sharing transactional, strategic and operational data, and it is highly important to implement the appropriate systems for supporting all forms of collaboration. Better information sharing should lead to stronger overall performance of the supply chain and improve supply chain relationships, promoting unique forms of collaboration (Cheng et al., 2010; Fawcett et al., 2009; Yu et al., 2004). This is also emphasized in the RSC, where it is argued that e-business systems are necessary in order to achieve agility, as they will likely reduce service costs and response time to customers (Gunasekaran et al., 2008). It is important to underline that knowledge management systems need to be governed by behavior similar to that emphasized throughout collaboration theory, namely based on trust, commitment and interdependence among the partners involved (Cheng et al., 2010). Yu et al. identify three information levels that companies in a supply chain can be engaged in, namely decentralized, coordinated and centralized control of information. It is argued that the latter would be most beneficial to all parties. Here information sharing is based on electronic data exchange where all companies can retrieve the same information in a synchronized manner. In decentralized control there is no actual coordination of order and information sharing between the parties, and this is actually found to be the case in some of the companies. With coordinated control, it is mainly the manufacturer (the buyer) who make their decisions based on knowledge and information from the supplier (Yu et al., 2004).

While Yu et al. argue that everyone will be better off when implementing knowledge sharing systems of centralized control, Subramani argues otherwise, namely that relationships between suppliers and focal companies are often asymmetric, and that benefits from e-business technologies are often more beneficial only to the focal companies, as costs and activities are often shifted to the suppliers (Subramani, 2004).

While scholars seem to agree that IT and knowledge sharing is crucial, many companies have not been successful in using IT systems effectively, as they have invested in advanced technologies, but failed to develop non-imitable capabilities that create long-term competitive advantages (Fawcett et al., 2009). One of the reasons why information sharing systems may have failed in some instances is the uncertainty that arise between companies due to lack of perfect information. If everyone was willing to share everything, everyone would have more information and there would be an improvement of the system. However, due to lack of trust between the parties, this is not always going to happen (Yu et al., 2004).

Lastly, Prajogo & Olhager argues that better IT capabilities and communication contribute to a better platform for both parties to engage in supply chain collaboration and problem-solving activities. They emphasize a number of factors that enables the effective collaborative supply chain. Logistics integration allows companies to adopt lean production systems, which are characterized by reliable order cycles and inventory reduction. Supply chain information integration has to be supported by technical aspects and also social aspects, such as information sharing and trust, in order to reap the full benefits from it. Here they also highlight the importance of the willingness to share information, and argue that investments in IT systems may be obsolete if companies do not share *strategic* supply chain information and only share transactional data, such as materials and product orders (Prajogo & Olhager, 2012).

The opportunities for e-business in supply chain collaboration

E-business is quite a broad phenomenon and is defined as *"the use of systems and open communication channels for information exchange, commercial transactions and knowledge sharing between organizations"*. It includes a large range of systems from the very common e-mail to more complex and integrated systems such as ERP and Intranets (Croom, 2005). In the context of SCM, a company's e-business strategy refers to the way in which these tools are selected and used for the needs of integration (Cagliano, Caniato, & Spina, 2003). Effective e-business strategies are of essence in today's SCM environment and for obtaining effective supply chain collaboration.

Investments in IT based systems play an important role in value-creation in supply chains, as they are a way of mediating, developing and deploying capabilities in inter-organizational relationships. They enable high volumes and complexities of information to be communicated, help manage supply chain activities and facilitate the alignment of forecasting and scheduling of operations between focal companies and suppliers (Prajogo & Olhager, 2012; Subramani, 2004). Furthermore, it is contended that integration of systems and processes in the supply chain leads to overall network wide efficiencies as firms seek to optimize operational performance it is necessary to seek inter-organizational answers to logistics problems (Croom, 2005; Devaraj et al., 2007; Smart, 2008). Such integration requires support from IT systems and technology, as e-business technologies support customer and supplier integration in the supply chain (Devaraj et al., 2007).

The possible benefits from e-business and IT implementation in supply chains are plentiful, and e-business can be seen to impact supply chain structures, coordination and relationships as it aids companies in capturing and sharing real-time information and improves other collaboration measures, such as demand planning and forecasting (Croom, 2005; Devaraj et al., 2007). Other benefits of e-business implementation are: cost performance from improved productivity, improved customer service quality, process capability and dependability from increased control of material flows in the supply chain (Croom, 2005).The benefits of e-business implementation largely depend on the e-business capability of the companies, which is their ability to use Internet based technologies to share information, process transactions, coordinate activities and facilitate collaboration with customers and suppliers. If companies want to enhance the information integration intensity of their operations, they need to invest in e-business capabilities. However, many companies do struggle to implement these e-business initiatives, despite the knowledge of possible benefits (Devaraj et al., 2007). Some of the barriers to integration through e-business initiatives may be the fear of loss of control, technological investments, the organizational focus, general trust issues or the internal structures of the companies (Smart, 2008). It is found in the analysis that a bulk of the companies has not yet been able to implement e-business systems in order to improve collaboration further, which is a clear challenge to them.

Experiences from supply chain collaboration

This section seeks to sum up the benefits that may develop when engaging in supply chain collaboration, and also the negative effects and challenges that companies have to be cautious of. It has already been established that companies in supply chain relationships may indeed benefit, both upstream and downstream, and that negative consequences of poor collaboration may include higher inventory costs, longer delivery and lead times, increased transportation costs, higher levels of loss and damage and lowered customer service (Simatupang et al., 2002). Supply chain members who exhibit higher levels of collaboration are able to achieve higher operational performance and practice collaborative innovation activities, which enables overall value creation in the supply chain activities (Soosay et al., 2008).

The benefits of supply chain collaboration

Supply chain collaboration has the potential to improve overall performance in the supply chain network, and the many possible benefits are summarized in the table below. In order for these benefits to be realized, there is a range of factors that the involved companies need to focus on first. Trust is extremely important, meaning that all parties must be willing to be vulnerable to some extent and trust that the other party will perform their actions, which is beneficial to the entire chain. There also has to be a high degree of commitment and willingness of all partners to exert efforts on behalf of the collaborative relationship (participant character). Trust and commitment are both issues that are difficult to formalize in contracts, and are therefore something that needs to be socially embedded. Furthermore, the selection of the right partners needs to be provided a good amount of attention as it will be crucial to the performance of the collaboration. Top management support and interest in the process of increasing supply chain collaboration is crucial as well, and lastly, IT and information sharing is a key enabler of successful collaboration (Sherer, 2003), as mentioned previously also.

Table 3: Benefits of Effective Supply Chain Collaboration

Area	Comment	Researchers
Improved customer service, higher dependability	Collaborative arrangements may, for example, improve flexibility and responsiveness of production, which improves customer service in turn	(Rungtusanatham, Salvador, Forza, & Choi, 2003; Simatupang et al., 2002)
Lowered costs, lowered transaction costs, reduced inventory costs due to lowered inventory levels, efficient inventory management		(Chen et al., 2009; Crook & Combs, 2007; Fawcett et al., 2009; Rungtusanatham et al., 2003; Simatupang et al., 2002; Soosay et al., 2008; Subramani, 2004; Tan & Cross, 2012; Yu et al., 2004; Zare Mehrjerdi, 2009)
Increased sales	By expanding product sales to new markets	(Petrick et al., 2016; Simatupang et al., 2002)
Access to markets, access to complementary resources, new knowledge and skills	Gaining access to capital, employees with special skills, intimate market knowledge	(Barringer & Harrison, 2000; Cao & Zhang, 2010, 2011; Petrick et al., 2016; Zare Mehrjerdi, 2009)
Demand planning, ability to change volumes quickly, increased flexibility and responsiveness		(Malhotra & Mackelprang, 2012; Prajogo & Olhager, 2012; Rungtusanatham et al., 2003; Tan & Cross, 2012; Zare Mehrjerdi, 2009)
Sharing and reducing risks, enhancing visibility	Collaboration allows companies to share the risks of certain business projects	(Barringer & Harrison, 2000; Cao & Zhang, 2010; Crook & Combs, 2007; Tan & Cross, 2012)
Increasing productivity, removing	Closer communication may take	(Cao & Zhang, 2010; Fawcett et al.,

inefficiencies collaboratively, rationalizing business processes	away processes that are unnecessary.	2009; Soosay et al., 2008; Subramani, 2004; Tan & Cross, 2012)
Improved quality and consistency through better design for manufacturability		(Crook & Combs, 2007; Fawcett et al., 2009; Rungtusanatham et al., 2003; Soosay et al., 2008)
Reduced delivery lead time and order cycle times		(Chen et al., 2009; Crook & Combs, 2007; Fawcett et al., 2009; Rungtusanatham et al., 2003; Soosay et al., 2008)
Enhanced innovation, faster product development	When companies pool their skills, there is a higher possibility of innovating new products	(Barringer & Harrison, 2000; Crook & Combs, 2007; Fawcett et al., 2009; Petrick et al., 2016; Soosay et al., 2008; Subramani, 2004)

Collaboration between suppliers is not merely a transaction, but it leverages information sharing and creates a broadened market knowledge, which fosters competitive advantages. What is important to keep in mind regarding the benefits of collaboration is that they may not be immediately visible. However, they have strong potential to create long-term strategic rewards (Cao & Zhang, 2010). This issue also becomes clear in the analysis as it brings about challenges, for example in relation to the support of top management in the case companies.

Information sharing and visibility are benefits of supply chain collaboration in themselves, but are also prerequisites for many of the other benefits, such as reductions in inventory levels, responsiveness to changing demand, enhanced innovation and improved designs and increases in fulfillment rates, and thereby improved customer service levels (Tan & Cross, 2012). Supply chain partners also realize many of the benefits, due to the fact that innovation may arise and innovation is a factor that may lead to higher quality, lower costs, more timely delivery and an increased efficiency of operations. Suppliers may contribute to innovation by performing R&D on their own, which absorbs some of the costs that a focal company would normally have incurred (Soosay et al., 2008). However, this may also be a two-way street, as focal companies and suppliers sometimes engage in collaborative innovation, which is intended for the focal company but the supplier is allowed to continuously use the technology in other products (Appendix 9). In this way, the supplier also benefits.

The challenges and obstacles to collaboration

When companies become more focused on core activities, operational activities become more fragmented, and non-core activities are redirected to suppliers, there is an increasing operational risk, which emphasizes the increasing need for solid collaboration with suppliers (Prajogo & Olhager, 2012). The benefits of collaboration in supply chains will be absent when the members of the partnership pursue their own interests and objectives. If members are unable to see the impact of their actions on others, then the whole chain will suffer (Cao & Zhang, 2010). The competitive expectations of companies may lead individual companies to promote their own business interests at the expense of the collaborative relationship, but it is important that win-win situations are created, in which all parties collaborate in order to accomplish business synergy. A state can then be reached where the supply chain can compete with other supply chains (Cao & Zhang, 2011). In this matter, incentive alignment and joint decision making processes are extremely important.

The potential disadvantages of IOC may be loss of critical knowledge and information, management complexities, financial risks, the risk of becoming too dependent on a partner and cultural clashes (Barringer & Harrison, 2000). In particular, the loss of critical knowledge is a hindrance to many companies today, as they do not wish to take on the risk of investing in IT and sharing sensitive information if they fear that this may hurt their core business. In this case, it is important that firms form strategic long-term relationships (Prajogo & Olhager, 2012).

Smaller companies need to pay even more attention to how to benefit from supply chain collaboration, as large and medium-sized companies find it easier to internalize the benefits and learning that may stem from supply chain collaboration. Their businesses are more diversified, and as such, transfers can be made in various business areas (Cao & Zhang, 2011).

It is important to note that collaboration in supply chains is only as good as the partners involved want it to be, as there is no right formula for effective collaboration. The collaboration is highly dependent on all partners and small penetrations in the collaborative arrangement may make the entire relationship collapse (Zare Mehrjerdi, 2009). However, if firms do manage to engage in successful collaborations or networks, they will be superior to individual firms as there is a much greater diversity of knowledge within collaborative relationships (Dyer & Nobeoka, 2000).

An extended resource-based view and dynamic capabilities

What will be presented in this section is an extended version of the resource-based view of the firm (RBV), as presented by Barney. He argues that superior performance by companies is due to competitive advantages obtained through the acquisition and control of resources that are valuable, rare, imperfectly imitable and organized to capture value (J. B. Barney & Clark, 2007; Grant, 1991). Researchers have long recognized the relevance of the RBV to logistics and supply chain management research (Chen et al., 2009; Craighead & Shaw, 2003; Fawcett et al., 2009; Hunt & Davis, 2012), which makes it a relevant theory or framework to apply in this thesis. However, the traditional RBV of a firm focuses mainly on the internal processes, whereas various scholars have extended this to incorporate the external environment as well (J. Barney, Wright, & Ketchen, 2001; Barringer & Harrison, 2000; Crook & Combs, 2007). It is this extended view that will be presented here, as it aligns to the ideas of SCM better than the traditional RBV.

The resource-based view

In literature, there are various resource based theories, which all seek to explain the behavior of companies (Conner & Prahalad, 1996; Grant, 1991; Mahoney & Pandian, 1992; Makadok, 2001). However, the RBV, as presented by J. Barney, has been one of the most prominent of these. It is an efficiency theory, which explains the existence of sustained superior performance of companies. Companies implement specific processes altering their resource base to become competitive advantages, and these processes are termed dynamic capabilities (J. B. Barney & Clark, 2007). It is the argument of the thesis that collaboration in supply chains is one of these dynamic capabilities of companies, which can lead to sustained competitive advantages.

The main idea of the RBV is that internal resources and capabilities provide the direction of a company's strategy and are the main source of profit. While resources are the source of capabilities, capabilities are the source of competitive advantages. These capabilities involve complex patterns of coordination between people and resources, and a key ingredient in the relationship between resources and capabilities is the ability of organizations to achieve collaboration and coordination among teams (J. B. Barney & Clark, 2007; Grant, 1991). It is therefor the argument that the RBV can easily be elaborated into explaining SCM, and the dynamics of IOC, where companies obtain resources from each other through collaboration.

This view is also supported by Barney, who has elaborated the RBV himself, in arguing that resource complementarity might be associated with the higher performance of companies, and that actions towards gaining complementary resources allow companies to obtain new and valuable capabilities. Strategic alliances or partnerships, which characterize some supply chain relationships and are a type of IOC, are one way of obtaining these complementary resources (J. Barney et al., 2001).

For a resource to hold the potential of becoming a source of sustained competitive advantage, it must exhibit four characteristics. Combined these are termed the VRIO framework, which is presented below (J. B. Barney & Clark, 2007; Grant, 1991).

Table 4: The VRIO Framework

Valuable	- Exploiting opportunities or neutralizing threats in the environment. - Enables a company to increase economic value by increasing customers' willingness to pay, decreasing costs or both.
Rare	- Rare among a company's current and potential competition. - A capability which requires the coordination of a large number of resources, is more difficult for competitors to comprehend
Imperfectly imitable	- Resources are only rare or valuable, if the companies that do not possess them, cannot obtain them thorough duplication. - Social complexity, like company reputation or supplier relationships are ways of obtaining this feature for firm resources.
Organized to capture value	- Management and organization must implement structures, systems and policies that capture the benefits from the VRI resources.

This VRIO framework is also relevant to the discussion of supply chain relationships and collaboration, based on the argument that IOC leads to a set of combined resources and capabilities for the companies involved in the supply chain relationship, and that these are a source of collaborative advantage (Cao & Zhang, 2010).

The issue of trust is an important part of the RBV, and will also be a central part of the analysis, as it can arguably be a source of competitive advantage. In order to become a source of competitive advantage, trust must be available only to a few companies in an exchange relationship and must often be a semi-strong or strong form of trust, where parties are assured that their vulnerability will not be exploited in the exchange relationship (J. B. Barney & Clark, 2007). Trust then increases the possibility of resources and capabilities exhibiting VRIO characteristics.

Extension of the resource-based view

While the RBV exhibits many features that can help explain the interactions and collaboration in supply chains, it is rather focused on the internal aspects. It is therefor helpful to draw on other ideas from resource-based theories. The resource dependency theory views the company as being embedded in a web of exchange relationships, which is dependent on other entities in the environment (Crook & Combs, 2007), and as such sees the company in an external rather than internal context, which is in line with SCM. Resource dependence theory also argues that companies must engage in exchanges with their environment in order to obtain resources if they want to prosper (Barringer & Harrison, 2000). As such it also emphasizes, contrary to the RBV, that resources and capabilities cannot just be obtained and developed internally in today's competitive environment. Barney himself also suggests that the RBV might be expanded into becoming more dynamic, where it is determined where firm resources are coming from and where they are going (J. B. Barney & Clark, 2007). These ideas that focus more on the external environment, alongside the ideas of the traditional RBV forms an extension of the RBV, are highly useful for analyzing the cases of the thesis.

Dynamic capabilities

The idea of dynamic capabilities is an elaboration of the RBV, which seeks to accommodate some of the criticism that the RBV has received. Adding the dynamic capabilities approach to the RBV forms a more dynamic theoretical framework, as it extends the RBV into dynamic markets and helps the RBV framework to become more empirically grounded (Eisenhardt & Martin, 2000). Dynamic capabilities are the ways in which company managers *"integrate, build and reconfigure internal and external competencies to address rapidly changing* *environments"*, and it is these that will lead to sustained competitive advantages for firms (Eisenhardt & Martin, 2000; Teece, 2009). As they address the concept of rapidly changing environments, dynamic capabilities provide a good framework for supply chain collaboration analysis, since it is argued that collaboration is relevant exactly because of today's fast paced and competitive business environment. Supply chain collaboration is a way of reconfiguring resources within a partnership, which can then be passed back into the company. This routine arguably makes supply chain collaboration in itself a strategic routine by which firm managers alter the resource base and acquire new resources that can be integrated and create new value-generating strategies (Eisenhardt & Martin, 2000), which is the core idea of dynamic capabilities.

The framework of dynamic capabilities emphasizes the role of the manager in identifying emerging opportunities and develop enterprise success through the effective combination of both internally and externally generated inventions and technology transfers. Furthermore, the manager needs to make sure that these are protected from imitation and replication. As today's environment is increasingly competitive and increasingly open, the importance of dynamic capabilities is amplified. Manufacturing and sources of innovation are more dispersed geographically and organizationally, and multiple inventions must be combined in order to achieve market success (Teece, 2009). This also emphasizes the importance of closer collaboration and coordination among members of the supply chain. Designing a business model today requires creativity and insight, which may stem from a large amount of customer, competitor and supplier information and intelligence (Teece, 2009). This again highlights supply chain collaboration as a form of dynamic capability that may lead to increased business success.

It is argued that VRIO capabilities and dynamic capabilities are not in themselves the source of long-term competitive advantage, as the functionality of these can be replicated across companies. The value for competitive advantage instead lies in the resource configurations that the capabilities create. The long-term advantage then stems from using dynamic capabilities sooner and better than the competition (Eisenhardt & Martin, 2000). This argument is supported later on by Rungtusanatham et al., who link this idea to supply chain coordination (Rungtusanatham et al., 2003). It is more difficult for competitors to match an array of interlinked activities, and a strategic fit between many activities therefore need to be continuously achieved in order to gain competitive advantage (Teece, 2009). It is these interlinked activities that can be enhanced through closer supply chain collaboration, when organizations start to work more as a network than as individual entities.

The resource-based view and supply chain collaboration

This section seeks to link the ideas of the RBV and supply chain collaboration, and hence justifies the choice of combining these two streams of research in this thesis. It describes how supply chain collaboration may be a source of competitive advantages and create dynamic capabilities, which is the source of sustained competitive advantages. The RBV has been widely and successfully applied to develop insights into other forms of IO relationships, such as alliances (Eisenhardt, Schoonhoven, Science, Apr, & Bird, 1996; Mowery, Oxley, & Silverman, 1996), and it is therefor plausible to apply it to supply chain collaboration as well (Rungtusanatham et al., 2003). It is commonly argued that companies engage in supply chain collaboration in order to gain or develop competitive advantages, as coordination of processes with those of supply chain partners can be an indispensable source of competitive advantage in an environment where companies are faced with intense competition (Tan & Cross, 2012; Zare Mehrjerdi, 2009).

Resource-based capabilities and supply chain coordination

The extended RBV should be highlighted when discussing supply chain collaboration as scholars have typically looked within the firm for the VRIO resources, but the process by which companies generate these resources has been given less attention (Gulati et al., 2000). Many companies have an internal focus, similar to that of the traditional RBV, prior to involving external suppliers. Instead, they should simultaneously consider the relationship between internal operations capabilities and collaboration with external supply chain members. Furthermore, it is crucial to align supply chain collaboration with a company's inimitable resources (Tan & Cross, 2012). The profitability of companies is partly due to their own unique resource base, but is also partly due to the network structure or collaborative arrangement in which they find themselves (Gulati et al., 2000), and companies create value through IOC by combining resources, sharing knowledge, increasing speed to market and gaining access to foreign markets (Barringer & Harrison, 2000).

From the point of view of the extended RBV, an important source for the development of VRIO resources is the company's network of relationships – or the supply chain network. The network structure can be seen as an inimitable resource if the structural pattern of it has some degree of social complexity, and it may then confer competitive advantages. The network membership can also be seen as a resource, and this resource may be more inimitable than the network structure as it is unique to the company (Gulati et al., 2000). Companies that combine resources in a unique way may gain an advantage over companies that are unable to do so, and the more embedded the partnering companies' assets become, the more difficult they become for competitors to imitate. Supply chain collaboration, furthermore, allows companies to focus on their own core competencies and activities, which increases their firm specific skills, and this in turn may increase competitiveness in the long run (Cao & Zhang, 2010). In the area of logistics, especially, supply chain collaboration has significant potential as it encompasses so many functional areas and is critical to a company's resource allocation. Developing unique logistics capabilities through collaboration may create a huge competitive advantage in the market (Chen et al., 2009).

Supply chain collaboration can help companies realign processes and resources more effectively, which may contribute to the development of critical supply chain capabilities, such as process management. If process management can become more effective than that of a company's rivals, this represents a unique capability for the company. The increased effective utilization of processes and resources, which may arise from supply chain collaboration, can lead to the development of different capabilities. Efficiency related capabilities are those of cost reduction, where supply chain collaboration can contribute by, for example, reducing waste. Effectiveness related capabilities are those that are more customer oriented. Supply chain collaboration may lead to processes that help companies become more responsive to changing customer demands. This type of responsiveness, however, requires quite integrated logistics processes, as also suggested by the RSC view (Chen et al., 2009; Gunasekaran et al., 2008).

Focal companies and suppliers continuously strive to explore their resources collectively, in order to gain competitive capabilities (Tan & Cross, 2012). Rungtusanatham et al. presents a framework in which they seek to answer why supply chain collaboration or supply chain linkages, as they term them, can yield strategic advantages for a company. In this they argue that supply chain linkages, can be seen as either a resource in itself or as a resource acquisition capability (Rungtusanatham et al., 2003). The argument here is that when companies control VRIO resources, they obtain competitive advantages. If the company forms a collaborative arrangement with suppliers, which excludes competitors from forming the same arrangement with the same critical suppliers, this should provide the company with a competitive advantage. In the short run, a company's supply chain linkages represent a VRIO resource that may provide superior, but temporary, operational performance advantages to the company. In order for collaboration to lead to maintaining VRIO properties over time, the collaboration has to be ratified on an ongoing basis, for example by forming long-term partnerships. Otherwise, the supply chain benefits are likely to be seized by competitors (Rungtusanatham et al., 2003). In this case, the supply chain collaboration creates inimitable value as a resource in itself (Gulati et al., 2000).

The second argument is that relationships with suppliers act as a mean of obtaining inimitable resources and capabilities (Gulati et al., 2000), as they allow companies to tap into the suppliers' knowledge stock, which is not only beneficial to the company but to the entire supply chain. When companies interact with external partners, they may acquire and maintain access to resources, markets, technologies and critical knowledge that they would not otherwise have been unable to access. These resources may in turn help companies realize risk sharing and reduction, reduce uncertainty and improve the probability of survival in the market (Crook & Combs, 2007; Gulati et al., 2000; Tan & Cross, 2012). As such, the supply chain collaboration allows the company to acquire a VRIO resource by combining the efforts of several companies in the form of supply chain-based knowledge, which will in turn provide superior operational, but temporary, benefits (Barringer & Harrison, 2000; Rungtusanatham et al., 2003). It is then the extent to which a company is able to continually protect the integrity of the VRIO properties of its supply chain linkages that will determine whether the company can enjoy sustainable superior operational performance benefits from collaboration (Rungtusanatham et al., 2003).

Knowledge sharing as capabilities

Teece argues that *"a company's capability to continually learn, adapt and upgrade its capabilities is key to success"* (Teece, 2009), suggesting that organizational learning is a key factor in achieving sustainable competitive advantage. Dyer & Nobeoka then suggest that these dynamic learning capabilities need to be extended beyond company boundaries. If a collaborative supply chain is able to create a strong identity and coordinate rules of the relationships, which fosters knowledge sharing, then they may be superior to individual companies (Dyer & Nobeoka, 2000).

It is also argued that superior performance depends more on how companies organize and deploy inter-organizational resources than on how they use their own constrained resource base. In this case the use of information sharing systems and IT is crucial. In order for companies to outperform their competitors, and to develop dynamic capabilities in the supply chain, they need to develop a strong information-sharing culture. A strong information-sharing culture lowers costs in the supply chain and is connected to improved operational performance. Collaboration capabilities are enhanced through IT connectivity and information sharing, and a collaboration capability is both rare, valuable and difficult to imitate, and as such it may lead to sustained higher performance levels over time (Fawcett et al., 2009).

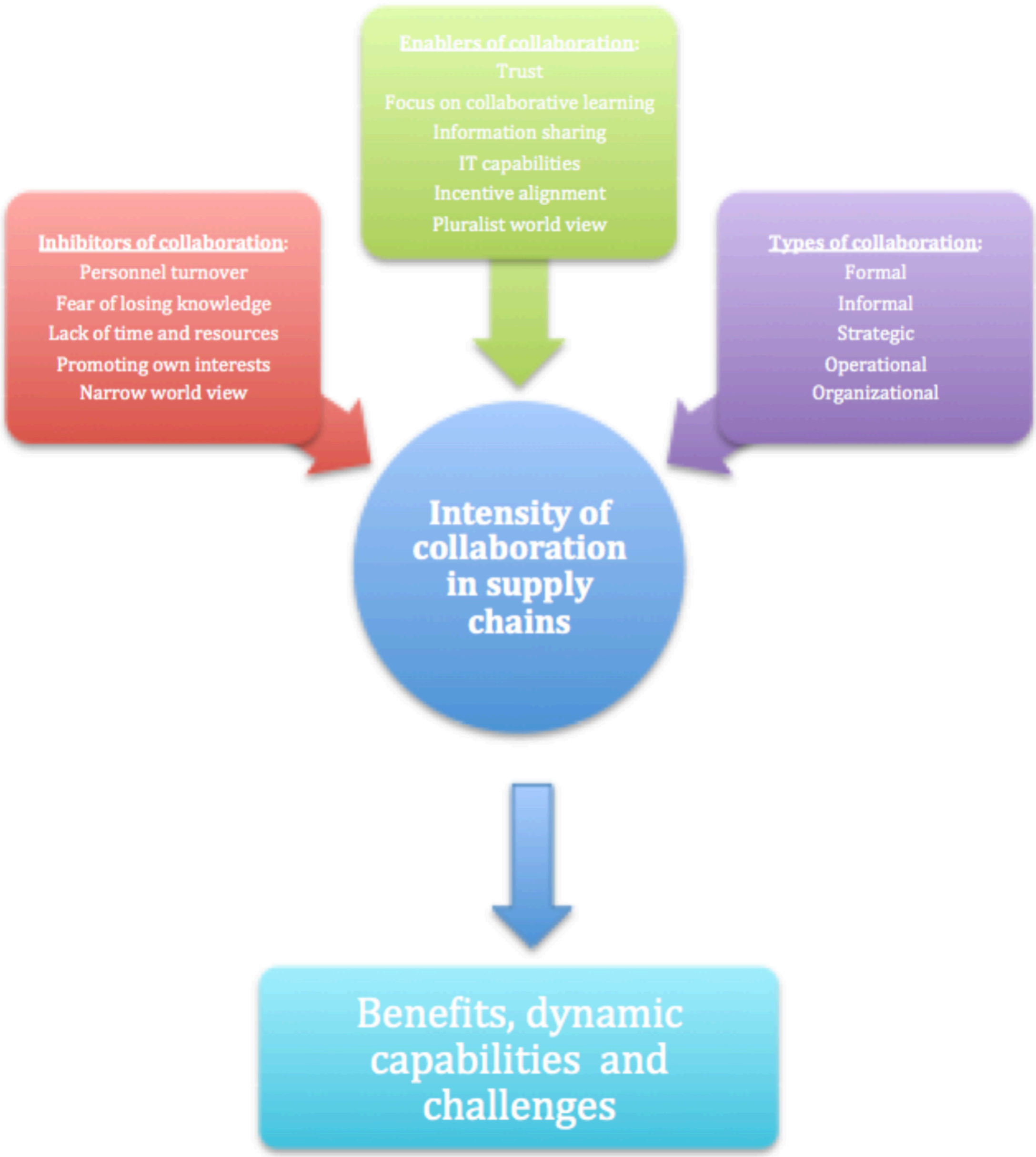
The information sharing in supply chains may also lead to improved innovative capacity if the access to external information is well-managed (Chen et al., 2009; Soosay et al., 2008). It is also found in the analysis that benefits of improved innovation may arise in supply chain collaboration.

The conceptual framework

The figure below seeks to summarize the aspects and links of supply chain collaboration that have been brought forward in the previous section. The theoretical foundation is illustrated as a conceptual framework, which will be the basis for the analysis and discussion.

From the framework it is seen that the enablers, inhibitors and various tools of collaboration all affect the level of intensity of collaboration in supply chains. The increased intensity of collaboration in supply chains then lead to a range of benefits, possible dynamic capabilities, and a range of challenges and obstacles that the companies face. It is these benefits and challenges that will be further investigated in the findings, analysis and discussion of the thesis.

Figure 3: Conceptual Framework of Supply Chain Collaboration



Methodology

While many scholars have previously researched the topic of supply chain collaboration and the benefits of it, the majority of the studies have been quantitative in nature, conducting large surveys and performing structural equation modeling (Cao & Zhang, 2010, 2011; Fawcett et al., 2009; Liu, Ke, Kee Wei, & Hua, 2013), while others have applied the method of questionnaires (Cagliano et al., 2003; Tan & Cross, 2012). However, it is concluded that a more in depth study is necessary in order to examine the knowledge of coordination and collaboration in a real world context, and a more practice oriented research on the topic is suggested as well (Petrick et al., 2016; Simatupang et al., 2002). Survey research and quantitative approaches may provide a more economical approach to the topic, but do not provide a deeper understanding of such a multifaceted issue like the one explored in this thesis (Fawcett et al., 2009).

This is why the research approach of the thesis is qualitative in nature, where the primary empirical data is interviews with five case companies. The research thus takes on a more case-based approach, which allows for a contemporary phenomenon to be investigated in a real-life context (Soosay et al., 2008). Furthermore, many studies of supply chain collaboration take on the approach of studying the focal company only, but it is suggested that collecting insight from both sides of the supply chain is more appropriate (Liu et al., 2013), which is the approach that is conducted in this thesis.

Research design

This section is structured on the basis of the research onion (Saunders, Lewis, & Thornhill, 2009), which is a way of depicting the research strategy and choices of methods and data collection. The research onion is divided into layers of research philosophy, research approach, research strategy, method choice and data collection.

Research philosophy

The way one understands the world, and thereby the approach one takes to research and knowledge, can be understood on the basis of the philosophy of science. The assumptions of this philosophy underpin the research strategy and the choice of methods (Easton, 2010; Saunders et al., 2009). The aspects of critical realism will therefore be briefly outlined here, as it is the philosophy of science of this thesis. The reason for this is that business and management research is concerned with the social world in which we live and, as such, researchers can only understand what is going on in this world if they understand the social structures that have led to the phenomena in question. It is argued that the critical realist approach is highly suitable for business research as we often try to understand the reasons for phenomena as a precursor for recommending change (Saunders et al., 2009).

Philosophies of science are defined by their ontology and epistemology. Ontology asks what the world is made of and is concerned with the existence of and relationship between people, society and the world in general (Easton, 2010). This means that reality is seen as being deeper than its initial appearance and containing a 'real' domain, besides the empirical and observable experiences, which is not directly observable. Critical realism is also based on the notion that social reality exists independently of sciences. However, if the social world was simply a result of ideas, as we see in constructivism, then science and experimenting would be obsolete (Moses & Knutsen, 2007).

Epistemology, on the other hand, theorizes knowledge and how we obtain it. The empirical domain for critical realists is where observations are made and experienced by the observer. There is, however, a process that intervenes with this empirical domain and the actual domain. The process of interpretation is what intervene between these two domains since the observer might see or understand an event quite different from what it is, as observation is fallible (Easton, 2010). Critical realists agree with positivists that there is an observable world independent of human consciousness, but also suggest that knowledge about the word is socially constructed (Eriksson & Kovalainen, 2008).

Critical realism is a very tolerant philosophy of science, when it comes to choice of methods, which makes it even more important to choose the right methodological approach and research design based on the nature of the phenomenon and what knowledge the thesis seeks to obtain about it (Easton, 2010).

Research approach

Deduction has by far been the strongest way of building up a theoretical knowledge base in various business disciplines (Eriksson & Kovalainen, 2008). In deductive research, the researcher is able to deduce hypotheses based on what is already known theoretically about the phenomena and these hypotheses can then be subject to empirical study. Deduction rests on the assumption that theory is the first source of knowledge and is quite a linear process (Eriksson & Kovalainen, 2008). While this thesis does not take on all the steps of deductive research (deducing hypothesis, operationalizing hypothesis, testing hypothesis, examining the outcome and modifying theory if necessary) (Saunders et al., 2009), and does not *per se* pose hypotheses, it is argued that the approach is still highly deductive. The research question is formed on the basis of a vast amount of prior knowledge and with some theoretical assumptions, that are then tested empirically in a real-world setting in order to detect whether the developed theories and the previous findings correspond to what is found in practice. It is also argued that conducting completely inductive research, such as in grounded theory, has several drawbacks and that a somewhat deductive approach should at least be applied. The researcher can never be free from theoretical influence when conducting empirical observations and, as such, the researcher has to admit to a theoretical understanding from the beginning of a study. By obtaining knowledge from literature prior to the study, attention is also drawn to certain details in the obtained data and this can aid the researcher in going beyond literature. Furthermore, studying previous literature is also what creates an understanding of the missing pieces in literature in terms of research areas and methodological approaches (Thornberg, 2012). Therefore, it makes sense to have performed a vast literature review and decide on a theoretical standing point prior to the study. The research approach here may then find itself somewhere in between deduction and induction, close to abduction where the researcher investigates how far empirical data agrees with theory (Eriksson & Kovalainen, 2008). However, the very innovative and creative process that is emphasized in the abductive approach is not applied here to the lengths that are suggested by abduction.

Research strategy and method choice

The thesis seeks to collect a wide range of views on supply chain collaboration and the RBV, as introduced in literature, in order to compare these views and findings to the actual experiences of companies who are currently engaging in increased collaboration in their supply chain.

Qualitative research provides the researcher with an opportunity to focus on business-related phenomena in their specific context, and is particularly relevant when research needs to be exploratory in nature (Eriksson & Kovalainen, 2008). Qualitative research is therefore often conducted on the basis of research questions that allow for flexibility and freedom to explore the topic, as they are broader than in quantitative research designs (Corbin & Strauss, 2008). Qualitative methods can contribute to answer questions of 'what kind' rather than 'how much' (Kvale, 2007), and this is why this method is appropriate for the purpose of this thesis. The research question asks questions of 'what' and 'how', and thereby qualifies for a qualitative research approach.

Within qualitative research, one of the strategies may be case study research, which is defined as *'a strategy for doing business research which involves an empirical investigation of a particular contemporary phenomenon within its real-life context using multiple sources of evidence'* (Saunders et al., 2009). As previously argued, this is exactly the research strategy that is applied in this thesis; the phenomenon being supply chain collaboration and the empirical investigation in a real-life context being the experiences of the companies in the Stram Kæden project.

The case study strategy has the ability to aid the researcher in answering questions of what, how and why, and is often used in either exploratory or explanatory research. The data collection of case studies may vary and can often be used in combinations, but may include interviews (Saunders et al., 2009), which is the case here. The case study here incorporates multiple cases in order to be able to obtain more substantial findings. Using only one case would require high levels of justification.

The originality of the thesis is in both the research approach and design, but also the fact that the empirical data is collected from a specific project, whose task is to improve collaboration in the supply chain. Hence, the thesis is relevant to the participants of the project, but also in general for practitioners of supply chain coordination.

It is important that the topic is enlightened from several aspects when conducting qualitative research (Corbin & Strauss, 2008). The thesis therefore takes in both coordination and collaboration theories alongside the RBV. In terms of data collection, companies from both sides of the supply chain have been interviewed in order to obtain more than one perspective on the issue.

Primary data

Prior to obtaining and analyzing the primary and secondary data a vast amount of research has been conducted, which has provided the researcher with a solid theoretical foundation and an understanding of the previous literature and research that have been conducted in the area of supply chain collaboration.

The primary data of the thesis is the data that have been obtained from a series of interviews with companies who are currently embarking on a path of increased supplier-customer collaboration in the supply chain. These interviews will be the main base for the analysis, alongside a couple of speeches that were attended at a conference that Stram Kæden held, in which participant companies presented their experiences, and the challenges and results of increased collaboration. These speeches are categorized as a form of participant observation.

In qualitative business research, it is common to use either previous contacts or other more convenient sampling procedures, as it does not seek to make statistically correct generalizations (Eriksson & Kovalainen, 2008). This approach has also been applied here, where the companies are all part of the same project 'Stram Kæden', and Danish Industry (DI), who runs the project, have assisted in gaining access to the right people in the organizations. In this way, the presence of the researcher was legitimized, and almost everyone who was contacted was willing to participate. This could be termed a network sampling technique, where a knowledgeable person is interviewed first and the that person suggests other relevant participants (Eriksson & Kovalainen, 2008).

The approach taken to gain access to the companies was to first contact them by a rather long e-mail, describing the purpose of the thesis, their relevance to the thesis and a notion of how much time and effort would be expected from them if they were interested in participating. When the contact was then initiated, a phone call was conducted for further elaboration and planning of the practicalities. The willingness to share information was also improved by the fact that they were told it was confidential, as the companies will not be mentioned by name.

The semi-structured interview method

The interview method is a thorough questioning and listening exercise, in which the purpose is to obtain thoroughly tested knowledge. As such, the qualitative research interview is a 'construction site' for new knowledge in the research, and may help provide valid and reliable data relevant to the objectives of the research question (Kvale, 2007; Saunders et al., 2009).

Structured interviews are often used as a way of achieving quantifiable data, and therefore they are highly fixed in nature, leaving little room for interpretation and opening up new areas for questioning and analysis (Saunders et al., 2009). The unstructured interview format allows for more data dense interviews, as they are not dictated by a predetermined set of questions, which may inhibit information. However, it is also important to be aware that a co-construction of the research may then arise, where the interviewee brings information to the table that is more favorable for them to get out (Corbin & Strauss, 2008). The approach here has been the semi-structured interview, since semi-structured interviews (or qualitative research interview) are highly suitable for explanatory or exploratory studies because they help the researcher to understand relationships, such as those revealed from the more descriptive part of the study (Saunders et al., 2009). The purpose has not been to quantify the answers completely (Kvale, 2007), but a structure of topics was needed in order to aim the interviews at further analysis, and to have the interviewees answer similar questions.

It is important to note that there are no real rules or standard procedures for this type of interviewing. The researcher has to make a choice beforehand to either stick to the interview guide throughout the interview or follow up on new leads. This is a bit of a dilemma, as on the one hand one wants to raise new questions and follow up on them, but at the same time one wants several participants to answer somewhat similar questions (Kvale, 2007). In this case, it was sought to follow up on new leads, while at the same time sticking to the overall topics that the interview guide was structured by. The interview questions have been posed in a way that might open up new questions and problems that have not previously been detected in the vast literature on the topic. The interview guide that was used for the interviews can be found in appendix 1A.

When conducting interviews, it is important to thematize and design the interview thoroughly before embarking upon the actual interviewing. In the thematizing stage the purpose of the interview and the pre-knowledge of the topic should be emphasized (Kvale, 2007). In this case, the purpose has been to collect knowledge from the real life experiences of companies in order to compare these experiences and opinions to what has been found in previous studies and to relate these experiences to theory. The interviews are in a way threefold, as they seek to describe the actions that have actually been taken and clarifying some of the processes that the companies undergo. Furthermore, they are explorative in nature as they seek to gain new knowledge in the area and lastly, they are somewhat hypothesis testing in nature as the interview guide has been based on prior knowledge from literature and theoretical frameworks. In terms of pre-knowledge, a vast amount of reading was conducted prior to the interviews in terms of literature on the topic, theory and practical information on the project in which the companies were involved.

In the designing stage it is of essence to ensure that the interviews are not conducted in a way that favors or disfavors some idea or hypothesis. Furthermore, it needs to be identified how many subjects are needed in order to answer the research question properly (Kvale, 2007). In this case, the interviews are not a stand-alone research method and, as such, the purpose has mainly been to sample a range of participants from different companies with different positions in the supply chain. Preferably more than one person in each company should be interviewed, as people in different positions may have different ideas on the issue in question. However, this was not possible in many of the cases due to time and resource constraints by the companies.

Interviews can be either factual or conceptual in nature. In factual interviews the wording of questions is really important, as the purpose is to have the interviewee bring facts to the table. The first part of the interview takes on a factual approach (the descriptive part of the interview purpose). The latter part of the interview takes on a more conceptual approach as the interviewee is here, in the exploratory part of the interview, asked questions that are more open and asked in a way where they were to present their own thoughts, ideas and perceptions (Kvale, 2007).

The companies

The Industrial Fund and Danish Industry initiated a project called 'Stram Kæden' ('Tighten the Chain') that aims to help Danish companies and their suppliers to become more competitive in the national and international marketplace through tighter collaboration in the supply chain. It has been found that developing closer relationships in the supply chain can lead to increased productivity, growth and competitiveness and this is the background for the project's initiation (Dansk Industri, 2015). While the companies and their suppliers are all Danish (this was a prerequisite for participation), their experiences and changes in organization and processes can be extended to their international relations as well, and as such the topic is still highly relevant to the field of international business.

The case companies, from whom the primary data has been obtained, are all a part of this project as it was a way of making sure that they were focused on the issue of supply chain collaboration. The Stram Kæden project has participants from the production, retail and service sectors, but the companies that have been chosen to participate in the interviews, and thus the source of primary data, are all production companies.

The table below summarizes the size and sector of all the companies. Company F and G are not interview participants, but have provided data in the form of speeches at a conference.

Table 5: Company Characteristics

Company	**Industry**	**Size* (worldwide)**
A	Production of elements for the aerospace and automotive industry and processing of material	Medium (large)
B - Supplier of company A	Serigraphy and electronics production	Medium
C	Components for wind turbine industry and construction industry – composites	Medium
D	Production of hydrocolloids	Medium (large)
E – Supplier of company D	Sugar production	Large
F	Light production	Medium (large)
G	Furniture production	Medium

**Based on the European definitions: small companies: 10-50 employees, medium companies: 50-250 employees, large companies: 250-1000 employees*

The interview participants

The interviews conducted here are all considered to be elite interviews as the interviewees are all experts in their field, and possess quite powerful or high positions in the companies in question. In this case it is important to be aware that the interviewees are not just making regular conversation, which promotes their viewpoints in a way that disfavors the object of the research (Kvale, 2007). It was never the impression in any of the interviews that this was the case, and the interviews were highly relaxed and informal in nature. Managers are often more likely to engage in an interview than to just provide answers in a questionnaire, especially if the topic is of current relevance to the manager (Saunders et al., 2009). In this case it is definitely argued that the topic has been of relevance to the managers who participated in the interviews, which may be why they were both easy to approach and to get engaged in the process.

The relationship between the researcher and the participants in the research may vary, which creates different perspectives in terms of information flow, confidentiality and consent (Eriksson & Kovalainen, 2008). In this case the researcher has only been marginally participant, and long-term, close relationships were not established. This needs to be accounted for, as it may have impacted the amount and type of information that the interviewees provided.

The interview participants have all been part of the Stram Kæden project. This has made the process of approaching the right people a lot easier as it was made sure that the managers who were interviewed actually had ideas and opinions on the topic of supply chain collaboration and coordination. Choosing the companies at random could have created more difficulties in terms of finding and accessing the right people.

The participants have all been either CEOs or managers and have, in general, been interested in participating as the topic has been related to a process and organizational change that they are currently undergoing. In appendix 1B a table is provided where the interviewees are described briefly and the quality of the interviews is commented on. Company F and G are not reported on as they were not interviewed, but provided their experiences through speeches at a conference. These speeches are also transcribed and can be found in the appendix.

Secondary data

The secondary data in this thesis includes a range of articles from Danish newspapers obtained from the projects initiated in Stram Kæden. This material includes the work sheets, root cause analyses and value stream mappings that the companies have set up in order to improve collaboration. Besides the primary data collection from the interviews, this secondary data will be part of and support the analysis.

Preparing and analyzing the data

Before analyzing the qualitative data, it is important that it is prepared properly.

The semi-structured interviews were all transcribed in a simple manner. In this, it is important to be aware that a series of judgments and decisions have been made on behalf of the interviewee and that many of the social interactions of an interview are difficult to translate from the oral to the written language (Kvale, 2007). Furthermore, only one person has performed the transcription, so there is no 'second opinion' on the interpretation of the interviews. However, it is argued that the tape-recorded interviews still provide a reliable and valid basis for analysis.

Analysis of qualitative data is conducted through conceptualization, based on meanings through words. The collection of data resulted in non-standardized data, which requires that a classification into categories is necessary. This involves developing categories and subsequently attaching these categories to meaningful pieces of data (Saunders et al., 2009). A simple quantification has been attempted as the frequency of categories, which are based on the theoretical framework, have been accounted for in order to find whether practical experiences align with theory and previous literature. This method has similar traits to the pattern matching approach, where an analytical framework is build and the adequacy of the framework is tested (Saunders et al., 2009). Besides an attempt at simple quantification of the interviews, it is argued that no systematic analytical tool has been used for analysis. The remainder of the analysis is based on thorough readings of the interviews and the secondary sources, and theoretical reflections have been made on the specific themes that are brought up by the interviewee. This is a common analysis method among researchers (Kvale, 2007).

Main findings

The companies who have been interviewed for the purpose of this thesis and the companies who held speeches on the topic at a conference have all been engaged in activities that were to increase the intensity of collaboration in their supply chain. They have all found that it creates benefits for them in the short and in the long run, but are also facing continuous challenges and obstacles to increased collaboration and integration. From the interviews, speeches and articles it is clear that the level of supplier relationship development varies from company to company and from supply chain to supply chain, but it is also clear that the supplier relationship maturity level is quite low in all of the Danish companies. This will be returned to in the analysis and discussion.

Incentives, benefits and modes of collaboration

In this section the empirical findings are divided into a range of topics that all depict different aspects of the incentives and benefits that companies find in relation to supply chain collaboration. Furthermore, these benefits are linked to a range of collaboration modes. The dynamics and implications of these will be analyzed and discussed further in the next section, while the main findings are simply presented here.

When investigating the empirical findings, several common topics come up for many of the companies. These topics may be either perceived benefits, modes of collaboration, results stemming from increased collaboration or challenges to collaboration. They are divided into six topics: internal to the organization (both focal companies and suppliers), trust and communication issues, various forms of information sharing, the common actions that are taken and benefits that arises as results of increased collaboration, different types of business process optimization and IT-based capabilities.

Internal to the organizations

Table 6: Findings Internal to the organization

Topic	Frequency
Top management support	10
Culture and change management	12
Allocation of people and resources	10
Employee turnover	2
Supplier assessment	2

Almost all companies mention the issue of top management support as a key factor in supply chain collaboration, and it is found to be an inhibitor of increased collaboration for some of the companies. This is also the case for the issue of the organizational culture, where there is an over-focus on internal matters. The companies agree that it takes a change in the mindset of managers and top management:

"The increased efficiency that arises from collaboration may be difficult to measure directly on the bottom line, and this can create problems with top management (in a focal company), so in order to get top management support, they need to change their views on measuring 'success'," (Appendix 7)

"It has been clear to us that our customers (the focal company) have lacked full top management support, which easily creates a situation of fancy words being said. But if it is just a lot of 'hot air', it won't work", (P2, Appendix 3)

Another key topic that is mentioned in relation to the internal operations of the organizations is that of allocating the right people and the necessary amount of time and resources that is required for collaboration to happen successfully. As part of Stram Kæden, all the companies have had to assign two Supplier Development Agents (SDAs) who were to make sure that the focus on collaboration was sustained. While some of the companies have been successful in allocating people and even departments to focus only on supplier assessment, development and relationships, others have found it to be quite the challenge to find the resources necessary.

"…a recognition of the importance that the customer has for our (the supplier) business led us to reorganizing our organization for increased supplier-customer relationship focus." *"When going into this 'project' (increased collaboration), it is important to dedicate employees, managers and resources 100 % if you want it to work"*, (Appendix 8)

In particular, one of the companies (company A) has faced challenges of employee turnover and that inhibits the process of engaging in increased collaboration with suppliers. Their increased focus on collaboration has almost been paused as the SDAs have left the company in the process.

Trust and communication

Alongside the topics that are internal to the organization, the issue of trust and more open communication between the parties of the supply chain is what the companies mention most frequently as both enabling and inhibiting the collaborative relationships:

"Supply chain collaboration takes courage, trust and openness of all parties, and it makes sense to compare it to that of a marriage" (Walbom, 2016a)

Table 7: Findings in Trust and Communication

Topic	Frequency
Trust/lack of trust	17
Open and honest communication	10
Increased dependency and loyalty	8
Sharing of risk and rewards	3

All of the companies mention trust as a key enabler of getting supply chain collaboration to work efficiently, and they see it as the foundation for many of the other modes of collaboration and benefits of collaboration. Trust is also seen as the precursor for commitment, which is an important factor of collaboration as well. Trust is also an important factor for co-development and knowledge sharing, and often need to be backed up by more formal measures of collaboration (like legal contracts on ownership rights).

"If a focal company develops a product in collaboration with the suppliers, and the supplier then goes to 2-3 other companies for a better price for the product, then the focal company loses both money and competitiveness. It is important that we are able to trust the supplier", (Appendix 7)

The latter two topics in the table are argued to be results of companies being more open and honest, and trusting each other in the relationship, and are therefore placed in this category. What is emphasized here is that closer collaboration leads to higher dependency between the parties and this can either increase rewards of collaboration or enhance volatility.

"When working with suppliers who provides strategically important or critical products, it will take a lot of time, effort and resources to replace them, as you would somehow have to develop a similar product. In this way they have bargaining power as suppliers as well", (Appendix 4)

One of the benefits that may arise from dependency between the parties is an increased feeling of loyalty. It is found that there is *"an increased willingness to invest in and share technology among the collaborative partners"* (appendix 9), which is a sign of loyalty development.

Information sharing

Almost all the companies also mentioned the topic of information sharing and the collective learning that may occur through information sharing. It is argued that access to complementary resources often happens as a result of knowledge sharing, and therefore it is categorized in this table.

Table 8: Findings of information sharing

Topic	Frequency
Knowledge sharing and collective learning	14
Access to complementary resources	3

One company mentions increased knowledge sharing as an incentive for engaging in closer collaboration:

"Some parts of our business is very similar, so of course it would make sense to talk to the focal company of how they run their processes, and exchanging experiences and knowledge supplier and focal company in between – this should make everyone better off", (Appendix 6)

Company F emphasized that a change in the way that they spoke to and exchanged information and knowledge with their supplier led to changes and improvements in their production efforts:

"Through simple dialogue, the supplier was willing to change their efforts and working process, and producing in a different way for us. This resulted in the release of large amounts of inventory space at both supplier and focal company", (Appendix 7)

The frequency of mentioning 'accessing complementary resources' is not particularly high, but it is argued in the analysis that many of the benefits that stem from increased collaboration are just that – access to resources, knowledge or capabilities that would not otherwise have been available to the company.

Common actions and benefits from collaboration

This category is quite broad in terms of the topics that it entails. It is sought to take in all the efforts, incentives and benefits that involve a high degree of interaction (or lack thereof) between the parties of collaboration.

Table 9: Findings of common actions

Topic	Frequency
Co-development and earlier supplier involvement	10
Strategic alignment and incentive alignment	11
Supplier autonomy and openness towards suppliers	11
Common understanding of processes	11
Uneven gains and power relations	5
Relationship-specific investments	4
Formalization and agreements	5
Informal collaborative measures	4

A significant amount of the companies mentioned co-development through earlier supplier involvement of product development as being one the incentives and benefits of engaging in closer collaboration with their supplier.

"We are continuously working with supplier development, as our products are high-tech in nature. It is important that our suppliers exhibit high levels of technical know-how. We

develop products in collaboration with our suppliers, in order to get the prescriptions just right", (Appendix 2A)

The issue of strategic alignment and incentive alignment among the parties are also of essence to the companies. This means being aligned to the strategy that the focal company wishes to take the end product to market with and having the management of both organizations aligned in terms of who owns the technology and how risks and gains of collaboration are shared. This is, therefor seen as a key enabler of collaboration, but also a key inhibitor if alignment is not obtained.

From the point of view of the suppliers, they all wish to become more autonomous in their relationship with the focal company. Some of the focal companies see supplier autonomy as a benefit or incentive of collaboration as well, but have concerns in terms of giving up some of their own autonomy and processes.

"We invited our customer to a meeting, focusing on how to further evolve our collaboration (…). We felt that too many logistical and undesirable processes were placed in too many locations, and we wanted to take on more of these processes at our site, and in that way become an even bigger and more important supplier to the company", (P1, Appendix 3)

Another key incentive for increased collaboration is found to be that of improved understanding of each other's production and working processes. It may seem obvious, but many of the companies knew practically nothing about the processes of their suppliers, and the suppliers in some cases knew very little about the end product. Increased collaboration is expected to improve this aspect tremendously.

Formalization and informal measures of collaboration are both categorized as the modes of collaboration that the parties have implemented in order to coordinate their operations. The informal measures are primarily face-to-face meetings, which many of the companies have increased significantly. Furthermore, they have held workshops in order to align incentives and goals and to address common challenges. In terms of formalization, many of the companies have focused on forming legal contracts to a larger extent than previously, defining their strategies and goals on paper and they have formed shared KPI schedules in order to be able to follow up on results and agreements. One of the suppliers felt that the focal company did not honor their side of the agreement, which resulted in dissatisfaction, loss of trust and proved quite hurtful to the collaborative relationship.

Another collaboration mode that a few of the companies have engaged in is relationship-specific investments. One supplier has, for example, invested in production equipment that is used solely for the production of goods for the one focal company.

Lastly, an important issue that the companies, especially the suppliers, address is that of uneven gains from collaboration or feeling that the focal company is abusing their power, as the bargaining power is often shifted towards the focal company. This is something that is seen as crucial to address in the collaboration setup:

"… The goal is not just to find flaws, but also fine-tuning the relationship in order to create more value for both parties, and look past the traditional power relationship between the parties", (Mortensen, 2016a)

Business process optimization

These factors are all intertwined in some way, as some of them are prerequisites for others, but they all relate to the aspect of focusing on processes and value creation in the collaborative relationship, instead of the discussions of price reductions and margins.

"If we are going to succeed in optimizing our processes, and make it last long-term, it is crucial that the focal company and suppliers prioritize dialogue and have meetings, where we look each other in the eyes without discussing price" (Dansk Industri, 2016a)

Table10: Findings of business process optimization

Topic	Frequency
Rationalizing business processes (focusing on flexibility and responsiveness)	13
Inventory management and improvement	11
Cost optimization and value-creation	10
Delivery and lead time improvement	9
Product quality and consistency	8

Logistics synchronization	5
Forecast sharing and demand planning	5

The rationalization of business processes is, in many ways, a result of improved common demand planning and logistics synchronization and is, at the same time, a prerequisite for the improvements of inventory management, delivery and lead times and product quality improvements. If both parties manage to rationalize some of their production processes, the companies find it to be a main benefit of collaboration and something that can increase overall competitiveness:

"Supplier development and improved communication with the supplier has led to the result that orders and forecasts are now being put more into system, and orders are being confirmed more efficiently – we actually get the orders we place, which was previously not always the case. These collaborative actions have then lead to improved delivery times", (Appendix 2A)

"With one of our suppliers, our dialogue has helped us remove inefficiencies through simple changes in logistics, which have been preferable to both parties and have increased the competitiveness of both our company and the supplier", (Appendix 5)

Inventory management and improvement of inventory levels are emphasized by almost all the companies as both an incentive for engaging in collaboration and a result of having effective collaboration. Many of the companies had inventory tied up at both the focal company and at the supplier's site but, through increased collaboration and communication, they have managed to decrease these levels, which is important for growth and competitiveness as well:

"Inventory decreases also leads to time-to-market decreases for new or modified products, and often decreases waste levels as well, which has clear financial gains", (Walbom, 2016b)

One company even moved the control of a certain line of products entirely to the supplier, which implies high degrees of supplier autonomy that is aided by common forecast and demand planning as well:

"We have moved the control and order of products entirely to the supplier, so that they are the ones accessing the inventory status and order new products when needed", (Jørgensen, 2016)

Forecast and demand planning are mentioned by some of the companies as tools of collaboration, while others admit that they have had hardly no collaboration with their suppliers on the matter, but wish to have so in the future. However, one company does not necessarily see it being a benefit for them, or something that they will spend resources on:

"I do not necessarily see it as being relevant to us (…). Our production is highly complex with too many products, and we often find ourselves in a situation where a production plan is revoked due to another order with a different time horizon. The forecast would then not hold anyways, and thereby would not aid the supplier", (Appendix 4)

IT-based capabilities

Taking into consideration the extent to which IT and e-business tools are emphasized in the literature on SCM and collaboration as being key enablers and having the prospect of improving collaboration, the topic is mentioned quite rarely in the interviews, speeches and articles of this thesis.

Table 11: Findings of IT-based capabilities

Topic	Frequency
IT integration	6
Manual processes (lack of integration)	4

All of the companies of course use e-mail (which is an e-business tool) in order to communicate. However, this is argued to be the norm today and is not seen as something that drives supply chain collaboration in particular. The companies who share forecasts with their suppliers do so manually by e-mailing Excel sheets to the few suppliers that they share them with. The companies who do wish to be more integrated with their partners in the supply chain through IT based systems, mention, for example, an Intranet as being a possible tool:

"We do not currently have any form of integration with our suppliers, but would like so. For example, through an open system (Intranet), where they could access our production plans and see what our needs are in the coming 12 months. Then they could prepare and demand plan from that", (Appendix 2B)

Company D and E are currently working on developing an e-business solution for sharing inventory levels:

"We would like to set up a VMI system with company E, so that they can access our system, and fill up our inventory automatically when needed", (Appendix 5)

One company has developed an app that integrates suppliers with the focal company and their operations as they can always access information, production plans, and time schedules (Dansk Industri, 2016b). This is quite a new way of using e-business tools in collaboration.

Having manual processes and not implementing e-business tools is seen as an inhibitor of collaboration by most of the companies, and there is a general desire to become integrated at a higher level.

Main obstacles to collaboration

It is argued that most of the factors that have been mentioned in the previous section as being incentives of collaboration and benefits of collaboration are also the main challenges and obstacles to collaboration when they are not implemented effectively. However, the companies find an inward organizational focus and culture, strategic alignment and incentive alignment, allocation of people and resources and trust issues in particular to be the main obstacles to increasing the intensity of collaboration. Lack of trust also leads to the benefits of business process rationalization being more difficult to obtain.

The following statements all underline these issues:

"Focal companies and suppliers have all had to look inwards in order to change processes, that helps the other parties as well, and improves the potential for collaboration", (Olsen, 2016)

"One of the main obstacles to increased information and sharing among partners in the supply chain, is the companies' fear of the misusage of the knowledge that is obtained from collaboration", (Mortensen, 2016b)

"A more or less complete open-book policy from both parties are of essence for collaboration to work – or else it is simply an abuse of power from the point of the focal company", (Appendix 9)

"The greatest challenge or obstacle to increased collaboration is first of all a matter of trust, but also a matter of all parties providing the time and efforts it takes to develop and nurture the relationship", (Appendix 2A)

"As markets and products grow and products become more innovative in nature, strategic alignment and co-development becomes increasingly important (…) A lack of strategic alignment with the supplier is the most fundamental challenge of increased collaboration in the supply chain, and this problem often arises when collaborating with large organizations", (Appendix 4)

While this section has sought to highlight some of the main findings of tools, incentives, benefits and challenges of collaboration that have been drawn from the empirical data, the following section seeks to analyze and discuss how these findings align with theory and previous literature. Furthermore, it seeks to analyze and discuss the implications that this may have in terms of developing dynamic capabilities and how the companies may improve collaboration in supply chains in the future, as it is clear that further actions are still needed for them to become even more successful in their collaborative efforts.

Analysis and discussion

This section seeks to relate the conceptual framework, to the empirical findings and analyze the implications of the findings. It will furthermore discuss whether the case companies experience benefits and challenges similar to those that have previously been discovered in research or whether they face other and more pressing challenges.

The structure of the analysis will be similar to that of section 2, where the factors of coordination and collaboration will be the starting point, leading on to a discussion of whether dynamic capabilities are developed and how the resource-based view may explain some of the findings. Lastly, the findings will be analyzed in relation to the evidence and implications that have been detected in previous literature, and the findings that do not correspond to previous research or are not highlighted in previous research will be analyzed.

Coordination and collaboration

In section 2 a number of enablers and inhibitors of collaboration and coordination was detected, alongside a range of tools that the companies can implement or engage in, in order to achieve effective and successful collaboration in the supply chain. This section aims to analyze how the companies have engaged in activities that are either enabling or inhibiting collaboration and whether their actions are built on the principles that lead to a strong vision of collaboration. The case companies have been quite successful in employing some of the enablers that are found by theory to be leading to more successful collaborations, but at the same time they have struggled and still struggle to handle some of the challenges that inhibit coordination in the supply chain.

One of the main enablers that is argued to be a prerequisite for many of the other factors of IOC to be successful is that of trust (Alexander, 1995; Chakravarty, 2014; Simatupang et al., 2002; Zare Mehrjerdi, 2009). Some of the focal companies have previously seen themselves as being quite open towards their suppliers but, as it turned out, they have not had a complete open-book policy, which is recommended for collaborative partnerships or strategic partnerships (Zare Mehrjerdi, 2009). Instead the focal companies have demanded somewhat open books from the suppliers, but not conversely, which has led to the suppliers feeling 'abused'. This is a clear inhibitor of increased collaboration among the partners involved and, as such, this is an issue that needs improvement.

Another enabler of collaboration is that of employing the right people and allocating the right resources and an adequate amount of time as well (Alexander, 1995). The companies have been very aware of this factor and many of them have succeeded, in that they have actually managed to reframe the organizational setup in a way that put increased focus on supplier development and supplier relations. This has led them to reap the benefits of increased intensity of collaboration. What is also found to be a benefit of allocating people to focus only on supply chain relationships is that there is an increased feeling of ownership of the projects (especially from the supplier point of view), and this is argued to be fostering a type of staff attitude that will further increase accessibility to other organizations and improve partnerships further on, thereby enhancing collaboration (Alexander, 1995). While all of the companies have assigned SDAs, this has not necessarily been a prerequisite for success, even though this is highlighted in the conceptual framework as being an important factor of increased collaboration (Dyer & Nobeoka, 2000). This may be due to the fact that some of the companies have struggled to allocate the right people, time and resources as they have been met by challenges in their top management or have experienced a high degree of personnel turnover, which is another inhibitor of collaboration (Alexander, 1995). One of the companies has actually developed a new organization, in which they have created a 'Supplier Development' unit. In theory this should be able to support collaboration effectively, but in practice they have failed to do so. One of the suppliers also admits that they are currently lacking the right internal organization to optimize customer-supplier relations. They find themselves in a situation currently where the wrong people are often talking together, at the wrong point in time. According to the conceptual framework, this is a clear hindrance of further collaborative developments.

In order to create a solid foundation for IOC to happen effectively, the companies need to stress a pluralist world view, as this fosters cooperative action, instead of having a narrow world view focused on local concerns and the organization's internal mission (Alexander, 1995). A couple of the companies mention that they have presented themselves to their suppliers and asked: '*what can we do for you'*, instead of having it the other way around. At the same time, a couple of the suppliers mention that they have taken the initiative to improve processes and take on more responsibility for the customer. These are both examples of how the companies have taken a more pluralist view of the business environment, where it is not just the mission of their own organization that is in focus. This should aid them in enabling increased collaboration.

Another issue that is brought up is that of the focal companies being less arrogant in nature, particularly being able to admit that at times they are wrong as well, and that the suppliers may be able to bring ideas to the table that improve overall operations. This form of changes in staff attitude is an enabler of IOC as well (Alexander, 1995), but has to be supported by a high degree of trust between the parties, which is what some of them still struggle to do.

The companies all mention that they wish to create room for more open dialogue and knowledge-sharing, where specifications from the focal company are fewer and where suppliers have more autonomy, as this leads to co-development of products and processes, which is a clear benefit of collaboration (Rungtusanatham et al., 2003; Soosay et al., 2008). However, this seems to be one of the areas where the companies struggle the most. On the one hand they want to foster innovation and co-development, while on the other they want to protect their own knowledge and know-how, and the focal companies want to make sure that the suppliers do not sell co-developed products to competitors. One of the suppliers highlights this as a problem, as they want to increase their autonomy and take over processes from the focal company, which would create a higher level of efficiency in the supply chain (Gunasekaran et al., 2008). The focal company, however, is unwilling to provide the know-how to the supplier, which inhibits this collaborative arrangement. Another company also finds that they have faced a general challenge in the form of reluctance from many parties in the supply chain to share insights into their processes. This lack of trust from the focal companies inhibits collaborative efforts, but also underlines the importance of having well structured formalized measures in place, such as legal contracts.

It is found by one of the companies that task customization due to product specialization is a problem, especially to the suppliers, which corresponds to Alexander's theory of task customization as an inhibitor of IOC (Alexander, 1995). The problem is that sometimes a supplier might be producing a very particular product in a very specific way for only that one customer, which is not beneficial to the supplier and demands a certain level of dedication between the two parties.

Increased information sharing in an effort to lower information asymmetries, which is an important enabler of collaboration (Simatupang et al., 2002), has been of focus by all of the companies . The idea of the project has been to heighten information sharing to a level beyond what is historically seen in supplier/buyer relationships in Denmark, but closer to the levels implemented by Toyota and other OEMs previously. However, IT is the main enabler of such information sharing (Fawcett et al., 2009) and very few of the companies have reached a level of supplier integration, where IT systems help drive the knowledge sharing and collaboration in general. As having integrated information systems is part of the principles that foster a clear of collaboration (Zare Mehrjerdi, 2009), this is a challenge still for the companies.

The collaboration mode of collective learning is also something that the companies emphasize greatly, which fosters complementarity and coherency among the organizations (Simatupang et al., 2002) and will be returned to. The wish of the companies is that collaboration can lead to a focus on common problems and an increased understanding of the technical challenges that they face independently. This strategy is also consistent to the efforts of Toyota, where collaboration in particular took place in the areas of technical issues and new product development (Dyer & Nobeoka, 2000). When they are able to achieve this type of collective learning, they should also be able to implement logistics improvements in the supply chain (Zare Mehrjerdi, 2009), which some of them have managed to. The transfer of knowledge between the companies is key to the change process and one way of supporting this is through joint training, which is found in one of the partnerships. One of the challenges that is often faced by the companies is that they have differing capacities to perform the initiatives that are needed for efficient SC collaboration. One focal company has sought to overcome this obstacle by allocating their own resources to train their suppliers on how to work with the data that is collected between them, how to work with Lean management and systematic problem solving. This might also be a way of fostering a stronger network identity between the partners in the supply network, which is an important enabler of collaboration (Alexander, 1995).

Strategic alignment and incentive alignment are, as highlighted in the conceptual framework, highly important as well for the collaboration efforts to become efficient (Simatupang et al., 2002). In terms of strategic alignment, some of the companies emphasize how both the focal company and supplier need to be aligned to the strategic implication of the end product, especially in the case where products are of complex technological standards. This type of alignment includes both an informal aspect and a more formal aspect. The supplier and focal company need to sit face-to-face across from each other to make sure that a common understanding of the end product and its strategy is created. Furthermore, contractual agreements then have to be made, which correspond to the strategic implications of the product. This is part of the incentive alignment. The strategic alignment also improves the possibility that the focal company will be increasingly able to trust the supplier's product and the quality of it, which is an important factor. In relation to strategic alignment, it is again really important that the parties invest the time and effort that is needed in order for the operations and ideas of focal company and supplier to become aligned.

In terms of incentive alignment, it is important to make clear who owns what and who benefits in what ways. As has been noted several times, there is a clear issue in how to formalize the collaborative relationships. Many of the companies have previously based their linkages to suppliers on quite informal measures, but as products and processes become more complicated, they have realized that formalization has become increasingly important. This is also something that is emphasized by the efforts of Toyota, where it was important to *'formalize the rules of the system'* (Fane et al., 2003). The challenge here is to form contracts that protect the ownership rights of each of the parties, while at the same time incorporating incentives for innovative activities, especially on the part of the suppliers.

It is clear that if a focal company owns everything that the supplier and focal company develop in collaboration, the supplier will have no incentive to be high performers in innovation. In the realm of incentive alignment it is also found that some companies have not been able to foster a win-win perspective, which is crucial to effective and successful collaboration (Wiegand, 2016). Many of them have been successful in moving away from price discussions, while some have still not entirely managed to stop pressuring suppliers and their price margins. These companies still need to focus on taking on a broader worldview and become even more aware that their suppliers are key to success in the global market.

Tools of collaboration

The companies have implemented a range of tools and collaboration modes that aim to improve supply chain collaboration.

While it was stated in section 2 that informal collaborative mechanisms have been the most common ones used in IOC (Alexander, 1995), the companies here have acknowledged that these informal mechanisms today have to be backed up by formal mechanisms to a higher degree than previously, especially where innovation and knowledge sharing takes place. As such Alexander's theory is contested to some extent. One of the companies has, for example, created formal contracts with a supplier they have had for the past 12 years, where business used to be done almost purely based on informal arrangements and a common understanding of 'how business should be done'. This is quite surprising for a business relationship in 2016. Informal measures of collaboration are still widely applied though, as many of the improvements that have come from collaboration have been achieved through face-to-face meetings and more honest dialogue between the parties. It seems that many of the positive results have been achieved through more informal mechanisms still.

Through the Stram Kæden project, all the companies have been provided consultancy in implementing systematic tools of collaboration, such as value stream mapping, root cause analysis and A3 problem solving. The approach has been to first embark on a range of informal measures, such as meetings, conferences and workshops, where the goal has been to gain common understanding and appreciate mutual problems. These efforts are then formalized into schedules where the goals of collaboration have been defined and KPIs have been set up in order to be able to follow up on these common goals and responsibilities, which highlight the increased focus on formal tools of collaboration. In theory this should aid collaboration tremendously, but some of the companies have experienced challenges still as lack of top management support and time and resource allocation have hindered the process.

Another problem arises when one of the parties does not own up to their promises and responsibilities, as have been defined in the A3s. One of the suppliers felt neglected, as the focal company did not hold as many meetings as agreed upon, and at the same time sent the 'wrong' people to sit in on these meetings, which is consistent with the inhibitor of not allocating time and resources needed (Alexander, 1995).

The primary collaboration mode has been to talk less about price at these meetings and to focus more on common value-creation for all parties, and subsequently for the end customer. In this, a key focus has been to have earlier supplier involvement in both products and processes, focusing on common competencies and common business development, and discussing common goals. This supports theory as well, as Chakravarty especially emphasizes early supplier involvement as key to successful collaboration and as a way of obtaining competitive advantages in the supply chain (Chakravarty, 2014).

Another tool of collaboration is that of forecast sharing, which is essential to the improvement of delivery times, and increased collection of data on for example waste in the supply chain. This data is then to be analyzed thoroughly in order to improve processes in the future. The companies have also sought to develop common action plans, joined project plans and common standards of documentation in some cases. However, only a few of the companies have backed up this type of collaboration mode with IT systems, and it is argued that a higher degree of automation would improve this process even further (Zare Mehrjerdi, 2009). The collection and analysis of data is completed on a very manual basis. One of the focal companies acknowledges a clear problem the in lack of IT systems to back up the wish of creating common documentation standards. Only one of the companies provides a great example of how efficient a company may become when forecast sharing, supplier autonomy and responsibility are combined with supporting IT systems. They have managed to enable automation through IT integration with the supplier and it has saved them a lot of money and, more importantly, has made them more efficient permanently, which is consistent with what is presented in theory (Zare Mehrjerdi, 2009). Besides being supported by IT systems, these types of collaboration tools have to be supported by a large degree of trust and the willingness of all parties to share the necessary information. As previously mentioned, this has proven to be a challenge to some of the companies. Here it is important that transparency of all parties and openness to suppliers is created as it has the possibility to, for example, reduce inventory capacity at all sites and improve the turnover of all parties. However, some of the companies mention that this is still a message that is difficult to 'get out there'.

Mutuality and focus of collaboration

In the case studies, a range of examples of mutuality between the companies is found. Mutuality arises when there is complementarity and coherency of activities among the partners in the supply chain (Simatupang et al., 2002). Many of the companies are found to collectively manage the interdependencies of logistics processes, and it seems that this is one of the main focuses of collaboration for the companies in question. They primarily highlight the benefits of inventory efficiency, handling of orders and other logistical improvements. This fosters complementarity of activities and thereby increases mutuality. Coherency is also being developed quite effectively between the companies, as almost all the companies mention 'gaining common understanding of products and processes' as being one of the main incentives and main benefits of engaging in increased collaboration. It seems as they have succeeded in this as well, which further improves the level of mutuality among the organizations. Especially in terms of processes and sharing knowledge on how each company's processes work, the companies have successful and more than half of the companies mention information sharing leading to process improvements as being a main benefit of collaboration, consistent with the theoretical foundation. However, in one of the cases it is mentioned that the people from the focal company who were assigned to deal with the relationship with the supplier showed up with no knowledge of the products that they were co-developing, and this resulted in the supplier being less willing to engage in collaboration from the beginning. This is an example of how coherency was not established, which in turn lowered mutuality between the companies, and thus hinders effective collaboration (Simatupang et al., 2002).

The focus of collaboration emphasizes the operational, strategic and organizational linkages between the companies and the interface where the companies need to make joint decisions. In particular, the companies have been focused on operational linkages, where they have sought to enable coordinated distribution and logistics. However, most of their efforts cannot be characterized as efforts towards integration of independent processes and information flows, as few of the companies have any integration of information systems. Instead, it has been enabled through increased communication at a more informal level, where the companies have had an open dialogue on how processes work and how they may be improved, which to some extent diverges from what is presented in section 2 (Simatupang et al., 2002). In some of the cases, this has led to more autonomy for the suppliers, who have taken over some of the processes that were previously situated at the focal company. In this way, operational linkages have been improved, though still in a manner that does not yet situate the companies at the higher levels of the supplier maturity relations model, as will be returned to in the next section. The companies involved have also been focusing their efforts on improving the strategic linkages through the core competencies of the companies. As the companies become more open and honest with each other, including communicating what they are less good at, then, it is argued that the core competencies of the companies can be allocated more effectively, and suppliers may become a more integral part of new product development as well. This is also consistent to the RSC and the notion of the 'virtual enterprise' as being an enabler of the RSC (Gunasekaran et al., 2008). While none of the companies are found to have VE collaborative relationships *per se*, many of them exhibit some of the strategies, such as increased communication and training among the partners, having goal deployment, empowering teams, and developing strategies for supplier selection. The latter two factors are those that need even more focus from the companies. Furthermore, the RSC has to be supported by strategic planning that fosters increased agility in the supply chain (Gunasekaran et al., 2008). In this case, the companies have been quite effective in some of the strategies, such as supply chain partnering, development of contract manufacturers and, to some extent, employee empowerment. However, the problem arises when these strategies are then not supported sufficiently by IT systems, and top management support. Then the companies will face the problem of not being able to carry out the other strategies in practice. Organizational linkages are those that allow the companies to understand partnership activities and the realities of bargaining power in the supply chain (Simatupang et al., 2002). There are several examples from the cases of companies becoming more knowledgeable of each other's activities, and especially the focal companies having gained an increased understanding of how they may, previously, have pressured their supplier in a way that was inexpedient for effective collaboration (Appendix 7).

Supplier relations maturity

A general approach by the companies towards supply chain relationships has been of a highly competitive manner, where focal companies often put suppliers in a position of competition with a focus on price discussions and price margin pressures (Appendix 9). This is an inhibitor of improved collaboration and prevents focal companies from accessing the *right* suppliers. It was stated by theory that having the right suppliers in the supply chain is essential to successful collaboration (Alexander, 1995). The focus of collaboration should move away from price and towards focusing on the actual competencies of the companies you engage with. Are they able to optimize processes, cooperate in a lean manner and provide flexibility in operations? This approach to SC linkages is also something that will help the companies move to the higher levels of the supplier relation maturity model. If they fail to do so, and keep finding themselves at levels 1 and 2 of the model, they will face challenges in collaboration, which is clearly seen in the cases as well.

It is found that a general problem for Danish companies is that supplier development levels are too low, compared to what is preferable (Appendix 9). As the focus on supplier relationship development is a new focus for many of the companies in this case, their relationships are also mainly placed somewhere in level 1 or 2 of the model, which is problematic and calls for a continuous and improved focus on collaborative measures. The interviewed companies all recognize that higher levels of business excellence will not be reached by focusing on cost only, and that higher quality of products and improved delivery times come through communicating at a more one-to-one level. However, it seems many of them are especially inhibited by having no communicated strategy for their supplier network, not being able to access how suppliers and customers may help each other, low levels of forecast sharing, no integrated IT systems and no service level agreements. Many of the companies, however, do perform activities that are related to levels 3 and 4 of the model, but have not been implementing them linearly. It then becomes difficult to 'fix a train that is already running'. One of the companies has, for example, been very good at early supplier involvement in R&D processes, while at the same time lacking a strategy for the supplier network, and this has created ownership risks for them, which underlines the importance for managers to create a linear process of the steps as suggested by the model.

Another problem that the companies face, when they do not manage to move 'up' the model, is that the focus on supply chain collaboration becomes very fragile, as it is not yet incorporated into the mindset of the organization. This is especially seen in the companies who have experienced a high degree of personnel turnover in the area of supplier performance and development. This has led to the company having to decrease the intensity of collaboration with strategic suppliers entirely.

One of the companies highlights the importance of improving supplier relations maturity as markets and products grow, becoming more complex and more mature in the market. Previously suppliers may have been someone who just provided raw materials, and so a focus on collaboration may have been less important. As products and markets grow, products become more innovative in nature, which also means that strategic alignment and co-development becomes more important, meaning that companies should then focus heavily on moving to levels 3 and 4 of the model. This is an issue that has not been a focus in the theoretical foundation, but seems to be considered to be important by some of the companies, which suggests a need for further attention.

Benefits and challenges

This section will consider some of the benefits and especially challenges that the case companies have faced in relation to what has been highlighted by previous research in order to determine whether the experiences of the companies are what could be expected, or whether they have faced issues that have not previously been highlighted in research.

The incentives for collaboration can be either cost or customer oriented, and should preferably be both simultaneously (Chen et al., 2009). When looking at the incentives and benefits that the companies emphasize, it seems that they have been somewhat equally cost- and customer oriented. The cost oriented incentives are those of inventory improvements and general cost optimizations in the supply chain, while the customer oriented incentives are those of rationalizing business processes in a way that leads to higher degrees of flexibility and responsiveness, improved delivery and lead times, and those processes that improve product quality, for example through co-development.

Process improvement and co-development

Many of the companies have succeeded in collaborating in areas that have led to higher operational performance, while some of them still face challenges. Many state that the increased focus on supplier development and improvement of communication has led to efficiency improvements in order placements and delivery times, as should be the case according to the theoretical foundation, but in one of the cases, a deeper understanding of each other's operational processes is still needed. The focal company is apparently still placing orders and batch sizes that are simply not possible for the suppliers.

One thing that is found to be a challenge for some of the companies is that of co-development versus task standardization. Co-development of new processes and products has been highlighted as being one of the major incentives and benefits of collaboration, and this is still true. However, companies need to be aware of the challenge they may meet of having to become too task customized due to the customization of products and processes in relation to one particular partner. A few of the companies mention this challenge, which corresponds to theory, as an inhibitor of collaboration. For example, one supplier sees it is as difficult balance to want to service a customer with a very specific technical product and at the same time not becoming too specialized in production.

There is a clear challenge for all companies involved in supply chain activities in detecting who actually benefits from collaboration, and research findings differ in this aspect as well. Often it is the case that suppliers are performing some sort of R&D activity on behalf of the focal company, which may lead to challenges of ownership rights, as previously mentioned. This is also the case here, where one of the companies feels that they have made a range of changes to their production processes that have helped the focal company save a bulk of money, compared to what the supplier feels they gain from it. However, another supplier then highlights the fact that the optimizations they have performed for the focal company has a trickledown effect on other areas of their production and, as such, they still see it is a benefit.

Measuring the success of collaboration

A large part of the companies highlight issues of how to measure success and how the support of top management may collide with this. While the issue of top management support has been addressed in the conceptual framework, this particular issue has not been addressed, but provides basis for a necessary discussion. Most companies measure success based on a set of KPIs, which are often financially based and driven. The problem then arises when many of the benefits that may stem from increased intensity of collaboration are not immediately detectable on the bottom line. The companies then argue that KPIs have to be formulated differently and, in a way, that acknowledges these new ways of working and this takes effort from the internal organization of each company. The KPIs should instead be formulated in a way that acknowledges and rewards process optimization instead of price optimization, as the former may lead to higher levels of responsiveness and flexibility in the production process, which is a way of developing more long-term advantages for the companies (Gunasekaran et al., 2008).

The size and capacity of the company

The issue of company size and capacity is an interesting discussion, as it is argued in the theoretical foundation (Cao & Zhang, 2010) and by some of the companies here that the size of the companies has an effect on whether or not the companies are able to both enable collaboration and also reap the benefits of collaboration. The argument is that larger companies are more prone to focus on increased collaboration in their supply chain as they have the resources to initiate it and also have larger capacity to implement the gains and lessons that are obtained from collaboration. This issue might be helped through joint training, as is seen in one of the cases where the larger company, who possess more resources, helped the smaller supplier develop the capacity they need in order to engage in increased coordination activities. A counter argument here, which is brought forward by one of the companies, and contradicts the theoretical argument, is that, while large companies may have the resources for increased collaboration, they are more difficult to collaborate with in practice due to internal organizational challenges and bureaucracy. This particular company finds that smaller companies are easier to engage in collaboration with.

Internal focus of the organization

It is contended that Danish companies are still overly focused on internal optimization (Walbom, 2016a), and the issue of internal culture changes is brought up by almost all the companies as being a serious inhibitor of increased collaboration. This is a topic that has not yet been a major factor in the research on SC collaboration. It is especially the aspect of change management that is being put forward here as being the challenging parameter. Both focal companies and suppliers need a different mindset. As suppliers are often given more responsibility following increased collaboration, they are also responsible for when things go wrong. This is something they may not previously have been used to, and this poses a challenge.

It is highly important for the companies to build the organization internally, in a way that meets the challenges of supply chain collaboration, prior to actually engaging in complex supply chain partnerships. This is also supported in research: *"(…) internal focus should be simultaneous to involving external suppliers"* (Tan & Cross, 2012). This is not just a question of establishing top management support, but may be a question of entirely changing the organizational setup, which is what two of the companies here have sought to do in order to meet the challenges of a changing business environment.

Co-dependence and autonomy

While it is the argument of section 2 that companies should be focusing on having fewer suppliers, and engaging in closer relationships with these, it is not found by all the companies that this is always the best solution. They acknowledge the idea, but have trouble practicing it. One company feels that their supplier setup in one area of business is too weak and wishes to have more suppliers in order to feel more secure, which collides with the ideas of the theoretical foundation. It might be argued that a solution to this problem could be improved supplier assessment instead of broadening the number of suppliers. They would then have the possibility of accessing the right suppliers and build up a trust relationship with them, which would lead them to feel more secure with their suppliers. The company is, however, contradicting themselves, as they have found in other areas of their business that it is a challenge to have too many suppliers, and want to decrease the number of suppliers and give more autonomy to the ones they have. Another company has, however, seen the advantages of increased collaboration leading to a limited number of suppliers, with whom they have more of a partnership than a supplier relationship. They agree on some of the risks that are found by others, for example the fact that increased dependency may also increase risks, but find that the benefits of such relationships outweigh the risks to a large extent.

Another issue related to that of decreasing the number of suppliers, which has not been addressed to a large extent in previous literature, is that of increased supplier autonomy. It is a topic that is being presented by several of the companies (especially on the supply side). The development of higher levels of supplier autonomy is found to be a benefit for both suppliers and focal companies, but it does present challenges as well, which the companies should be aware of. When focal companies shift non-core activities to their suppliers, they often find that operational risk is increased. This, however, can be countered if the relationship is based on high levels of mutuality, trust and formalization of the agreements (Simatupang et al., 2002). This should decrease some of the operational risk, and is argued to leave both parties better off.

In relation to supplier autonomy, the issue of increased co-dependence among the companies is highlighted as well, as co-dependence increases when collaborative activities are intensified. One of the arguments in section 2 is that knowledge sharing and IT investments, for example, are often most beneficial to the focal company, as costs and activities are merely shifted to the supplier, while the focal company still benefits from the outcomes of that knowledge sharing (Soosay et al., 2008). However, the counterargument that is made by one of the supply side companies here is that shifting these activities to the supplier increases the focal company's dependence on that supplier, which creates higher levels of bargaining power for the supplier that is highly beneficial to the supplier in the long run. This supplier also mentions that they are more than willing to make relationship-specific investments that increase co-dependence, as long as the contractual agreements are then very clear and formal. This is important, as when the supplier becomes a stakeholder in the development and production process, a larger sense of responsibility is created, which furthers trust and inter-organizational learning in the long run (Chakravarty, 2014).

International vs. domestic suppliers

A topic that has not been addressed in section 2 is that of the differences between working with domestic suppliers compared to international suppliers. This is an interesting topic to address as it is argued to have managerial implications for companies engaging in supply chain collaboration activities. The companies here have all had a focus on their domestic suppliers only, as the project is Danish, but they all argue that the tools they have implemented can easily be expanded to their international partnerships as well, though there are precautions that have to be taken. One company finds that their international suppliers are easier to deal with than domestic suppliers, simply because they exhibit higher levels of technical capacity and know-how, which is the most important factor for their high-tech business. Another company, however, finds that it is generally more complicated to collaborate with suppliers across borders due to two factors, namely culture and business standards, such as environmental certifications, codes of conduct etc.

The level of product complexity

It is especially important for companies producing high-tech or high-quality products to focus on effective collaboration in their supply chain, as this type of production is not just about getting the cheapest components for your product. Instead it is about taking out the complexity of the supply chain in order to improve delivery times and quality of the products, as these are the success factors for this type of production (Mortensen, 2016a). This idea supports theory as well, as the sequential interdependence then requires more transaction specific resources, and is not easily mediated through purchase or contract. Instead it may need support from more complex collaboration modes (Alexander, 1995). This is highlighted by a few of the companies as well, as company A and F both find that effective collaboration is especially important to their operations, as their products are high-tech and high-quality. This is a topic that is not presented in the theoretical foundation, but provides an interesting discussion for further research.

The extended RBV and collaboration

Exchange theory is one of the explanations that are found for why companies engage in inter-organizational collaboration. In this it is argued that other's resources are critical for the survival of a company. This is the same argument that a large proportion of the companies here bring to the table when they are asked why they choose to engage in increased collaboration and tighter partnerships with their customers and suppliers. They acknowledge that they are not able to 'obtain success' by focusing only on their internal business, but at the same time most of them realize that they have not been focusing sufficiently on this in the past. Furthermore, in the extended RBV it is argued that it is necessary to implement processes (which are the dynamic capabilities) that alter the resource base and will lead to competitive advantages (Eisenhardt & Martin, 2000). It might be argued that implementing effective supply chain collaboration is part of these processes. This section will discuss some of the implications that the findings have in relation to the discussion of the resource-based view, VRIO capabilities and dynamic capabilities.

Developing VRIO capabilities

It is found that several of the initiatives made by the companies have the potential to improve their VRIO capabilities and may lead to sustainable competitive advantages. Many of the efforts are found to decrease the costs of production and increase customers' willingness to pay, as quality improvements have taken place. This creates valuable properties to the products. Rare properties are developed when companies are able to differentiate their products and processes from their competitors, and an example here is co-development, where the interaction between two parties in the supply chain leads to products that may be superior to competitors'. The imperfectly imitable properties also arise from supplier relationships in themselves, as the possibility of duplication is decreased due to the social complexity of the relationships that develop products and processes. The VRI capabilities are then developed quite effectively in many of the cases here, and it is then important to look at the O, which is the structures, systems and policies that help capture the benefits of the VRI capabilities (J. B. Barney & Clark, 2007).

The assessment of supply chain partners is one of the factors that are argued to develop competitive advantages in the market. Here it is especially important to analyze and couple the needs and capabilities of both parties, and afterwards define the goals and formalize them. This latter part is what the companies have been increasingly focused on, while some of the companies are argued to still not have the needed capacity to perform the first exercise effectively. Therefore this issue still requires attention.

Collaboration can lead to the creation of dynamic capabilities, as it is a way of integrating, building and reconfiguring competencies and can be seen as a strategic routine that alters and acquires resources (Eisenhardt & Martin, 2000). Innovation and insight into partners' operations may develop these dynamic capabilities through sharing customer/supplier information and creation of collective learning. It is argued that many of the companies engage in such activities and may, as such, develop dynamic capabilities. In particular, the companies who have sat down and discussed the strategic implications of their processes and end products can be argued to be developing VRIO capabilities in that way. It is the strategic information sharing that enables VRIO capabilities to arise and not merely the sharing of transactional information (Prajogo & Olhager, 2012), which have been the primary information sharing focus of the companies in the past.

Many of the companies, especially on the supply side, mention supplier autonomy and increased responsibility for the suppliers as something that has already happened or as something they wish to happen from increased collaboration. This is in line with the idea of the RBV, which states that companies should focus to a higher degree on the core capabilities of each company in order to reach higher levels of competitiveness, as firm specific skills of the companies are then improved (Cao & Zhang, 2011). Resource complementarity should lead to higher overall performance, and resource complementarity may arise through increased collaboration. It is found that all the companies have reaped operational and financial benefits (increased performance overall) due to their focus on collaboration efforts. One of the companies (a supplier) mentions that they have been able to improve the flexibility of their operations, as they have subordinated some of the technical processes that were not their core capability. This flexibility has made them leaders in the market of that particular product, which is a clear competitive advantage.

Supply chain collaboration is essential when the competitive parameters of the companies become those of delivering more efficiently or creating products of slightly higher quality than the competitors, as this takes work with the production and process flow throughout the supply chain. If it is established, this type of improvement can be argued to foster dynamic capabilities, and many of the companies have sought to improve efforts in that area. At the same time, they have sought to increasingly understand each other's processes and to create a wider understanding of the end product, so that even better products can come from co-development, which according to the theoretical foundation should become a benefit in the longer run. This is also a way of developing dynamic capabilities over companies who do not work in the same manner with their supply chain partners. If the focal company can ensure, through contractual agreements, that suppliers are not taking these products to competitors, then it becomes a sustained competitive advantage, as duplication of the product becomes increasingly difficult due to the social complexity of the relationship.

While it is argued that the V factor in the VRIO framework is quite easy to obtain through collaboration, by identifying and optimizing processes that lead to cost savings and creates temporary competitive advantages, the other factors, and especially the O factor, are more difficult and more important to develop. Many of the benefits from collaboration, such as improved delivery time and inventory management, are all factors that lead to competitive advantages in the short run, and may also improve the possibility of growth for the companies, as they release a certain amount of cash. Establishing the 'O' between the companies is the harder part. Here it is first and foremost important that they establish complete alignment and trust between them, as everyone is then more prone to accept the risks of investments that may lead to sustainable competitive advantages and creates dynamic capabilities. However, only a few of the companies are in such a position with their customers/suppliers, as they still struggle with overcoming the idea of not having suppliers 'at arm's length'. This is a challenge that they need to overcome for the benefits to surface.

The way in which many of the companies describe their relationship with suppliers as a 'marriage', can be argued to be a way of improving the 'O' in the VRIO framework, as it is a way of organizing the companies in a way that capture dynamic capabilities and create competitive advantages for the companies who are involved in this relationship.

The issue of trust is also a key enabler of the VRIO capabilities when it is argued to be available to only a few companies in the supply chain (J. B. Barney & Clark, 2007). The companies here all find that the issue of trust is the biggest inhibitor of forming VRIO and dynamic capabilities, which is consistent to what is presented in the conceptual framework. One of the companies highlights the fact that they have actually made an effort of presenting two competing suppliers to each other in order to underline that they are not necessarily secure in their position as suppliers. This is definitely not a way of exhibiting trust in the supply chain relationship. It may be a factor that hinders the companies from developing common dynamic capabilities, as it contradicts the theoretical foundation. Another company has been more successful in establishing this trust relationship with their supplier. They find that by giving the supplier more autonomy, a trust relationship is developed where they are also willing to provide the focal company with criticism, This strengthens all parties and creates a unique relationship that leads to increased value creation in the supply chain overall, which supports the argument of section 2.

Another company acknowledges that strategic partnerships have to be nurtured for them to stay competitive in the market. By nurturing these partnerships, they ensure a higher degree of continuity, which leads to getting the same products of the same high quality every time. This is a competitive parameter that helps them to stay ahead of competitors in the market. Yet another company also implies that they are very aware of the fact that, for their competitiveness to be sustainable, they need to focus increasingly on demonstrating trust towards their suppliers and focus on improved collaboration throughout the entire supply chain. Common competitive advantages are created between the companies when strong alliances are formed with their strategic suppliers. These advantages are argued by some of the companies to be valuable, rare and difficult to imitate due to the social complexity of the relationship. This is a way of developing VRIO capabilities through a network of resources, compiled by several companies, which should be possible according to the argument of the theoretical foundation.

As elaborated in section 2, IT capabilities can be a key enabler and supporter of VRIO capabilities, as they are a way of developing and deploying capabilities in IOC relationships (Fawcett et al., 2009). The main case here is that collaboration based on IT or e-business capabilities is quite absent, or at least at low levels. As e-business capabilities are argued to enable and improve most of the benefits from collaboration that are listed in section 2, this is a clear issue that has to be addressed by the companies in the future. In the few cases where VMI and other types of IT integration have been implemented, it is found that a range of benefits have come about immediately both in terms of improvement of processes and consequently financially. Thus, this supports the conceptual framework.

Many of the above examples underline how supply chain linkages can be a resource in themselves. For example, the companies who have developed very specific and unique know-how in collaboration with their suppliers are an example of collaboration being a resource in itself. There are also examples of how supply chain linkages can be a resource-acquisition capability. The changes that some of the companies have made internally to their organization are ways of improving their organization to capture some of the benefits that can arise from increased intensity of collaboration. In the case where one of the suppliers re-organized in order to improve collaborative efforts with their customers and create a better understanding of their processes, they found that the customer's dependence on them increased as well. This is argued to be an example of how the supplier managed to form supply chain linkages as a resource-acquiring capability, as they will most likely reap more benefits in the future from this reorganization and the increased focus of coordination.

The fact that good supplier relations lead to the increased willingness of suppliers to invest in new technology that will meet the future needs of the focal company, as is also seen in one of the cases where the supplier has made a relationship-specific investment, can also be argued to be a resource-acquiring capability for the focal company. Supply chain linkages have developed in a way that improves the possibility of the focal company gaining more resources (from the supplier) in the future.

The companies have been very systematic in initiating common problem solving, which is an important enabler of effective collaboration, and this has definitely provided all parties with considerable benefits. However, until the companies manage to focus on some of the factors that will lead supplier development into the steps further up on the supplier relations maturity model, it might be argued that they cannot obtain VRIO capabilities that will be sustainable in the long run. Then they will find themselves in a state of relationships that are still fragile and may not reap the benefits that stem from the VRI properties.

Revised conceptual framework

From the previous section it is clear that most of the factors that are incorporated in the conceptual framework are issues of collaboration for the case companies as well. The companies have faced several of the inhibitors of collaboration and have been focusing on improving the enablers of collaboration in order to increase collaboration intensity. They have also engaged in both formal and informal measures of collaboration, but have been less focused on the organizational types of collaboration. The companies, however, also brought forward a range of topics that have not been of focus by theory and research in the past, and therefore it would make sense to incorporate them into the framework as factors that influence the intensity of collaboration or factors that should be considered by managers when engaging in increased collaborative activities. These are also factors that could be interesting to research further, in order to determine the dynamics and influence of these factors on collaboration and operational performance.

These factors are argued to be those of variations in the size and capacity of the involved companies, the internal organizational structure of the companies, the issue of top management support, supplier ownership and supplier autonomy, the level of product complexity and the tools of value stream and root cause analysis. As such, these factors have managerial implications, in that managers of supply chains can possibly improve collaboration even further, if they focus on these particular aspects and take them into consideration when forming the strategy of the supply chain efforts. The main risks as perceived by the companies who have been studied in the thesis are that of increased dependency between the parties, the internal organizational and cultural issues and the fear of losing know-how to suppliers. To overcome some of these issues, long-term relationships between the parties are essential as they may help decrease these risks.

The findings have theoretical implications as well, as they highlight aspects of supply chain collaboration that may be further investigated in future research. The recommended areas of future research are presented in the last section.

Conclusions and further research

This thesis set out to investigate the increased intensity of collaboration in supply chain networks, and the benefits and disadvantages that it may entail. It has done so through qualitative research measures in order to supplement the previous research in the area, which has been highly quantitative in nature. The qualitative data was collected through a range of interviews with both focal companies and suppliers, and through speeches held by a focal company and a supplier presenting their experiences of increased collaboration in the supply chain. The theoretical foundation on which the research was conducted was created from a vast literature review and a combination of collaboration theory and resource-based theory.

It is clear from the findings of this thesis that supply chain collaboration is a hot topic in the international business environment, as all of the companies acknowledge that there is a need for increased focus and effort in the area in order for competitiveness and productivity growth to persist in the market. It is found that the empirical findings exhibit several similarities to that of the conceptual framework, but additional incentives, benefits and especially challenges were detected in the data, which have not been addressed to a large extent in previous research and literature. These findings and implications were presented in the previous section as theoretical and practical implications, and an extension of the conceptual framework.

This extension of the conceptual framework also suggests a number of areas for further research. First of all, while it is clear that increased collaboration in supply chains increase overall performance, a more detailed study on the matter would be relevant in terms of quantifying the actual results from increased collaboration. The companies of this thesis have already been able to detect changes on the bottom line, which could be interesting to look further into in the long run.

Most of the interviewees point to top management support and changes of the internal culture of companies as being a main factor for successful collaboration. Therefore, a study into the dynamics of change management in this area would be highly relevant, and could bring about important results for managerial actions in the area. In relation to this, the issue of trust is an important factor as well. Further research into this area could be most relevant;

for example a more practical case study on how to develop and sustain trust and commitment between suppliers and focal companies in the supply chain.

Lastly, there is the discussion of VRIO resources and how to sustain these. As argued, the integrity of VRIO resources that may develop from increased collaboration in the supply chain needs to be protected in order for them to become sustainable. The question of how to protect this integrity in the long run could be investigated in an entire thesis on its own and could also lead to important theoretical and managerial implications.

Surely, there is room for plenty more research in the area, as it is an area of international business that has the potential to improve the competitive and financial measures of companies greatly.

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Appendices

Appendix 1A: Interview Guide

Introduction questions:

- What is your position in the company?
- How long have you been employed in the company?
- Why are you relevant to this interview (what is your role in the project)?

Incentives and obstacles/challenges

- Why is your company engaged in the Stram Kæden project?
- Where is the supplier situated in the Krajlic model?
- What are the incentives to engaging in increased collaboration?
- What are the main obstacles or challenges to collaboration as you see it?
- What are the main concerns when engaging in such tight relationships with suppliers/customers?
- What type of strategy is the choice of increased collaboration based on?

The tools – the nature of collaboration and the structure:

- How do they engage in further collaboration – the tools?
- What are the main technologies that enable collaboration?
- Are there any inter-organizational collaboration activities such as business information, decision and process coordination?
- What do they find to be the most important factors for collaboration to work effectively?
- Do they engage in long-term partnerships or sourcing agreements?
- Can the tools and approach to collaboration in this project with Danish suppliers, be extended to the international connections as well? If not, why?

Perceived benefits from coordination

- How do they measure performance and improvements from increased collaboration?
- What are the success criteria?
    - Cost?
    - Efficiency – more use of IT systems?
    - Innovation and knowledge sharing – or NPD?
    - Long-term relationships and increased trust-based relationships.
    - Internal operational improvements?
    - Quality improvements?
- What are the perceived benefits?
    - Visibility, reducing inefficiencies, reducing uncertainty?

Competitive advantages

- How may this project help your company gain competitive advantages – in what areas? What types of capabilities do they hope to improve and gain?
- Do they find that using the tools, help the company and the network to develop unique capabilities (as compared to competitors)
- Do the partnerships allow them to access resources they would otherwise not have had access to?

Wrapping up:

- Where do they see themselves in terms of the supplier relations maturity model?
- Have they moved from one phase of the supplier relations maturity model to the next?
- How is their relationship with the supplier/focal company different now than before?

Appendix 1B: The participants and quality of the interviews

Company	Participant's position	Years employed	Comments on the quality
Company A Focal company	Global supply chain manager	7 years	Company A have been the most compliant, as they had allocated 3 hours, prepared a presentation and provided two employees to be interviewed. The interview with the supply chain manager was of high quality and quite reliable.
Company A Focal company	Chief of development	1,5 years	He was exceptionally knowledgeable in the area of SC collaboration, and provided insights of high quality and reliability.
Company B Supplier	CEO Project manager	16 years 1 year	They were easily accessible and willing to participate. However, the two participants were interviewed simultaneously and not separately due to time constraints. The quality and reliability of the interview was high, despite that.
Company C Focal company	Chief Procurement Officer	2 years	They were very difficult to gain contact with at first, and time to reply was really long. They also allocated only one employee for interviewing. However, this one employee was a highly reliable source, as he had a deep understanding of collaboration in SCs and the strategic choices behind it.
Company D Focal company	Supply chain manager	2,5 years	Due to geographic challenges this interview had to be conducted as a telephone interview, which highly impacted the quality and length of the interview. It was quite difficult to conduct this interview, and the quality of it was not as high it could have been by conducting the interview in person.
Company E Supplier	Customer manager	5 years	He provided satisfactory insights on the customer side of the supply chain collaboration. However, he was not as knowledgeable on the subject as company A, B and C, and the length and quality of the interview was thereafter.

Appendix 2A: Interview with Chief of Development, Company A

Hvad er din profession her i firmaet?

Jeg er chef for den udviklingsafdeling, der har med forbrugsvarer at gøre.

Og hvor længe har du været i firmaet?

Det har jeg i knap 1,5 år.

Og din rolle i projektet Stram Kæden har jo ikke været sådan direkte, men mere generelt tidligere med leverandørudvikling?

Ja, altså vi arbejder løbende med leverandørudvikling, fordi mange af de forbrugsvarer vi har, handler om, at vi har fundet ud af, at hvis man køber lige nøjagtig det der hos den her underleverandør, så virker det. Eller vi har sammen med en underleverandør udviklet at hvis nu de laver det her med denne her opskrift og på den og den måde, så virker det. Så derfor er der en masse teknisk samspil med underleverandørerne for at få de rigtige forbrugsvarer. Derfor er der også det aspekt med underleverandører, der hedder, at kan de deres kram og har de styr på deres teknologi? Kan de finde ud af at samarbejde omkring det med os, hvilken form for rettighedsdeling har vi og hvilken form for vidensdeling har vi med dem?

Så Struers har i virkeligheden også forud for Stram Kæden projektet haft ret meget fokus på leverandørudvikling og leverandørsamarbejde?

Øh, ja og nej. Der har været meget samarbejde med underleverandører, forstået på den måde at rigtig meget af det udviklingsarbejde, der er foregået er foregået i samarbejde med underleverandørerne.

Ja…

Men der har måske ikke været så meget fokus på, hvad for nogle rammer der var for det, hvad der kom ud af det og hvad der var deres og hvad der var vores, og hvordan man skulle bruge det bagefter og sådan noget.

Okay, jamen det er jo det interessante her i denne forbindelse. Så hvis du ud fra Struers perspektiv skulle se på, hvorfor man vil vælge at gå ind i det her Stram Kæden projekt? Hvorfor har dette været vigtigt for Struers, og hvorfor har man haft behov for det?

Øh, det kan man jo svare på, på mange planer, men altså Struers er en ret moden virksomhed, og øh vi sælger nogle produkter, der også er modne i et produktforløbs perspektiv, så vi går ikke ud og vinder store markedsandele, ved at komme med noget der revolutionerer nyt. Mange af de ting vi sælger er nogle veletablerede produkter, som der skal arbejdes videre på, for at blive ved med at holde markedspositionen.

Her kan man sige, at der ligesom er to måder at arbejde med dette på. Man kan arbejde med at forfine sit produktprogram og man kan arbejde med at blive bedre til at producere det her i en god kvalitet, levere på det rigtige tidspunkt og til en fornuftig pris. Og hvis du arbejder på det her med at blive bedre til at rent faktisk køre din forretning, og gerne vil blive bedre til at levere på det rigtige tidspunkt, den rigtige kvalitet og til den rigtige pris, så skal man arbejde med underleverandørerne.

Fordi vi køber rigtig meget i en eller anden grad af færdighed fra vores underleverandører. Vi har rigtig mange underleverandører, og køber både halvfærdige og helfærdige ting, og sender det videre og samler det. Det med at få de rigtige varer fra vores underleverandører er en vigtig del af vores samlede forretnings flow.

Ja, det er klart. Der er jo en grund til at man har valgt at igangsætte et stort projekt som det her, og ud fra deres tese er der mange der mener at deres leverandører er strategisk vigtige, men der har ikke været særlig meget fokus på at få det udviklet ordentligt. Hvilke incitamenter er der behov for at man får øjnene op får i forbindelse med leverandørudvikling og leverandørsamarbejde? Hvad skal man blive bedre til i leverandørsamarbejdet?

Jamen det er sådan nogle modenhedstrin. Der er flere forskellige trin. Der er først det helt umodne forhold, hvor man får en sending af noget man mener man har brug for, og når man mangler nogle nye, så får man en sending mere. Men hvis du skal klare dig i konkurrencen, så skal du på de vigtige leverandører du har, arbejde på de forhold, så du er sikker på, du får det samme produkt hver gang, og har undersøgt markedet grundigt for om du kan få noget

bedre til en bedre pris et andet sted. Det kan også være at havde man gået et andet sted hen, så havde de foreslået et produkt, der ville passe endnu bedre ind i din produktion.
Så det bliver en central del af forretningen, at være i stand til at købe nogle gode varer et sted hvor de har passende niveau af service, kan man sige. Alt afhængig af hvad man skal købe, skal det købes forskellige steder, hvor de har forskelligt vidensniveau, forskellige kvalitetsstandarder og forskellig evne til at levere, og det skal du ramme rigtigt med. Hvis du skyder over målet bliver det for dyrt, og du kan ikke klare dig konkurrencemæssigt, men skyder du under målet får du en masse problemer med at der ikke bliver leveret til tiden, og det bliver en anden kvalitet end den du bad om eller at du bruger tingene på en dårlig måde. Så det er vigtigt for det vi laver, hvad det er underleverandørerne leverer til os, og hvordan vi snakker sammen med dem. Men der går meget nemt noget kasse i det, hvor man koncentrerer sig om det man har hos sig selv, og det der ligger ude ved underleverandørerne, det er bare noget der ligesom kommer ind, og kunderne det er nogle der er derude. Men det er klart, at det er også et konkurrenceparameter at finde ud af at fungere med de centrale leverandører og finde ud af at fungere godt med de vigtigste kunder. Og det skal du arbejde på.
Så er der selvfølgelig en udvælgelsesproces. Du kan ikke have fuld opmærksomhed på alle dine leverandører, for det bliver også for tungt. Du bliver nødt til at gå ud og vælge – hvilke leverandører er vigtigst for dig, og så kan man snakke om at der er strategiske leverandører.
Men det siger næsten sig selv. Meget af det vi gør, er at vi laver det stykke arbejde for kunderne der hedder, at specificere sammen med kunderne, hvad de har behov for, og så finder vi ud af, hvor det er fornuftigt at finde det henne. Derfor skal vi vælge den gode underleverandør.

Ja, og man mener, så vidt jeg har kunnet forstå, at der har været et overfokus på hele cost-siden af det her samarbejde med underleverandører og udvælgelse af disse generelt. Det har været et stort problem, som nogle ser det, i stedet for at fokusere mere på hvad kan vi gøre for hinanden, og hvordan kan det blive til en konkurrencemæssig fordel?
Ja, det er det her med kassetænkningen. Hvis man bare sidder i sin egen lille kasse, og er i øvrigt helt ligeglad med hvad der foregår ude ved underleverandøren, og du vil bare have

det du har bedt om til den lavest mulige pris. Men der kommer du kun så langt – hvis du vil længere end det, og vil højere op i kvalitet eller have varerne til en bedre leveringstid, eller vil længere ned i pris, så er du nødt til at begynde at snakke sammen med din underleverandør om, hvordan kan vi gøre det her. Så er du nødt til at begynde, at fx dele forecasts med din underleverandør, hvis du vil have en bedre leveringstid, ellers kan han ikke gætte, hvis du pludselig skal bruge 10.000 kasser af et eller andet.

Så det er et af de værktøjer I bruger – fx at dele forecasts?
Ja, vi har fx en stor engelsk leverandør, som leverer et vigtigt produkt til os, hvor vi for et år siden var et sted, hvor vi ikke en gang fik leveret alle de ordrer vi lagde. Og så er der blevet arbejdet en del, bl.a. ud af supply chain og strategic sourcing og ud af R&D, er der blevet arbejdet sammen med denne her leverandør, og få snakket om, hvad er det der virker, og hvad er det der ikke virker, og i dag har i hvert fald supply chain fået sat er system op, så der er styr på hvilke ordrer der er blevet lagt, og de bliver bekræftet osv., så nu får vi de ordrer vi har bestilt. Næste problem bliver så, jamen, får vi dem så til tiden, og der har vi også løftet niveauet temmelig meget ved at forbedre nogle forecasts, og ved at holde nogle møder med dem om hvilken rækkefølge tingene skal prioriteres i. Der er dog stadig nogle enkelte ordrer, der bliver leveret meget for sent, og her skal vi så endnu dybere ind og tale med leverandøren om, hvad det er der sker med de ordrer. Er det os der lægger mærkelige ordrer, eller er det dem, der ikke har styr på deres produktionsapparat, eller hvad sker der?
Og der er det jo man er nødt til at snakke sammen, og blive enige om hvilke ting der skal gøres bedre, og ligesom have en proces omkring – hvordan gør vi det her. Det nytter ikke noget at bare blive ved at kyle ordrer efter dem, hvis de har en god grund til at det ikke kan lade sig gøre. Så man er nødt til at begynde at snakke sammen. Det er bare meget nemmere at lade være, så det skal man ligesom have sat op – og det er tungt. Det kræver at der er nogle folk her i huset, der skal erkende at det var ikke altid underleverandøren, der var dum – det var også os, der gjorde noget dumt. Og det kræver også, at der er nogle underleverandører, der skal blive bedre til at snakke om hvad de *ikke* er så gode til. De fleste er rigtig dygtige til at snakke om alt det de er rigtig gode til, men hvis de også skal til at fortælle om hvad der er svært for dem, så skal der bygges noget tillid op, og du skal have

nogle folk til at erkende, at de selv har en andel i hvad der går galt. Det skal alt sammen sættes op, og det skal dyrkes.

Mmm, ja. Hvis man skal kigge mere specifikt på nogle af de værktøjer man i praksis benytter for at få det her øgede samarbejde, og øgede koordinering med sin leverandører.

Altså fra et udviklingssynspunkt, så er der hele det her omkring teknisk vidensudveksling, hvor vi har haft meget lidt fokus på det i Struers tidligere, og med mange centrale underleverandører, har vi ikke nogle aftaler om hvem der ejer viden, og det betyder at vi i nogle tilfælde, har fodret en masse viden til en underleverandør, som så har givet os nogle gode produkter tilbage, som vi så har gjort populære på markedet, og så er den underleverandør så begyndt at sælge produkter lavet med den samme opskrift til vores konkurrenter. Det er jo ikke særlig smart, da det simpelthen er med til at ødelægge forretningen.

Øhm, der er andre underleverandører, der har kæmpet med produktions- og kvalitetsproblemer, fordi vi har aftalt med dem at de skal levere noget, der nærmest er umuligt at producere, og det giver jo også en masse problemer for os. Så bliver tingene ikke leveret til tiden eller der er kvalitetsproblemer, og der kan man sige at der ville en vidensdeling omkring – hvad er det egentlig vi har af behov – også have været på sin plads. Så det vi er begyndt på nu, og som jeg har brugt meget energi på, er at tage en prioriteret liste, og ligesom sige: jamen de her underleverandører, dem er vi nødt til at få nogle udviklingsaftaler på plads med, som handler om, hvordan fordeler vi de her ting imellem os. For hvis vi kan få dem på plads, så kan vi også få lavet et rum, hvor vi kan snakke åbent sammen, og hvor vi kan fortælle dem at, det kan godt være vi har specificeret de her parametre, men det er ikke det der er interessant – det interessante er, hvordan det virker, når man gør sådan og sådan. Så kommer leverandøren måske med helt nye forslag til løsninger, der kan hjælpe til den samme funktion i produktet. Men det kan man kun gøre, hvis man er blevet enige om inden, at det vi sammen udvikler her, det må de ikke sælge til vores konkurrenter. De må gerne sælge det til nogle i andre industrier, men ikke til vores konkurrenter. Eller I må ikke sælge det til andre end os de næste 10 år, eller hvad aftalen nu måtte indeholde. Der er forskellige temperamenter hos forskellige underleverandører, så det kan man lave forskellige aftaler ud fra. Nogle vil gerne have man køber en opskrift – så gør vi det, og så er den vores. Andre vil gerne have det her eksklusivitets setup, hvor indenfor vores lille niche handler de kun med os, men de kan have ejerskab til al den viden der er, og bruge denne andre steder. Så det prøver vi også, og det er en vigtig brik til det her med samarbejde. Men det forudsætter der er nogle i den anden ende, der vil spille med på dette.

Ja, lige præcis.
I hvor høj grad benytter I IT-baserede løsninger, som er integrerbare med jeres leverandørers systemer?
Der skal du spørge nogle, der er mere i Operations, fordi det er sådan en Operations ting, hvordan de her forecasts rent faktisk bliver lavet.
Vi er ikke så meget inde i den der daglige drift, men mere inde i produkterne.

Jamen, helt okay.
Det er kun hvis ting går galt at vi skal tage stilling til om setupet stadig er okay.

Ja, okay. Hvor mange leverandører anser I for at være nogle af dem, som I gerne vil bruge meget krudt på?
Med udviklingsbriller taler vi måske 5.

Og hvor mange leverandører har I samlet set – hvilket selvfølgelig er rigtig mange?
Vi har en 5-6-700 i alt, men nogle af disse leverer 3 skruer, og snakker vi forbrugsvarer, så er det relativt få leverandører, der leverer mange produkter til os. Så vi har på skæreskiver, som er vores største område, har vi 3 leverandører, hvor den ene er meget stor, og den ene er en strategisk leverandøre, og de andre er bittesmå. På slibepapir har vi en meget stor og meget vigtig leverandør, som vi bruger rigtig meget krudt på at få samarbejdet til at fungere bedre med. Og så har vi en anden vi bruger, når den store ikke kan levere, men dem er vi ikke ret glade for. Dels fordi de er meget lukkede og dels fordi de ligger langt væk og er

tunge at danse med. Så prøver vi at få to andre leverandører i spil, fordi vi synes det setup vi har nu er lidt for svagt.

For svagt i forhold til at det er for risikofyldt?

Dels er der noget med at være meget afhængige af en stor leverandør, og dels er der noget med at vi ikke er tilfredse med den performance de leverer.

Så har vi på udstødningssystemer, der har vi en leverandør, som har hovedparten af vores produkter, som performer rigtig fint, men som laver tricket med at sælge opskrifterne ud af bagdøren. Der har vi så en anden leverandør, der leverer et enkelt lille produkt. Her skal vi også ud og se efter nye leverandører, der kan hjælpe til at styrke dette setup.

På varmeindstøbning har vi sådan en håndfuld forskellige leverandører – nærmest 1 pr. produkt – og det er lidt noget rod.

Og det samme har vi på skærevæsker. Og med proxysystemer har vi forsøgt at skrue tingene sådan sammen, at vi kan lave forskellige produkter ved at variere sammensætningen af relativt få komponenter, så de er vi lidt bedre kørende, men det er stadig lidt en rodebiks. Og det er vel så nærmest det indenfor vores leverandører.

Bortset fra at vi har en virksomhed, Seritronic, som man nok hellere skal kalde contract manufacturers, fordi i virkeligheden køber vi af dem kvadratmeter, arme, ben og timer, og ikke færdige produkter. Men de er meget vigtige for os!

Så er der sådan nogle råvarer, som en bestemt type silke eller diamanter i den og den kvalitetssortering eller de og de kemikalier køber vi der, mens de og de kemikalier køber vi der. Det er en anden form for underleverandører, fordi det ikke er deres performance som sådan, der er interessant, men hvor produktkvaliteten er det interessante. Her køber vi mere varerne end vi køber samarbejdet, mens de andre er i meget høj grad kombinationen af deres know-how og de varer de leverer og hvordan det passer ind med vores know-how, som er fokus.

Giver det mening?

Ja, helt bestemt, helt bestemt.

Hvor ligger Seritronic leverandøren?

Seritronic leverer flere forskellige ting til os, bl.a. nogle MD slibeskiver, og det er den contract manufacturer, som er meget vigtig for os – det er Seritronic.
De leverer noget der er efter vores opskrift og efter vores proces. De leverer det på en måde hvor vi køber råvarerne, og placerer dem ved dem, og fortæller hvad de skal lave ud af det, og så sender de en regning. Vi får den samme regning om udbyttet har være 90 % eller 75 %.

Okay.
Så de leverer ikke i klassisk forstand en vare.

Så hvordan er jeres aftale med dem stykket sammen? Er det mere partnership orienteret og langvarige aftaler, eller hvordan er de stykket sammen?
Den aftale der ligger nu er et forsøg på at skrive sammen, hvordan vi har gjort forretning de sidste 12-15 år. Øhm, og egentlig er det et forsøg på at skrive hvordan det nu er det fungerer, og det er et typisk eksempel på, at man har haft en masse teknisk samarbejde, men man har ikke fået tænkt igennem, hvad det nu lige var aftalerne var, og hvad rammerne var. Det er ligesom bare kommet op at køre, og så har man haft en gensidig forståelse omkring hvordan det kører.
I sidste uge fik vi da skrevet under på, sammen med dem, at det er sådan her tingene i dag skal køre. Og jeg kunne da godt tænke mig at vi blev lidt skarpere på hvordan den samarbejdsaftale egentlig skal se ud.

Og er det så første gang i de mange år man har gjort forretning med dem…
Nej, der har ligget nogle aftaler tidligere, som dels har indeholdt nogle elementer omkring nogle lister, og hvem gør hvad, som ikke er blevet brugt og vedligeholdt, og så er de løbet ud. Så der har ligget nogle gamle aftaler, der er sandet til, og så forsøger vi at puste lidt liv i dem igen.
Det er netop i erkendelse af, at det er en vigtig del af vores produktionsapparat, det der foregår ved Seritronic, og det er en vigtig del af vores teknologi, som vi sælger til kunderne. Så den tekniske ambition er at få noget mere styr over hvad der foregår deroppe, og have

noget attention på de processer, der foregår deroppe, selvom de geografisk foregår et stykke væk.

De leverandører I har – jeg går ud fra at en del af dem er udenlandske – hvordan varierer måden at samarbejde på, og mulighederne for samarbejde fra de danske til udenlandske leverandører?
Mange af de internationale leverandører vi har er et mindre firma med en meget høj teknisk standard, fx et tysk firma. Vi har en omsætningsmæssig størrelse, så vi er tilstrækkeligt store til at være vigtige hos dem, og tilstrækkeligt små til ikke at fylde hele forretningen, og det giver et rigtig godt setup. Der synes jeg vi får god respons, og det er nogle af dem man faktisk kan lave meget kompetent udvikling med. Her kan vi tage nogle ideer, og de kan omsætte dem til noget, og det har vi ikke med vores danske leverandører.

Der er faktisk bedre status på leverandørsamarbejdet med de internationale leverandører?
Ja, det synes jeg - i hvert fald indenfor forbrugsvarer.

Og hvordan kan det være?
Jamen, det er simpelthen niveauet, der er højere.

Er det fordi man i udlandet har været mere fokuseret på måden at indgå i leverandørsamarbejde på, end man har været det i danske virksomheder?
Nej, det tror jeg ikke. Vi indkøber højtspecialiserede produkter til vores forbrugsvarer og det kræver bare en teknisk viden, og nogle tekniske kompetencer på et højt niveau, og det er der bare ikke i Danmark. Der skal du shoppe i Europa, og nogle gange i verden, for at finde nogle der kan det vi leder efter.
Så det er bestemt af hvad de kan, og sådan en virksomhed kunne sagtens ligge i Danmark, men Danmark er bare ikke særlig stort.

Kan I se allerede nu, om der kommer noget ud af det øgede samarbejde? Kan I se det på bundlinjen, eller er det nogle andre ting I forventer at få ud af det?

Indenfor forbrugsvarer kan vi ikke se noget indenfor Stram Kæden projektet, da noget af det ikke rigtig er kommet i gang endnu.
Med Seritronic har vi haft en ambition om at få et bedre udbytte af den produktion, der foregår deroppe, og der er vi kun kommet til dataopsamlingsniveau. Vi prøver at samle noget data sammen, for at kigge på, hvorfor der er så store variationer og kassering, som der er.
Hvis det er den måde man går til opgaven på, så tager det rigtig lang tid, hvis man skal have et klart billede. Så nej.

Hvad er så ambitionerne for samarbejdet og ideerne om hvad der kan komme ud af det?
Det vi vil med Seritronic, er at vi vil gerne have mere kontrol over den produktion, sådan så vi får den samme kvalitet hver gang, og det samme udbytte hver gang.
Vi forventer i den grad at kunne producere billigere, hvis vi får styr på kvalitetsvariationerne hos Seritronic. Det er vigtigt for vores forretning af vores kunder skal kunne få de rigtige varer, på det rigtige tidspunkt. Ellers kan de bare gå et andet sted hen.
Det handler om at strømline. Det vi sælger på er vores produkter sådan set ligner vores konkurrenters, vi laver dem bare bedre eller leverer til tiden eller kvaliteten er ens hver gang, og derfor skal vi arbejde med det løbende produktions flow og løbende forbedringer hele tiden. Ellers bliver man overhælet.

Hvad ser du som værende nogle af de største udfordringer og forhindringer i forhold til at få et tættere leverandørsamarbejde?
Det er et spørgsmål om tillid – det er vigtigt! Og så skal man dyrke det. Det nytter ikke noget at man sætter sig ned og er enormt tillidsfuld, og så går man hver til sit, og gør ingenting. Man starter med tillid, og så skal der arbejdes med det. Det er noget med at begge parter skal arbejde sammen om det. Man skal væk fra den ide med at man bare leverer, ind igennem en luge, og så ser man ikke hvad der sker efter det.

Nu nævner du et ord som kontrol?

Der mener jeg ikke kontrol, som at vi skal gå og kontrollere dem, men mere at vi får kontrol over produktionsprocessen. Den er ikke tilstrækkelig meget under kontrol – der er for stor variation. Når vi synes vi laer den samme proces to gange, så kommer der to forskellige ting ud af det. Det betyder så, at vi er nødt til at kassere en masse af det vi producerer, fordi det ikke er godt nok. Så det er en produktionsproces, der ikke er i tilstrækkelig kontrol
Det er nok ikke så underligt, da det er vores egen produktionsproces, som vi har bet nogle andre om at passe, men som vi så ellers har ladet stå til efterfølgende.

Hvilke værktøjer har I sat i værk i samarbejdet med Seritronic?
Det der kører lige nu er dataopsamling, i forventning om at vi kan bruge de data til at finde ud af hvornår går det godt, hvornår går det skidt og hvad er det for nogle variationer, vi skal have under kontrol.

Ja, okay.
Hvis man følger med på de her ting, så er det også med til at skabe fokus på det. Hvis man nu ikke bekymrer sig om man smider 15 % eller 30 % af det man har lavet væk, så bliver det jo heller ikke bedre.
Det er godt at begynde at måle på de her ting, både fordi svaret kan ligge i nogle af de her data, men også for at skabe noget attention omkring det.

Tesen er at det skaber øget konkurrencefordele at have et tæt samarbejde i ens supply chain og med dine underleverandører. Hvor ser du at denne kobling opstår?
Fra et teknisk udviklingsperspektiv er der dels den fordel, at hvis vi forstår bedre hvordan underleverandøren producerer deres ting, og de forstår bedre hvad det er tingene skal bruges til. Så er der en bedre chance for at få de to ting til at passe sammen, og dermed lave nogle reelt bedre produkter. Det er den ene ting.
Den anden ting er, at hvis vi kan lave et tæt samarbejde på den måde, at når vi så har lavet nogle reelt bedre produkter, så bliver de ikke solgt til vores konkurrenter, så er det jo en blivende fordel for os. Så begynder du også at have nogle konkurrencefordele her. Så har du

nogle kunder, der tænker: vi går hen og køber det her indstillingssystem hos Struers, fordi der fx er mindre svind.

Der er denne her 4 steps af leverandørsamarbejde. Hvor ligger I henne i det her (med jeres strategiske leverandører), og hvor tænker du at I skal hen?

Det link vi skal prøve at styrke, er vores tidligere 'absence of assessing suppliers'.

Skridtet fra 1 til 2 er det vi er ved at tage med vores store engelske leverandør.

Mange af de ting jeg beskæftiger mig med, med vores leverandører, ligger faktisk allerede i proces delen, og det der er Struers problem, er rejsen ud af garagen. Vi har fået lavet nogle mærkelige shortcuts, og rejsen igennem de her steps er ikke nødvendigvis lineær for Struers. Det er et fantastisk billede fordi det kommer i steps, og man kan ikke bare hoppe ind midt i det helt, fordi an så vil mangle noget.

Vi har fx været rigtig gode til det her med at integrere suppliers i vores R&D proces, og har fået nogle rigtig fine produkter ud af det. Desværre manglede vi samtidig det tidligere step, der hed, strategy for supplier network. Ergo havde vi ikke fået lavet nogle aftaler om at de ikke måtte sælge til konkurrenterne – det er det der går galt.

I samarbejdet med Seritronic mangler vi en masse komponenter fra cost-steppet.

Det er vigtigt for Struers fremadrettet at starte med trin 1, gøre det færdigt og arbejde videre på trin 2, gøre det færdigt osv. Det har vi ikke gjort, så der har vi en masse gæld i baggagen. Så udfordringen er at fylde nogle af de her huller ud, på trods af at vi har en forretning gående fra dag til dag, så vi skal ind og lappe en maskine, der kører.

Så bliver man mødt af ting som: hvorfor kommer I pludselig her og vil have kontrakter og aftaler og alt muligt, det har jo fungeret fint i 15 år! Ja, det har fungeret fint for jer, men det har ikke fungeret fint for os. Så det er også svært at reparere en maskine der kører.

Tror du at ideen fra mange leverandører er, at det giver mere mening for jer, at gøre de her ting, end det nødvendigvis gør for dem?

Det er forandringsledelse. Det er altid svært at flytte sig. Det første trin i forandringsledelse er at anerkende, at der er et behov for forandring.

Der kan være en underleverandør, for hvem det går rigtig fint, og de har samme indtjening fra år til år fra Struers af. Hvad er deres incitament til at forandre noget? Intet. De synes da bare det var en fin forretning sidste år og forrige år, og så kommer vi her og vil have kontrakter og forbyder dem at sælge produkterne videre til konkurrenter osv. Nu skal de pludselig til at tage ansvar også, og selv betale, hvis de leverer noget dårligt. Det er rigtig svært. Især fordi alle sidder i deres egen lille kasse.

Men det bliver vel også godt for underleverandørerne i sidste ende?
Ja, kernen i det her er tillid og forståelse for hvad det er hinanden vil, og det synes jeg bestemt lykkes med nogle.

Jamen, det tror jeg var det. Tusind tak for din deltagelse.

Appendix 2B: Interview with Global Supply Chain Manager, Company A

Interviewer

Interviewe

Introduktion til Struers organisationen til at starte med – oplæg ved supply chain manager:

Det er en traditionelt opbygget organisation med funktionelle områder. Den globale organisation er en matrix organisation med funktionelle områder, hvor hver salgsafdeling har en general manager.

Vi arbejder ud fra KPI skemaer og så har vi et roadmap med mål. Der er supply chain initiativer, og mere tværgående og strategiske mål vi arbejder ud fra.

Vi tror meget på at vi har en strategiplanlægning, hvor vi bruger denne her værktøjskasse omkring Lean, som starter med et Hoshin Kanri hjul. Tre-års mål nedbrydes til 1 års mål, og til sidst defineres de projekter man så sætter i søen, og hvilke KPIer man anvender til at måle på, om man er i mål. Det hænger rigtig godt sammen med den værktøjskasse, der er under Stram Kæden, og vi bruger altså disse værktøjer alle steder i organisationen.

Vi arbejder med løbende forbedringer i supply chain omkring Kaizen tavlen, og det er hele tiden de her Lean værktøjer, der er i spil. Vi arbejder med systematisk problemløsning, hvor man har en KPI der er i rød, og så skal man så forklare og finde root cause og counter measure til hvorfor er det man ikke er i mål, og hvad kan man gøre for at gøre den grøn igen.

Vi arbejder systematisk med dette gennem Pareto, fiskebensdiagrammer og de 5 'hvorfor'.

Denne her tankegang og metodik ligger også inkorporeret i Stram Kæden.

I Stram Kæden opstilles disse KPIer, root causes og counter measures ankervirksomhed og leverandør imellem, og man gennemgår så hvorfor man ikke er nået i mål med tingene, hvis nogle af dem er 'røde'. Hvordan kommer vi tilbage på sporet – dette finder man ud af i fælleskab.

Denne her værktøjskasse kan bruges både i strategisk eksekvering, men også i udviklings- og forbedrings øjemed.

Siden 2013 har vi i Struers arbejdet med de her fokusområder, i forhold til at nå vore breakthrough targets i vores Operations område. Fokusområderne er produkt kvalitet, cost leadership og arbejdskapital. De har så hver nogle baseline værdier, og der er opsat KPIer for

hvert område. KPIerne er ting som failure rate, quality costs, reduce spending, inventory turn og supplier payment terms.
Det vi gjorde i den forbindelse, hvor at vi så et behov for at tegne en ny organisation, der kunne løfte kompetencen og ressourcerne til at opnå de her mål, som blev defineret. Det kunne den gamle organisation ikke. Den gamle organisation var meget mere driftsorienteret.

Er det i forbindelse med Stram Kæden at I har gjort det, eller var det noget der skete forud?

Det var noget vi allerede havde sat i gang, og havde implementeret, men var en af grundene til at vi gik ed på Stram Kæden. For at udvikle denne her tankegang.
Den gamle var en driftsorganisation, og i forhold til hele leverandørområdet, var vi rigtig dygtige til at købe ind og også finde leverandører, og vi kunne også fint forhandle lidt med dem, men vi var ikke kritiske, og vi havde ikke et overblik, og havde meget dag-til-dag operationer. Der var kæmpe potentiale ved at gå ud og vælge de rigtige leverandører og de rigtige samarbejdspartnere og udvikle dem i forhold til Struers' forretning og produkter, og begynde at forhandle med dem på en måde, som vi groft set ikke havde gjort før.
Der blev simpelthen tegnet en ny organisation. Også i forbindelse med fx produktkvalitet. I den gamle organisation lå det spredt rundt omkring, men der var ikke som sådan nogle der tog sig specifikt af det. Ansvaret for produktkvalitet, kvalitetssikring og kvaliteten af forretningen fik sin egen afdeling.
Når vi tager hele indkøbsområdet, hvor vi tidligere havde 5 indkøbere, der skulle kunne alt indenfor Procurement – de skulle sidde og afkalde varer, finde nye leverandører og udvikle dem og det hele. Så sad de så med en kategori af leverandører hver. Der valgte vi at lave denne her opdeling i 3, hvor vi lavede en global sourcing funktion, og så beholdt vi det operationelle indkøb inde under supply chain, men etablerede samtidig et taktisk niveau vi kalder Supplier Performance, der skulle gå ind og scoute leverandører, kvalificere dem, forhandle med dem og lave aftalegrundlaget. Baseret på det skulle Supply Chain så overtage disse aftaler, og implementere det i driften, og få det til at fungere.

Så på den måde er leverandørdelen blevet mere systematiseret end den var før?

Ja.

Også i vores produktudviklingsprojekter, der er det Sourcing, der går ind og vælger leverandørerne. Det er dem der har cost priserne i projekterne, hvor det tidligere var en udviklingsingeniør, som var mere produktorienteret, og ikke så kommerciel, og havde ikke så meget fokus på hvordan det kunne driftes senere hen.

Når vi så tager alt det her, så er vi jo ret inspirerede af denne her trappe (supplier relations trappen). Det vi tror på i Struers, er at det er Supplier Performance agents, der i hverdagen er med til at løfte samarbejde med leverandører. Selvfølgelig har vi vores forhandlinger, og der hvor vi vælger leverandører, men der hvor vi hele tiden udvikler det, sender forecasts, kvalificerer hele det her arbejde og tager os af alle de her forbedringsting, der også kan være på Kaizen niveau – det ligger i Supplier Performance agent funktionen. Der kan man sige at det startede vi sådan set for 1,5 år siden, og ansatte to nye folk for at forsøge at køre dette. Så lavede vi en opgavebeskrivelse og prøvede at komme i gang, og efter ½ års tid kom dette projekt så til os, og i forhold til modenhedsskalaen, var det måske et par år for tidligt. Men vi vidste også godt at det ville koste en del flere penge hvis vi selv skulle gøre det, og her kunne vi få assistancen gratis. Så vi hoppede ligesom på, og det er baggrunden for vores deltagelse.

Vi fandt nogle af vores vigtigste og største danske leverandører, bl.a. Seritronic. Det vi arbejder med er de her 6 leverandører, og deres spend. Og så har vi så de her hypotesetræer med nogle enkle opgaver, der er defineret. Hos Seritronic har man defineret problemet: reduce scrapping in production from 16 to 5 %. Det bliver så sandsynliggjort i omkostninger også. Det er meget procesteknisk.

Hvis vi ruller de her værktøjer ud i hele værdikæden, så er der et potentiale til at hente 30 mio. kroner, som kan tages ud af værdikæden. Og det gør man selvfølgelig ikke overnight – det er et langt sejt træk.

Det der er det fine ved Stram Kæden, er at begge parter tager og giver, og det er på tværs af virksomheder, at der skal opnås en gevinst, så det er rigtig fint!

Desværre er projektet pr gået en smule i stå, pga. mandskab, der har sagt op, som var primus motor på projektet. Det er rigtig ærgerligt.

Struers bygger mange elementer på, og accelerer nogle ting, og det kræver noget organisation og nogle ledere. Det kan være en svær proces, og hvis alle i organisationen ikke tænker på denne her trappe, og ser det som værende vigtigt at gennemgå disse skridt, og ikke er indforstået med at det er et langt sejt træk, så er det desværre ret op af bakke. Der skal man virkelig holde fast i nogle ting og tro på dem 100 %.

Ja, det kræver vel at man har en eller anden fælles forståelse helt op til toppen om, at det her er vigtigt, og at det er noget man skal bruge tid og ressourcer på – ellers giver det ingen mening?

Nej. Så vores direktør har også været med på at vi skulle med på Stram Kæden, og vi har brugt noget tid på at snakke om det inden, og vi har vist de økonomiske fordele, der kunne opstå, og det gjorde jeg i december, hvor jeg havde hele direktionen inde, og konsulenterne fra Valcon var med. Men øh, det lykkedes ikke helt at få dem til at, øh.. Ja, der er nok nogle andre ting de synes er vigtige lige nu, og det er måske også svært. Men der mangler lige det sidste commitment helt fra direktionen.

Og hvad fornemmer du er årsagen til det?

Altså, man kan sige, en af de ting vi synes er vigtige, det er det her med at forhandle med vores leverandører, og opnå nogle direkte besparelser på bundlinjen, ved at have lavere indkøbspriser. Og vi er jo amerikansk ejede, så der er meget det her med at vi hvert kvartal skal levere nogle ting, og ved det her projekt, der gemmer besparelserne sig lidt mere. Det er et længere sejt træk, og det er sværere at gennemskue.

Jamen, det lyder rigtig interessant det hele. Og lad os prøve at gå mere til det konkrete interview nu. Så hvis vi tager det fra en ende af.

Hvad er din stilling her hos Struers?

Global Supply Chain manager.

Og hvor længe har du været ansat?

I snart 8 år.

Okay. Og hvad var så incitamenterne for at I dengang lavede denne her organisationsændring med øget fokus på leverandørudvikling og mindre fokus på den driftsorienterede virksomhed?

Jamen, det var fordi vi var inspirerede af hele denne her supplier journey med de her 5 trin, og at bevæge os op af de trin, og modningen man gennemgår her. Så kan man så sige, at mere i forhold til vores hverdagsforretning, så var vi bare udfordrede på at have de rigtige kompetencer, og de rigtig ressourcer til at håndtere de forskellige facetter i forhold til indkøb og leverandørstyring. Og det var så derfor vi lavede denne her opdeling af indkøbsområdet, så vi havde nogle der tog sig af det her, i forhold til at finde de rigtige leverandører, lave de rigtige aftaler, og vi havde nogle der kunne udvikle samarbejdet og monitorere på KPI niveau hvordan leverer vores leverandører. Og så har vi så nogle daglige disponenter, der hele tiden sikrer at vores hylder bliver fyldt op, så vi ikke har varemangel, men heller ikke har for mange varer.

Hvad ser du som værende nogle af de største udfordringer i forhold til øget leverandørsamarbejde og øget koordinering mellem jer og jeres leverandører?

Jamen, nogle af de største udfordringer det er, at man som virksomhed skal have lyst til at kaste sig ud i det her, og de skal kunne se mulighederne. Og hvordan begynder man lige pludselig at se det, og i Struers tilfælde, hvor vi har mange små leverandører, der ikke har et overskud og har kompetencer til at arbejde med fx Lean, der er det en udfordring. Der er det vigtigt at man – det er meget det her med at give og tage – så hvis man vil noget indenfor det her, så bliver man nødt til at give noget. Og det kan godt være det ikke er indenfor din egen virksomhed, hvor man høster gevinsten direkte, men at du giver noget, så får du på et tidspunkt også selv en gevinst. Og der bliver du nødt til at putte nogle ressourcer og noget kompetence ind i det. Her har vi oplevet at vi simpelthen har nærmest halvt trænet vores leverandører i at arbejde med databehandling og systematisk problemløsning, og at arbejde med de her lean værktøjer med A3'er. Der er det selvfølgelig fint at have nogle konsulenter også, men nu bliver vi ikke hjulpet af dem længere, så at vi selv fastholder dette, og stadigvæk træner vores leverandører i at arbejde på denne måde.

Så er der hele ledelsesdelen, der virkelig skal have det her øverst på agendaen, og virkelig prioritere det. For hvis ikke det sker, så er det – så forsvinder det bare. Det der lidt er udfordringen ved det her, det er at det tit er skjulte omkostninger, der ligger i værdikæden, og det er ikke altid synligt direkte i et regnskab, hvor man vinder noget. Et bedre leverandørsamarbejde, kan være hele bestillingsprocessen, og det at du får et svar tilbage på hvornår du kan få dine varer glider bedre, og det kan du ikke se nogle steder i et regnskab, at man fx sparer 2 timer hver dag eller hver uge på det. At vi giver et bedre forecast, der betyder at vores leverandører leverer mere præcist, det kan man heller ikke se nogle steder.

Og det er lidt linket mellem det her med hvad sammenhængen er mellem øget samarbejde i værdikæden og så de unikke konkurrencefordele man mener der opstår, hvis du evner at optimere det her samarbejde. Hvad mener du der kan eller bør opstå af fordele gennem samarbejde?

Du kan sige at for Struers, når vi vælger leverandører, så er der noget med kvalitet og pris, og der kan man vælge leverandører, der ligger i Kina osv., men det jeg tror rigtig meget på, det er, at hvis du har et tæt samarbejde og du formår at dele viden og informationer, og optimere dit samarbejde på tværs af virksomheder, så vil du have et stærkt samarbejde og en stærk alliance, at alle de problemer du slås med ved at have en dårlig leverandør, de udfordringer har du ikke. Det gør simpelthen bare, at du i fællesskab på den platform man skal agere på, bliver meget konkurrencedygtig. At virksomhederne forstår hinandens behov, og an leve op til dette, det betyder rigtig meget i forhold til mange af de skjulte omkostninger, der er når kvaliteten ikke er i orden.

Hvor meget integration har I med jeres leverandører, som er baseret på IT-løsninger?

Vi har ikke nogle systemer, der er integrerede. Det kunne vi nok godt tænke os på et tidspunkt.

Vi har på nøgleleverandører – der sender vi hver måned forecasts ud. Det gør vi så bare manuelt via Excel filer. Det ville svare til at man havde et åbent system, hvor de kunne se hvad vores behov er de næste 12 måneder, og ud fra det forberede og planlægge ud fra det.

Vil det være en fordel, hvis det også gik den anden vej? Har man fra Struers side behov for, at der kommer data fra leverandører?
Det har vi også behov for, men har heller ikke noget integreret, men det udveksler vi også, og beder om data fra dem. Vi har bl.a. leverandører, der skal leve op til nogle sikkerhedsniveauer, og det er meget vigtigt for os i forhold til kort lead time, og høj forsyningssikkerhed. Så det spørger vi om de ligger på de rigtige sikkerhedsniveauer, og spørger hvad de vil gøre ved det, hvis ikke de ligger højt nok.

Hvad er nogle af de vigtigste faktorer for at et samarbejde med leverandøren fungerer optimalt? Fx med en leverandør som Seritronic.
Det er at man forstår hinanden, og forstår hvad det er for et produkt, der skal komme ud i sidste ende. Hos Struers, og mange andre, er der nogle meget strenge krav, og det er betyder noget for os og produktet at disse kvalitetskrav overholdes.
Der er forskellige stadier i forhold til et samarbejde, og hvilken type produkter de leverer. Hvis man tager de her leverandører, der er strategisk vigtige, hvor Seritronic er et eksempel. Hvis vi ikke har Seritronic i morgen, så vil 10-15 % af vores omsætning forsvinde, fordi de er de eneste, der leverer dette. Det er single-sourcing. Og hele den know-how, som vi i fællesskab har bygget op, den er helt unik, og den kan vi ikke undvære. Så det her partnerskab, og det at have lyst til at være sammen, det er vigtigt. Hvis Seritronic ikke har os, kan de måske bare fyre 10 mand, og så kan resten af deres forretning bare køre videre. Men de skal også værne om det her samarbejde. Hvis de skal være med til at vækste, så skal Struers også vækste, og vores produkter skal få succes i markedet, for ellers vækster de heller ikke. Og jeg ved, at de har bygget en ny produktionshal, der primært er pga. os, og det er selvfølgelig en stor risiko de tager her. Men det er også fordi de tror på Struers, og at vi bliver ved at vækste 8 % hvert år.

Er der være forskel på hvordan samarbejdet fungerer med de danske leverandører I har, og så de udenlandske leverandører?

Der er noget i forhold til kultur og mindset. Vi har fx en engelsk leverandør, 3M. Det her mere modne samarbejde, hvor man åbner op, og fortæller fx om, hvad er vores prisniveau. Vi kører et lignende forløb med dem, fordi de på slibepapir er vores eneste leverandør, og det er en svær proces, og vi har ikke fået lige så meget succes, som vi har med de her danske leverandører. Men det tror jeg også har noget at gøre med, at forholdet er anderledes. Vi er den mindre virksomhed i forhold til 3M, som er en kæmpe virksomhed, hvor med de danske leverandører, der er vi leverandørens vigtigste kunde, og dem der skaber en stor del af deres forretning.

Det er en større organisation, og der er mange flere ledelsesled, og det er sværere at trænge igennem der. Så jeg kunne godt forestille mig det var det samme, hvis man havde at gøre med en stor dansk virksomhed.

Så det handler mere om magtforholdet med leverandør og kunde, inden det handler om at de er uden for Danmarks grænse?

Ja, det vil jeg mene.

Men vi har tjekkiske leverandører i relation til vores tjekkiske fabrik, hvor vi bevidst har mange, og prøver at finde mange lokale leverandører, fordi vi tror på den lokale relation og det gør arbejdet nemmere, end at man har en leverandør fra Kina. Der er en helt anden kultur i forhold til det her. Det er meget cost baseret, og så er der lidt kvalitet inde over. Vi oplever ikke at vi har leverandører der, der tænker på den måde som vi gør i forhold til samarbejde – det ligger ret fjernt fra dem.

Okay, spændende. Det tror jeg var det – du fik berørt en masse af spørgsmålene i dit eget oplæg.

Til sidst – hvor mener du at I ligger nu i den her step-model med jeres strategisk vigtige leverandører, og hvor så I gerne at I bevægede jer hen?

Hvis vi har den der Krajlic model, så vil vi gerne oppe i de strategiske leverandører, komme tæt på kategori 4. Vi begynder at få det her overblik nu over hvordan vil vi gerne arbejde

med vores leverandører, og hvilket samarbejdsstadie skal vi være på. Det er klart vi ikke vil ligge heroppe med hele vores portefølje.
De kritiske leverandører, vil vi helt sikkert også arbejde med, og på resten er vi tættere på en 1'er og måske nogle gange en 2'er.
Vi har en ambition om at vi gerne vil kunne måle på deres performance, på tid og kvalitet og cost, så det er fremtidsmålet, som vi kommer tættere og tættere på. Vi er lige nu nede omkring step 1 og 2 med de fleste. Vi er måske kommet mere på en 2'er, men vi er ikke tæt på en 3 eller en 4 overhovedet, så der er masser at hente endnu.

Jamen, så tror jeg vi kom hele vejen rundt om det. Det var super godt – og tusind tak for din deltagelse.

Appendix 3: Interview with CEO (P1) and project manager (P2) of Company B

Allerførst skal vi have styr på hvem der sidder med ved dette interview. Hvad er jeres stilling og hvor længe har I været i firmaet?

(P1): Jeg ejer firmaet sammen med Birgitte, og firmaet har eksisteret siden år 2000. Vi havde en tredje partner dengang, som nu er gået på efterløn. Birgitte har at gøre med økonomi og personale, og jeg har at gøre med den udadvendte del, kunder, marketing. Og så har jeg ansvaret for vores samarbejdspartnere i Asien.

Og Mads?

(P2): Jeg har ikke været her så længe Jeg startede i praktik i januar 2015, hvor jeg var ved at tage en uddannelse, som produktionsteknolog. Jeg har i forvejen en uddannelse som grafisk trykker, og kender til processerne, der er herude. Jeg har været her lige siden jeg startede i praktik og har nu ansvaret for hele Struers' afdeling, hvor vi laver de her skiver.
Til at starte med stod jeg for at få hele det her forløb sat i gang med at starte den nye afdeling for Struers. Jeg fik så sidenhen også ansvaret for afdelingen.

Er det så også dig, der primært har haft med Stram Kæden at gøre?

(P2): Det er mig og så en der hedder Allan, som også har været leder ude i den afdeling. Han har været med i mange år og kender til Struers og de her skiver, og ham sparer jeg meget med i hverdagen. Han har stadig en del med kemien i produktet at gøre. Men ellers har jeg ansvaret for det hele.

(P1): Vi har haft produktionen af de produkter her til Struers igennem i hvert fald 13 år, så det er et stort og mangeårigt samarbejde vi har med dem.

Det kunne jeg også forstå på Struers – og jeg kunne også forstå at det ikke er et helt almindeligt samarbejde i den forstand at I bliver omtalt som contract manufacturers, og ikke bare leverandører.

(P1): Ja, det er vi også, for Struers har jo selv produktionsudstyret til at stå herude.

Ja, det er ret specielt må man sige.
Men det vi skal snakke om er i dag er allerførst nogle af de incitamenter og udfordringer man har ved øget leverandørsamarbejde. Både hvorfor man indgår i disse samarbejder, men også hvilke udfordringer der må opstå.
Så skal vi snakke noget mere om de specifikke værktøjer i benytter jer af i jeres øgede samarbejde, og så til sidst hvilke fordele I mener der kan opstå sådan mere generelt, ved at øge sit samarbejde med kunderne – ud fra det aspekt at I er leverandøren.
Så hvis vi starter med at snakke om nogle af incitamenterne til at 'stramme kæden' og øge samarbejdet.

(P1): Incitamentet i at komme ind i Stram Kæden projektet er selvfølgelig via en forespørgsel fra Struers, der spurgte om det kunne være interessant for os. På det tidspunkt, hvor det kommer op, der er kommet en del nye mennesker hos Struers i deres strategiske indkøb, og dem har vi allerede haft herovre til en snak om hvordan vi kan øge og udvide vores samarbejde. Fordi der er mange logistikmæssige, uhensigtsmæssige processer, som ligger flere forskellige steder, og der havde jeg talt med Struers om ikke vi kunne have nogle flere af de processer herovre, så vi på den måde blev en endnu større leverandør for dem. I den forbindelse kommer Stram Kæden projektet så også op, og det synes vi var interessant, så vi valgte at afsætte to personer, Mads og Allan til at være med i projektet Det gjorde vi af to årsager. Selvfølgelig for at optimere det vi nu kører (leverer) til dem, men også for at blive endnu tættere knyttet til hinanden.

Men I får vel også nogle værktøjer med, som I også selv kan føre videre på alle mulige andre plan, end det I laver med Struers?

(P2): Altså man kan sige at hele Stram Kæden projektet har jeg i hvert fald lært så meget af at jeg vil kunne overføre det til et andet projekt, hvis vi skulle køre noget lignende – uanset hvor det er henne i firmaet.

(P1): Nogle af ting vi har haft aftalt med Struers, hvis man ser i vores A3 omkring, hvem der har ansvar for hvad, så hvis vi tager vores rammefremstilling, kunne det sagtens være noget vi kan dreje over på andre af de ting vi producerer. Den kontrolproces, der er omkring det, kunne vi sagtens bringe videre.

Og hvad er det så for nogle rammer og værktøjer I har benyttet for at øge det her samarbejde med Struers?

(P2): Noget af de vi brugte er de her A3'er, og dem kan man jo lave som man vil, men det her med at få ting beskrevet og få sat noget ansvar på, og få formuleret hvad potentialet er, sådan rent kroner og øremæssigt. Det som vi kom frem til var at se på kassationsdelen, som vi har på de her emner. Struers har i lang tid ført regnskab med hvor mange skiver, der bliver smidt ud, fordi vi laver nogle rapporter til dem på hver enkelt batch vi laver. Så laver de en udregning på kassationen, og så graver vi dybere ned og har en masse ideer og forslag til hvad årsagen er til de her kassationer. Så der er vi ude i det her lean arbejde igen, hvor vi hele tiden arbejder med problemstillingerne meget systematisk, og får lagt ansvaret ud.

Og det er nyt i forhold til hvordan I arbejdede tidligere?

(P2): Ja, det er det her med at man lige pludselig har fået en ejer fornemmelse. Før var det ligesom bare Struers der ejede alt det der stod herinde, og man tog måske bare en ny skive, og fik trykt noget på den. Nu er der blevet involveret nogle flere personer, og produktionen er også med indover det her, for de kan godt se der er nogle ting de skal gøre anderledes. Jeg sætter også produktionen til at gøre nogle ting de ikke har været vant til. Nu skal de fx til at tage nogle billeder.

Men det her med at få sat noget ansvar på, og få sat nogle deadlines på de her ideer, som vi går og arbejder med, og sat gang i de her tiltag har selvfølgelig en udgift. Struers betaler selvfølgelig de ting som skal til, sådan rent fysisk – fx måleapparater.

Men det lyder jo umiddelbart som om, at Struers har stor glæde af denne her proces, hvor I optimerer noget for dem. Men I har også glæde af det, synes I?

(P2): Det jeg tror, hvis man kigger på det udefra, så har vi jo ikke så mange penge bundet i de her materialer, så i bund og grund – det vi har ud af det, er at vi ikke skal stå og lave en masse ekstra. Når vi skal lave ekstra skal vi bruge en masse tid, og så koster det for os i løn til medarbejderne, så vi har da noget ud af det, men vi havde da haft mere u af det, hvis det var os, der ejede materialerne også. Så det er klart, det er Struers, der har absolut mest ud af det (ca. 550.000 kr. på årsbasis).

(P1): Det er jo et typisk samarbejde, da vi er den udførende part. Struers leverer jo alt til os, hvad vi skal bruge. Og derfor kan man sige, at I et kunde-leverandør forhold er det jo alt sådan noget med levering og priser osv., så Struers kan godt punke os for at skulle sænke prisen, det er faktisk ved at vi i et samarbejde mindsker den kassation vi har. Fordi der får de deres prisbesparelse i form af at bruge færre råvarer og få en bedre kvalitet.
Vores timeløn er jo den samme – den kan vi ikke sænke. Så besparelsen skal jo egentlig komme et andet sted fra, end den normalt gør.

Ser I nogle udfordringer I et øget samarbejde med dem man er leverandør for, eller nogle steder hvor det er uhensigtsmæssigt at have et meget tæt samarbejde og partnerskab?

(P2): Jeg har faktisk ikke oplevet, at der er noget der er sindssyg udfordrende, men der er selvfølgelig det her med hele tiden at skulle holde liv i det. Det kan godt være udfordrende i en travl hverdag. Man har hele tiden det her kørende, og man skal have en masse ting dokumenteret konstant. Det er nok den udfordring jeg har ved det.

(P1): Taler du også sådan mere generelt?

Ja, også sådan på et mere strategisk niveau?

(P1): Det man kan sige, det er. Det vi ser i dag, hvor vi eksporterer ca. 40 % af vores omsætning, det er at det bliver mere og mere baseret på tætte relationer man får med sine kunder i form af større samarbejde. Det er den måde verden udvikler sig i dag, som vi oplever det. Og det stiller større krav til os, og giver større udfordringer, men det giver os også den mulighed at komme tættere på kunden, og det ser vi kun som en positiv ting. Desto tættere vi kan komme på kunden, desto længere tid har vi dem, og desto mere stabilt samarbejde har vi. Men det stiller nogle krav til os og de medarbejdere vi har, og det kræver at vi får nogle kompetencer og kvalifikationer ind, som vi ikke havde for 6-8 år siden.

Og hvad er det så for nogle kompetencer det drejer sig om?

(P1): Det er på kvalitet, som fx en som Mads med en uddannelse som produktionsteknolog. Det er omkring nogle elektronikfolk, som vi heller ikke havde i huset før. Det bliver mere og mere fagspecifikt. Når vi fx får en masse udfordringer og udgifter i at skulle ISO certificeres, er det alt sammen nogle ting, der kommer når man vokser som virksomhed, og kommer mere ud i verden og interagerer med nogle virksomheder, der stiller nogle krav. Men det udvikler os også, så der er kommet mange nye kompetencer i huset de seneste 6-8 år.

Hvor meget har I af e-business orienteret integration med dem I er leverandører for?

(P1): Vi har enkelte af vores større kunder, hvor vi går ind i deres systemer og kigger i deres forecasts, men det er få kunder.

Hvad er nogle af de fordele, som man ønsker, der kommer ud af det i sidste ende, når man sætter en del ressourcer af?

Hvordan ser I på det her med at øget samarbejde hænger sammen med øget konkurrenceevne?

(P1): Stram Kæden projektet med Struers. Fra Struers' side har det været startet forkert op, da det er de forkerte mennesker, der har været med fra starten. De mennesker, der har været med har ikke haft kendskab til det produkt vi laver. Nogle af de andre, der har været med i projektet, der er det deres strategiske supply afdeling, der har været primus motor. Den strategiske supply afdeling hos Struers har slet ikke været med i det. Dem der skulle være med fra deres side kendte faktisk slet ikke til det produkt Seritronic leverede.
Jeg synes det er startet forkert op, og status pt. er at Struers nu ikke har ressourcerne til at gennemføre de ting, der er aftalt. Så det bliver sat lidt på stand by, så set med Struers briller har de ikke været klar til at indgå det her samarbejde, og derfor får man nok heller ikke den ønskede effekt af det. Det er med objektive briller.

(P2): Jamen, det har du fuldstændig ret i. Og jeg har også snakket med Troels om at lige nu har de ikke så mange ressourcer til at køre det videre, men de håber selvfølgelig at vi arbejder videre med de ting vi nu har startet, og det er jo blevet dagligdag for os, og så håber jeg vi kan se fremadrettet, at det har flyttet noget, og så kan det være vi starter nogle små projekter op igen på sigt.

(P1): Altså nu er der aftalt et møde hos Struers i juni måned, hvor vi taget en hel dag, hvor de forskellige, lige fra den daglige disponeringsafdeling og deres teknik, som har forstand på kemikalierne er med. Fordi Mads har også nogle ideer til, hvis vi fx får nogle forecasts, så kan vi planlægge vores produktion på en anden måde, og i det hele taget at få det daglige samarbejde tunet ind. Det har ikke været en del af Stram Kæden, men det er en del af det daglige samarbejde vi har med hinanden.

(P2): Det er jo sådan noget, der skal udmønte sig i at det bliver stærkere.

(P1): Så der skal vi jo igennem de ting her nu, der er: hvad det er vi er ansvarlige for, og hvad Struers er ansvarlige for, og der skal vi snakke hvor er det de sætter deres på stand by, og hvad er det de forventer af os, og hvad forventer de at effekten skal være. Fordi Struers synes stadigvæk, at der er for høj kassation, og det er der vi er nødt til at have afstemt forventningerne af hinanden. Vi har været ramt af at der har været ekstremt meget udskiftning hos Struers, og det er ikke optimalt, men det er sådan det er, og det må vi forholde os til. Men det er nok derfor vi ikke er kommet længere.

I er jo også selv ankerfirma for en masse leverandører nedad, og har en masse internationale samarbejder også. Ser I nogle forskel på samarbejde med internationale leverandører og kunder og så de danske?

(P1): Det er en længere proces internationalt – meget længere. Vi kan også dele det lidt op i forhold til hvor det er i verden. Der er forskel på om det er i Holland eller i Tyskland. I Tyskland, tager det lang tid, men de vil gerne den retning og have større samarbejde. Det stiller klart større krav til organisationen at begå sig på eksportmarkedet, end det gør i hjemmemarkedet.

På hvilke måder stiller det større krav?

(P1): Det er meget på kvalitet og miljø fokus. På begreber fx, kvalitetsbegreber. Store virksomheder i udlandet slynger om sig med begreber, og er meget familiære med dem, mens vi blot er nogle stille danskere. Så det er nogle ting som vi har lært meget om de sidste 5 år.

Så hele leverandørudviklingsaspektet er også noget I fokuserer internationalt nu?

(P1): Ja, det gør vi rigtig meget. Og hvis vi ser bort fra Struers produktet, som er en produktion i vores produktion, og som er virkelig niche – det er jo ikke de produkter vi går ud og markedsfører overfor andre. Så det er vores core business som er tasturer, paneler osv.,

som vi går ud og markedsfører os under at være en dansk producent, der samarbejder med asiatiske leverandører. Så vi kan både producere i Danmark og vi kan tilbyde og få det billigt hjem fra Asien, og have lager osv. herude (i Danmark). Men at vi ikke bare er en forhandler. Vi kender vores metier i dybden, og vi er også en sparringspartner med kunden. Kunderne i Europa, vil stadig gerne have en europæisk sparringspartner.
Asiaterne siger sjældent nej, de kan producere billigt. Vi er så ansvarlige for at specificere produktet i rette kvalitet, eller af den kvalitet vi aftaler med kunden, eller anbefaler kunden. Så kan vi godt få varerne hjem fra Kina. Så vi markedsfører os som en global spiller, indenfor vores produkter.

Hvor stor en del af jeres udviklingsproces er så de her asiatiske leverandører, som jo ellers har ry for at være udelukkende cost fokuserede?

(P1): Det er en 60-40, hvor 60 % er den del vi specificerer, og 40 % er den del af det, som vi samarbejder omkring. De kan nogle ting, som vi ikke kan, så der er vi nødt til at bruge deres viden og deres know-how. Det har vi stor glæde af. Vi er ret trofaste mod vores samarbejdspartnere i Asien. Jeg er jævnligt derude, for at have relationerne til dem, og tager af sted om lidt igen, hvor jeg har nogle kunder med også.

Hvilke ressourcer får I fra disse samarbejdspartnere, som I ikke selv har in-house?

(P1): De har nogle ting, sådan meget produktspecifikt og teknisk, som ligger udenfor vores kompetencer. Fx kan de lave de her touch skærme, som vi så går ind og laver et kombinationsprodukt omkring. Vi får nogle ting færdige hjem, hvor touch skærm og keyboard er færdigmonteret sammen, og det kan vi ikke gøre her i huset. Vi har også en samarbejdspartner i Shanghai, der kan nogle andre serigrafiske processer end vi kan her. Så det lægger vi ud til dem. Den anden partner vi har i Taiwan kan lave noget digitalt tryk, som vi heller ikke kan, og så har de selvfølgelig flere hænder til rådighed end vi har.

Og det skaber så et unikt samarbejdsforhold, som gør jeres produkt konkurrencedygtigt?

(P1): Vi kan gøre det at vi lægger noget fleksibilitet i huset her, da vi nogle gange får varer hjem i halvfabrikata, hvor kunderne siger at det her keyboard skal vi have. Vi bruger 1000 om året, og de skal lægge i 30 forskellige sprogvarianter. Så selve sprogvarianten producerer vi herude, så standarden kommer ude fra Kina, og så lægger vi variantskabelsen lige herude – tæt på kunden. SÅ har vi måske kun nogle få dages leveringstid, hvor hvis vi skulle have det færdigt hjem fra Asien, så ville der måske gå 3-5 uger, før man fik det hjem. Så der har vi et tæt og godt samarbejde, som giver værdi for kunden. Og det er jo det det går ud på. Hvis ikke vi kan skabe noget værdi for kunden, så er vi ikke interessante som samarbejdspartner.

Så tror jeg måske vi har været det meste rundt, men du har måske lidt materiale der, Mads? Har I kunnet se noget effekt endnu, på trods af at det er gået lidt i stå?

(P2): Altså jeg har en ide, om at denne her kassation nu er noget lavere, bare ved at få skabt noget fokus på det. Jeg tror det er flyttet meget – det tror jeg. På trods af udfordringer.
Det er klart, vi startede ud med et ønske om at skulle ned omkring 5 % i kassation, og det ville jeg gerne tro på, hvis ikke det var lige præcis det her meget specielle emne, hvor det egentlig ikke kan lade sig gøre. Der er så meget udefrakommende, da vi har med kemi at gøre?

Der har været et ønske eller et mål fra Struers side, som egentlig ikke har kunnet lade sig gøre i praksis?

(P2): Nej, jeg vil egentlig ikke sige det er fra Struers side. Det er nok denne her lean verden, hvor man kan godt producere dernede omkring, hvis man ellers virkelig får styr på sine processer, men det er en lang rejse. Og jeg kan godt se at det mål, der er sat det kommer vi ikke i nærheden af. Især når vi ikke har nogle i Struers lige nu til at arbejde videre med det her i dybden.

Hvordan og hvor ofte følger man op på de her KPI'er, der er sat virksomhederne imellem?

(P2): Til at starte med havde vi en aftale om, at vi skulle mødes næsten en gang hver måned, for at holde liv i det. De skulle afsætte nogle ressourcer til at komme herover, og hvis det var nødvendigt, skulle vi også komme derover, men det skulle primært være her i huset, da det er her produktionen foregår. Og så skulle vi ellers hele tiden følge op, men det er desværre lidt faldet til jorden, pga. deres bemandingsproblemer.
Der kommer så en nu her, hvor vi skal kigge på de her ting, men det er lidt for sent, og vi er lidt for langt henne.
Vi arbejder med de ting, der er aftalt. Og når vi så sætter os igen for at se på effekten, så kan vi arbejde videre derfra. Jeg har masser af ideer til hvordan det kunne se ud. Men hvis jeg ikke kan få deres hjælp, så kommer jeg til at lave en hel masse, hvor det ikke som sådan skaber værdi for Seritronic som sådan.

P1 kommenterer på de ledelsesmæssige aspekter af leverandørsamarbejdet:

(P1): Alle typer af større procesændringer, der skal ske, er nødt til at blive bakket op helt oppefra – og 100 %. Fx hvis man, som i vores tilfælde har skulle ISO certificeres, så er det nødvendigt at vi som ledelse står 100 % bag det, da det koster en masse ressourcer – både økonomisk og i bemanding. Og det kan sammenlignes med det her projekt, hvor Struers har manglet fuld opbakning oppefra. Det bliver meget nemt tomme ord, fordi det lyder flot. Men hvis der er for meget varm luft, så går det ikke.

(P2): Det er jo også derfor vi ligesom at aftalte, at minimum en gang om måneden skulle vi mødes, så vi også havde fornemmelsen af, at vi går op i det her alle sammen. For det er nemt at sidder derovre og komme med en masse ideer til os, og bede os om at gøre en masse, men en ting er jo hvad man har af ideer, men at udføre dem rent praktisk er noget andet. Der bliver brugt ressourcer hele vejen igennem hver gang de får en ny ide.

(P1): Jeg har sådan en langvarig plan med Struers samarbejdet, fordi at de jo har en del af deres produkt (i stål), som bliver stanset ude i en anden virksomhed. Noget bliver så sendt tilbage til Struers, som laminerer dem. Derefter sendes de over til os, som lægger noget tryk på (serigrafi), og så sender vi det tilbage til Struers. En del af det, som det andet firma stanser kommer direkte hertil, hvor vi så trykker på et, og sender det til Struers (altså to forskellige processer). Min tanke er, at her ved Seritronic kan der sagtens stå en maskine, der stanser de her metalskiver. Vi er i forvejen bekendt med at laminere – det gør vi ved andre produkter. Så i princippet kan vi stanse dem, lave lamineringsprocessen og trykke dem – for så at sende dem til Struers til sidst. Det vil optimere hele forretningsgangen, da men her så tager 2 led ud af kæden.

(P2): En anden fordel er, at vi så selv kan styre processerne helt. Nogle af de udfordringer jeg ser hver eneste dag herude, det er, at vi ikke kan dokumentere, hvor en ridse fx er opstået. Jeg kæmper dagligt med at tage fat i Struers, for at tale om nogle beskadigede skiver, hvor vi så må gennemgå hele den proces de har været igennem, for at finde ud af hvor skaden er sket. De er fx blevet fragtet hertil. Men så snart jeg tager fat i dem, og sender dem gennem produktionen, så er det her fejlen er sket.
Det er rigtig udfordrende. Kunne vi selv styre processen, var vi selv herre over det.

(P1): Så var der kun et sted Struers skulle henvende sig – det var til os. Det ville forenkle det hele, og ville gøre, at de betalte mere for den del de skal købe her ved Seritronic, men de ville spare rigtig meget logistisk.

(P2): Bare transporten og håndteringen af de her emner – de skal jo igennem en hel masse processer, og hver eneste gang en manuel håndtering sker, der vil det koste noget på kassationsdelen – det kan man ikke komme udenom.

Men det vil jo så igen kræve at I skal stille noget ekstra op kun for Struers?

(P1): Ja, men vi har indgået et ægteskab med dem, og vi har en aftale, der løbet 5 år ad gangen. Vi har vores fortrolighedsaftaler osv. Det er hele kongstanken i industrien i dag – det er at have færre og færre leverandører, og så knytte sig meget mere til hinanden. Og det vil man komme til. Det gælder begge veje. Det er klart vi går ikke ud og investerer flere millioner i udstyr til Struers' produktion, uden at have en langvarig kontrakt. Det er det her med at give og tage. Det er en spændende tanke denne her proces, men det kræver at Struers skal afgive noget af deres know-how omkring lamineringsprocessen til os, og det er de selvfølgelig kede af.

Det tror jeg var alt jeg har brug for. Tusind tak for jeres deltagelse.

Appendix 4: Interview with Chief Procurement Officer, Company C

Allerførst. Hvad er din stilling her i firmaet?

Jeg er chef for indkøb og sourcing og alt hvad der tilhører. Chief Procurement Officer er min titel, og jeg er også medejer af virksomheden.

Og hvor længe har du været i virksomheden?

Jeg har været medejer i rigtig mange år, men mit daglige arbejde i virksomheden, har jeg kun haft i 2 år.

Hvad var ligesom de incitamenter I så, eller fordele, ved at påbegynde denne her proces, som I allerede havde påbegyndt inden Stram Kæden, i forhold til leverandørsamarbejde og forbedring af dette?

Jamen ehm, hvis man skal prøve at ordne det sådan inde i hovedet.. Der er sådan forskellige incitamenter, der kommer ind på forskellige niveauer.

Du har denne her matrix model (Krajlic modellen), som er et af de værktøjer, man kan bruge til at analysere hvilke produkter man gerne vil have ind i sit samarbejde. Typisk er det dem i det strategiske hjørne.

Der er flere forskellige former for incitamenter, som befinder sig på nogle lidt forskellige strategiske niveauer. Så jeg vil sige, der er et incitament, der helt grundlæggende er en spare øvelse for at se på – spilder vi penge i denne her forsyningskæde. Og det er jo ikke noget som nødvendigvis er strategisk. Nu siger jeg 'nødvendigvis', og det kan vi lige vende tilbage til. Men det at sætte sig ned med sin leverandør og sige fx "er vores bestillingsstørrelse den optimale?" – kører vi med en economic order of quantity, eller ligger vi skævt i forhold til den. Spilder vi penge fordi, at det i stedet hav mening at lægge ordrer halvt så tit, men i de dobbelte størrelser. Den form for samtale, det kan afhængig af produktets karakter være en nem eller svær opgave at løse, men den behøver ikke have strategisk karakter. Det kan simpelthen bare være for at se, om ikke der skulle være nogle penge at spare her – og kunne man gøre det på en anden måde.. og det er en form for lean øvelse sammen med leverandøren, som rent strategisk og rent akademisk, ikke er særlig meget kød på. Det kan godt være udfordrende rent intellektuelt at løse den enkelte logistiske opgave, men der er ikke noget hokus pokus, hvad det strategiske angår. Det er bare en spare og optimeringsøvelse. Så det er sådan niveau 1.

Så synes jeg at, når jeg kigger på den model (Krajlic), så synes jeg den er interessant fordi den har nogle indbyggede og underlæggende tids- og ressourcemæssige vurderinger. Man kan sige, hvordan ender et produkt oppe i det strategiske hjørne? Jamen, det kan det gøre, hvis det produktet har en strategisk indflydelse på virksomhedens drift. Havde man ikke det produkt, så havde man en strategisk udfordring af en eller anden slags. Så rent produktteknologisk skal det være noget der har en strategisk relevans. Det kan være det er et produkt, der udgør en høj procentdel af ens samlede indkøb, men det kan også udgøre en lille del, men udgøre en høj risiko. Hvad er risikoen – det er selvfølgelig ens margin. Så hvis produktet påvirker en grundlæggende procentdel af ens margin, så er det også et strategisk eller kritisk produkt.

Men der ligger noget tid deri. Low degree of freedom betyder, at det er tids- eller ressourcemæssigt svært at skifte det ud, og der er det jeg synes det går et skridt dybere ned under modellen, som jeg synes er interessant, for hvornår er noget sært at skifte ud? Det kan være hvis det tager rigtig lang tid, eller det kan være hvis ressourcerne i forhold til fordelene ved at skifte det ud er enten meget høje eller fordelene er svært kvantificerbare. Man kan have et risikospørgsmål, der gør at det er endt i den rubrik. Man kan måske have et tilfælde, hvor et produkt i den grad er blevet et højrisiko og strategisk produkt, fordi det i den grad påvirker virksomhedens margin. Produktet kan simpelthen indgå i så mange produkter, at en enorm del af virksomhedens margin er afhængig af det ene produkt. Men det kan være et både billigt og lille volumen produkt, men bare en enkelt virksomhed, der udbyder produktet. At erstatte det ville være et enormt udviklingsprojekt. Dels ville det involvere at man selv skule have udviklet en kopi eller noget tilsvarende, eller man skule til at arbejde med nogle andre, og få dem til at udvikle det. Og så skulle man have indført alternativet i alle de produkter, det indgik i, og have det kvalificeret igennem hos kunderne. Det ville være en enorm omkostning, hvor man ikke ville kunne se betydningen af det på bundlinjen. Det kan ikke direkte måles på bundlinjen, men man rykker det ned af risikoaksen i Krajlic modellen. Det er der den ressourcemæssige og strategiske diskussion kommer ind i billedet – skal man sætte alle de her ressourcer af til at takle det, så er der noget andet de

ressourcer ikke gør. Det ligger et skridt dybere end modellen, fordi det bliver meget teknologi og produkt specifikt, hvornår noget er for stor en mundfuld.
Der kan man sige at for os, der har vi mange produkter, som kan tage lang tid at indarbejde i markedet. Det er jo sådan at vi laver fysiske materialer, primært til konstruktion, og tit når man taler om materialer, så tager det lang tid at skifte noget ud, og adaptere nogle nye materialer. Det tager lang tid, og er ikke noget der sker fra den ene dag til den anden. Så når vi putter er produkt på markedet, fx et facadesystem, så er det noget der sagtens kan tage 10 år, før et modent produkt, rykker volumenmæssigt på markedet. De fleste af vores produkter tager 3-5 år fra det reelt er modent, til det har en volumen på markedet. Til gengæld har vi fx et produkt, der går helt tilbage til vi startede i 1979, og det har kørt helt uændret siden 1983 – samme design osv., fordi kunden har fået det normgodkendt i sine produkter, og der er ikke nogle iøjnefaldende forbedringspotentialer, og omkostninger ved at lave det bedre, vil være meget meget store. Så på den ene side, har vi nogle meget lange penetreringstider, men omvendt har vi også nogle meget lange levetider på produkterne.

Har I så også meget lange samarbejder med jeres leverandører?
Ja, det har vi også. Og det det betyder i alt det her, i forhold til leverandørsamarbejde, det er at når man kaster ressourcer efter at udvikle det, og kaster en masse ressourcer efter at markedsmodne det, og gerne skal hen til et sted, hvor det er levedygtigt over lang tid, så betyder det at: I begyndelsen af den ramp up, der vil alt hvad man foretager sig ende oppe i det strategiske og kritiske hjørne. Volumen er der ikke. Hvis du skal skifte råvaren ud med en anden råvare, så skal du kaste en masse penge efter det, og volumen er der ikke til at det viser sig på bundlinjen. Så du er både i en situation, hvor du i forhold til den strategi du er gået i markedet med, og i forhold til din volumen og dine ressourcer, der er du i en situation, hvor du bliver nødt til at kunne stole på de råvarer og de leverandører du har. Både hvad omkostningsoptimering angår, og hvad kvaliteten angår. Så man bliver nødt til at have en høj grad af strategisk alignment med sine leverandører på det tidspunkt.
Historisk set har det for os ikke været noget særlig stort tema, fordi vi har udviklet fra et pionerplan, hvor man kom med nogle produkter, som man godt vidste var lidt fremmede for folk, og som der var en stor markedsførings og teknologisk dokumentations indsats på, før

det nåede en skala, som man kunne kalde industriel. Hvis man kigger på hele virksomheden portefølje er det først de sidste 10 år at man kan sige det har nået en seriøs industriel skala, men det har altid været med denne her pioneragtige tilgang til tingene, og det betyder at tidligere, da der var den tilgang, der var leverandørerne nogle der leverede glasfibre og matrix materialer ind til den form for teknologi, så de var implicit med på den. Hvis vi kan skabe noget ny teknologi her og skabe flere anvendelser for glasfibre, så er de selvfølgelig med på den, og synes det er interessant. Så længe den volumen, der er i det, har et løfte om at blive store, men ikke i sig selv er store. Så har de den holdning, at vi de sagtens kan levere – I har et vækstmarked, og den volumen, der skal flyttes er ikke noget der belaster deres kapacitet særlig meget. Men efterhånden, som man bliver større og større og produkterne og teknologien bliver mere mode, så bliver det meget mere et spørgsmål om – er det den her fiber eller er det en anden – er det den her type plast eller en anden, der skal laves. Her kommer man ind i nogle meget mere specifikke og sourcingmæssige udfordrende spørgsmål, som gør at den strategiske alignment bliver mere påtrængende.

Og hvilke konkrete værktøjer sætter I ligesom i spil, for at få det her tættere samarbejde op at køre?

Det første er egentlig en strategisk alignment. Det er et spørgsmål om at man gør klart for leverandøren, hvad det er man vil med de produkter, som leverandørens varer indgår i. Hvis vi ser på betonarmeringsstaven fx, så kan man have en strategi for sådan et produkt, og specificere overfor leverandøren at: 'vi forestiller os at lave produktet sådan og sådan, og forestiller os at gå i markedet med det sådan og sådan'. Og så har det en betydning for hvad skal leverandørens strategi så være, hvad skal leverandørens holdning og handlinger så være for at understøtte den strategi. Så det første er egentlig at få leverandørens accept eller commitment af, at den strategi er en de gerne vil være med til at understøtte. Det kan alle selvfølgelig sidde og sige ja til, men hvad betyder det så i praksis?

Det kan have alle mulige aftalemæssige konsekvenser, som at leverandøren skal løfte noget af markedsføringsbyrden, eller løfte noget af testbyrden, der skal til. På mange produkter vil vi sige, at vi vil ikke være dem der sidder g finder på at man kan det her, og så går vi til testinstitutterne og ud i markedet og overbeviser hele markedet om hvor genial en ide det er, og når vi så når derhen, hvor alle vil have det, så tager leverandøren råvaren og sælger det til alle mulige andre der kunne finde på at bruge det. Så det kan være sådan nogle spørgsmål, som så må afspejle sig i samarbejdet, og som man må sørge for at det både kontraktligt og i handling bliver omsat til praksis. Hvis vi skal tage den risiko og de ressourcer på os, som det er at løfte den markedsmæssige og penetreringsmæssige opgave, så skal I vise os at vi sidder i samme båd – at I ikke fjerner produktet fra markedet, og at vi også om 15 år har nogle priser, der gør at vi kan konkurrere, og at vi har en plan for prisudviklingen, efterhånden som vores volumen stiger, og hvordan fungerer eksklusivitet og udviklingssamarbejde. Den slags ting.

Hvor meget e-business integration har I med jeres leverandører?

Det har vi ikke noget af, hvor vi griber ind i de samme ERP systemer eller noget. Vi har nogle leverandører, hvor vi udveksler forecasts, men det er sådan på mere manuel basis. Det er selvfølgelig noget der foregår ret automatisk, men det er en gammeldags transaktion.

Jeg kan heller ikke nødvendigvis se, at det ville være relevant for os. Man kan godt forestille sig at der indenfor nogle år vil være nogle leverandører, hvor det giver mening, men det vil i så fald være produktspecifikt, så leverandøren kan gå ind og se på planen for de produkter, hvor deres vare indgår, og kan tage højde for dette.

Hvis man skal se på det mere bredt, der er vores produktion alt for kompleks, med alt for mange forskellige produkter. Vi har tit en situation, hvor vi lægger en produktionsplan, som så bliver omstødt af en ny ordre, der bliver placeret med en anden tidshorisont. Den form for forskydninger sker i vores forecasts hele tiden, så det er ikke så lineært. I nogle situationer vil det ikke give mening fordi forecastet er så flyvsk at det kan ændre sig fra dag til dag, og i det andet tilfælde, hvor forecast ikke er flyvsk, der belægger produkterne maskinerne helt konstant, så der et det unødvendigt. Det vil trække den samme mængde hver dag hele året.

Hvis vi vender tilbage til de her ideer omkring at indgå øget samarbejde, hvad er så efter din mening nogle af de udfordringer man kan støde på med sine leverandører? Udfordringer og risici.

Udfordringerne kan have enormt mange praktiske udmøntninger, men sådan helt grundlæggende, er det en udfordring med den manglende strategiske alignment. Hvis det ideelle scenarie er at man har fuldstændig enighed om hvad strategien er på et produkt, og man gør det som jeg sagde før, og man får alt det afdækket og klapset af, så er udfordringerne alt der afviger fra det. Og det er hvis man ikke i realiteten har en strategisk alignment eller der kan være leverandøer, hvor organisationerne er store, og hvor man måske har strategisk alignment med en forretningsenhed, men ikke mere overodnet i organisationen.. hvis man fx aftaler at man laer en aftale der skal række 10-15 år ud i fremtiden, og så sidder den pågældende direktør for forretningsenheden og synes at det er fornuftigt. Når han så sender aftalen til hovedkvarteret, sidder der en chefjurist, og siger at den form for aftale kan vi ikke binde os til. Der må man sige det går tilbage til det samme udgangspunkt, da det betyder at man i realiteten kun har den strategiske alignment med en lille bid af virksomheden, men ikke med virksomheden som helhed. Det går hele tiden tilbage til det samme udgangspunkt omkring strategisk alignment.

Så er forskellen på tidligere og nu, som du ser det, at jeres strategisk vigtige leverandører, er en større del af jeres strategiproces omkring produkterne nu?

Ja, helt sikkert. Det kan jeg helt sikkert sige ja til, men jeg synes det interessante spørgsmål er at vende den om og sige: er udfordringen med strategisk alignment så blevet større? Og det mener jeg den er, fordi at efterhånden som man når en specialiseringsgrad, så er vi der henne hvor vi tager en væsentlig del af leverandørens kapacitet og hvor vi bruger nogle produkter, der er mere specialiserede fra vores leverandørs synspunkt, og som derfor ikke nødvendigvis vil være i deres portefølje til evig tid, medmindre vi sørger for at de er det. Der er noget der i vores volumen og produktudvikling, der gør at det her problem er blevet mere væsentligt.

Hvordan ser du denne her kobling mellem øget samarbejde med leverandørerne og øget konkurrenceevne?

Det ene er det vi sagde først. Hvis man ser på trin 1 i trappen – hvis man kan identificere variationer i bestillingsmængden, som kan optimeres. den form for besparelser opnået her, skaber allerede øget konkurrenceevne.
Så er det næste trin noget med logistisk og lagerstyring og den slags, og det er primært et leveringsevne spørgsmål og et lagerbindingsspørgsmål. Når vi er på trin 2 på trappen, så er det for os langt overvejende et cash flow spørgsmål. Det er et spørgsmål om at man ikke har en leveringskæde, der er så lang at enten leverandrøren eller vi har en masse penge bundet i varer, der er på vej på søen. Så det er klart at det øger konkurrenceevnen og navnlig i en kraftig vækstsituation, som vi er i nu. Det kræver noget cash, og det kan vi ikke have stående ude på lageret. Det kræver cash at generere denne vækst. Så hvordan påvirker det konkurrenceevnen – jamen, de penge vi har likvide kan vi generere vækst med. Penge, der står på lageret, de står bare.
Når vi kommer længere op af stigen, så kommer vi tilbage til det stratetiske alignment spørgsmål, og der bliver det et spørgsmål om, helt grundlæggende, rentabiliteten af en given forretning. Hvis jeg investerer *x* antal millioner i at bygge det her marked op over den næste 3-5-10 år, så skal den forretning jeg skal have af den investering være højere des mere risikabel investeringen er, så jo mere risiko jeg kan tage ud, jo mere konkurrencedygtig kan jeg lave mit produkt og jo lavere forrentning kan jeg tillade mig at ville have i den sidste ende, og jo hurtigere bliver markedspenetrationen sandsynligvis. Hvis jeg ved at jeg har fuldstændig alignment med mine leverandører, og ved at de ikke trækker tæppet væk under mig, så kan jeg tillade mig at lave investeringen til en lavere rente, end hvis jeg ikke har sikkerheden.

Jamen det tror jeg egentlig var det hele. Tusind tak for din deltagelse.

Appendix 5: Interview with Supply Chain Manager, Company D

Allerførst, så skal jeg høre hvad er din stilling helt præcist i firmaet?

Jeg er supply chain manager, det vil sige, jeg har ansvaret for indkøb, lager, logistik og planlægning.

Og hvor længe har du været ansat i firmaet?

Jeg har været her i snart 3 år.

Det jeg skal se på, er det med nogle af de incitamenter, der er for at indgå i øget leverandørsamarbejde, og nogle af de udfordringer, der er ved det. Så hvis vi starter med nogle af de incitamenter I har og har haft til fx at gå ind i det her Stram Kæden projekt.

Det har været at tage en anden tilgang end man normalt gør i en forhandlingssituation. Det her med at lade være med at snakke så meget om pris, men også snakke om nogle af de her ting, der giver værdi sådan uden omkring. Det har helt klart været det, der har været min motivation for at deltage i Stram Kæden.

Og det at vi alle sammen (ankerfirma og leverandører) har fået den samme værktøjskasse til at gøre det her, det synes jeg er en fordel.

Og hvad er det så for nogle ting du nævner, som skaber værdi, udover det cost baserede?

Jamen, det er sådan noget med at det for os har været en øget indsigt i, hvad sker der egentlig med ordren eller opgaven, når den lander på jeres (leverandørens) bord, og hvad har det af betydning for den måde vi så gør tingene på. Og det der med at dele viden omkring hvad fremtiden byder på. Det koster jo ikke noget, og det glemmer man nogle gange i et leverandørsamarbejde, fordi man oftest snakker pris. Så det der med at investere noget tid i at sætte sig ind i, hvad er egentlig ens leverandørs udfordringer – det har vi lært af.

Hvad er nogle af de udfordringer der opstår, hvis man indgår i øget leverandørsamarbejde, og hvad er nogle af de forhindringer, der er i forhold til det, sådan som du ser det?

Ehm, ja. Jeg synes mest det der har været udfordringen, det har været den kulturændring det har krævet internt. Jeg synes egentlig vores leverandører har været meget positive. Men det man også bliver ramt lidt af når man går ind i sådan et projekt, det er at man jo, kan bevæge sig ud i nogle afdelinger eller ansvarsområder, som man ikke selv er herre over. Og der hvor man skal adressere den gode ide – de har måske i forvejen nogle ideer, som de går og arbejder på. Det der med at få ens egen ide til at fylde lige så meget, som det de i forvejen er i gang med at arbejde på. Det kan godt være en udfordring, også fordi vi arbejder selvfølgelig på, at det vi sætter i gang, det er også noget vi mener at vi gerne vil gøre fuldt ud, men man kan sige udfaldet af Stram Kæden kender man jo ikke før man har været det igennem.

Hvad er nogle af de udfald, I så forventer eller håber på der kan komme ud af det her med at stramme kæden?
Det er en reduktion af administrative opgaver, der ikke skaber værdi for nogle af os. Det er helt klart noget vi arbejder meget på, og det synes jeg har været en vigtig del af vores kulturændring, fordi vi måske tit siger, nå, men det tager jo kun 5 min, men hvis man har mange af de her 5 min., så tager det jo rigtig meget tid. Og derfor synes jeg at det har været den største ændring og fordel. Og så det der med at, vi i nogle sammenhænge har vendt det hele på hovedet, og kommer til at gøre tingene på en hel ny måde fremadrettet. Hvor det er et lidt større paradigmeskifte end et ordre-to-invoice flow. Så jeg synes faktisk vi kommer bredt omkring, og det er ikke kun invoice flow, det er også sådan noget som timeregistreringer hos vores eksterne håndværkere, hvor vi også kommer til at spare en masse tid, og hvor leverandøren også kommer til at spare en masse tid.

Hvis man ser det mere overordnet eller strategisk, er der så nogle bekymringer man kan have omkring at have meget tætte samarbejder med sine leverandører?
Ja, altså man kan sige. Nu har jeg lige haft styregruppemøde med min chef i USA (firmaet er amerikansk eget), og når jeg fortæller om Stram Kæden, så synes han helt sikkert at det er det vi gerne vil fremadrettet, og går godt hånd i hånd med det vi gerne vil. Men der er jo

altid den udfordring at vi altid skal være sikker på at vi får vores varer til den rigtige pris, og hvis vi gifter os for meget med en leverandør, så kan det selvfølgelig være lidt svært.

Men der vil vel så komme nogle andre ud fald ud af det, som er mere længerevarende og strategisk fordelagtige udfald, end bare hvad der sker med det prismæssige?

Ja, og man kan sige på nogle af de leverandører, der er med i Stram Kæden, der har de allerede opbygget en ret specifik viden mindet mod os, så vi i forvejen er ret godt gift med dem. Men vi vil altid på et nyt projekt lave en udbudsrunde, og vi har også i Stram Kæden valgt at have leverandører med, der er konkurrenter til hinanden. Så vi har haft to eksterne smedefirmaer og to el firmaer, og det har jeg set som en styrke, fordi med det siger vi også, at det kan godt være vi gerne vil arbejde tæt sammen med jer, men vi har altså stadig en alternativ leverandør.

Hvis man kigger lidt mere på de praktiske værktøjer I så benytter jer af, hvilke har I så rent praktisk implementeret med fx Nordic Sugar for at stramme samarbejdet?

Nordic Sugar er helt klart det mest spinkle spor af de leverandører, der er med. Dem har vi taget med, fordi vi synes vi havde et velfungerende samarbejde, men der har vi jo så alligevel fundet ud af, at der faktisk var områder, der sagtens kunne optimeres. det værktøj, som har gjort at vi sammen har fundet frem til forbedringer, det er en value stream analysis, og det har det været med alle leverandørerne. Men det der er målet med Nordic Sugar, det er at vi får en VMI løsning mod dem, så de fylder vores varer op.

Så det er en lidt mere IT baseret løsning I vil arbejde hen imod?
Ja, men også sådan lige nu er det rent basal planlægning af, hvordan gør vi det i dag, og er det nødvendigt det vi gør. Og så det der også har været nogle af værktøjerne, det har været at fjerne spild, og hvordan gør vi det.

Hvor mange IT baserede løsninger har I generelt, der er integreret med jeres leverandører?

Det er ikke noget vi bruger ret meget lige nu, men det er der vi gerne vil hen, hvor vi har nogle katalogløsninger. Men der er vi ikke helt endnu.

Og hvordan ser du denne her kobling mellem øget leverandørsamarbejde, som på den lange bane kan føre til øget konkurrenceevne og måske øget produktivitetsvækst?
Det opstår ved at man netop kigger på tværs, og ikke bare sidder og diskuterer en timepris, men at man også kigger på, er det egentlig noget, hvor der kan være en fælles gevinst, og det har vi jo fundet ud af, at det er der i høj grad. Så det at vi egentlig kan fjerne noget spild begge steder, det er helt klart.
Et eksempel er nogle containere, som vi i dag laster, når chaufføren kommer med dem på et bestemt tidspunkt, og det vi gerne vil, er at vi gerne vil laste dem, når vi har ordren klar, så vi ikke skal håndtere varen to gange, og når vi så har skullet finde ud af med leverandøren – hvad skal der så til, så viser det sig faktisk at det er nemmest både for os og for leverandøren, at komme med containeren i god tid, så vi selv kan flytte rundt på den. Det er jo sådan lidt tankevækkende, at vi egentlig kunne have gjort det her for længst, hvis vi bare havde snakket sammen om hvad vores udfordring var, og det øger vores konkurrenceevne, men i høj grad også vores leverandørs. Vi vil godt betale hvad det koster, vi er ikke ude i at presse vores leverandører fuldstændig, men vi vil selvfølgelig heller ikke betale for meget, så det er lidt en balance.

Her nævner du helt basal kommunikation, som et af de værktøjer, der har været vigtige…
Ja, helt klart. Kommunikation, forecasts og planlægning. Men helt klart, det der har givet mest for os, har været den tid vi har brugt på at sætte os sammen, og snakke. Det er sådan en læring, at hvis man giver sig tiden til at sætte sig ind i hvad hinanden laver. Så kan man sige, om det er med leverandøren, eller om det er tværfagligt, internt, det er nok det samme. Det der med at finde ud af, hvad er det helt præcist man laver. Det har været en god øjenåbner.

Og det mener I, at de ressourcer det trods alt kræver, det er det værd i forhold til hvad man kan forvente at få af fordele i den sidste ende?

Ja, det vil jeg sige.

Hvor lange kontrakter har I normalt med jeres strategisk vigtige leverandører, og længere partnerskaber noget I vil begynde at kigge på?

Nej, vi har faktisk længere partnerskaber med de fleste, sådan ca. 3 år, men vi genbesøger ofte kontrakten hvert eller hvert andet år.

Men jeg vil så sige, at mange af de leverandører vi har, ender med at være de samme i rigtig mange år, men derfor kan vi godt genbesøge dem, og få et pristjek fra nogle andre.

Gør det her projekt, at der er nogle aspekter, som ikke tidligere har været tænkt ind i jeres kontrakter, som I vil begynde at tænke ind i kontrakterne?

Man kunne godt forestille sig, at man ved starten af et samarbejde, måske er mere opmærksom på, hvad der er vigtigt for leverandøren. Nu har vi nogle samarbejdspartnere, som ikke har været med i Stram Kæden, som vi har kvartalsmøder med, og jeg kunne da godt forestille mig at vi arbejder ind i kontrakterne, at skulle tale noget mere sammen i fremtiden.

Det tror jeg var alt jeg havde. Mange tak fordi jeg måtte ringe til dig.

Appendix 6: Interview with Customer Service Manager of Company E

Hvad er din stilling i firmaet?

Den er Customer Service Manager for Danmark og Sverige.

Og hvor længe har du været ansat i firmaet?

Det har jeg i helt præcist 5,5 år. Og inden da kom jeg fra 30 år i Carlsberg.

Hvad er nogle af incitamenterne for at benytte nogle ressourcer, for at indgå i et tættere samarbejde med sine kunder?

Tanken er ikke tænkt som sådan. Den opstår, når den opstår. Det her Stram Kæden har selvfølgelig motiveret os til at tænke på om vi kan gøre det andre steder i nogenlunde samme niveau.

Vi har også leverandører internt i firmaet, og her har vi også været ude og stramme kæden.

Men det er først noget I reelt har fået fokus på i forbindelse med Stram Kæden – det er ikke noget I tidligere har haft fokus på?

Ikke overfor vores kunder, nej. Leverandørsiden kender jeg ikke så meget til her i firmaet, andet end at jeg ved vi har en del leverandører, men hvordan det lige foregår, det tør jeg ikke udtale mig om.

Men jeg vil sige, jeg tror det er et holdningsbaseret spørgsmål. Når kunderne har et behov, som ikke er ligefrem pris og en kvalitet, så vil jeg klart agere der fra hvor jeg sidder. Om det har noget med transport at gøre eller hvor ofte de skal have noget leveret, så går jeg ind og tager disse opgaver. Vi samarbejder bl.a. med Carlsberg, hvor vi så bruger hinandens styrker, så det ikke bare er én mand, nemlig sælgeren, der sidder med det. Sælgeren har nemlig ikke meget viden omkring vores område, og det vi laver.

Hvis man snakker leverandørsamarbejde, så kan du også se på når vi skal oprette EDI med detailhandlen, så er det jo også et andet niveau end lige en sælger, der gær det. For vi har jo mange eksperter her, som bidrager mere. Så den vej rundt ser jeg vores firma lidt gammeldags. Det er meget med fokus på at 'sælgeren skal'. For nogle år siden var det sådan, at havde man kvalitetsproblemer, så skulle sælgeren ringe til kunden. Men hvorfor skulle han det? Sælgeren ved jo ikke noget om den del af det. Det gør kundeservice, da vi har en skærm foran os, hvor vi kan slå alt op. Når det så bliver rigtig teknisk, så kan vi få en decideret tekniker til at ringe. Så den der, at man skal samarbejde på alle niveauer, den er ikke slået an her endnu.

Men det er noget I nu arbejder på?
Det er da helt klart noget, jeg ønsker, ja. At man tager ansvaret, der hvor bolden ligger, og hvor man har sit kompetenceområde.

Hvor ser du så nogle af de udfordringer, der møder dig, i den vision?
Jamen altså, det allerførste er tid. Og så nogle gange må man sige, at så må man prioritere nogle få. Jeg har da snakket med sælgeren om, at i hvert fald I Danmark, bør vi kunne vælge 4 eller 5, som vi ud over at lave prisforhandling med, også kan gå ud og lave en form for Stram Kæden, hvor vi kigger på hinanden. Vi bliver magende mennesker, hvis der ikke er nogle, der spørger ind til de andre – at man skal føle sig provokerede, eller at man ikke er gode nok, og det er vigtigt i sådan et samarbejde. Det er vigtigt at man spørger ind til, hvorfor gør I sådan? Både for at spare penge hos dem selv, hos os eller i fællesskab. Selv da vi sad ved det første møde (med CP Kelco), hvor vi roste hinanden for hvor gode begge parter var… Nu har jeg selv været på en masse kurser om lean, og der er altid noget at finde, og det var der altså også i det her tilfælde alligevel – mere end man lige kunne forestille sig.

Hvad er så nogle af ting I fandt frem til, og har kunnet arbejde videre med?
Der er tid – og tid er penge. Det er ikke fordi man skal reducere mandskabet, men mandskabet kan lave noget andet. Fx har vi skåret en mand væk, som fra CP Kelco tog en lille kvalitetsprøve hver gang vi ankom med en bil, og han brugte 25 min frem og tilbage til bilen på dette. Det er en ting vi i forvejen selv tager med, hos nogle af vores andre kunder, så hvorfor ikke bare gøre det samme her. Det er næsten en time, der bliver fjernet der.
Og så bør deres bestillingsrytmer laves om, så vi ikke blander læssene. Hvis vi ikke kan få blandet en ordre i sådan en tankbil (to forskellige typer sukker, kræver to vejninger), den

ekstra vejning koster tid hos os. Får vi fjernet den ene vejning, så frigiver vi en udlæsning en hel uge – vi får en kapacitet fri på en hel uge sammenlagt.

Det er nogle vaner, der er groet ind omkring hvordan man gør. Og det har der jo ikke været noget galt med tidligere, men når man så lige kommer og kigger på det med andre øjne, så opstår der som regel noget. Der bliver stillet spørgsmål til hvorfor vi gør ting. Hvorfor sender vi fx et certifikat til dem hver gang. Der er nogle der skal kigge på dette, behandle det osv. Så det har vi også afskaffet, og i stedet henviser vi blot til vores indgåede aftale på bestillingssedlen. Der er sådan nogle småting i processerne, hvor du sparer tid.

Og så var der den helt fysiske, hvor vi leverer noget specielt fraktionssukker til dem, og de er meget kritiske, synes vi. De kasserer det, fordi de bruger nogle andre målemetoder, end vi gør. Vi bruger de europæiske standarder, og de bruger de amerikanske standarder, og så går det galt. Teknikerne siger, at man her sammenligner æbler og pærer. Så de skal overbevise dem selv om, at vores standard er okay. For hvor vil de ellers handle det i Europa? Vi har meldt ud, at vi leverer ikke mere, hvis ikke de tager dette her. Så må de sige det til deres kvalitetsafdeling – hvad vil de så gøre? Så det er lidt en provokation, men det kostede os 30.000 at tage leveringen tilbage, og vi kan ikke sælge den igen, da den har været ude af vores hænder. Så skal den smeltes om hos Arla i Sverige, og alt det her koster os en frygtelig masse penge. Så der opnår vi altså en besparelse hos os.

Så der går I som leverandører også ind og kræver noget af jeres kunde?

Ja, for det er en urimelig måde at afvise en vare, da vi sammenligner æbler og pærer, og ikke er på samme platform. De amerikanske FDA og den europæiske EMA er bare forskellige på det område.

Det kan godt være de er et amerikansk firma, som måske ikke helt anerkender at Europa eksisterer, eller hvad ved jeg, men det er i virkeligheden en helt lavpraktisk øvelse.

Kunden er også helt enig med os, så der er egentlig ikke så meget at komme efter, men de skal bare have overbevist deres bagland om det samme.

Så snakker vi også om at bruge større tankvogne og dermed køre større læs. Lige nu kører de 32 tons, og kan gå op til 37 tons. Når vi øger med 5 tons kan vi skære ned på leveringerne, sparer CO2 og alt muligt, så der er plads der til at forbedre miljøregnskabet, og der er færre leveringer, og færre håndteringer, færre fakturalinjer osv.

Og det er på en måde hvorpå det stadig fungerer for kunden?

Altså det kører jo fint i dag, men hvis man var lidt mere effektiv, så kunne man køre 37 tons af de rene læs, med kun en enkelt vejning. Det kræver selvfølgelig at man styrer især den en af sorterne rimelig stramt, da den er afhængig af indrapportering til SKAT. Men altså, det hele ligger jo allerede i SAP.

Nu siger du SAP. Hvor meget IT baseret integration har I med jeres kunder?

Alt kører automatisk. Når vi snakker fx en ordre til CP Kelco. Lige så snart ordren er dannet, så flyver alt andet bare af sted. Fakturaen kører, og alt kommer via pdf. Så vi har ikke så meget af det manuelle. Vi har en lille stak fakturaer, der stadig sendes med hånden, men det er meget lidt. Jeg tror det er 3 år siden vi kørte en indsats, hvor vi spurgte kunderne, om ikke de hellere ville have det med pdf – og så fulgte der lidt vin med. Vi sparede 72.000 kroner i porto. Og det er jo også lean, for det er jo gratis, når først det er sat op. Ordrebekræftelser de flyver også, så snart en ordre er lavet, så det er ret automatiseret.

Hvilke strategiske og konkurrencemæssige fordele, ser du, der kan komme ud af at få et tættere samarbejde i sin værdikæde?

Der vil altid være en eller anden form for prisaspekt i det her. Vi kan ikke bare øge priserne, bare fordi vi er gode til at samarbejde. Men det vil klart danne loyalitet, eller være med til at fastholde den loyalitet, der er. Da jeg kom her – jeg havde aldrig set så gode kundetilfredshedsundersøgelser før. Det er helt ekstremt, så højt vi ligger. Jeg har været her i 5,5 år, og har ikke fået en kundeklage endnu. Den vej rundt, der ligger vi meget stærkt til.

Og hvad tildeler du den kundetilfredshed?

Vi opfører os ordentligt, og vi agerer hurtigt. Vi fortæller kunden, hvis vi kommer en time senere, før de selv ved det, for det er dumt at kunden skal ringe efter os, og spørge hvor vognen bliver af. Det er bedre at vi kommer dem i forkøbet. Så den vej rundt er vi meget på forkant, fordi vi også har nogle gode leverandører i vores vognmænd – de vil også hellere være på forkant, end at få skæld ud over at komme for sent. Der er mange faktorer der kan spille ind, men det kan betyde produktionsstop for kunden, hvis ikke de får det tids nok at vide. Så skal de lave om – for med de mængder vi leverer til nogle kunder, så er det jo decideret produktionsstop, og vi kommer normalt just-in-time. Der forkæler vi kunden. Vi er et lille land, men skulle de have det længere sydfra, ville det have en indflydelse på den service. Det kan godt være prisen er vigtig, men leveringstiden er endnu vigtigere.

Hvad med sådan noget som produktudvikling, hvor meget gør I det i samarbejde med jeres kunder?

Der er to modstridende retninger i det. Det ene er at vi gerne vil have så smalt et sortiment som muligt, men omvendt udvikler vi også produkter i samarbejde med kunden. Hvis man fx tager sådan nogle som Carlsberg, som vil have et produkt, der er flydende, de vil selv hente det og de bruger ikke deres biler om natten. Så med dem har vi aftalt at de kan komme til at hente om natten, med deres egne chauffører, som stikker et lille vaskekort ind, og så kører alt ellers automatisk. Bilen fyldes automatisk, og de kan køre ud igen, og vi er der ikke. Det er også produktudvikling for dem, for deres biler bliver brugt om natten. Den bedste økonomi på en bil er at den kører 24 timer i døgnet. Så det er produktudvikling.

Udover det udvikles produkterne også i samarbejde med kunderne. CP Kelco har fx deres eget varenummer. Så den vej rundt bliver der også lavet specialprodukter.

Så når CP Kelco nu har deres eget varenummer, har I så nogle juridiske aftaler om, at det udelukkende er deres?

Nej, det har vi ikke. Men det er fordi det er en lidt kunstig verden, det her med sukker. For det ligger i en stor silo, og kommer ud som det samme. Og alligevel kan de godt have deres eget varenummer, men i realiteten behøver det ikke være et unikt produkt.

Men fx indenfor pharma, hvor det kræver nogle meget særlige specifikationer, der kan man gå ind og lave specialprodukter. Og på sirupper, som vi laver meget i Sverige, der kan man også gå ind og lave specialprodukter, som ingen andre får. Det kan have noget at gøre med deres produktion af cider eller juice eller lignende, som lige præcis er kundens. Så der går vi ind og laver noget specielt, og så er det selvfølgelig også en hemmelighed.

Har I meget af denne her meget specifikke produktudvikling til jeres kunder?

Ja, det har vi, men ikke overdrevent. Vi er markedsledere, og derfor skal vi også klart behandle vores kunder ordentligt, men vi ønsker heller ikke bare at have alle de her småproduktioner, for de koster kassen – og det vil kunden ikke betale alligevel i den sidste ende. Så det bliver snævret ind det antal specialproduktioner vi har.

Hvor mange produktionssites har I?

Nykøbing, Nakskov, Arlev, som er et raffinaderi og Ørtofte, som er en sukkerfabrik. Et raffinaderi får rørsukker. Det er ikke roerne, der bliver taget ind der. Det er det de tre andre steder.

Afsluttende:

Vi har en fantastisk forhold til vores kunder, og derfor bruger de os også selv offensivt. Vi er interessante at snakke med, fordi de får hjælp fra os.

Fx ringer Spangsberg flødeboller ind, og spørger ind til hvordan det fungerer med en silo. Så kan jeg sige, at det ved jeg ikke så meget om, men jeg har altid en, der gør. Så kan de komme til at snakke med de rigtige. Så kan de snakke om investeringen i en silo kan svare sig, eller om de skal have store sendinger i stedet. Den vej rundt er vi velansete som rådgivere. I stedet for at gå direkte til silofabrikanten, for hvem siloen selvfølgelig er den eneste løsning, får de hos os kan få både for og imod at vide, i forhold til hvad der er godt rent økonomisk.

Så egentlig fungerer det jo rigtig fint lige nu, men det er bare ikke struktureret – så hvor skal I gerne bevæge jer hen af de kommende år?

Jeg synes vi skal bevæge os mere ud af, hvor det er årsforhandlinger, eller halvårs forhandlinger – hvor det rammer flere niveauer. Fx med CP Kelco. De har en masse håndværkere – vi har også en masse håndværkere. Hvorfor tager ham, der styrer håndværkerne hos CP Kelco, ikke ned og ser hvordan vi styrer håndværkerne på vores fabrik? Så det ikke er sælger-sælger, så kan de lige så godt udvekslet erfaring, og vi behøver ikke at blande os. De indgår ikke aftaler som sådan, men kan vi hjælpe dem der, så hjælper vi den virksomhed, og de kommer så sandelig også med fif til os. Det er sjældent en envejskommunikation, så der vil altid komme noget ud af det.

Så det er lidt ideen om, at det er de forkerte mennesker, der snakker sammen på de forkerte tidspunkter?
Man skal længere ned i hierarkiet, end bare en key account manager, der snakker om salg og sukker. De skal informere om verdensmarkedet osv. – det er deres job. Men at snakke om indgange, sikkerhed, kort, timeregistrering osv. – det har de ikke spor forstand på. Men der kan vi bruge hinanden. Vi skal bare ikke gøre det med 200 kunder om året, for så når vi ingenting herhjemme, men vi kan sagtens gøre det i forbindelse med færre, så det bliver lidt organiseret. Jeg har da sikkert også noget kundeservice at kunne snakke med kundeservice i CP Kelco om. De har en stor eksport, og det har vi også, så man kunne sagtens snakke om, hvad gør de? Det er trods alt det samme SAP system vi sidder i.

Så noget mere sparring og vidensudveksling?
Det er jo samarbejde helt præcist, og det løfter loyaliteten til hinanden. Det giver bare et eller andet. Det skaber også gode historier om os.

Super spændende. Jamen, det var sådan set det. Tusind tak for nu, og tak for din deltagelse.

Appendix 7: Speech at Stram Kæden Conference, Company F

Man har fået lavet skår i samarbejdet med leverandører før i tiden, pga. et tiltag om at presse priserne og presse leverandørerne. De følte sig misbrugt på daværende tidspunkt, og de følte sig taget med bukserne nede. Ved at komme ind i Stram Kæden har det været muligt, at komme til at tale med leverandørerne på en anden måde end man gjorde i dag. Mange af leverandørerne mødtes man med en gang om året, når man skulle have prisforhandlinger og lige have skrevet en ny kontrakt. Vi har i lang tid haft lange kontrakter (4-6 år). Det passer os bedst, fordi vi ved at med vores produkter og kvalitetsniveau, så går de første par år med at finde hinanden, og så skal der gerne komme 4 gode år ud af det i den anden ende.

Dog skal det siges, at da vi sad og snakkede med de her leverandører, så havde vi faktisk sølvbryllup med de fleste af dem. Desværre … eller måske er det godt nok?

Så det er ikke forhold, som er dag til dag. Vi har kendt hinanden i mange år, og burde jo så egentlig have tillid til hinanden, men det viser sig, at så meget tillid har vi jo faktisk ikke. Vi har heller aldrig bedt om åben bog kalkulationer.

Men vi gik ind i det her med en bred vifte af leverandører, og det har givet en masse gode diskussioner.

Jeg vil tage tre cases op her, den klassiske: en god gammel dansk virksomhed, ægteskabsrådgivningen: skiftende ejere, med fokus på store produktioner, hvilket stikker imod Louis Poulsen, som har masser af varenumre, små kvaliteter og små volumener, nytænkningen: de bragte noget helt nyt til bordet.

Bjerregaard Nielsen (den klassiske) – lange leveringstider og gerne store seriestørrelser. De fortalte ikke om at der blev produceret i ekstra store mængder, når nu maskinerne alligevel kørte, og at man så bare fik stillet tingene på lager. Hele deres produktion er drevet af, at sådan har man altid gjort. Vi er her gået ind og kigge på maks.-min. Aftaler, kortere leveringstider, så vi kan fjerne vores sikkerhedslagre. Vi har lavet en officiel lageraftale, da der før var et lager, som kun Bjerregaard vidste eksisterede. Vi har skrevet under på, at det der lager tilhører Louis Poulsen. Der er nu kun 5 dages leveringstid. Lot sizes er også sat væsentligt ned med mindre intervaller i stedet. Bjerregaard har også vundet noget, da han har fået minimeret sin risiko på det lager, der nu er blevet officielt. Der er ikke blevet snakket pris i det her, så der er ikke regnet på om han tjener meget eller lidt, men det har klart været en hjælp for dem også.

Peterson (ægteskabsrådgivningen) blev ved at stille større og større krav til hvor meget man skulle købe af gangen, og der var en klar manglende forståelse for hinanden. Vi har handlet med firmaet i 10 år, så de burde kende vores aftræk, som ikke var så stort, men det var ligesom helt irrelevant – det handlede om en meget produktionsorienteret holdning. Det viste sig også, da vi gik rundt deroppe i deres produktion, at de måler den på hvor mange meter pap de kører, og hvor mange ledige minutter de har pr. skift. Det der med små serier hos Louis Poulsen, hænger bare ikke sammen med deres måde at måle produktionen på. Med vores antal varenumre hos dem, så var vi ikke en ideel kunde hos dem – i hvert fald ikke til den KPI de har sat op. Derfor skulle vi her til at snakke om, om vi overhovedet var et match.

Peterson var til gengæld meget villige til at ændre på dette, og producere på en anden måde for Louis Poulsen, som frigør en masse palleplads hjemme hos Louis Poulsen. Til gengæld ville de varenumre så komme til at koste lidt mere. Men vi lavede en beregning, og det hang egentlig fint nok sammen, men min chef, som laver mine KPIer, var selvfølgelig ikke tilfreds, og det med frigørelsen af plads, kan jo ikke som sådan måles. Så der havde vi lige en tvist omkring, hvordan vi skulle måle de interne KPIer i fremtiden. KPIerne dikterede at der skulle spares på indkøb, og hvis jeg begynder at betale mere for pap, så hang det ikke sammen, så det var en intern udfordring.

BEWI (den nytænkende) er en traditionel leverandør, der laver flamingo, og den store udfordring ved det, er at det fylder rigtig meget, men koster ikke ret meget. Inden projektet her, var der store lagre hos begge parter.

Man droppede her at køre med seriestørrelser, og gik over til pallestørrelser, som minimumsbestilling, og det frigav en masse plads. Vi havde dobbelte lagre, men nu da lot size blev sat ned, så kunne leverandøren også sætte sit maks. lager ned. Han sparede tilsvarende antal pallepladser oppe ved sig selv, og fandt ud af, at kunne han gøre det her på alle hans andre kunder også, så ville han pludselig få rigtig meget plads til overs. Så der var en gevinst for dem, som de kom mere eller mindre gratis til. Igen er der ikke snakket pris, og det er gjort helt cost neutralt. Vi får stadig gennemsnitligt det samme antal om ugen, men mikset er bare anderledes i dag, end det var før.

Noget af det vi har kigget meget på her, det er leveringstider. Man er i dansk industri rigtig gode til at have lidt ekstra på den konto, og noget af det vi fandt frem til i kæderne, var buffer tid. Så vi startede lige med at skære halvdelen af den interne tid væk, ved at fjerne alle de her buffere. Vi er gået over til at flytte meget lager ud til vores underleverandører – mere end vi gjorde i forvejen. Eksterne lagre, med meget kort leveringstid ind til os, men det er underleverandørerne, der styrer vores lagre nu. Det kan vi også tillade os, da vores produkter ikke forældes hverken i dag eller i morgen. I industrier med en kortere livscyklus på produkterne, ville dette være sværere.

Vi har talt meget lidt om kvalitet, fordi det efterhånden er noget der er styr på med vores leverandører, men det vi har talt om, det er det her med at dele information, og dele dokumentation på, hvor ligger kvalitetsniveauet henne? Der er vi ved at arbejde på at lave en SharePoint løsning, så denne her kvalitetsdokumentation, bliver tilgængelig for alle online. Det er det ikke i dag. Alt dokumentation hos Louis Poulsen i dag, er mails.

Vi regner med at fjerne 10 % arbejdskapital i det her projekt, og øger lageromsætningshastigheden. Vi har ikke så mange dobbeltlagre mere, g det fjerne noget risiko. Vi har ikke påtaget os risikoen for lagrene ude ved vores leverandører.

Fælles projektplaner er også en af de ting vi har sat fokus på. Louis Poulsen har haft en lidt arrogant tilgang til sine leverandører, da alt skulle være lige som de sagde, og til ingen penge.

Der er også stadig spørgsmålet om hvem der ejer hvad. Vores leverandører må selvfølgelig gerne benytte processerne hos andre, men de må ikke sælge produkterne videre. Vi er med til at produktudvikle, og så sender leverandøren det ud til en 2-3 andre for at få den rigtige pris, og så taber vi. Vi er ikke helt i mål med det endnu, for det er en svær fase. Dels skal vi stå på mal med at vi har den rigtige cost pris, og så vil man ikke føle sig snydt. Vi er ikke i mål på hvordan vi får det løst. Det er meget med tillid.

Søren Vammen fra DILF kommenterer:
Toyota kører med det der hedder product life cycle sourcing. Så når de tager en leverandør ind, så går de ikke så meget efter prisen, men det de vælger på, er meget mere en cost curve, en kvalitetscurve og en logistisk curve. Så dem der kan tilbyde den mest aggressive kurve, er dem man vælger, og så arbejder man efterfølgende sammen om det. Her har leverandøren også det incitament, at formår de at få kurven endnu længere ned, så er det penge ned i deres egen lomme.

Der er en udfordring i forhold til de interne KPIer, der er sat. Man skal tænke ud over de traditionelle mønstre, da det ikke hænger sammen med Stram Kæden tankegangen. Der opstår fordele nogle stedet, hvor man ikke måler KPIer, og til gengæld kan det se ud som om, at noget andet bliver dyrere.

Appendix 8: Speech at Stram Kæden Conference, Company G

Kvist har gode relationer til mange af vores kunder, og det var noget der er bygget op over tid. Men alligevel manglede der lidt. Inden jeg startede som direktør var jeg til møde ved en af vores kunder, og skulle præsenteres, og jeg har aldrig fået så meget skæld ud, som det til det møde. Den var gal med priser, leveringstider osv. Så siger han, det der er din vigtige opgave, det er at du skal sørge for at dine medarbejdere kommer til at elske os. Det er en mærkelig måde at sige det på, men det er en måde at sige, at I er meget afhængige af kunden, så sørg nu for, at der er nogle der holder af os, internt i år, og fremover. Det gjorde så at vi begyndte at teame op, og organisere tingene anderledes. Vi skulle forstå vores kundes forretningsmodel, og hvad der var vigtigt for ham. Og det betyder at vi blev nødt til at skille tingene lidt ad. Vi havde en traditionel indkøbsafdeling, og en traditionel planlægningsafdeling, der planlagde for hele virksomheden. Det vi gjorde, det var at vi gik ind og tog folk fra forskellige niveauer og forskellige afdelinger i virksomheden, og satte dem sammen som et team til denne her kunde. Tro mig, i løbet af ganske kort tid, begyndte tingene at køre endnu bedre. Vi er ved at gøre kunden mere afhængig af os også – vi er nået et punkt hvor vi vil hinanden, og finder sammen et samarbejde, der er til fællesskabets bedste. Det her gjorde vi ved flere af vores kunder.

Vi åbnede op, og fik kigget på hvilke følgeomkostningerne, der fx kom af den relation man havde. Det lykkedes i alle tilfælde at komme i en tæt dialog omkring de her forhold, og vi er kommet ind og har sikret et grundlag, så i dag er 90 % af vores omsætning sikret af 3-7 årige aftaler. Det giver en vis ro i organisationen. Det er ikke sådan at vi kan skabe os åndssvagt, og der er en ting i alle vores strategiske aftaler, og det er at vi skal være konkurrencedygtige på prisen. Det er i hvert eneste tilfælde tilladt for kunden at gå ud og tage kontrolpriser. Vi vil så bare gerne, at man snakker med os om det, inden man tager en beslutning.

Egentlig har vi 80 % af vores indkøb uden for Danmark, men vi valgte at gå med i Stram Kæden alligevel, fordi vi har får en værktøjskasse, som er fantastisk god for dem i vores organisation, der sidder med leverandørerne – også de internationale. Dem der er med til at påvirke vores performance, de finder gennem det her ud af, hvilken retning det er vi går i.

Det er vi så startet på med nogle danske leverandører. Vi har talt både teknik, materialer og teknologi, men også contingency plans, ledelse, indsigt/indflydelse, organisation, gennemsigtighed og forankring på toplederniveau. Vi snakker i en 1 til 1 relation med vores kunder. Strategisk niveau med strategisk, taktisk med taktisk og operationelt med operationelt. Der ligger et kæmpe potentiale, samtidig med at vi bygger relationer op på alle niveauer.

Når vi taler alle tre niveauer, så er det pludselig en hel del mennesker, der bliver blandet ind i det, og der skal vi sikre at vi har en organisation der kan det. Og vi skal være sikre på, at den kunde vi har ser det på samme måde. Og så skal vi være sikre på a de leverandører vi vælger bagved, tænker på samme måde også. Og det er der Stram Kæden kommer ind i projektet. Det er benhårdt arbejde, men det arbejde skal ses som en investering, for man får så mange nye værktøjer ind. Der er så mange muligheder for at gå ind og forbedre tingene.

Nu er vi i den situation, at vores indkøbschef, han har bedt sig fritaget for andre opgaver, end at være ansvarlig for Stram Kæden projektet. Hvis vi skal realisere det her, så skal man også have det strømlinet med KPIerne. Hvis man laver de forkerte KPIer, så bliver det en snak om KPIer, i stedet for en snak omkring – er det en god forretning. Vi snakker aldrig pris med de her kunder, men vi har snakket om nogle andre ting, som er de KPIer, der er vigtige for at understøtte *deres* del af forretningen. De vil tjene penge, og vi vil tjene penge.

For længere tid tilbage, var vi ejet af en kapitalfond, hvor man var ekstremt fokuseret på cash generation hele tiden, og der er lavet en masse KPIer, der er bygget op omkring det. Man skal rapportere hele tiden. På et tidspunkt kommer vi så til at arbejde sammen med en kunde, som er ejet af en anden kapitalfond, og her bliver det først rigtig sjovt. Fokus skal væk fra prisen – man skal kende sit maskinrum, og man skal kende sine cost drivers. Jeg tror at det allervigtigste man kan gøre her, det er at give det en attention på den rigtige måde fra topledelsen af. Hvis man fx bliver tvunget til at gå ind og betale lidt mere for en vare, enten for at reducere lagre, eller mindske noget spild, så skal man sørge for, at der er en i topledelsen, der siger at nu må vi betale lidt mere for varen, og så må vi skære i omkostninger et andet sted. Og så skal der ligge nogle aktiviteter, der får det gjort. Det er svært at få ind i KPI regnskabet.

Vi har fundet rigtig mange besparelsespotentialer, både på lead time og omkostninger. Vi har fået uddannet en 5-8 udviklingsagenter, hvoraf en af dem er ansvarlig for enkelte leverandører. I hver af de her samarbejder, har vi været ekstremt godt forberedte, når vi er kommet ud, og det gør at når vi kommer i snak med leverandørerne, så er vi meget hurtigt på bølgelængde, og vi kommer hurtigt til at snakke konkret. God forberedelse er rigtig vigtigt. Det der bliver vores udfordring nu her, det er at få de internationale leverandører ind. Men jeg er sikker på, at den værktøjskasse, der her er stillet til rådighed vil være den primære, vi skal benytte os af.

Der er fælles interesse i at optimere for både hovedfirma og leverandør, da det har effekt på slutproduktet, og dermed slutkunden. Får kunden ikke det forventede produkt, forsvinder loyaliteten og købet og alle vil tabe.

Leverandørerne skal have mere ansvar

Det er vigtigt at få løftet dette område til et strategisk niveau, og det er meget det specialet skal behandle. Den strategiske del og de strategiske udfordringer og fordele.

Appendix 9: Speech at Stram Kæden Conference by DILF

Det der sker når en udvikling tager fart er, at det starter med at vi udvikler ord og begreber.

Lige nu er der meget fokus på hvordan indkøb kan blive mere værdiskabende og ikke kun fokusere på cost.

I hører sælgere, der siger de er her for at skabe værdi for jer. Hvordan definerer og måler du værdi?

Lige nu er vi i starten af en bølge, og dette initiativ er rigtig godt til at sætte denne i gang.

Man har behandlet dette i mange år, da vi har bøger tilbage fra 94 og 99, med dette tema.

Det popper op med jævne mellemrum, og man kører nogle projekter, og de dør hele tiden.

Hvorfor gør de det – det vil vi kigge på.

I gamle dage skulle en indkøber tage sig af alle 4 kerneprocesser. I dag går man i markedet ved hjælp af en competitive tilgang. Ideen i dag er, at den bedste måde at indkøbe på, er at udsætte leverandøren for konkurrence. Det er den mest effektive måde at udelukke sig selv for adgang til leverandører. Hver gang man specificerer noget selv, så udelukker man leverandøren allerede der, og udelukker muligheder.

Det bliver baseret udelukkende på pris, og man skal tale med rigtig mange leverandører – det er kernen i competitive buying. Der er et ekstremt behov for at komme ud af competitive tendering møllen, og får taget et antal leverandøer ud af dette modus, og gøre noget andet. Måske man bør committe sig noget mere.

Partnerskaber er ikke kontrakter på et år, som mange virksomheder kategoriserer det. Der skal for det første skabes tillid, og så skal der skabes commitment. Det er ikke åbent at den ene stripper og den anden sidder i pels – det er open cost calculation at begge parter blotter sig, ellers er det blot abuse of power fra ankerfirmaets side. Mange firmaer siger de fører en åben bog politik, men dette gælder oftest kun fra leverandørens side.

Supply management processen er i 99 ud af 100 virksomheder ikke eksisterende. Der er en proces for sourcing og kontrakter, men der sker ikke noget efterfølgende. Det er ærgerligt, da det er her rummet for værdiskabelse eksisterer. Det ligger ikke i tendering processen, men efterfølgende.

Tactical sourcing og contract value er et step indkøbere kan foretage sig uden at komme i kontakt med den omkringliggende organisation. Der er ikke krav om at kunne sælge projekter osv. I store danske virksomheder er man langt på dette område.

Strategic sourcing og improvement value – i dette skridt har man i stedet for prisfokus et cost and value fokus og det er et kæmpe skridt. Det er langt sværere at kigge på cost end på pris. Der er et stort problem med ledelsen i danske virksomheder, fordi man kigger alt for meget på % tal i forhold til indkøb.

I dette skridt skifter indkøb karakter, fordi man er mere interesseret i de virksomheder der ligger bag de indkøb vi foretager. Er de gode til at optimere samhandlen med os, kan vi arbejde lean med dem, kan vi differentiere ordre flow og batch størrelser. Her går vi også fra Butterfly modellen til 'trekantsmodellen'.

Stakeholder management er man rigtig dårlig til i store virksomheder, og det er problemet på tværs af organisationer. De kompetencer der skal til her i step 2 af modellen er meget mere sofistikerede, og der er tale om at de personlighedstyper, der er dygtige til dette er nogle andre end i det første step.

Det med at løfte fra projekt niveau til program niveau, det er der rigtig mange der fejler i, fordi man ikke har ressourcer til det, der skal investeres og der skal mandes op både på antal og kompetencer. Toplederne fokuserer alt for meget på – kan du levere noget mere i næste kvartal, og sådan er der også mange indkøbsdirektører der tænker også. Desværre.

Transformational sourcing og breakthorugh value kender vi kun til internationalt – ikke i DK. I store internationale virksomheder ligger 80 % af deres indkøb i dette step. Det er ikke bare pga. størrelsen, men pga. mindsettet man har, som er markant anderledes.

Hvis vi holder os til rene prisforhandlinger og presser leverandørerne til konstant at komme længere ned i pris udelukkende, så lægger vi pres på leverandørens margin, og det er et nul-sums spil. Hvis man presser dem på marginen er der kun et sted for dem at hente dette, og det er på deres cost.

Skal vi ind og samarbejde, skal vi have fat i step 2 og 3. Det er hårdt arbejde, da der skal laves value-stream mapping, cost analyser osv. Men det kræver også en anden intellektuel spændstighed og analytisk tilgang.

Hvis man skal have gang i dette her, så skal man selv (ankerfirma) åbne sig op. Man må tage møder, hvor man som ankerfirma spørger leverandørerne også – er der noget vi kan gøre for jer? Fx kan man finde ud af at ens bestillinger passer dårligt med de seriestørrelser leverandøren laver. Den dialog har man ikke tilstrækkeligt nu, fordi man skal tale med alt for mange om næste års priser.

OEM supplier relations index viser kvaliteten af relationer i bilindustrien, og her ses det tydeligt at Toyota klarer sig rigtig godt, da de har dyrket dette i mange år, og var nogle af dem der startede ideen om leverandør partnerskaber og samarbejde.

Under finanskrisen ses det tydeligt at de ellers dygtige Honda og Toyota panikker og reagerer ligesom mange af de andre firmaer, som performer dårlige på kvaliteten af relations, og de begynder på samme måde at presse leverandørerne på pris. Dem der ellers havde klaret sig dårligt, begyndte at reagere modsat, og forbedrede deres kvalitet af relations med leverandører.

I dag ligger BMW øverst. Fx går de til leverandøren med en ide og strategi omkring designet, men specificerer ikke yderligere, og lader dermed leverandøren af fx lygter være en del af design og udviklingsprocessen, uden at kontrollere og presse dem på pris.

GM har rigtig mange leverandører, der havde dem fordi de føler sig trådt på og presset til det yderste, og så kan man jo godt forestille sig hvilke produkter der kommer ud af dette i den sidste ende.

Man har korreleret deres finansielle performance med deres relations med leverandører, og konstaterer at 72 % af de her OEMs finansielle performance kan forklares via deres forhold til leverandørerne. Det gælder ikke kun for bilindustrien – han har lavet studiet i andre industrier også. Dette er videnskabeligt bevist, og derfor er det håbløst at køre dette competitive game, som man har tendens til.

Der hvor man har gode relationer til sine leverandører er leverandørerne mere villige til at investere i ny teknologi, for at møde firmaernes fremtidige behov, og man er mere villige til at share new technology, GM har fx en kontrakt med størstedelen af deres leverandører, hvori der står at al ny teknologi de udvikler i det samarbejde det tilhører GM. Hvad sker der så? Man udvikler ikke noget, bare for at overdrage det til GM.

- Toyota's and Honda's continuing efforts to improve supplier relations have paid off handsomely as they are ranked one and two, respectively, for the fifth straight year, well ahead of the other four automakers. Toyota has been ranked in first place since the study's inception in 2002 except for 2009 and 2010 when Honda captured first place.
- Honda, with 11.8% improvement this year, nearly doubled Toyota's improvement of 5.6%. If Honda keeps up the pace, it could take over first place from Toyota next year. Honda is the most preferred customer of suppliers, but just slightly over Toyota.
- Ford has regained third place over a declining Nissan, but only because Ford declined only 2% compared to Nissan's 10.6%. Ford has dropped to its lowest ranking in five years, but is significantly ahead of FCA and GM.
- In a major shift, Nissan, which was most improved overall last year, had the greatest drop in ratings this year and slipped to fourth place behind Ford. This year, Nissan is the least preferred customer of the six OEMs.
- And, for the second year in a row, FCA's and GM's rankings have fallen. They are now tied for last place, having both dropped 8.5% in the rankings – more than 100 points behind leaders Toyota and Honda.

The study shows that suppliers with good working relations with an OEM provide their customer considerable benefits. These suppliers:

- Are more willing to invest in new technology to meet future OEM needs, and are more willing to share new technology with the OEM
- Are more willing to support the automaker beyond contractual terms
- Communicate more openly and honestly with the OEM
- And importantly, give greater price concessions to the OEM

Whereas, automakers with poor relations:

- Receive smaller price concessions and must work harder to get them
- Get less experienced supplier personnel supporting them
- And typically are not among the first to get the suppliers' best ideas and new technology