



SUPPLIER ENGAGEMENT IN THE GLOBAL TECHNOLOGY COMPANY

Lappeenranta–Lahti University of Technology LUT

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ABSTRACT

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Supply chains are playing a huge role in today's business. Competition in the markets is rather between the supply chains than the individual companies. This study examines the case company's current supply chain management process, which includes supplier relationship management, supplier development, and supplier engagement. The aim of this study is to examine the current state of supplier engagement in the case company and compare it to the corporate-level supplier relationship management framework. Additionally, this study offers a two-year roadmap for the case company and suggests supplier relationship management-related development actions. The case company is also starting the implementation of a climate program and this thesis examined the possibilities to integrate it as part of supplier relationship management actions. The study is conducted as a qualitative case study and primary data is collected with internal and external interviews. The current state of supplier relationship management was examined by benchmarking the current practices with two external companies. In general, the case company has built a proper supplier relationship management framework which is mostly based on well-known theoretical frameworks. There is some room for development in supplier teams, supplier databases, and supplier strategy-defining process. These deficiencies should be fixed during the next two years. This study concludes the shortcomings in the case company's current SRM actions and offers a roadmap which is guiding the managers through the development actions in next two years.

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Toimitusketjuilla on valtava rooli nykypäivän liiketoiminnassa. Kilpailu markkinoilla on pikemminkin toimitusketjujen kuin yksittäisten yritysten välistä. Tässä tutkimuksessa tarkastellaan tapausyrityksen nykyistä toimitusketjun hallintaprosessia, joka sisältää toimittajasuhteiden hallinnan, toimittajakehityksen ja toimittajien sitouttamisen. Tämän tutkimuksen tavoitteena on tarkastella toimittajien sitouttamisen nykytilaa tapausyrityksessä ja verrata sitä yritystason toimittajasuhteiden hallintaan. Lisäksi tämä tutkimus tarjoaa kahden vuoden viitekehyksen tapausyritykselle ja ehdottaa toimittajasuhteiden hallintaan liittyviä kehitystoimenpiteitä. Tapausyritys on myös käynnistämässä ilmasto-ohjelmaa ja tässä opinnäytetyössä tarkasteltiin mahdollisuuksia integroida se osaksi toimittajasuhteiden hallintatoimenpiteitä. Tutkimus toteutetaan kvalitatiivisena tapaustutkimuksena ja primaaridataa kerätään sisäisten ja ulkoisten haastattelujen avulla. Toimittajasuhteiden hallinnan nykytilaa tarkasteltiin vertaamalla nykyisiä käytäntöjä kahden ulkopuolisen yrityksen kanssa. Yleisesti ottaen tapausyritys on rakentanut kattavan toimittajasuhteiden hallinnan viitekehyksen, joka perustuu pääosin hyvin tunnettuihin teoreettisiin viitekehyksiin. Toimittajista vastuussa olevissa tiimeissä, toimittajatietokannassa ja toimittajastrategian määrittelyprosessissa on puutteita, joita seuraavan kahden vuoden aikana tulee pyrkiä korjaamaan. Tämä tutkielma tiivistää puutteet tapausyrityksen toimittajasuhteidenhallinnassa ja tarjoaa viitekehyksen, joka ohjaa kategoriapäälliköitä toimittajasuhteidenhallinnan kehityksessä seuraavien kahden vuoden aikana.

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In Järvenpää, January 5th, 2023

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Abbreviations

SRM Supplier Relationship Management

SD Supplier Development

SE Supplier Engagement

SCM Supply Chain Management

SSCM Sustainable Supply Chain Management

SS Supplier Selection

CRM Customer Relationship management

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1. Introduction

Global companies are competing against each other in a more rapidly changing and uncertain market than before. Global crises have shown that companies are more dependent on their supply chains, and an effective supply chain and reliable suppliers can be seen as a source of competitive advantage in the global markets. One reason for this increased dependence on the supply chains is focusing on the company's core competencies (Krause, Handfield and Scannell 1998, 39). It is more effective for the companies to focus on what they are best at, and to outsource other actions. It enables companies to utilize their resources and exploit the capabilities of their suppliers (Kannan and Tan 2006, 755). Trent and Monczka (1998, 4) saw the changed competition more between the rapid and slow companies than big and small. They also stated that purchasing has a huge role because of its effects on time-related processes and actions such as the ordering cycle or manufacturing cycle time.

The outsourcing trend has led to a situation, where global companies have excessive global supply chains with thousands of suppliers, and to be able to compete, buying companies have to ensure that the performance of their supply chain is better or at the same level as the company's competitors because faster supplier responsiveness supports faster responsiveness to customers' requirements. (Krause 1997, 12; Trent and Monczka 1998, 4) Because of the excessive number of suppliers, supplier classification is one way to find the most important suppliers and based on that classification it is possible to build a closer relationship with the most important suppliers, which can provide a competitive advantage for the buying company. As competitive success of the company is dependent on the relationships between the buyer and the supplier, companies are recognizing their importance in maintaining competitive advantage (Meehan & Wright 2011, 33). With the most critical suppliers, the engagement actions are important, because the buying company is highly dependent and relies on these suppliers, which means that it is critical to ensure that the suppliers are able to deliver the products in a rapidly changing business environment. In the focal global technology company, these most important suppliers are defined as a key or main suppliers. This study is focusing on the engagement process of these key and main

suppliers and aims to find the development targets and the best practices of these engagement actions.

This study examines the particular business line's operative supplier engagement actions, such as supplier relationship management (SRM), supplier development (SD), and supply chain management (SCM) and compares these actions to corporate-level actions, defined by the corporate management. Additionally, this study is aiming to find ways to integrate climate actions into the operative supplier engagement process.

In addition to the increased pace of the business environment, the competition has changed from the company against the company to competition between the supply chains (Antai and Olson 2013, 511). Due to changed market conditions and increased dependence on suppliers, Moeller, Fassnacht, and Klose (2016, 84) recognized the need for professional SRM. From the operational point of view, the benefit of developing a close relationship with suppliers shows itself as improved quality, reduced cost, or some combination of multiple benefits. From the strategic point of view, a well-managed supplier relationship should lead to sustainable improvements in quality or increased market share. (Kannan and Tan 2006, 756) Extended and global supply chains are prone to disruptions, which means that the supply chains need to be developed and maintained continuously. Ian Stuart, Jacques, and Nazim (2012, 406) examined the role of trust in the supply chain and according to them, trust between the parties is an important issue in the supply chain. A relationship based on trust between the buying company and its supplier can lower costs and improve the performance of the parties. Additionally, Revilla and Knoppen (2015, 1427) are suggesting that companies should aim for a collaborative partnership with their suppliers as their study shows that there is a relationship between knowledge integration and performance. A trustful relationship between the buyer and the supplier is one driver for shared information, which further develops the relationship and may increase the performance of both parties. However, it is not guaranteed that building the relationship with the supplier is successful and increasing the performance of the company. The success of buyer-supplier relationship is affected by supplier selection (SS) and buyer-supplier engagement. (Kannan and Tan 2006, 769)

Supplier engagement must be a continuous process, which includes personnel from different functions of the company. The aim is to have an entire supply chain represented in the team which is responsible for SRM and SD actions. The managers are operating with limited

resources. There is room for improvement in effective resource allocation by reducing the number of suppliers in the supplier pool and updating and managing the internal supplier database. Long-term frame agreements are acting as a base of supplier engagement. However, it is important to communicate the potential business possibilities in the future and encourage suppliers to engage with the case company. The most effective SE actions are varying depending on the category, thus category managers should be responsible for using SRM and SD actions in their categories, without neglecting the strategic, corporate-level SRM and SD strategies and objectives.

1.1. Research objectives and framework

This study will take a look into a global technology company's operational supplier engagement actions and compares them to the strategic engagement framework developed by the company management. Additionally, this study is aiming to examine the current status of operational SRM actions in the particular business line of the company. The goal is to find the main development targets and identify the best practices used. Based on this examination, one target of this study is to develop a two-year SRM plan for this particular business line to improve supplier engagement actions. It has been noted that there are a lot of development possibilities in current supplier engagement actions within the business line and in general, the business line's managers have a willingness to develop the SRM and supplier engagement. Based on the needs of the focal company and the theoretical examination, the following main research question was defined:

How suppliers can be engaged in the global technology company?

To be able to find the answer for the main research question, following sub-questions were defined:

What kind of supplier engagement actions can be used?

How to implement a supplier engagement process?

This study is examining the supplier engagement process in the global technology company. Answering the main questions requires internal interviews and empirical observations of operational engagement actions. SRM could be considered one of the most important aspects of supply chain management (Tidy, Wang, and Hall 2016, 3296; Lambert and Schwieterman 2012, 337). SRM is considered as one action of supplier engagement in this study, as the goal of SRM actions is to improve the supplier engagement level. Supplier development is

also considered one of the supplier engagement actions in this study, and the aim is to find how to develop and engage supplier and enhance SRM in the focal company. Additionally, this study is aiming to find the development needs of the supplier engagement process and actions to be able to define the two-year plan for the company's supplier engagement development.

Supplier relationship management and supplier engagement are part of supply chain management and supplier relationship management could be seen as one of the most important actions of supply chain management. Additionally, to be able to develop a competitive supply chain network, buyer-supplier relationships must be maintained and developed. From one point of view, the competitive supply chain is based on reliability, responsiveness, and collaborative, long-term relationship management, which is taking its place over traditional, arms-length transactional relationships (Tidy et al. 2016, 3296). In this part, supplier development is taking place and is most effective at the intermediate relationship life-cycle stage (Wagner 2011, 282). Supplier engagement could be defined as a commitment between buying company and the suppliers, with reciprocal information sharing and mutual trust. In this study, supplier engagement could be seen as a goal of supplier development and supplier relationship management actions. As this study is focusing on the main and the key suppliers of the case company, supplier engagement has an important role in ensuring the future flow of goods and certainty of supply, and further in fulfilling the customers' needs. Furthermore, the main challenges and the best practices of SRM and SD actions are in a critical role in this study, as those are, at the operational level, the only factors that can be maintained and developed. This research framework of the study is available in figure 1 below.

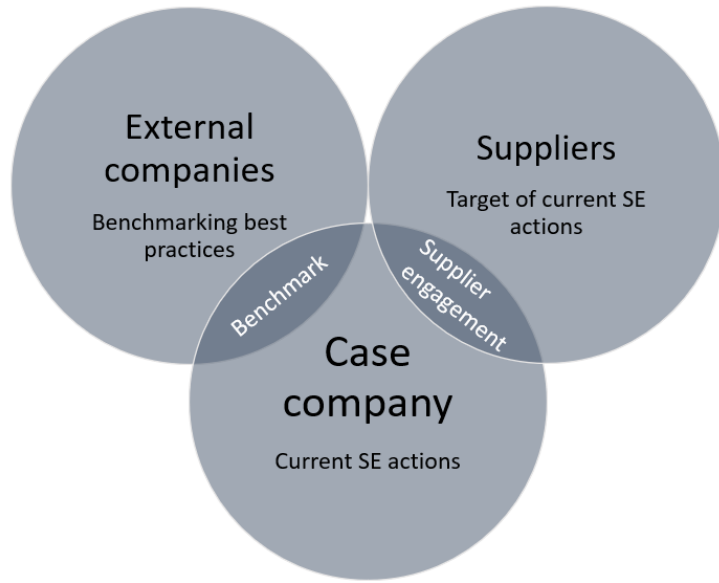


Figure 1 The research framework

1.2. Key concepts

This subsection summarizes the definitions of the concepts relevant to this study. The key concepts in this study are supply chain management, supplier engagement, supplier development, supplier relationship management, and sustainable supply chain management. Supply chain management could be defined as a roof, under which other key concepts of this study are located. Supply chain management is focusing on both, production and delivery of the services or products the company is producing. Supply chain management is also covering the management of time and costs, as these services or products should be produced within proper timespan at the optimal costs. (Harter 2022, 2).

United Nations (1987) defined sustainability, which is a quite broadly accepted definition. This study is also using the sustainability definition by United Nations and by gathering together these two definitions, this study is using sustainable supply chain definition by Carter and Rogers (2008):

“Strategic, transparent integration and achievement of an organization’s social, environmental, and economic goals in the systemic coordination of key inter-organizational business processes for improving the long-term economic performance of the individual company and its supply chains”

As the supply chain has huge effects on the company’s economic, social and environmental performance, it is crucial to ensure that every member of the supply chain is able to meet the required performance targets regarding economic, social, and environmental aspects. However, suppliers may not always be able to deliver the goods and there might be deficiencies in some aspects of the performance. One way to ensure the proper supply reliability and efficient supply chain is an implementation of supplier development actions. With developing suppliers, businesses may gain significant benefits, such as savings and improved supply reliability, which is increasing the overall performance of the supply chain. The supplier development could be seen as an attempt conducted by the buying firm in terms of increasing the performance and capabilities of its suppliers to fulfill the required short and long-term supply need. (Krause 1997, 12)

The effectiveness of supplier development activities is depending on the relationship between the buying firm and the supplier. Collaborative supplier relationship management is most likely leading to desired outcomes, while transactional, more operational relationship management may not lead to such outcomes. Supplier relationship management includes both, observation of out-suppliers and building and maintaining relationships with in-

suppliers. In proper SRM, both should be taken into account and the whole SRM process is about the engagement, development, stabilizing, and dissolving of the relationship with the in-suppliers in addition to enhancing and creating value with the out-suppliers. (Moeller, Fassnacht, and Klose 2006, 73-75)

Additionally, to ensure sustainability along the supply chain, the relationships with the members of the supply chain should be sustainably managed. For this reason, the last key concept of this study is sustainable supplier relationship management, which is defined by Leppelt, Foerstl Reuter, and Hartmann (2013):

“Buying-firm-induced effort for coordinated and cooperative actions over an extended period of time in order to achieve increased levels of sustainability in the dyadic supply chain for the benefit of both firms.”

1.3. Limitations

This study does not go without limitations. The author is currently working in the focal company in this particular business line and thus has access to internal SRM and supplier engagement material. However, other business lines are left outside of this study due to limited time. Additionally, supplier engagement and SRM actions are bilateral. Due to limited time, the supplier point of view is also left outside of this study and the study is rather focusing on the internal actions and practices. The sample of main and key suppliers of this particular business line is also representing about 1,6 percent of the total amount of business line’s suppliers. Additionally, the final sample of suppliers is chosen among the main and key suppliers, meaning that the final sample is representing 5 percent of the total number of key and main suppliers and about 0,1 percent of the total number of business line suppliers. This thesis is examining the links between the three main concepts, supply chain management, supplier relationship management, and supplier engagement. This study does not focus on supplier engagement programs, but supplier development actions are included in this study as a part of supplier engagement actions

1.4. Structure of the study

After the introduction part, the study will take a look at relevant literature. The existing literature acts as a base for this study and the outcome of the study is highly based on the theoretical background. Additionally, the two-year plan for supplier engagement development will be based on the existing literature and frameworks. However, the empirical point of view must be taken into account as there are always limitations, such as lack of

resources and time, regarding the operational supplier engagement process. In the literature review, this study will take a look at theoretical approaches to supply chain management, supplier relationship management, supplier development, and supplier engagement.

After the literature review, the research methodology will be presented. In general, this part takes a brief look at the data collection, coding, and analysis. The backgrounds of interviewees are also presented, and the organizational structure is briefly discussed. In addition to empirical methodologies, relevant literature related to qualitative research will be introduced.

The fourth chapter starts the empirical part of the study. The chapter starts with the introduction of the case company and the benchmarking company from where the best practices of SRM and supplier engagement will be mapped. The results of the interviews will be presented and the current status of supplier engagement in the company is discussed. After further analysis of interview answers and customer benchmarking, the main development targets of supplier engagement are presented and the best practices for future development are defined. The fifth part of the study presents SRM and SD actions in the benchmarking companies and summarizes the best practices. The roadmap for next two years will be built in section six and the study ends with the conclusions and a review of research questions. The structure of the study is available in figure 2 below.

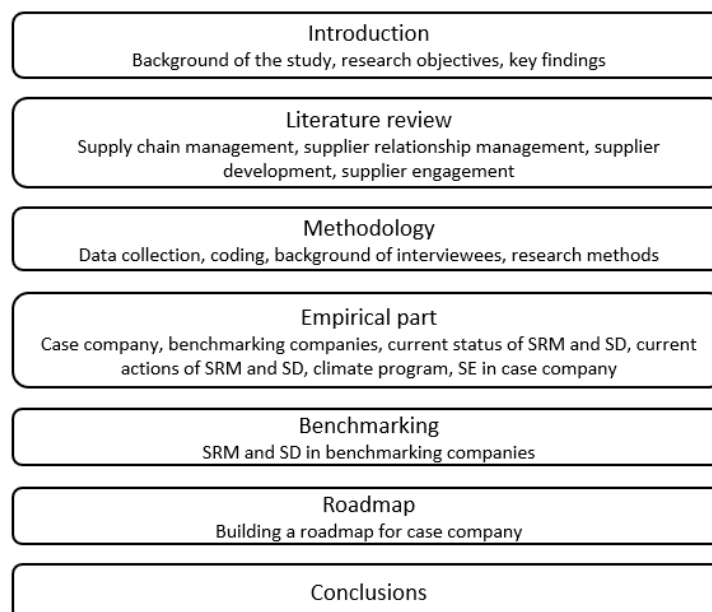


Figure 2 The structure of the study

The study consists of seven chapters. All these chapters together are aiming to find the answers to set research questions and to offer the case company a comprehensive review of its SRM and SE actions and development targets. In addition to offering a comprehensive examination of internal actions, the aim is to present an observation from an external point of view and map the best possible practices to be able to determine the desired level of supplier engagement after two years.

Next, the literature review will take place. Existing theoretical research and academic literature are acting as a base for this study. For that reason, the outcome of this study is highly based on the theoretical approaches.

2. Literature review

The literature review examines the main concepts of this study. First, this study is going to take a look at supply chain management, which could be seen as a head topic of the theoretical part of this study, as SCM is including supplier engagement and supplier relationship management actions and acting as a base for the theoretical part of this study. This theoretical approach is presented by Tidy et al. (2016, 3296), and this study is offering the theoretical framework, and the study is examining the SE, SD, and SRM actions based on this framework. The framework is presented in figure 3.

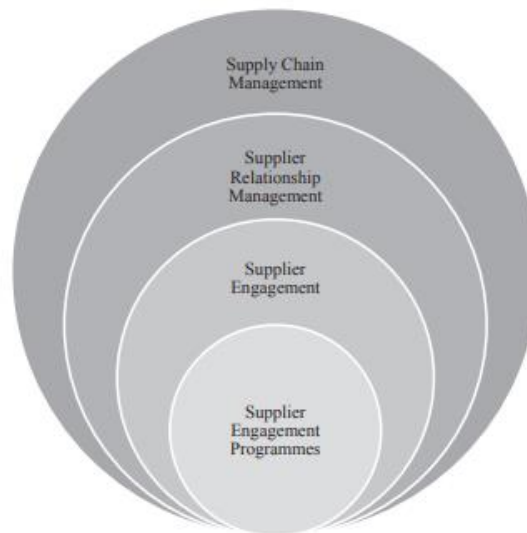


Figure 3 Supplier relationship management. Hierarchy of concepts (Tidy et al. 2016)

In general, this study is taking a look at supply chain management, which is acting as a base of the theoretical part of this study. After the SCM examination, supplier relationship management and supplier development actions are discussed. These actions are considered part of the case company's supplier engagement process and the total supplier engagement in the case company could be defined as a sum of SRM and SD actions. To be able to understand the bigger picture of managing the supplier relationships, the supply chain management needs to be discussed first.

2.1. Supply chain management

Extended global supply chains are in a critical role in the companies' possibilities to compete in the global and rapidly changing business environment. The functionality of the supply chain is the major key to ensuring the proper flow of goods and fulfilling the end customers' needs. However, excessive supply chains with multiple global suppliers are prone to disruptions. Globalization, increased outsourcing, and reduction of supply base are modern traits that are increasing the risks of interruptions of supply. A properly working supply chain requires that the members of the supply chain cannot compete in the markets as independent actors. (Yusuf, Gunasekaran, Musa, Dauda, El-Berishy and Cang 2014, 531) As supply chains have become more vulnerable resilience in the context of supply chain management is a critical element for ensuring business continuity and the idea of resilience is that supply chains must be able to absorb shocks and unexpected disruptions. (Waters and Rinsler 2014, 8).

Supply chain management has many various definitions. SCM can be seen as proactive supplier development actions undertaken by a buyer at all stages in the supply chain (Cox 2004, 350) or as a combination of purchasing, logistics, and operations. SCM has also been increasingly seen as relationship management across the whole supply chain. (Douglas 2004, 19) This definition is also supported by Harter (2022) who stated that supply chain management is focusing on all the elements of product or service production and delivery at the optimal cost and timeframe. Due to multiple different definitions, supply chain management is seen as a higher-level theoretical framework that includes other theoretical topics such as supplier engagement, supplier relationship management, and supplier development in this study. The supply chain is a critical part of the business's possibilities to gain a competitive advantage and ensure its continuity. Deficiencies in the supply chain may harm the business critically and may cause major damage to its reputation or profitability. To make sure that the business' supply chain is capable of fulfilling the future needs of the focal company, suppliers' performance needs to be evaluated and monitored, and if necessary, developed continuously (Krause et al. 1998, 39-40). This supply chain and supplier management include many value-adding processes, and the effects of this process are flowing through the whole supply chain, from suppliers' suppliers to the end users. Additionally, due to the significant effects of supply chain management actions, the involvement of top management is an important aspect. However, purchasing and logistics departments are playing a critical role in successful supply chain management as these

departments have the expertise and valuable knowledge regarding the information and inventory management. (Cooper and Ellram 1993, 14, 22) Additionally, identifying the most critical suppliers in one of the key elements when deciding to start the collaboration with the supplier. Companies are operating with fierce resources; thus, supplier identification is an important factor. One way to identify the critical products and the suppliers is academically well-known Kraljics (1983) matrix. The key and the main suppliers are often segmented as strategic, or leverage suppliers based on the portfolio model, which is categorizing supplied items according to the importance of purchasing and the complexity of the supply market. The portfolio model is generally used to identify and categorize the supplier and to develop differentiated strategies for purchasing and supplier management (Gelderman and Van Weele 2003, 207). The basics of the portfolio model are shown in figure 4.

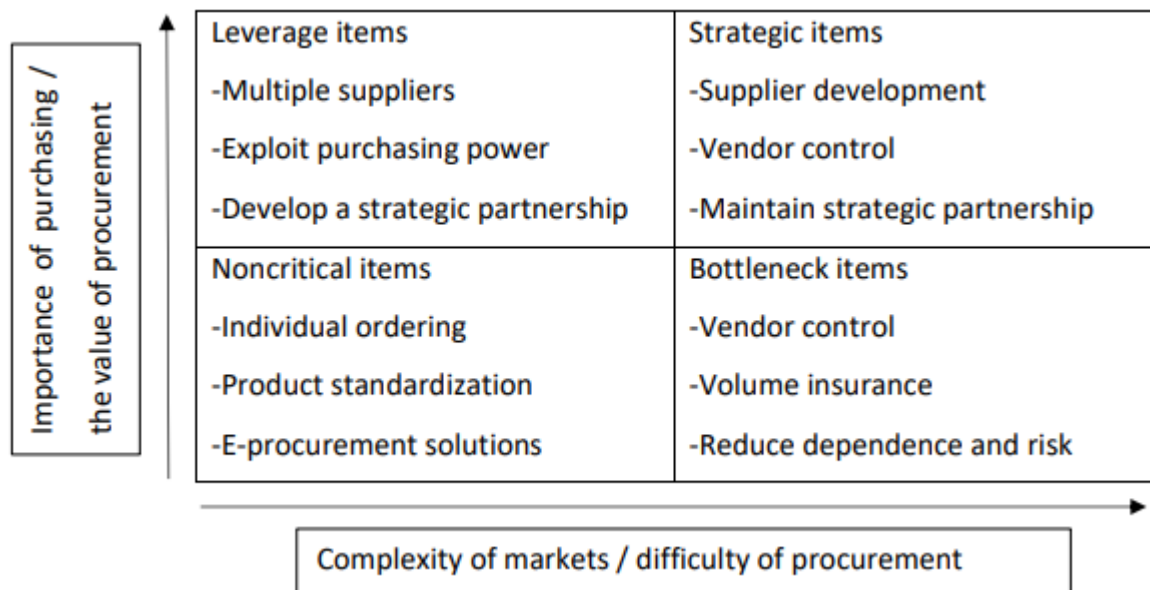


Figure 4 The basics of portfolio model (Adapted from Kraljic 1983, Gelderman and Van Weele 2003)

However, by managing the supply chain, businesses may not be able to respond to the stakeholders' requirements as global markets and the business environment is continuously changing. Today's business is more and more about sustainability and businesses must focus on sustainable supply chain management (SSCM). Focusing on internal processes of the supply chain is not enough to gain a competitive advantage and sustainability has increased its importance in everyday business (Ansari and Kant 2017, 2524) SSCM could be seen as quite a new concept and it is a growing concept in the business environment. Recently, the focus has also changed towards new possibilities and issues in the growing markets.

Developing countries and markets are often offering new business opportunities but they could be considered riskier regarding sustainability. (Gold and Schleper 2017, 425) Neglects in sustainability actions could lead to major reputational damages and may cause harm to the business. For that reason, sustainable supply chain management must be taken into account in today's business. Increasing requirements for sustainable products and services are guiding global companies toward more sustainable ways of working. The implementation of sustainability into a part of supply chain management has guided companies to report their sustainability achievements and performance, which could be nowadays seen as an important source of information from the stakeholders' point of view.

Sustainable development has been defined by the Brundtland Commission of the United Nations in 1987. Generally, sustainable development can be defined as development without compromising the needs of future generations. Later, the model which is known as a triple-bottom-line model was presented by Elkington (1994). The model is offering a theoretical framework for sustainable development. This model is based on three themes that need to be taken into account in terms of sustainability: economic, environmental, and social. Deficiencies in managing these themes can have a significant effect on the businesses' abilities to compete. It has to be noted that the management of these themes and sustainable development in general, is more than the management and development of the company's internal operations as issues within the supply chain may cause damage to the focal company, which could be held in responsible of the sustainability performance of its suppliers. Sustainability must be implemented into the whole supply chain thus SSCM requires collaboration with suppliers along the supply chain and management of information, capital and material flows while taking care of three themes presented in the triple-bottom-line model. (Seuring and Müller 2008, 1699-1700)

Developing the supply chain and partnering with the suppliers could be one of the most important sources of sustainable competitive advantage in today's business (Dyer and Hatch 2004, 57). Dyadic relationships with suppliers are not the most effective way to compete against other actors within the same markets. Companies should aim to benefit from the expertise of their suppliers and the main goal should be harnessing suppliers' knowledge by creating innovative supplier networks. Toyota is one of the most successful companies in terms of supply chain development as it has been able to gain 14% higher output per worker, 25% lower inventories, and 50% fewer defects by embracing its suppliers to share

information, which has helped its suppliers to retool and adjust their operations. The bilateral relationships with supplier Toyota established at the early stage, developed into information sharing and a collaborative supplier network which enabled Toyota to achieve the improvements. A broad supplier network could be a source of competitive advantage for the focal company. Multilateral relationships within the supplier network enable the members of the network to learn much faster than in the traditional arm's length relationship. (Dyer and Hatch 2004, 57, 62)

2.2. Supplier engagement

The buying companies tend to prefer collaborative and strategic supplier alliances when they are willing to be able to control their dependence on the supplier's deliveries and influence the supplied product's quality. Suppliers tend to have similar interests when they are aiming to ensure a long-term relationship with their customers and influence the customers' quality and reliability of the markets. (Kannan and Tan 2006, 757) From the buying company's point of view, supplier engagement is taking its place. It is stated that the strength of buyer-supplier relationships is affecting buying firm's capabilities to compete, in the aspect of its financial performance (Carr and Pearson 1999, 497). However, Kannan and Tan (2006) noted that the supplier selection process is affecting the outcome of the relationships between the parties. In general, it could be said that the requirements of buying company must be fulfilled by the supplier, to ensure the effectiveness of the buyer-supplier relationship. Supplier selection is one key element at the beginning of the buyer-supplier relationship development process. Additionally, to meet the customer's requirements, buying companies have to be able to meet the required delivery times, which are dependent on the supplier's capabilities to meet the buying firm's needs. One of the most effective actions to manage lead times is to develop a relationship with the suppliers and work closely with a few chosen suppliers instead of selecting suppliers through competitive bidding (Handfield 1993, 9). Customers' needs can be determined through customers surveys, for example. To fulfil these needs, suppliers' knowledge and capabilities must be utilized to be able to gain competitive supply chain advantage and generate value, which is requiring the supplier engagement actions (Duffy, Fearn, Hornibrook, Hutchinson and Reid 2013, 20). Duffy et al. (2013) investigated the linkage between customer relationship management (CRM) and the SRM. They found out the positive relationship between the close and collaborative supplier relationship and the supplier's willingness to engage in its customer's CRM actions. On the

contrary, suppliers that are not rewarded in terms of their input to relationship, are less willing to invest their resources to their customer's CRM

Engaging suppliers to achieve sustainability targets, for example decreasing greenhouse gas emissions, has been examined by Tidy et al. (2016). There are many possibilities to engage the suppliers in sustainability development, such as mapping the supply chain's emissions with the assistance of third-party actors or usage of benchmarking tools. However, they also noted that significant carbon reduction impacts have not been reported yet despite supplier engagement actions. From the broader point of view, different supplier engagement possibilities are available for the buying companies in the aspect of sustainability and emissions decrease. Awan, Sroufe, and Kraslawski (2019) examined the effects of supplier engagement in green innovations and creativity. The engagement of suppliers is an important factor in the adoption of new sustainability practices and this engagement could be done by involving the suppliers in the decision-making process. However, supplier selection has a role to play in achieving sustainability targets. Roehrich, Hoejmose, and Overland (2017) examined supplier selection and stated that traditional supplier selection should be reframed to be able to meet sustainability targets. Additionally, the authors stated that there is often a lack of transparency on environmental issues of suppliers thus it is difficult to measure the environmental factors precisely.

2.3. Supplier development

Supply chain management is an important organizational concern and effective management of supplier relationships is one of the critical elements of a supply chain's success Sanchez-Rodriguez, Hemsworth & Martinez-Lorente 2005, 289). Developing and cooperating with suppliers could help the buying firms to ensure that they get their products from the suppliers on time and that the product's quality is the best possible. However, the buying firms could face issues and find deficiencies in their suppliers' capabilities, which may harm the whole supply chain's effectiveness and functionality. One solution for managing these issues and deficiencies is supplier development actions, such as providing feedback to suppliers for their performance, supplier evaluation, rewarding suppliers for their proper performance and progress, or training supplier personnel (Krause and Ellram 1997, 24-30). In this study, supplier development is defined as Krause (1997) defined it:

“Any effort of a firm to increase performance and/or capabilities to meet the firm's short and/or long-term supply needs.”

Krause (1997) divided supplier development initiatives into limited and extensive groups based on the involvement of buying company. Trent and Monczka (1999, 930) categorized the supplier development initiatives regarding their implementation complexity. However, Sanchez-Rodriguez et al. (2005, 289) recognized that these supplier development initiatives should be also divided into groups regarding both, the implementation complexity and involvement of the buying company and they developed three supplier development categories, basic, moderate, and advanced. Categories defined by authors and some examples of the initiatives are available in table 1.

Table 1 The supplier development categorization and initiatives

Author(s)	Category		
	Initiatives		
Krause (1997)	Limited Use of multiple suppliers	Excessive Site visits, education, training, feedback, certification program	
Trent & Monczka (1999)	Low implementation complexity Supplier performance measurement, supply base optimization	High implementation complexity Supplier product and process design involvement, supplier performance development	
Sanchez-Rodrigues et al. (2005)	Basic Suppliers are informed of their performance, raw materials and parts standardization, supplier quality qualification	Moderate Supplier visits, supplier recognition and rewarding, collaboration with suppliers in raw material and parts development	Advanced Supplier training, supplier involvement in product development, buying firm has access to supplier's internal information

Buying companies are operating with limited resources, which is affecting the possibility to implement supplier development initiatives. Additionally, the outcome of supplier development initiatives is depending on suppliers' capabilities to implement and execute the development initiatives. Thus, it is important to identify the suppliers that are most capable of achieving the desired outcome of SD actions. This identification can be done by supplier evaluation and proper supplier selection.

Well planned and executed supplier development process could provide advantages in markets to the buying company as global competition is highly connected to supply chains as supply networks. The critical elements of supplier development are in a major role when conducting the supplier development process. Krause and Ellram (1997, 23) listed the

critical elements of supplier development according to the existing literature. They recognized five critical elements: two-way communication, supplier evaluation and feedback, top management involvement, a total cost focus, and a long-term perspective. As in SRM and SE, two-way communication has a huge role also in the SD process. Creating a collaborative relationship with open two-way communication is an important factor for a long-term relationship and performance development. By evaluating and providing feedback to the supplier, it is possible to recognize the most critical deficiencies of suppliers' performance, which is further helping the buying firm to allocate limited resources to the correct process. Additionally, before starting the SD process, it should have a confirmation from top management as usually, the top-level managers have the strategic view of the company. The total costs of supplier development should also consider. There are costs of SD actions themselves, but also switching suppliers or continuing with the low-performance supplier has its costs. In general, the total costs of ownership should be taken into account in the decision-making process of whether a supplier should be developed or not. SD actions include risks for both, the supplier and the buying company thus it is important that both parties are committed to long-time partnership and willing to invest resources and time to develop a common relationship.

2.4. Supplier relationship management

Managing supplier relationships has increased its importance in improving buying firms' performance, as it has been shown that operations integration with suppliers has positive effects on the development of innovative products (Lambert and Schwieterman 2012, 337). The increased outsourcing of core competencies has led to greater reliance on suppliers, which has increased the need for supplier relationship management (Kannan and Tan 2006, 755). The utilization of external resources, such as suppliers, can be achieved through purchasing function, which has transformed itself from a tactical operation to a competitive function with a major business impact (Moeller et al. 2006, 70). This strategic and collaborative approach for SRM could be defined as long-term cooperation with suppliers for joint benefits (Krause et al. 1998, 41). These joint benefits can be achieved via the careful selection of suppliers who are considered to be potential partners. The benefits achieved from this collaborative approach may show up as improved quality, increased transparency in terms of information sharing, reduced costs, and more efficient, integrated production and delivery scheduling. (Waters and Rinsler 2014, 9) To be able to succeed in the implementation process of SRM activities, the establishment of management commitment

is the key element. The top management is able to dedicate the resources and develop cross-functional capabilities. Top management must endorse the SRM actions and support them by providing the necessary resources. Building a cross-functional team, which is supported by top management's commitment, could be seen as an efficient way of moving towards effective supplier relationship management. The cross-functional team should include expertise in product design, supplier development, technology, and customer relationship management. (Fawcett, Ogden, Magnan, Bixby 2006, 23, 29)

The development of SRM from a tactical, arm's length approach to strategic and collaborative partnerships with suppliers can be presented as ladders from adversarial leverage partnerships to strategic alliances, as Cox (1996, 63) has done. Figure 5 presents these ladders.

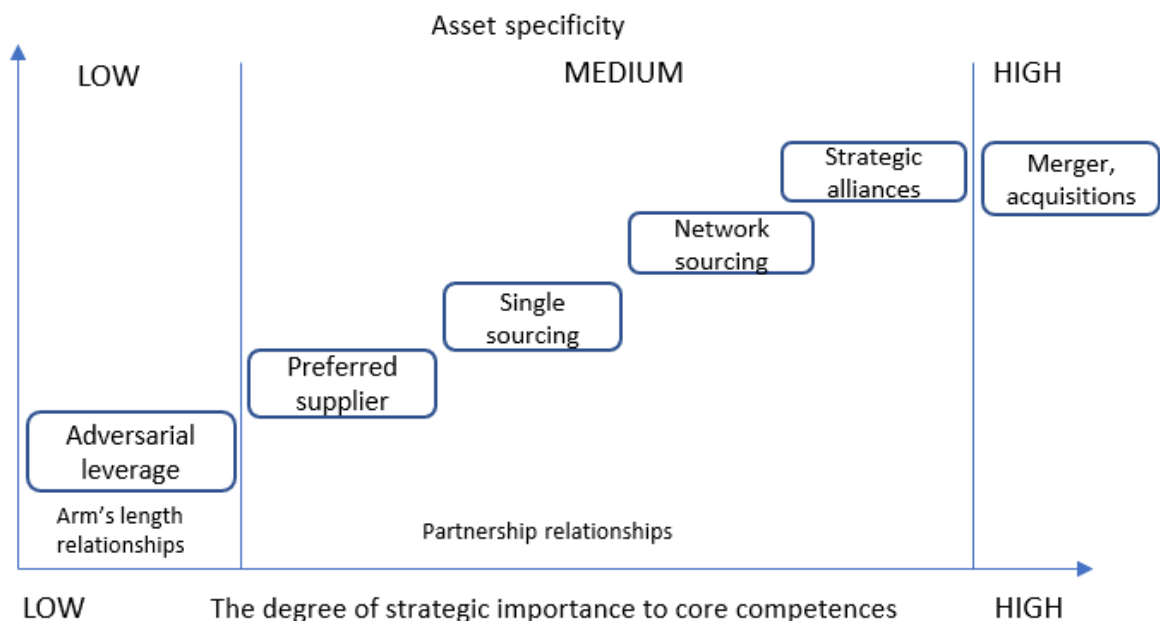


Figure 5 The ladders of external and internal contractual relationships (Adapted from Cox 1996, 63)

Adversarial leverage is the most well-known arm's length relationship, and the buying firm has always a possibility to change the source of supply in this first ladder of the figure. The strategic importance of preferred suppliers is not high, but these suppliers tend to be the best to deliver the goods or services. Single sourcing partnership is developed when the supplied goods have increased importance for buying firm's core competencies. A single sourcing partnership aims to lower the costs of integration and these partnerships are practical when goods and services have strategic importance for the buying firm. Network sourcing is based on the high strategic importance of supplied goods. In the network sourcing ladder, the first-

tier supplier develops a relationship with lower-tier suppliers and the idea is that suppliers in each stage of the supply chain are informing and educating the other suppliers in other stages. In the last ladder before acquisitions, close and collaborative relationships are developed between the buying firm and the main supplier. This developed relationship will lead to joint product development with the supplier. (Cox 1996, 64-65) However, every supplier does not have similar potential thus there are no absolute way to manage all the relationships (Moeller et al. 2006, 75)

Supplier relationship management could be seen as a mirror image of CRM, and it is creating the structure for developing and maintaining supplier relationships. (Lambert 2004, 21; Croxton, Garcia-Dastugue, Lambert, and Rogers 2001, 24). In general, it could be said that supplier relationship managers are implementing customer relationship management actions and focusing these actions towards the upstream of the buying firm's supply chain. However, the purchasing department of the buying firm has its role in developing the supplier relationships and it has shown that strategic purchasing has effects on the quality of supplied products and supply availability and further to buying firm's financial performance (Carr and Pearson 1999, 513). As it has been noticed that developing relationships with customers is important for business continuity, so are the relationships with the suppliers. Understanding the customers' needs and requirements are leading to higher profit and revenue. However, it has been stated that the benefits of understanding the suppliers the same way as customers' needs and requirements are not as obvious. The best customers are the ones who are buying a lot with the best margins, but the most valuable suppliers are those who are able to deliver the best quality with a high innovativeness level and possibilities to differentiate the products in the marketplace. (Hughes 2008, 21) Looking for a new customer is often emphasized more than managing the existing ones, which can be also viewed contrarily from the supplier point of view: if the existing in-suppliers are fulfilling the requirements of the buying firm, it may lead to neglects in the out-supplier management as the one of the main targets of supplier relationship management could be defined as optimization of existing supplier portfolio. (Moeller at al. 2006, 73) However, reducing the supplier base has been seen as a one of the supply chain management actions to lower the costs (Cousins 1999, 143) and at the same time, acquisition of out-suppliers is costly (Moeller at al. 2006, 73).

Including sustainability in business operations has become crucial thus sustainability in supplier relationship management has increasingly received attention. The buying firm's image is dependent on its suppliers' and sub-suppliers' sustainability performance in terms of financial, environmental, and social aspects and every member of the company's supply chain must be taken into account (Leppelt, Foerstl, Reuter, and Hartmann 2013, 94). The dependence of the members of the supply chain represents a significant risk for the buying company's public reputation and the customer's willingness to consume the firm's products (Koplin, Seuring, and Mesterharm 2007, 1053). In addition to consumers' increased awareness and demand for transparency, the buying companies are facing increasing pressure from governmental and non-governmental organizations which has pushed companies to invest in supply chain greening activities. One option for responding to these demands is environmental standards such as ISO 14001. These standards have been established as requirements for suppliers in the early supplier selection stage. (Cousins, Lamming, and Bowen 2004, 554; Koplin et al. 2007, 1054-1055) However, the risks related to sustainability-related issues regarding the supply chains and supplier relationships do not have a comprehensive approach to management and identification (Cousins et al. 2004, 555). Generally, SSRM as a term is narrowly examined and researched. The more often used term among academia is green supply chain management, which is closely linked to the SSRM. Lee and Klassen (2008) investigated the buying firm's green supply chain management initiatives among small- and medium-sized suppliers and they found that these initiatives enabled the improvement of supplier's environmental management capabilities which are defined to be assets, technologies, and skills that are required to be able to respond the increasing demands of stakeholders. Handfield, Sroufe, and Walton (2005, 7) defined environmental supply chain management as the integration of strategic, functional, and operational processes to be able to monitor, summarize, and report the supply chain information to a firm's stakeholders. In this study, sustainable supplier relationship management can be seen as a set of actions that are pushing the suppliers to meet the set environmental standards and targets, such as the focal company's climate program. These actions will be examined closer in the case company's introduction.

2.5. Enablers and barriers of supplier collaboration

Supplier engagement, supplier relationship management, and supplier development are generally aiming to improve the collaboration between the buying company and its suppliers. In the context of the supply chain, collaboration can be defined as vertical from external

supplier collaboration to external customer collaboration including buying company's internal collaboration (Barratt 2004, 32). Moreover, the understanding of demands must be expanded to customers' customers as well as suppliers' suppliers to be able to get the most out of the collaboration and optimize their own operations (Horvath, 2001, 206). The understanding of the entire value chain could be seen as an enabler of successful supplier collaboration. Similarly, internal and external trust is one of the enablers of effective supply chain collaboration (Barratt 2004, 36). Trust has gained little attention in academia, especially from the supply chain point of view. According to Smeltzer (2007, 40), trust between the buyer and supplier consists of selfless behavior, information sharing, and ethical manners. Building trust between the buyer and supplier is a major factor in a successful relationship and the lack of trust could be a barrier to supplier collaboration. The level of information sharing, and similarly the level of supplier engagement, can be increased via new innovative communication methods such as social media, which is enabling instant interactive communication between the companies. There are possibilities to achieve great success in the improvement of the level of collaboration with the suppliers by investing in social media use. (Yepeng, Jiao, Hui and Lyu 2022, 1) Information technology is playing a huge role in successful supplier collaboration, and it has been defined as a base of effective supply chain management. However, information technology is dependent on the people within the company, thus information technology and human resources are defined as important enablers of effective supplier collaboration. (Negawo and Singla 2017, 22)

The possibility to achieve effective collaboration with the supplier is, in addition, dependent on the focal company itself. Organizational culture and the nature of the organization are one of the possible barriers that are decreasing the possibility to implement effective supplier collaboration practices. Inter-firm rivalry includes poor supply chain management planning, and lack of trust, when poor internal systems, such as information-sharing systems are located under the managerial complexity term. (Negawo and Singla 2017, 21) These resisting forces must be exceeded by the driving forces, which are the earlier mentioned enablers if the buying company is willing to improve the collaboration with its suppliers. Resisting forces include, in addition to inter-firm rivalry and managerial complexity, inadequate measurement, and lack of a member support. (Fawcett, Magnan and McCarter 2008, 36)

To summarize the enablers and barriers of supplier collaboration, the table 2 presents the most common enablers and barriers mentioned in the academia.

Table 2 The enablers and barriers of supplier collaboration

	Enablers	Barriers
Author(s)		
Barrat 2004	Trust	
Fawcett, Magnan and McCarter 2008	Advances in technology increased customer demand	Poor collaboration among chain partners Lack of trust
Negawo and Singla 2017	Information technology Human resources	Poor supply management planning Lack of trust Poor internal systems
Yepeng, Jiao, Hui and Lyu 2022	Communication Social media	

2.6. Summary of the concepts of supply management

Table 3 summarizes the definitions and the authors of SCM, SSCM, SE, SD, SRM, and SSRM. However, all the known definitions are not listed in the table, but it represents the definitions and sources used in this study. By summarizing the definitions, it is easier to compare them to each other and the differences between the definitions can be found easily. Additionally, it is possible to compare different years and authors and find the most suitable and understandable definition for the key concepts of this study.

Table 3 Summary of the concepts of supply management

Author(s)	Cox 2004	Douglas 2004	Harter 2022
SCM	Proactive supplier development actions undertaken by a buyer at all stages in the supply chain	Relationship management across the whole supply chain	Supply chain management is focusing on all the elements of product or service production and delivery at the optimal cost and timeframe
Author(s)	United Nations WCED 1987	Seuring and Müller 2008	Carter and Rogers 2008

SSCM	Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs	The management of material, information, and capital flows as well as cooperation among companies along the supply chain while taking goals from all three dimensions of sustainable development, i.e., economic, environmental, and social	Strategic, transparent integration and achievement of an organization's social, environmental, and economic goals in the systemic coordination of key interorganizational business processes for improving the long-term economic performance of the individual company and its supply chains
Author(s)	Krause 1997	Park, Shin, Chang and Park 2010	Routroy and Pradhan 2013
SD	Any effort of a firm to increase performance and/or capabilities to meet the firm's short and/or long-term supply needs	Supplier development is a process that improves the supplier's performance	Manufacturing companies are putting resources and efforts to improve the supplier capability if it is not up to the expectations. SD may be a short-term effort or long-term effort undertaken jointly by both the supplier and manufacturer
Author(s)	Hughes 2008	Schuh, Strohmer, Easton, Hales and Triplat 2014	Moeller, Fassnacht and Klose 2006
SRM	<ol style="list-style-type: none"> 1. The systematic, enterprisewide assessment of suppliers' assets and capabilities with respect to overall business strategy 2. Determination of what activities to engage in with different suppliers 3. The coordinated planning and execution of all interactions with suppliers in order to maximize the value realized through those interactions 	<p>SRM:</p> <ul style="list-style-type: none"> •Drives supplier behavior •Encompasses the relationship between two enterprises •Enables a company to leverage its size by coordinating across divisions, functions, and hierarchies 	Supplier Relationship Management (SRM) is the process of engaging in activities of setting up, developing, stabilizing and dissolving relationships with in-suppliers as well as the observation of out-suppliers to create and enhance value within relationships
Author(s)	Leppelt, Foerstl, Reuter and Hartmann 2013		
SSRM	Buying-firm-induced effort for coordinated and cooperative actions over an extended period of time, in order to achieve increased levels of sustainability in the dyadic supply chain for the benefit of both firms		
Author(s)	Saunders, Kleiner, McCoy, Lingard, Mills, Blisman and Wakefield 2015		
SE	The involvement of a supplier organization in conceptual and design activities		

Cox (2004) defines supply chain management as a proactive action that is developing the suppliers at all stages of the supply chain. It could be said that proactiveness is one of the key elements in this definition. Generally, the supply chain must be managed before the

crisis, which means that supply managers need to be proactive, and they must have the capabilities to identify possible issues that are jeopardizing the continuity of supply. Douglas (2004) connects supply chain management to supplier relationship management. However, similar to Cox, Douglas mentions that supply chain management actions are touching the whole supply chain. Harter (2022), however, takes a look at supply chain management from the point of ensuring supply continuity. Harter's definition focuses on the product or service production and delivery at the optimal timeframe and cost.

Regarding the sustainable supply chain management definitions, it could be said that United Nations (1987) definition is more about sustainable development and is focusing on the environmental aspect. The other two definitions are adding the economic and social aspects to this definition, and they are examining this topic from the business's point of view. Seuring and Müller are mentioning the information sharing, management of material and capital flow, and collaboration between the companies to reach the goals in every aspect of the triple bottom line. Similarly, Carter and Rogers (2008) are defining sustainable supply chain management as the improvement of the performance of the individual company, and its supply chains. They also define it as a strategic operation, which is referring to a proactive and collaborative approach.

Next, the study takes a look at the data collection methodology and the interview sample. This study includes three internal interviews and two external interviews for benchmarking the best practices of supplier relationship management. After methodology, the empirical part of the study takes its place and conclusions will be presented at the end of the study.

3. Methodology

This study is conducted as a qualitative case study. It consists of three internal interviews conducted remotely or face-to-face to collect the relevant data and information within the case company regarding the current SRM and SD actions and to map the effects of these actions to SE. The qualitative study was chosen for this study, as the author has visibility to secondary data such as internal documents, and data drawn from the company system, and is working at the same organizational level as the category managers who are responsible for operational SRM and SD actions with their suppliers. Additionally, two benchmarking interviews were decided to be conducted to be able to compare the internal SRM and SD practices to other companies outside the organization. The aim is to map the best practices and identified development targets from the outside of the case company and compare them to internal practices and development targets. This chapter takes a more detailed look into the methodologies used in the academic research, interviews, and data collection of this study.

3.1. Qualitative case study

Qualitative research has a long history and the development of the term started in the 1960s and 1970s. Qualitative research has several features that are defining it and separating it from quantitative research. The one major difference is that qualitative research is using text instead of numbers as primary data. (Flick 2007, 2) This study is aiming to collect data and experiences of current SRM and SD actions within the case company. The case company has several key performance indicators regarding SRM, but the difference between the strategic- and operational-level plans and actions is difficult to find out using quantitative research methods, thus qualitative methods, such as interviews are more suitable for this study. Furthermore, in qualitative research, the one starting point is that the data is thought to contain examples of the same phenomenon (Alasuutari 2011) which means, in this study, the SRM and SD actions, main challenges, and their effects on the SE. It is assumed that every internal interview is describing almost the same actions, issues, challenges, and development targets regarding these topics. Additionally, the expectations are similar for the external interviews with some differences, depending on the interviewee's subjective

interpretation. On the other hand, the differences between the interviews are important in qualitative research, as they are providing clues about the relationship between the causes and the effects (Alasuutari 2011).

More precisely, this study is conducted as a case study. The case study is a suitable research method, when the study is aiming to answer questions of what, how, and why (Eriksson and Koistinen 2014, 5) The main research question of this study is aiming to answer the question, of how the suppliers can be engaged, and the secondary questions are supporting this by examining what the supplier engagement actions are that can be used and how the supplier engagement process can be implemented.

3.2. Data collection

Primary data for this study is collected with internal and external interviews, which are key research methods in the case study (Eriksson and Koistinen 2014, 3) The primary data consists of internal interviews with the global category managers and as secondary data, the material regarding the current SRM actions and frameworks in use in the case company has been examined.

In collecting the primary data, three internal and two external interviews were conducted. The internal interviews were semi-structured theme interviews with 25 different questions regarding the background of the interviews and supplier engagement. Supplier engagement was defined as a sum of supplier relationship management and supplier development actions. These interviews were possible to conduct face-to-face or remotely. Two of these interviews were remote interviews and one of these was conducted face-to-face. The aim of the interviews was to have in-depth conversations related to SRM and SD actions and to map the main challenges and development targets. In general, interviews were successful as more specific questions arose during the interviews and there was in-depth conversation regarding the topics. The planned duration of the interviews was 45 to 60 minutes, and the average duration of these internal interviews was 58 minutes. The interview questions were sent to potential participants beforehand and before starting the interview, the topic of this thesis was introduced. Pre-letter regarding the interview was sent to five category managers, and three of them accepted the proposal. All three interviews were conducted in Finnish, and after the interviews, answers were transcribed and translated into English and sent to the participants for confirmation. Generally, the data provided from the internal interviews were relevant to this study. The internal interview questions are available in Appendix 1.

External interviews consisted of four different parts: interviewee's background, supplier relationship management, supplier development, and supplier engagement. These interviews were, similar to internal ones, semi-structured theme interviews. External interviews included a total of 18 questions. Interview proposals were sent three weeks before the planned interview date and interviewees had a possibility to get familiar with the interview questions beforehand. The planned duration of external interviews was from 45 to 60 minutes and both interviews stayed within the set framework as the average duration of the external interviews was 52 minutes. At the beginning of the interviews, a brief introduction to the topic of the thesis was given to both interviewees. After the brief, the interviews addressed the interviewees' backgrounds to validate the relevance of the interviews. Both external interviews were conducted remotely and the first one was held in English and the second in Finnish. Both interviews were transcribed and the second was translated into English. The transcribed interviews were sent back to the interviewees for approval and after approval, similar to internal interviews, the answers were coded based on the interview themes. The external interview questions are available in Appendix 2.

To be able to find answers to the set research questions, secondary data was also collected from internal data sources to support the primary data. The secondary data consists of e-learning courses provided by the case company. These educational courses are providing a framework for supplier relationship management, supplier classification, and the climate program. Additionally, the internal information for performance evaluation of key and main suppliers is available in the case company's intranet. These data sources were examined in terms of collecting secondary data and the author has participated in the e-learning courses regarding the SRM and climate program. The secondary data related to benchmarking companies was collected from the companies' websites and other public sources.

3.3. Sample

The sample for the internal interviews was chosen within the organization the author currently works as the need for the study was beforehand identified in this organization. The organization includes global category managers who are actively managing relationships with their suppliers, and they have expertise regarding strategic SRM planning and actions. Additionally, the internal interviewees are cooperating closely with the buyers within the same organization which gives them visibility into operational cooperation with the suppliers. It was also acknowledged that this particular organization has room for

development regarding the current SRM actions and processes and for that reason, it is justified to collect the primary data from persons actively implementing SRM work.

Working experience in their current positions regarding the internal interviewees was two, five, and six years and the average working years as a global category manager was 4 years. The internal interviewees are responsible for approximately 60-80 suppliers including key and main suppliers thus the interviewees have a proper experience regarding supplier relationship management, and they have proper experience in strategic supply management. Table 4 summarizes the background of the interviewees.

Table 4 The background of the internal interviewees

	Position	Main responsibilities	Experience	Role in SRM	Total number of suppliers
Interviewee 1	Global Category Manager	Taking care of the suppliers, price negotiations, ensuring supply reliability, defining the supply base of the category, ensuring that there are multiple suppliers for one item	2 years	Coordination and supplier collaboration, problem solving regarding supplier issues and challenges	10-15
Interviewee 2	Global Category Manager	The business line' one business unit, purchasing management, operational coordination regarding raw materials	6 years	Central role regarding the business unit's main suppliers, managing the relationships and coordinating the capacities	3 key suppliers, other suppliers 20-30
Interviewee 3	Global Category Manager	Managing the commercial component supplier field	5 years	Supplier contracts, frame agreements, ensuring that correct suppliers are in correct places and the contracts are valid	About 40

The internal interviewees have a broad view regarding the supplier base in this particular business line, as they are responsible for both, operational and strategic management actions in addition to contract handling. Every interviewee is representing a different category, thus there are some differences between the main responsibilities due to the different natures of the categories.

The sample for the external interviews was selected based on their job titles within the chosen external benchmarking companies. From benchmarking company A, the interviewee's job title was Vice President, Purchasing, and from benchmarking company B, the job title was Senior Manager. The interviewee from company A was responsible for leading the team of buyers and had more than 30 years of experience in supplier management. However, in the current position, the interviewee has been nine months. The interviewee from company B was responsible for the procurement of maintenance materials, supplier contracts, and management. In this current position, the interviewee has been about three years. The goal of the external interviews was to map the best practices of the SE, SRM, and SD to be able to define what are the main challenges and development targets in the case company's current SE implementation. The first benchmarking company was chosen based on the knowledge of the industry and its internal SRM actions. The other external benchmarking company was chosen to be the customer of the case company. It was generally known that the SRM actions are managed well within that organization and for that reason, it is a good benchmarking company. The basic information of external interviewees is available in table 5.

Table 5 The background of the external interviewees

	Position	Main responsibilities	Experience	Role in SRM	Total number of suppliers covered by SRM actions
Interviewee A	Vice President, Purchasing	To manage the team of buyers, project buyers, commodity buyers, indirect buyers, to define the processes, responsibilities, defining the KPIs	Current position 9 months, in the company 2 years	Leader of the [buyers] group, managing supplier relationships	25
Interviewee B	Senior Manager	Procurement of maintenance materials, responsible for contracts and managing the suppliers	3 years	I have certain suppliers with whom I am working. We are conducting supplier management at different levels with different suppliers. We have been focusing on the technological side	10

Both interviewees have a strategic point of view related to supplier relationship management. The interviewees also have a relevant background with proper working experience. Thus, the external interviewees are reliable. Interviewee A is managing 25 suppliers which are defined as key suppliers. Due to the nature of the industry, they have quite a few reliable key or main suppliers defined. Regarding interviewee B, they have about 10 suppliers on the technological side covered by SRM actions. Additionally, interviewee B is managing three smaller suppliers, which are considered challengers or additional suppliers. The SRM actions conducted by the interviewees are covering 35 suppliers and the total working experience of the interviewees related to supplier relationship management is more than 40 years, as

interviewee A has been managing supplier relationships for about 30 years and the interviewee B has been managing the particular suppliers about 10 years.

Generally, benchmarking company A could not provide that much useful information as wanted. The company was, when the interview was conducted, in the transformational phase, and the supplier relationship management and supplier engagement was not at the desired level. Due to organizational changes and a challenging business environment, the benchmarking company was not using the SE actions at the moment, but the interviewee had the experience and was able to provide some additional information.

Benchmarking company B is operating in a more stable and predictable business environment, which makes supplier engagement easier. The benchmarking company B provided a lot of relevant information about their internal SRM, SD, and SE actions and the interview provided a comprehensive overview of the company's supplier relationships and management actions. Additionally, the climate actions were integrated into part of supplier relationship management and supplier development actions, which gave an insight of how this particular process could be done.

3.4. Coding

After the transcription, possible translation, and the interviewees' approval, the interview answers were coded based on the themes handled during the interview. Coding was conducted by using the transcriptions of the interviews and the answers regarding the same theme were highlighted with the same color. The aim of the coding is to find the main elements regarding the current state of SRM in the case company, the main development targets, the main factors of supplier engagement, and the current state of climate program integration. Regarding the external interviews, the main target was to find the best practices and possible challenges in the supplier engagement process, and the practices to integrate the climate program into a part of current SRM actions.

4. Supplier management in technology company

This section starts the empirical part of this study. First, the study takes a look at case company and benchmarking companies. The empirical part of the study analyses the interviews and aims to answer the research questions. Furthermore, the aim is to find the development goals and define the best practices based on the internal and external interviews. The outcome of this part is the current state of SRM in the case company and the development plan for the next two years.

4.1. Case company

The case company is a large Finnish company that is operating in the pulp, paper, and energy industries with more than 4 billion euros in turnover. The company employs more than 15 000 employees all around the world and its headquarters is located in Finland. The company's goal is to become the best in the world in the service of its customers. The company's offering includes, among others, the service business, and this study is focusing on the SRM actions and challenges regarding this service business. The service business is using more than 6000 suppliers and there are about 100 identified key or main suppliers.

The case company has identified its main and key suppliers based on spending, strategic cooperation, competitiveness development, supplier performance, and capacity management. The target of this classification is to develop a two-way relationship with joint benefits to deliver greater levels of innovation and competitive advantage. The strategic goal of the SRM in the case company is to optimize value through interaction, performance monitoring, and risk minimizing. As most of the case company's main and key suppliers are segmented into leverage or strategic suppliers, developing and maintaining the strategic partnership and supplier development are the actions that should be used continuously to be able to reach the set strategic goal.

The case company has implemented the climate program and it is aiming to integrate it into a part of continuous SRM actions. The goal is to reduce the supply chain's CO₂ emissions by 20% from 2019 to 2030. The company has identified five main actions regarding emission reduction: i) increase recycled steel, ii) help high-emitting suppliers to reduce emissions, iii) design light-weighted steel products and introduce alternative raw materials, iv) centralize

spend to selected suppliers offering low carbon manufacturing, and v) developing the freight planning. In addition to the supply chain, the climate program includes emission reduction targets for the company's own operations and customers' use of the company's technologies. The target for emission reduction in the company's own operations is 80% from 2019 to 2030 and regarding the use of the company's technologies, the target for emission reduction is 20% from 2019 to 2030. Together these targets are aiming for 100% carbon-neutral production. This study is focusing on supply chain emission reductions and the aim is to find the actions for integration of climate program targets into SRM actions.

The case company has recognized that the importance of sustainability has increased among its customers and the sustainable supply chain is among the five main topics of customers' interest. As mentioned earlier in this study, the sustainability of the supply chain is a highly important factor in the total sustainability of the focal company. From the customer's point of view, the case company is the first-tier supplier, which has the responsibility of its suppliers. For that reason, the integration of the climate program with the case company's key and main suppliers is critical, as any neglect in the aspect of sustainability may cause critical damage to the case company's business and further its customer's business. The case company has defined the supplier sustainability management process, which includes four steps. The starting point for sustainable supplier collaboration is the sustainable supply chain policy, which is required from every case company's supplier. Additionally, every supplier is evaluated through a five-level sustainability risk assessment, which may lead to supplier self-assessment. Furthermore, supplier self-assessment may lead to sustainability audits. The case company is committed to helping its key suppliers to take the first steps to develop sustainability in their operations and the aim is to integrate this support into the existing SRM program. The integration has been started already a couple of years ago. However, this study aims to find the most effective ways to improve the integration process within the services business.

4.2. Benchmarking companies

The first benchmarking company is a global automotive company that is offering technological solutions. The company employs more than 4000 employees and turnover in 2021 was over 500 million euros. The company is operating in three countries and the headquarters is located in Finland. Benchmarking company A has identified clear requirements for its suppliers, and they have defined the legal and environmental guidelines

and standards for its suppliers. The suppliers are required to monitor, track, and document the environmental performance and should aim to reduce CO₂ emissions. Additionally, it is stated that suppliers should understand the source of the raw materials used in their products. (Company A 2021)

The second benchmarking company selected for this study is a customer of the case company. The benchmarking company B operates in the paper, pulp, and energy industries. The company employs more than 15 000 employees with about 10 billion euros turnover. Benchmarking company A has about 20 000 suppliers all around the world and it has set environmental targets for the suppliers. In general, the company is focusing on long partnerships with its suppliers, and they are committed to strengthening sustainable procurement practices. The company has also set a clear and specific requirement and they are continuously following the performance of their suppliers. (Company B 2021) For these reasons, company B was chosen to be the benchmarking company. Additionally, company A is a well-known Finnish company, which has a proper SRM framework developed.

4.3. The current state of SRM in the case company

Supplier relationships are considered an important part of managing and developing the suppliers in the case company. Additionally, it has been understood that the supply chain is playing a huge role in maintaining the company's possibility to compete in the global markets. The supply chain has also a huge impact on the sustainability of the case company thus there is a willingness to integrate the climate program into a part of regular SRM actions.

The main targets of the current SRM process in the case company are defined in the internal material. These main targets are offering the framework for the SRM actions and goals. This framework includes targets of relationship development, sustainable procurement, common principles, and performance indicators, defining the one main contact for each selected supplier, knowledge sharing, and gaining a better understanding of suppliers' business and strategic targets. The main targets are listing the basic SRM actions which can be used in the operational SRM. These targets are also offering a frame within which personnel responsible for SRM can operate. These tools listed in the targets can be applied based on the current need. Defining the targets indicates which practices and outcomes are considered the most important ones. The case company has defined sustainable procurement as one main target, and the climate program integration is pushing the company toward it. Additionally, growth and value creation with suppliers are defined as a target alongside ensuring sustainable

procurement. Common principles and reciprocal information sharing are key elements when developing the relationship with the suppliers, especially the main and key suppliers. There must be common trust between the parties to be able to develop and strengthen the relationship. Via shared information and common trust, it is possible to gain a better understanding of suppliers' business, which may further lead to more efficient product development. Developing the strategies jointly with suppliers ensures that both parties have similar goals regarding their relationship development and business targets, which makes it easier to develop joint business plans for more effective and longer-term contracts.

The case company has defined the five-level SRM process from supplier classification to collaboration re-evaluation. This process is guiding responsible personnel to allocate the SRM resources to potential suppliers and shows the most important steps of implementation of regular SRM actions. The process starts with supplier classification and selection. This part is aiming to ensure resource allocation and supplier identification. Identifying the potential partner suppliers at an early stage enables the proper resource allocation for those suppliers who might be the future main and key suppliers for the case company. The proper SRM requires a lot of time in the case of key and main suppliers, which means that allocating resources to capable and potential suppliers is freeing up time for other necessary business activities. Furthermore, investing in relationship development in the early phase will increase the supplier's willingness to engage in the case company in the long term. Building a cross-organizational and inter-organizational team is an effective way to gather the necessary expertise and utilize it in regular SRM actions. Setting up the supplier team is the second of the SRM process defined in the case company. The supplier team should include personnel from the different organizations within the case company to ensure the most effective supplier relationship management and supplier development outcomes. The inter-organizational supplier team gathers knowledge from a different point of view and makes long-term strategic planning more precise as there are various aspects taken into account at the early stage of planning. After setting up the supplier team, supplier strategy and objectives should be defined internally according to the SRM process in the case company. This step requires organizing regular internal SRM reviews with the supplier team and supplier managers. The strategy and objective definition require sharing the supplier data internally within the inter-organizational team. The continuous improvement of supplier relationships requires analysis of development potential and supplier performance evaluation. Additionally, it is important that the strategy and objectives are shared internally

via the supplier database. After the clear relationship management strategy and objectives are defined, the management work should be started by organizing the SRM kick-off meeting where the collaboration with the supplier should be assessed. This step includes the introduction of the SRM process to the supplier and planning the continuous improvement actions. As the relationship management actions are continuous, those should be evaluated frequently. The evaluation should be based on the regularly held SRM review meetings and the aim should be to find the possibilities to engage the supplier by identifying the supplier's potential related to improvement and savings. To summarize the five-step process defined by the case company, figure 6 shows the main steps.

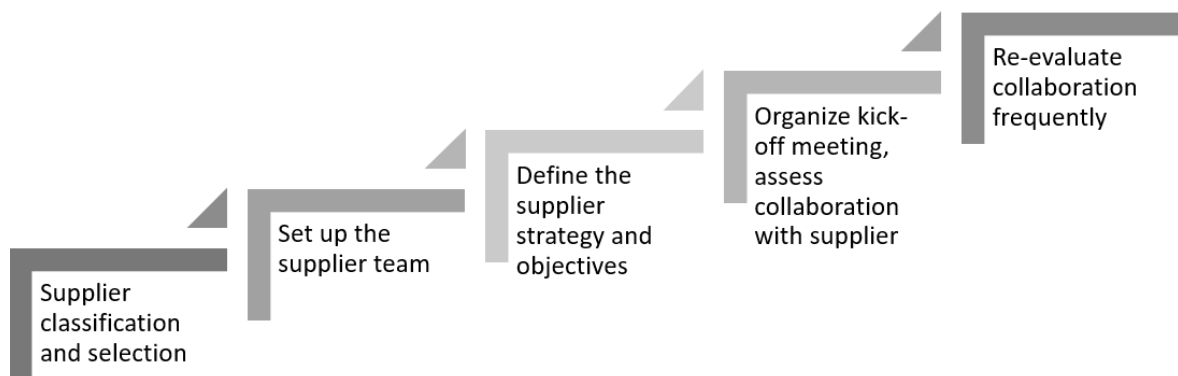


Figure 6 The five-step SRM process in the case company

Additionally, the SRM process should be reviewed frequently. It is important to find out the best practices to use with a particular supplier based on the supplier's characteristics and capabilities. Thus, there is no one correct way to handle the relationships with suppliers, but the general framework is offering the basic tools which could be applied.

Supplier classification is based on Kraljic's matrix in the case company, and it is used to identification of critical suppliers. Most of the key and main suppliers are defined as strategic or leverage suppliers. The relationships with the key and main suppliers are also categorized and the relationship with the main supplier is considered to be important to the case company when the key supplier relationship is defined as important to the case company's success and difficult to replace. The case company has also defined the focus, actions, and requirements regarding managing the relationships with the key and the main suppliers. The focus with the key suppliers should be on added value and cost savings while ensuring supply security and quality. To meet these targets, the annual business plan should be implemented with the key suppliers and the key performance indicators should be defined and targeted. The key suppliers are requiring the nominated supplier manager and supplier team members,

with frequently held meetings. With the main supplier, the focus should be on systematic relationship management and contract, performance, and capacity management. Actions defined with the main suppliers are contract negotiations, key performance indicator definition, and follow-up and capacity coordination. The main supplier requires a nominated supplier manager and team, with systematic meeting practices with the supplier and case company.

4.4. Supplier development in the case company

Supplier relationship management and supplier development are closely linked to each other. In general, it could be said that with supplier relationship management actions it is possible to find potential supplier development targets. Due to the close link, it is convenient to include supplier development in supplier relationship management which has been done in the case company.

The supplier relationship management framework does not differentiate the development actions from the relationship management actions. During the interviews, the difference between these actions was mostly recognized, however. In general, supplier development actions are in use in the case company, but those are mostly considered supplier relationship management actions. For this reason, there are some overlaps in the supplier development and supplier relationship management framework in the case company's internal database.

However, supplier development actions are, from the operational point of view, used frequently, according to the internal interviews. The internal interview questionnaire included examples of supplier development actions, and these were mostly recognized and used by the interviewees. According to the interviews, supplier development has been conducted well in the case company and there is a willingness to develop the suppliers, especially in terms of ensuring the business' future needs. Additionally, there is a linkage to be found between supplier engagement and supplier development. Generally, the interviewees agreed that supplier development actions are engaging the suppliers in the case company and the interviewees acknowledged the importance of supplier development. Interviewee 1 stated that supplier development is an important factor of supplier relationship management, and it has a big role, especially with those suppliers with whom the case company has a close relationship. These suppliers are most likely classified as main or key suppliers. Based on this particular answer, it could be stated that the case company has identified the most important suppliers and categorized those in the main or key supplier

category and built a collaborative relationship with them. The relationship has been built with the SRM and SD actions.

However, there is no corporate-level framework for supplier development which has led to the situation where the supplier development actions are differing between the interviewees and categories. Basic actions are in use regardless of category or the interviewee, but the difference is that some interviewees are tossing the ball to the supplier regarding the implementation of development actions. Interviewee 2 stated that the role of supplier development is dependent on the supplier itself. Additionally, there are differences between the business lines in terms of supplier development planning.

“We have huge differences in this topic within our company. [Another business line] is planning this for a much longer term, than in another business line it is planned for the next purchase. [--] New suppliers are wanted but no one wants to pay for them. In the [another business line], the sight is much longer. The supplies there are tens of millions of euros, and there must be additional suppliers available. In our business line, we are more focused on the next sales with the lowest costs possible” – Interviewee 2

The answer shows the difference between the business lines and the lack of a general strategic framework. Additionally, there are differences between the resources available in the business lines. Interviewee 3 mentioned that the basic SD actions are in use and additional actions could be implemented if the supplier is performing poorly. This indicates also the lack of strategic planning, and it is driving the SD actions towards more reactive than proactive operation.

To conclude the current state of the SD in the case company, it could be said that basic actions are frequently used with the key and main suppliers. However, the long-term view is still missing and there are differences between the business lines. Additionally, the SD actions are somewhat used in a reactive manner, which may be caused by the lack of the general corporate-level framework.

4.5. SRM and SD actions in use

The role of supplier relationship management in the case company is depending on the suppliers and the categories. The internal interviewees have recognized the most important suppliers from their categories, and they have an understanding of the current SRM actions available. However, the current state of SRM, according to interviews, could be seen as moderate. There is reciprocal information sharing between the case company and its

suppliers but also there are some deficiencies in the regular practices, as can be seen in the comment of interviewee 1:

“One-on-one or several-person conversations between the case company’s personnel and the suppliers are held with different case company personnel and suppliers’ personnel [--] However, it is possible that some important suppliers are remaining in the background.”

The information sharing is completed via these regular conversations with the most important supplier. Smaller suppliers are possibly remaining in the background and the SRM actions are not conducted with all the suppliers. The difference between the categories is clearly stated and the role of the SRM is considered huge by interviewee 3. In this category, the suppliers are mostly big companies with more leverage over their customers, which makes relationship management more highlighted. However, the SRM actions in use are basic actions, such as reciprocal information sharing and regular meetings with the suppliers. The aim of these SRM actions is to ensure that there are proper contracts and price lists negotiated, which can be seen in the comment of interviewee 3:

“It is important that information sharing is reciprocal. The management of these suppliers is based on negotiations and conversations. Mostly the conversations with the suppliers have the biggest role, and if necessary, the negotiations will be started. We need to ensure that we have proper contracts and price lists with these big suppliers.”

In general, the category managers have understood the importance of SRM actions, and they have applied the actions based on the categories’ needs. The most used actions in all three categories are regular meetings with the suppliers and continuous information sharing. In addition to qualitative data provided from the meetings and conversations, there are also numerical data available in the case company’s internal sources. This data is used in the base of the conversations with the suppliers. The data allows the category managers to track the supplier’s performance and if necessary, the negotiations and conversations regarding the performance could be started which can be seen in the answer of interviewee 2:

“[We have] reporting tools from where I can find the KPIs, and other indicators and I can communicate these with the suppliers.”

Interviewee 2 also mentioned that the case company has supplier teams founded for its main and key suppliers. These teams should be inter-organizational as mentioned before in this thesis. According to interviewee 2, the supplier team includes personnel from every business line regarding the procurement, technology, and product management.

Even though the current level of supplier development could be considered moderate, there are some excessive and advanced supplier development initiatives used within quite a short period. Interviewee 1 stated that all the actions mentioned during the interview were used during the last month, which means that there are actions from the basic to the advanced level in use. Basic and moderate actions are used continuously, according to interviewee 1. However, more complex and advanced actions are used, which is indicating that, especially in this particular category, supplier development is considered an important strategic factor. Initiatives mentioned during the interview were using multiple suppliers to create competition, providing feedback, audits, training or educating supplier personnel, and investing in supplier's machinery. These initiatives can be found in the answer of interviewee 1:

“The goal is that have at least two suppliers for one process part. With some parts, we have just one and we are trying to get rid of it. [---] We are providing feedback via e-mails, Teams, and face-to-face meetings regarding the reliability of deliveries, and pricing. We are conducting audits, two have been conducted this year. [---] Training or educating the supplier has been done less. Maybe more if there are some fitters for example. We have provided for example welding training. We have one new project, and we have invited our suppliers to visit this site. [---] The case company has invested in the supplier's machinery. The case company owns the machinery partly, which means we are able to relocate them if the supplier is not able to provide the required products. This increases supplier engagement.”

Interviewee 1 mentioned also supplier engagement. In this case, it could be stated that the SD actions have been recognized as a potential source of value and as an engagement action. Additionally, these SD actions are focusing on the main and key suppliers, according to interviewee 1.

SD actions in the case company are dependent on the supplier, according to interviewee 2. The case company is expecting proactiveness from its suppliers regarding development actions. There are basic initiatives in use, but the implementation is depending on the supplier's activity. Interviewee 2 mentioned that they are aiming to inform their suppliers about the order volumes and then have conversations with suppliers about how they can meet these required volumes. Communication, information sharing, and feedback are the basic SD actions in use in this category. It could be said that there are differences between the categories, as interviewee 1 recognized more advanced and excessive SD initiatives in the other category. In the third category, basic SD actions, such as using multiple suppliers for one product and providing feedback are mostly used. However, training and education of

supplier's personnel are also used to help the suppliers to understand the processes they are supplying.

Based on the interviews, it could be said that used SRM and SD actions in the case company are mostly basic or moderate. There are a lot of differences between the categories, which may have been caused by the lack of a strategic framework and different approaches within the categories. Additionally, the category managers have their own ways of working, which is causing the differences between the approaches related to supplier relationships and supplier development actions. SRM and SD are recognized in every category and the basic actions are quite broadly used. The summary of mentioned SRM and SD actions is use is available in table 6.

Table 6 Summary of used SRM and SD actions in the case company

	Category	Interviewee 1	Interviewee 2	Interviewee 3
Information sharing	Limited	x	x	x
Use of multiple suppliers	Limited	x		x
Regular meetings	Basic	x		
Providing feedback	Excessive	x	x	x
Regular audits	Excessive	x	x	x
Training or education	Advanced	x		x
Direct investments	Excessive	x		
Supplier site visits	Excessive, moderate	x		
Supplier performance evaluation	Limited, low implementation complexity			x

The table shows that the most used actions which were mentioned during the interview, are information sharing, providing feedback, and regular audits. These are categorized from limited to excessive. In general, the interviewees have several actions from limited to advanced in use regarding SRM and SD. The current level could be described as moderate as there are also a lot of challenges.

4.6. Integrating Climate Program

In today's business, sustainability and transparent sustainability reporting are highly required. Stakeholders, such as customers, are more aware of the environmental effects of the products and require more environmentally sustainable production. To be able to meet the stakeholders' requirements and demands, global businesses must take sustainability into account. There are several options to integrate sustainability into the business. One of the most common frameworks is the triple bottom line, which is including social, environmental, and economic factors. These factors together form a sustainable business model, and every factor must be taken into account in terms of sustainability.

The climate program is taking into account the environmental perspective and is striving to reduce the harm to the environment. The case company has identified the requirements of its stakeholders, such as investors, financial markets, customers, and consumers. These stakeholders are increasing their sustainability expectations and the case company must be able to meet the requirements. Additionally, there are more strict regulations related to climate actions and emissions, such as the Paris Climate Agreement. Sustainability is also a global mega trend, which is indicating that in the future sustainability will be a more important aspect when selecting possible partners or employers. The climate program in the case company is aiming to lower carbon dioxide emissions and the company is committed to Paris Climate Agreement's 1.5-degree pathway. The pulp and paper industry, the case company is operating in, is also a forerunner in lowering the emissions and the industry as a whole is investing in decarbonizing. This is also driving the case company to integrate climate actions and reduce environmentally harmful emissions, as the low-emission production could be seen as a source of competitive advantage in the future.

In its way toward carbon-neutral production, the case company is aiming to reduce its supply chain's emissions by 20%. The supply chain includes purchasing operations and logistics. Logistics emissions the case company could be able to reduce by developing its freight planning and updating its transportation fleet. Suppliers are having a huge effect on lowering the purchasing operation's emissions and supplier relationship management, and supplier development actions are playing the main role in this process. There must be continuous development work with the existing suppliers to be able to meet the increased sustainability requirements and lower emissions. In this development work, well-managed relationships with suppliers are increasing the possibility of success. On the other hand, it is possible to

centralize spending to selected suppliers who are able to meet the increased requirements, which may lead to supplier switching. Additionally, using multiple suppliers for one as sustainable product as possible is a possibility to create competition among the existing suppliers and push them toward more sustainable production. One of the main actions, in the bigger picture, is to support the emission intensive suppliers in reducing their emissions. This collaborative approach will help suppliers to develop their own operations and gain savings through emission reduction and more efficient energy usage.

The climate program is integrated into the generally defined SRM actions, which means that the environmental topics should be included in regular meetings with the suppliers. Furthermore, the sustainability engagement program is integrated into a five-step SRM framework. The supplier classification process includes sustainability-related risk assessment and sustainability performance is affecting the supplier selection. Inter-organizational supplier team must include a sustainability auditor if medium or high sustainability risks are identified in the risk assessment. Supplier strategy and objectives should include sustainability targets and strategies and sustainability performance should be continuously evaluated. Furthermore, the case company is offering access to its internal training materials to its suppliers via the supplier portal which is aiming to increase supplier engagement and awareness of possible climate actions. Access to the supplier portal is provided to all the case company's key suppliers. Supplier sustainability engagement is enhancing the dialogue with the strategic key suppliers and encouraging the suppliers to reduce their operations' emissions and increase energy efficiency.

At the moment, the climate program is not fully integrated into the regular SRM actions, according to the category managers. The climate program is identified as an important part of supplier collaboration and it is generally included in the supplier meetings' agenda. However, there are no concrete actions conducted with the suppliers. The main and key suppliers are aware of the upcoming sustainability practices, but no actions are required at the moment. There are also differences between the categories regarding climate program integration. One option to increase the integration of the climate program is to develop a measurable variable for climate actions. The lack of measurable variables does not enable concrete climate actions as there are no common targets to monitor and develop. Additionally, the integration of the climate program is also depending on the suppliers' activity as there are no required actions defined. It could be said that suppliers have identified

and recognized the need for climate actions, but as the case company is not requiring any actions, it is highly dependent on the suppliers' proactivity. Interviewee 2 summarized the integration of the climate program as follows:

“The integration is in the beginning. We have had some conversations regarding environmental issues with the suppliers and we have mapped the actions that suppliers are going to do. I have not had a clear requirement for my suppliers yet. So, it is still in the beginning. [---] Actually, these concrete actions are coming from suppliers' own initiatives. For example, we visited our main supplier, they had created a solar panel field and they are providing a significant amount of energy from it. Also, they were changing their heating system from gas to biomass. These kinds of actions we have in our agenda, but it is highly dependent on the supplier and how proactive they are with these.”

However, the level of integration varies between the categories as interviewee 3 mentioned that they have a climate program included in the regular meetings and it is always on the agenda. They are challenging the suppliers to conduct climate actions based on the conducted actions by the case company. On the other hand, also interviewee 3 mentioned that they are not requiring anything, and the integration is still in progress. They have informed their suppliers regarding what the case company wants its suppliers to report in the future. Interviewee 3 summarized the current state of climate program integration as follows:

“Yes, it is. When we have these quarterly meetings, the climate program is on the agenda. We are taking a look at what [case company] has done and we are challenging our suppliers. We, as a procurement organization, must conduct climate actions which means that we will require climate actions and reports from our suppliers in the future. The climate program is part of the SRM, it is always on the agenda. [---] At the moment, we are not requiring anything. We are evaluating suppliers and their capabilities to provide [climate action information], but it is not deciding factor yet. The ball is on the supplier's side.”

To conclude the current state of climate program integration, it could be stated that the lack of generally defined concrete actions is still slowing down the implementation of sustainability actions at the category level. Furthermore, there are no variables to develop and follow in cooperation with the suppliers. It is clearly stated that the climate program has been recognized as part of SRM actions in the future, but at the moment, the integration is inadequate.

4.7. Challenges in SRM and SD

A big global company, such as the case company, has many suppliers all around the world and the resources for supplier engagement actions are always limited. The global supply chain and supplier base is requiring a lot of time and attendance from responsible personnel even though the most excessive supplier engagement, supplier relationship management, and

supplier development actions are focused on the key and main suppliers. This thesis is focusing on the category-level SRM and SD actions and only the key and main suppliers are included. Despite the limitations, time is still one of the main challenges related to SRM actions at the category level. As mentioned earlier, the interviewed category managers are responsible for more than 20 suppliers each. All may not be categorized as main or key suppliers but are important suppliers from the category point of view. The effective use of time is often dependent on the level of strategic short- or long-term planning. Operational SRM and SD actions need to be planned especially short-term. All three interviewees mentioned that they have short-term plans for SRM actions with the key or main suppliers they are responsible for. However, the organizational plan for SRM and SD actions is not that clear for all interviewees. Short- and long-term plans for SRM and SD actions defined at the corporate level are the base of the operational SRM and SD actions as mentioned earlier. These plans must be clearly communicated to the category level, where the operational SRM and SD actions are implemented. According to the interviews, it has been recognized that the framework for the long-term SRM is available, but it seems that it is not as clear as it could be. Interviewee 3 defined the current state of organizational SRM planning as follows:

“Well, in general, I have more like a personal plan. The longer-term plan is not so clear to me. For the shorter term, we have a clearer plan as the short-term actions are clearer and we have concrete actions for the short-term. From the longer-term point of view, these actions are not so concrete and clear, and they are not implemented immediately.”

By ensuring the implementation and understanding of the common strategic goals related to SRM and SD actions, it could be possible to increase the effectiveness of operational SRM and SD actions and it may free some time to conduct these actions with other important suppliers. The category managers are not responsible only for supplier relationships. Category management includes other operative and strategic tasks, which are time-consuming and there is a need to prioritize supplier relationship management and supplier development actions. Due to the limited time, important suppliers may have left without relationship management or development actions. Additionally, it is possible that the category managers are handling the other business units' suppliers, due to ambiguities in supplier categorization. Interviewee 3 mentioned that other business units' suppliers are requiring a lot of time and there is not enough time to handle all the suppliers. Interviewee 1 also confirmed that there are other suppliers from other categories which must be handled, and it is sometimes unclear, who is responsible for those. These issues are related to deficient

categorization which is leading to inefficient use of time. Limited resources are also affecting the supplier relationships and possibilities to develop them according to interviewee 2 who summarizes the supplier development in the particular business line as follows:

“In [another business line] they have discussed these investments with the suppliers but in our business lines, we are just focusing on what our customers’ needs. For that reason, it is really difficult to develop any strategy in our business lines environment.”

During recent years, global markets have faced different crises and global supply chains have been disrupted, which has been affecting supplier relationships and the possibilities to develop the suppliers as many businesses have faced challenges in profitability and possibilities to continue business as usual. Additionally, the suppliers themselves are facing similar issues to the buying companies. One main challenge mentioned during the interview was the challenges in the global markets and the suppliers’ economic conditions. Suppliers are increasing the prices even though there are still uncertainties in the availability of raw materials, for example. Interviewee 1 mentioned that the challenges the suppliers are facing at the moment are affecting the possibility to conduct development actions. The negotiations with the suppliers are difficult and uncertainties in the delivery times are still present. Interviewee 1 summarized the global challenges:

“For example, suppliers are reserving the right to increase the raw materials costs. They are not committed to prices. We do not know when we are receiving our materials and what is the price. This is a new situation.”

Interviewee 2 agreed with interviewee 1 and mentioned that global issues and resources are increasing the profitability pressures and potential conflicts with the suppliers. Additionally, there are still restrictions due to the COVID-19 pandemic and for example, one huge global market area, China, has strict restrictions, which is affecting the business possibilities.

Organizational structure is also mentioned as one supplier relationship management issue by interviewee 1. There have been organizational changes that have led to a situation where the supplier’s contact persons are not aware of who is the main contact from the case company’s side. Due to these organizational changes, the SRM actions are decentralized, and this may be one reason for the unclear supplier responsibilities. Additionally, from the suppliers’ point of view, the case company seems to be decentralized and it is difficult to see the case company as one big company. There are several purchasing organizations that are purchasing different products from different locations when there are no possibilities to consolidate the volumes and gain savings. Also, information sharing is more complicated as

there might be several persons from case companies visiting suppliers. The supplier information is searched from the common database and every category manager is able to save memos and search information from there. However, interviewees agreed that there is room for development in the aspect of updating supplier data. The database is mostly used, but it can't be fully trusted whether the information is updated or not according to interviewee 3:

“Honestly, it is hard to say if anyone is really reading these reports saved in [supplier database]. It is good that those are documented, but for whom those are documented?”

Information sharing via a common supplier database is an important factor in the aspect of effective relationship management. The bigger the company gets the more effective information-sharing channels must be developed. It needs to be noted that this information-sharing system must be used properly to ensure that all the necessary information is reaching its target. As mentioned, the SRM actions are decentralized, as there are multiple purchasing departments within the case company, which may lead to ineffective relationship management as there might be multiple similar SRM actions, such as visits or audits, conducted by the different purchasing departments within the case company. The main challenges in SRM and SD actions according to interviewees are summarized in table 7 below.

Table 7 The main challenges of SRM and SD in the case company

	Interviewee 1	Interviewee 2	Interviewee 3
Time	x	x	x
Organizational planning		x	x
Ambiguities in responsibilities	x		x
Resources		x	
Global business environment	x	x	
Organizational structure	x		x
Information sharing	x		
Lack of contracts			x

Every interviewee mentioned that time is limited and there is a need to prioritize the suppliers related to SRM actions. The total number of suppliers per category manager is more than 20, which is requiring a lot of time, thus it is not possible to manage all the relationships. The interviewees have identified the most important suppliers and the relationship management and development actions are focused on these suppliers. Due to the limited time, the SRM and SD actions and planning are actively covering one to five suppliers per interviewee and other suppliers are remaining in the background with limited SRM or SD actions.

Organization-level short- or long-term planning is offering the base of the operational SRM and SD actions, as the top-level framework is guiding the category-level managers in comprehensive and effective SRM and SD actions. However, two interviewees mentioned that the organizational-level plan for SRM and SD is not as clear as it should be. The case company is offering educational material and other internal information related to SRM. At the same time, supplier development actions have received less attention and the case company has not developed any educational material related to SD, but it has been combined with the SRM material. Of course, category-level managers must ensure that they are aware of corporation-level frameworks and guidelines.

The interviewees mentioned that there are ambiguities in responsibilities. The case company has suppliers that are mostly delivering products that are not categorized specifically, and it is possible that these suppliers are between the managers' responsibilities. These suppliers are requiring time and cause ambiguities in internal communication. Supplier categorization is based on the internal supplier database and deficiencies in database information may be causing unclarity in relationship management. This is relatable to the lack of information sharing which was mentioned by interviewees 1 and 3. The information sharing must be inter-organizational to be able to increase the effectiveness of SRM and SD actions from the corporate point of view. Inefficiencies are caused by the multiple similar SRM, or SD actions conducted by different actors from different parts of the organization. Sharing information related to supplier visits or audits in the common supplier database could prevent similar actions to be conducted twice.

Resources as a challenge in SRM or SD were mentioned by interviewee 2. Organizations are always operating with limited resources and resource allocation is an important factor to be able to ensure the efficiency of the business. Additionally, resource allocation is linked to the global business environment challenges as global crises have affected businesses'

profitability globally. Furthermore, suppliers who are facing the economic challenges caused by the global crises are aiming to fulfill their customers' needs and it has to be taken into account that the case company is one customer among others, which has its effects on the relationship between the case company and the supplier.

Organizational structure was mentioned by interviewees 1 and 3. The case company is a big global company, which has many business lines and business units within these business lines which affects the decision-making process. From the supplier's point of view, the organization may seem decentralized and there are many contact persons from the case company, with whom the supplier personnel needs to communicate and the cooperation with the case company may be time-consuming. Negotiating the frame contract with the suppliers is one solution to clarify the terms of cooperation and the lack of contracts was mentioned as a SRM or SD challenge by interviewee 3.

4.8. Supplier engagement in the case company

In this thesis, the engagement of suppliers can be seen being dependent on the relationship between the supplier and the buying company and the possible future benefits of the relationship. A well-managed supplier relationship is increasing the level of supplier engagement. The supplier relationships must be managed in the daily basis and especially the importance of relationship management is highlighted when supplier or the buying company is facing challenges. Highly engaged suppliers are more willing to cooperate in the challenging situations and are more flexible. Additionally, the buying companies are more willing to be flexible about their own principles.

The engagement can be increased by assuring the partner of future investments and closer collaboration. One way to show this willingness to cooperate in the future is to invest in the supplier development. When the buying company is showing the interest in its suppliers and is ready to spend resources in the development of supplier's personnel, machinery or other performance-increasing actions, it could be seen as a willingness to increase the level of cooperation or at least continue the partnership in the future. Investment in the suppliers' machinery was mentioned during the interviews by interviewees 1 and 2. They agreed that it is easier to engage the suppliers by allocating resources to suppliers' performance development via direct investments in their machinery or personnel. Interviewee mentioned that it the buying company must be involved in the supplier's business development to be able to increase the level of engagement. The case company has engaged particular suppliers

by updating and owning the necessary machinery. In this case, it is possible to relocate the machinery if the production is not reaching the desired level. This could be seen as one of the engagement actions:

“Other is that we bought new machinery for another supplier, and we have 100% ownership. If the costs are not going down, or the reliability of deliveries is not going to increase, we are able to relocate the machinery. We need to participate in suppliers’ business to engage them. For example, we are responsible for the maintenance of the machinery.” – Interviewee 1

Interviewee 2 highlighted also the importance of resources in engaging suppliers. Additionally, it was mentioned that it is necessary to allocate enough resources to the engagement actions within the case company to be able to succeed in the engagement process. Both external and internal investment in supplier engagement is highlighted by the interviewee 2:

“If we are investing huge amounts of money, it is engaging our suppliers. [---] Also, if we would have more resources, we would be able to engage these new cost-competitive suppliers more efficiently as we are able to make our own contribution. It would more likely succeed on the first try and we would not have to have a negative conversation with the suppliers in the case when our project has failed.”

Supplier engagement could be seen as a procedure which is starting from the internal actions, and there must be necessary resources allocated in the supplier relationship management and supplier development actions to be able to ensure the suppliers’ willingness to cooperate in the future. However, there are other supplier engagement actions also that can be conducted. Interviewee 3 mentioned that inviting suppliers to sites is increasing the supplier’s awareness and further the engagement as they are more familiar with the buying company’s operations. Additionally, interviewee 3 mentioned the economic-based initiative to increase the engagement: the case company has tied the price increases to supply reliability. There are incentives to increase the supply reliability, which is also increasing the engagement level when the case company has promised the future price increases. In general, the case company is considered as a good customer from the suppliers’ point of view according to interviewee 3:

“Especially when we are implementing new actions for the engagement such as tying the price increases to supply reliability. We are able to engage our suppliers. In general, suppliers are seeing [case company] as a good customer.”

In addition to financial engagement incentives, the interviewees agreed that the case company must communicate with its suppliers in terms of the current state of the business

and possible future development lines and estimates. The interviews showed that the case interviewees are aiming to convey positive messages about the business and its continuity. It is important to understand that future business development and continuation can have a strong effect on the suppliers' engagement. The positive signals of the business development are linked to the suppliers' image of the customer and communicating the future business plans are affecting suppliers' willingness to continue cooperation with the case company and allocate the resources to relationship development. Additionally, if the case company is considered a good customer, there are potentially positive multiplier effects that may have effects on the case company's image in the global markets. Especially during global crises and in the challenging business environment, communication with suppliers is increasingly important. A well-managed communication during challenging times could have a huge effect on the relationships with the suppliers. Also, the case company must highlight its abilities to manage the challenging business environment and communicate its future development plans and targets to its suppliers. These future development plans and communication of the business continuity came up during the interview:

“If we are showing that we are ready to invest in the suppliers, which is at the same time creating more jobs, and increasing the business level between our organization and the supplier, we are an interesting customer for our suppliers, and it is a win-win situation.” – Interviewee 2

The communication must be reciprocal. It is also important that suppliers are capable of surviving in the challenging business environment, and they must be able to communicate it to their customers. By identifying the most important supplier and, from the supplier's point of view, the most important customers, it is possible to develop the existing relationship despite the challenging business environment. Both parties must be able to identify the most valuable partners. Interviewee 3 summarized the base of supplier engagement as follows:

“We must communicate the positive flow that we have in [case company]. We must make ourselves a desirable customer. We must identify for whom we are a significant customer. We must be able to develop this, and we must develop our public image among the suppliers. I consider this highly important.”

Supplier engagement is affected relationships between the suppliers and the buying company and the future development possibilities and current supplier relationship or performance development actions. Additionally, the public image of the case company and its economic capabilities to compete in the global business markets are playing an important role in supplier engagement. According to the interviews, the starting point of supplier engagement

is the frame agreements which are defining the frames for the collaboration between the case company and its suppliers. These agreements are category-based and other categories are requiring longer contracts than others. Different-sized suppliers need to be handled in different ways: frame agreements are playing a bigger role with large suppliers when smaller suppliers can be handled more operationally. The case company has a lot of suppliers, which is requiring a lot of time for the category managers. There is a huge number of small suppliers, which are not categorized as a key or main suppliers but are important suppliers, thus requiring relationship management actions and are important to keep in the supplier base. However, to increase efficiency, one option could be a reduction of the supplier base, according to interviewee 1, and the case company could purchase more entities from its suppliers and engage them this way. By reducing the supplier base, the case company could allocate its resources more efficiently to its strategically important suppliers, which could increase the level of engagement. Additionally, the case company could gain benefits from purchase volumes as it would be possible to purchase a larger number of products from strategically important suppliers, which could also require fewer negotiations.

In general, the interviewees agreed that they have the correct actions in use regarding supplier relationship management and supplier development. The interviewees have been able to gain positive developments in the main KPIs they are following. Interviewee 2 mentioned that regular meetings and visits have played a key role in supplier relationship development they have been able to achieve positive results when taking issues under the development. It is also stated that there are no possibilities to achieve this kind of positive impact with every supplier, but when the case company has found a particular development target, it has mostly got positive outcomes. Interviewee 3 mentioned that there must be a frame agreement defined with the suppliers and it is important to define possible sanctions if the supplier is not performing at the desired level. Also, there must be clearly defined possibilities to reward the supplier if the desired performance levels are achieved. These actions are in a major role in supplier engagement.

5. Benchmarking the best practices

The best practices for supplier engagement are company-specific and depend on the nature of the business and suppliers. For that reason, there are no absolute best practices for all businesses to implement supplier relationship management or supplier development actions. However, there are generally examined practices and actions in academia that seem to have the most beneficial effects on supplier engagement. The benchmarking was conducted via two external interviews and the aim was to investigate the practices the benchmarking companies have implemented related to supplier engagement. The goal was to find out the current SRM and SD actions in use, possible challenges in SRM and SD, how sustainability actions are integrated as part of SRM and SD actions and are these actions and practices affected supplier engagement in benchmarking companies. This thesis is aiming to offer the development ideas related to SRM and SD actions for the case company, and these benchmarked practices are acting as a base of these development ideas together with the development ideas raised from the internal interviews. Additionally, the benchmarking companies are operating in different industries than the case company to be able to have a broader view of possible SRM and SD actions.

It has to be taken into account that external interviews are not providing as much valuable data as internal interviews as the author does not have access to benchmarking companies' internal data sources and the interviewees are not allowed to share critical information with the external actors. To gain a more comprehensive understanding of benchmarking companies' SRM and SD actions, the secondary data is collected from the companies' web sites and other public sources.

External interviews provided a generally valid description of the companies' current state of SRM and SD actions. Additionally, sustainability and climate actions were presented in the interviews at the general level thus it is possible to map the possible best practices used in the benchmarking companies and apply those for increasing the case company's supplier relationship management and supplier development level.

5.1. SRM and SD in benchmarking company A

Interviewee A is the Vice President, Purchasing in the business line and is responsible for the organizational parts. The interviewee is leading the team which is responsible for supplier relationship management and supplier quality. The main responsibility of the team is to manage supplier relationships. The interviewee is responsible for supplier relationships from the strategic point of view and the team is responsible for the implementation of operational actions. The implemented actions are differing based on the role of the supplier: if there are more strategic suppliers, the actions are aiming at developing the future relationship with the supplier and looking for joint benefits when more operational buyers are requiring proper delivery times and quality from their operational suppliers. It could be stated that, in this particular category, supplier relationship management has been divided into two groups, operational and strategic. This requires supplier categorization, and it must be clear for all parties, to which category a specific supplier is included. Additionally, communication between these teams is important to avoid possible misunderstandings and to make sure that suppliers are not in between the two teams' responsibilities.

However, supplier relationship management in company A is in the transformation phase. Additionally, due to the nature of the industry, there are no dedicated supplier relationship actions at the moment. The automotive industry is project-based, and the quality of the products are playing a huge role in the production thus the customers of the benchmarking company A are dictating the suppliers they must use. For that reason, the suppliers are switched rapidly, which does not enable the comprehensive and continuous supplier relationship management actions. On the other hand, the company has about 25 suppliers with whom it is aiming to develop a longer relationship and those suppliers are continuously managed. These suppliers are categorized as tier-1 suppliers and the benchmarking company A has current projects ongoing with these suppliers. Due to the importance of the supplied products' quality, it is important for company A to know its suppliers before they are starting the relationship development actions. For that reason, the benchmarking company is focusing its relationship management actions on its key suppliers, and they are selecting their suppliers carefully based on the suppliers' capabilities to provide the desired quality and technical expertise. The company is looking for a future joint benefit with its suppliers and product strategy is acting as one of the starting points related to supplier selection. Interviewee A summarized the supplier selection process as follows:

“We have reviewed the market with our engineering, and we have decided together which suppliers we would like to contact in terms of what they can deliver, what would be our common goal, and what would be the advantage.”

Purchasing volume is often used as a criterion to categorize the suppliers but due to the early phase of supplier relationship management in the benchmarking company, it is not playing a big role in the supplier selection process. However, interviewee A mentioned that the purchasing volume will be one criterion for SRM actions among the product strategy and technical expertise in the future.

In this early SRM phase, company A has implemented basic supplier relationship management actions such as regular meetings, limited information sharing, and early supplier involvement. It could be said that the SRM actions are not broadly adopted in company A and the current actions could be categorized as basic or moderate. Company A is not sharing critical information with its suppliers, which is limiting the possibility to cooperate in the future. However, the company is sharing its future plans and incoming projects, but not the specific numbers related to the future strategies. By involving the suppliers early in the projects, the benchmarking company is looking for common development ideas, such as potential savings, from the supplier’s point of view.

Sustainability and climate actions are taken into account in supplier relationship management. The importance of sustainability has been understood by the company, and according to their sustainability report (2021), they have a sustainability strategy defined. Additionally, the company is committed to sustainable development goals defined by United Nations. Company A is aiming to engage its suppliers in its climate actions and sustainability targets by defining the common actions within supplier contracts and long-term agreements. Suppliers are also expected to comply with the supplier code of conduct and commonly defined contracts. The implementation of sustainability actions is reviewed through defined contact persons in collaborative meetings and with supplier audits. Interviewee A stated that the company is still in the beginning with the implementation and currently, they are requiring sustainability certification from their suppliers. Additionally, the company is sending a sustainability questionnaire to its suppliers and auditing them regularly. There is a willingness to implement a quantitative sustainability-related measurement system in the future, but due to the current state of SRM, the measurable variables do not exist at the moment. Supplier code of conduct is acting as a general framework for sustainability. In addition to this, the company has an internal material related to sustainability actions. In the

supplier selection phase, the company is informing its suppliers regarding the collaboration with the company in the aspect of sustainability. At the moment, company A is not requiring any climate actions from their suppliers as the implementation of climate actions is not developed that far. However, there are development actions on the radar, and in the future, the company aims to measure electricity consumption and the source of the electricity of their suppliers. These implementations are requiring time and due to the nature of the business, the company needs to find the relevant suppliers to cooperate with regarding future sustainability actions. This can be seen from the answer of the interviewee A:

“I know some companies with higher maturity that are measuring sustainability specifically. For example, are their suppliers using green energy, do they have new machines or are they using old machines, they are measuring the electricity consumption of the machines. We are not so far. Of course, it is on the radar, but it requires time to get that implemented. We need to find the right suppliers who are able to share the information with us. That would mean really an open business and a real understanding of their daily business.”

The answer shows that company A has a strict requirement for supplier selection, and they are not willing to share any critical information with their suppliers even though the suppliers would be recognized as a key supplier. In general, the relationships between the suppliers and the benchmarking company A could be defined more as operational than strategic. The main reason for the more operative approach is the nature of the business and the transformation phase of the benchmarking company, which is not enabling collaborative supplier relationship management practices.

Supplier development is also recognized as an important aspect, especially regarding the quality and performance of the products and the suppliers. Company A is currently managing about 25 suppliers and they are aiming to develop a more collaborative relationship with them. Interviewee A mentioned that their first goal is to get the current suppliers in control via supplier development actions and to increase the performance of these current suppliers, which could be considered as an operative action. Due to the high-quality criterion, another supplier development action mentioned during the interview is using multiple suppliers for the same product and the interviewee mentioned that they are continuously looking for alternative suppliers. Searching for alternative sources of supply is aiming to ensure that the suppliers are able to fulfill their future supply needs which are based on their product strategies. The motive behind these supplier development actions is competitiveness which is linked to the performance of the suppliers according to the interviewee A:

“The motive is always to be competitive. In the end, the money counts. Anybody can tell us where we want to go but if we are not competitive, we do not have business. One of the major topics is to secure our competitiveness in the market in supplier development. We have to find suppliers and while being competitive, we have to develop different suppliers in the same category, so we are able to start competition within our supplier base. This is one of the major ones of course. Supplier development for me is developing the supplier in terms of quality.”

Benchmarking company A has several supplier development actions in use to maintain and develop its competitiveness in the markets. This is mostly based on the well-considered supplier selection as product quality is one of the major criteria in a successful relationship between the company and its suppliers. It has been recognized that the continuous supplier switching and searching for alternative suppliers is not enabling long-term collaboration and the company is searching for suppliers who are able to fulfill the desired quality standards. However, with the selected suppliers, company A is implementing supplier development actions, such as supplier scorecards. Interviewee A also mentioned that they are providing feedback to their suppliers related to their performance continuously. Based on the scorecard and feedback, company A is deciding whether they are starting the supplier development actions or not. Possible development actions are covering the supplier’s process mappings which is aiming to find possible gaps in the supplier’s processes. In addition to process mapping, company A is inviting its suppliers to the sites, especially when the supplier is performing poorly. By conducting these actions, company A is hopefully able to improve the performance of the supplier and get them back on desired track with their operations. However, the development actions themselves are the supplier’s responsibility. Company A is pointing out the development targets but the implementation of the actions is relying on the supplier’s activity.

Generally, it could be stated that supplier development actions in benchmarking company A are reactive and implemented when suppliers are not able to meet the desired requirements. Besides, the benchmarking company has challenges with the internal organizational structure which is further challenging their possibilities to implement strategic supplier relationship management or supplier development actions:

“We have more problems than solutions. As mentioned, we are currently early phase of our new project. Due to different reasons, we have a lot of problems with our suppliers in terms of deliveries and quality. It is also linked to our organization. We are currently struggling with operational problems. We do not have any time for supplier development or engagement activities.” – Interviewee A

Due to these mentioned challenges, it could be stated that benchmarking company A does not have a proper supplier relationship management or supplier development framework within their company. However, the nature of the industry is challenging in terms of supplier relationships as it is based on projects and the customers are requiring high-quality products. To conclude the SRM and SD in benchmarking company A, there are basic or moderate supplier relationship management actions in use and it has been understood that by developing suppliers it is possible to gain long-term collaborative partnerships which are positively affecting product quality. However, the internal challenges are not enabling the proper SRM and SD actions at the moment. The company is looking forward and there is willingness to improve the current state of SRM and SD within the company by integrating sustainability and climate actions in SRM actions.

5.2. SRM and SD in benchmarking company B

Interviewee B is a Senior Manager and works in the centralized technology procurement team. The interviewee is responsible for the management of contracts and investment projects with a couple of big suppliers of benchmarking company B. The interviewee has been working with certain suppliers for more than 10 years and is acting as the main contact for these suppliers when coordinating the supplier pool in the technological field. From the technology procurement point of view, benchmarking company B has about 10 suppliers and the relationships are based on technological expertise than spend and these suppliers can be defined as challengers, as the company is aiming to ensure that they have alternative suppliers available.

The benchmarking company has built a general framework for supplier relationship management, which is applied based on the suppliers' needs. The framework includes the guidance of internal information sharing and supplier meetings' agenda for quarterly held operational business reviews and one to four times in a year held management meetings. As the framework is acting as a general guidance, the schedule of the meetings can be modified based on the needs of suppliers and the benchmarking company. It could be said that the framework is offering the base for these meetings and enabling flexibility in the management of relationships, which is one of the most important aspects of relationship management according to the interviewee B:

“The most important is that we need to be flexible based on our needs. We can't lock ourselves into a certain way of working. [---] The framework is general. It is not telling how

many times we must meet the suppliers. This needs to be managed based on the supplier. We need to ensure an adequate level of discussions and meetings.”

The general framework for supplier relationship management is ensuring that the SRM actions are similar regardless of the responsible person or supplier, which is enabling similar ways of working in the aspect of supplier relationship management. Additionally, there are possibilities to apply general actions based on the needs of suppliers and the expertise of the responsible person. There is no need to follow the general agenda with all the suppliers as the size and maturity of the suppliers is varying, which is enabling flexible and effective relationship management thus saving time.

Benchmarking company B has three basic criteria for supplier selection: spend, criticality and potential to fulfill the future needs of the company. Annual spend is a starting point in the supplier selection process and the company is ranking the supplier based on these criteria and selecting the most potential suppliers for future collaboration. After the selection process, the SRM actions are evolving over time and the base of the SRM actions is the internal SRM framework. In the longer term, it is based on the nature of the supplier’s business, and how the relationships are managed and regarding smaller suppliers, the scale of actions is narrower. With the smaller suppliers, regular meetings are the basic relationship management actions with information sharing and building a common future business roadmap. The company is aiming to identify future development targets and technologies with their suppliers and trying to recognize how is the global business environment developing over time. Additionally, the company is sharing its future needs with its suppliers to be able to develop as specific future plans as possible. The top management has been also involved in the SRM actions planning and the company has management-level targets in addition to technology-level targets and actions planned.

Sustainability and climate actions are current topics in benchmarking company B. The company does not have had any specific concrete actions before, but at the moment, the company has started the implementation of climate actions. However, similar to benchmarking company A, the implementation is still in the early phase and the company is now approaching its suppliers and has defined a sustainability program. Interviewee B has had discussions with suppliers and defined common sustainability targets with them and now the transfer from the discussions to concrete actions has been started. Company B has informed its suppliers regarding the incoming sustainability actions and defined the required

information from the suppliers beforehand enabling suppliers to prepare for these concrete actions. The implementation process has been conducted in two waves and started with the raw material suppliers with the information sharing sessions. Now, the information-sharing sessions has been expanded to technology suppliers and the next step is to implement concrete actions. The benchmarking company B has a clear target for reducing its supply chain's CO₂ emissions by 30% by 2030 and technology suppliers are playing a huge role in this. This process has been started with supplier events and the goal is to give suppliers keys to implement the desired climate actions. Benchmarking company is also arranging a follow-up meeting with the suppliers to be able to ensure the pace of implementation and to provide support in this process as there are different sized suppliers and other suppliers have better possibilities to implement the actions than others. Benchmarking company B is looking forward to measuring and decreasing the carbon footprint of the whole supply chain in the future, and these implementation actions are aiming to enable specific measurement process. The complexity of the implementation process has been understood in the benchmarking company. Interviewee B stated that the process requires actions from both, the benchmarking company and its suppliers thus the company has mapped the capabilities of its suppliers to implement the required actions:

“As I have understood, we are aiming to measure the footprint at a specific level. For example, if we have a component, I have understood that we are trying to measure all the CO₂ emissions. [...] This is not going to happen by snapping your fingers. However, I have had discussions with the larger suppliers. It seems that mostly they already have the required systems.” – Interviewee B

In general, SRM is at basic level in the benchmarking company B. There are several basic actions in use and the future development goals has been defined in collaboration with top management. Additionally, sustainability and climate actions are defined, and the requirements has been communicated to involved suppliers.

Supplier development actions are used especially at the operational level in benchmarking company B. These actions have been implemented in operational business review meetings where the company has received information related to the supplier's performance. However, the SD actions are not much about the supplier's poor performance but more about the future collaboration possibilities and goals. This approach has been broadly used with the larger suppliers when the smaller ones have remained in the background, which has been recognized as a weakness in the aspect of SD practices. Additionally, with the larger

suppliers, there is internal collaboration over the business lines, which is enabling the supplier management teams to benefit from the internal knowledge. SD in benchmarking company B has been more operative, and lower emphasis has been placed on the management-level actions. The operative meetings have been acting as a source of reciprocal information sharing and the implementation of necessary SD actions has been conducted in these meetings. The benchmarking company is, according to interviewee B, in a transformation phase regarding strategic supplier development. The company is strengthening the management-level supplier development actions at the moment and especially supplier-specific planning needs to be improved. The interviewee B is highlighting the supplier-specific knowledge and importance of common future planning:

“Suppliers’ capabilities to provide the needed services and technologies are the base. We need to know the current state of the supplier and it is important to know how the supplier is seeing the global environment’s development. We need to highlight our company’s goals and targets and we need to recognize and ensure how the supplier fits into our future plans”

Ensuring the supplier’s capabilities is acting as a base of supplier development motive, and future collaboration possibilities are affecting the criticality of supplier development actions and supplier categorization in the benchmarking company.

SD actions are used broadly in benchmarking company B. The company is aiming to have an alternative supplier for its products to ensure the continuous flow of goods and to create competition among the suppliers. In the operational business reviews, the company is sharing information and provides performance-related feedback with its suppliers. However, the interviewee mentioned that operational business reviews are not the first forum to solve performance-related issues, but those should be solved at the local level with the local management teams. The company is operating globally, and they have several business lines, thus they are aiming to centralize performance-related discussions at the local level. Training and education are provided for the suppliers at the local level, especially at the sites they are working in, and company B is following a number of reclamations and auditing its suppliers regularly. Furthermore, training and education for new supplier collaboration tools are provided via information-sharing sessions if necessary. Suppliers are also invited to the sites to increase the suppliers’ awareness of the manufacturing processes and to ensure that the suppliers are aware of the required quality standards. Direct investments, especially from the technology point of view, are rare but possible.

Contracts between company B and its suppliers are acting as a base of supplier engagement. The engagement has been strengthened with active information sharing between the parties and sharing the future collaboration possibilities and investments. The motive behind the information sharing is to highlight the business continuation and show that company B is able to develop its business in the future and provide sustainable business opportunities for its suppliers. It is also important to communicate openly the current state of business and to ensure properly managed supplier relationships. These current actions have increased the suppliers' satisfaction with the company B and generally, suppliers are considering the company B as a good customer according to interviewee B.

5.3. Summary of best practices SRM, SD, and sustainability integration

Benchmarking companies are operating in different industries and are in a different phase of SRM and SD actions. Additionally, benchmarking company A is internally in a transformation phase which is affecting the current level of SRM and SD possibilities. The maturity of SRM and SD actions in benchmarking company B is higher and the company has management-level frameworks defined which are applied at the operational level. However, there are some ambiguities in company B, especially regarding strategic SRM actions at the moment. There are several similarities in SRM and SD actions used in both companies regardless of the maturities and internal states of the companies. Table 8 is summarizing the best practices mentioned during the external interviews.

Table 8 The summary of external best practices

	Using multiple suppliers for same product	Supplier selection	Direct feedback	Regular audits	Training and education	Inviting suppliers in the sites	Direct investments in suppliers' machinery	Regular meetings, information sharing	Early supplier involvement
Company A	x	x	x			x		x	x
Company B	x	x	x	x	x	x		x	

The table shows that the basic SRM and SD actions are broadly used in the benchmarking companies, which is indicating that SRM and SD are recognized as noteworthy aspects of the business. Additionally, basic actions which do not require high implementation complexity can be implemented regardless of the maturity of SRM and SD actions in the companies. Both companies are aiming to ensure the proper flow of goods with creating

competition among the suppliers by using multiple suppliers for the same product. Additionally, company A aims to create competition to ensure the proper product quality, as it is playing a huge role in the automotive industry.

Due to the nature of the industry, company A has limited possibilities to select its own suppliers, as customers are dictating project-based suppliers. However, company A has a strict supplier selection criterion and they have selected 25 suppliers with whom they are willing to start the long-term SRM and SD actions. Company B is using annual spend as a criterion for supplier selection alongside the criticality of the supplier. Additionally, future collaboration possibilities and the potential to participate in future projects are affecting the supplier selection process in company B. The first differences are in regular audits and supplier personnel training and education. Company A is not conducting regular audits, but they have regular meetings. Additionally, the company is auditing potential suppliers and products, but they do not have a dedicated audit process. Company A is not providing training or education to its suppliers' personnel thus development actions are in suppliers' responsibility. On the contrary, company B is auditing its suppliers regularly and providing safety training and education at the local level to the suppliers' personnel. Both interviewees mentioned that they are inviting their suppliers to their sites if necessary. However, it could be said that company A is acting more reactively as they are inviting their suppliers especially when they are performing poorly. Company B has invited suppliers to their sites to increase their awareness of the processes and to ensure the desired quality standards. Direct investments as an SD action are excessive and require a high implementation complexity thus the benchmarking companies have not involved these actions in their SD frameworks. However, interviewee B mentioned that there are possibilities to invest in suppliers' machinery, but it is conducted rarely and especially from the technology point of view, they have not conducted direct investments in suppliers. Information sharing in regular meetings was highlighted by both interviewees and it could be described as basic SRM and SD actions thus it could be implemented conveniently. Interviewee A mentioned that they are involving their suppliers early in a request for quotations. Suppliers could also be involved in product development in the early phase, which was not mentioned during the interviews, however.

Both benchmarking companies have recognized the importance of sustainability as a part of SRM and SD. Implementation of concrete climate actions is still in the beginning in both

companies and the development of concrete actions is in progress. Both companies have arranged internal information-sharing sessions related to climate action integration. Due to the maturity of the topic, neither company has conducted concrete actions and is not requiring any climate actions from its suppliers. Strategies for these actions have been discussed internally, and benchmarking company B is now approaching and informing its suppliers about incoming sustainability requirements. The process has been conducted in two waves: the first wave included their raw material suppliers and in the second wave, the actions have been extended to the technology suppliers. The company has invited its suppliers to the information-sharing sessions where targets and actions have been defined. Regarding benchmarking company A, the maturity of climate action integration is a bit lower. At the moment, the company is not requiring any concrete actions except filling out the sustainability questionnaire. The company is, in addition to questionnaires, auditing its potential suppliers. Supplier code of conduct is acting as a general framework for suppliers' sustainability and the company has sustainability-related documents available. In the future, the company is aiming to measure its suppliers' CO₂ emissions, but the implementation of this practice is still requiring time.

6. Building a roadmap

By engaging its suppliers, the company is ensuring its possibilities to respond the future supply chain-related challenges. Supplier engagement has been defined as a sum of supplier relationship management and supplier development actions in this thesis thus SRM and SD actions play a critical role in ensuring the proper flow of supplied goods in the future. Current global crises have shown that supply chains are prone to disruptions which may have critical effects on the business profitability and may endanger business continuity. A well-managed supplier relationships are in a key role in preventing supply chain-related challenges and mitigating the possible damage caused by supply chain disruptions. Additionally, by conducting proper supplier development actions, it is possible to increase the suppliers' possibilities to manage the financial damage caused by global challenges. Having proper SRM and SD practices defined it is possible to increase the level of supplier engagement, which is further generating joint benefits. For these reasons, it is important to manage supplier relationships and to have proper resource allocation for suppliers' needs and development targets.

The case company has built a framework for SRM actions at the corporation level, which is similarly acting as a framework for supplier development. This corporation-level framework is applied at the lower levels based on the needs. This thesis is aiming to offer a two-year-roadmap for SRM and SD actions at the category management level in the specific business line of the case company. The goal of the roadmap is to ensure the proper main and key supplier engagement to ensure the proper supplier relationships and climate program integration. Additionally, the roadmap is pointing out the development targets and the best practices based on the internal and external interviews. The outcome is a two-year plan for the SRM and SD actions which should be suitable for this specific category management team in this particular business line. The roadmap for the next two years is built based on the five SRM steps presented earlier in this study, and the development targets and challenges mentioned during the internal interviews.

6.1. Supplier classification and selection

Supplier classification is acting as a starting point in the SRM process, and it is affecting the supplier selection process, in terms of SRM and SD actions. Especially in the aspect of main and key suppliers, supplier classification is vital. Additionally, category managers, who are responsible for SRM and SD actions, are operating with limited resources thus the supplier classification has a huge impact on the effectiveness of SRM and SD actions related to the key or main suppliers. Supplier classification can be managed manually in the internal supplier database, and it is crucial that the information in the database is up to date and managed continuously. During the internal interviews, concerns about the data reliability were raised which indicated that the data in the supplier database must be validated. Additionally, it is important to ensure a continuous data updating process and regular validations in the future. During the internal interviews, all the interviewees mentioned that it is possible that the supplier memos documented in the supplier database are not read or updated properly, and as the database is acting as a base of supplier classification there is room for improvement in this field. After the data reliability has been ensured, the managers, who are responsible for SRM and SD actions, are able to select the proper and most important suppliers related to their categories and allocated the limited resources in the SRM and SD actions. There is potential to reallocate inefficiently used resources by ensuring the data reliability.

6.2. Set up a supplier team

Setting up a supplier team is defined as second step in the SRM and SD framework. Generally, team includes supplier managers from different business lines, or a corporate-level supplier manager and other actors such as buyers and sponsors. After setting up the team, it is important to clarify the roles within the team and to ensure that team members are familiar with the SRM and SD basics. The supplier team must be inter-organizational and include members from different business operations to make the decision-making process as comprehensive as possible. From the supply chain point of view, it is good to involve people from logistics, and purchasing functions, for example. Additionally, to have an entire supply chain presented, there should be also personnel from sales function and personnel from quality function to ensure the proper supplier or product quality. There is a variation between the main and key suppliers' supplier teams. According to supplier database, there are supplier teams with more than seven members including quality responsible, buyers,

sponsors and corporate or business line level supplier managers, and then there are supplier teams including one supplier manager with no other representatives. Additionally, it is possible that the supplier teams are not up to date and there might be inactive team members who might have left the company. Furthermore, sales representatives are not included to the supplier teams, based on the brief supplier base examination. Updating the supplier teams and adding sales representatives to these teams could offer more efficient decision-making process related to supplier relationship and development action as the entire supply chain would be presented. Also, interviewee 2 mentioned that, especially in that category, the quality representatives should be involved in the supplier decision-making process and added to supplier teams.

6.3. Define the supplier strategy and objectives

Setting the supplier strategy and objectives requires proper internal communication within the set supplier team and between the supplier team and the supplier. It must be clear for both parties what are the common goals and what it requires to achieve those goals. Supplier strategies are mostly based on the nature of the supplier as the most suitable strategies must be evaluated case by case. In defining supplier strategy, several variables are affecting the evaluation process, such as the criticality of supplied product, possible joint benefits in the future, spend, and technological expertise, according to internal and external interviews. It is important to recognize the potential of the supplier and define whether it should be considered as a potential future partner or should be handled as an operative supplier. Internal interviewees from the case company are responsible for supplier relationships and are defined as supplier managers in the supplier teams. It is important that the supplier managers have a clear vision of the strategic objectives, and it must be ensured that this vision is commonly known within the supplier team. All the internal interviewees agreed that they have a clear short- or long-term plan for SRM actions at least with the most critical suppliers. However, it was also mentioned that the corporate-level short- or long-term planning for SRM actions is not as clear as it could be. It was also mentioned that the longer-term actions are not that concrete and not implemented immediately, which makes them more unclear. Nonetheless, it was acknowledged that the corporate-level SRM strategy is available in internal databases and the interviewees mentioned that these documents could offer more specific information on SRM actions.

Regarding the SD actions, internal interviewees mentioned that they have strategies defined, but they are able to change the strategy and objective based on the needs. For example, interviewee 1 mentioned that there could be issues with the existing suppliers which are requiring actions, such as supplier switching which is affecting the current SD strategy. On the other hand, interviewee 3 mentioned that the organization has a clear supplier development plan, and these development actions are aiming to increase supplier engagement. Additionally, interviewee 3 has a clear SD strategy and objectives defined with the key and main suppliers. It could be stated that these strategies and objectives are varying between the categories and the strategies could be described as category specific. It is possible that the supplier strategies must be defined by the category-specific supplier teams to be able to ensure the most effective SRM and SD actions. On the other hand, the corporate-level strategies and objectives must be clear to all managers responsible for supplier relationships or development. This must be ensured by the corporate-level management and category-level managers must make sure that they are aware of the latest updates and frameworks.

6.4. Organize kick-off meeting and evaluate supplier relationships

The kick-off meeting includes the introduction of SRM and SD actions to suppliers and common strategy and objectives must be defined. In this meeting, it is also important to define the performance measurement variables, supplier performance scorecards, and continuous improvement targets and plans. These information-sharing kick-off meetings are also potential meetings to share climate program-related information and introduce sustainability targets. According to the external interviews, information-sharing sessions, such as SRM kick-off meetings, are acting as introduction meetings for incoming sustainability targets and climate actions. It is possible to discuss the incoming requirements and define the desired climate targets and measurement variables. Additionally, with the suppliers who already have implemented the climate actions, it is possible to have a separate sustainability-related meeting and have a review of the current state of sustainability or climate actions. According to internal interviews, the category managers have regular meetings with their suppliers and they are continuously measuring the performance of their suppliers. However, there could be one separate climate action-related meeting, where the supplier team and representatives from the supplier's side define the incoming sustainability targets. Now, climate actions and sustainability are included in regular SRM meetings. This is a proper way to continuously measure sustainability and climate actions, but at the same

time, it is possible that there could be room for improvement from the sustainability and climate actions point of view.

Supplier collaboration must be evaluated continuously. There must be regular supplier meetings and the state of the relationship must be evaluated frequently. Additionally, it is important to have a regular view of SRM, SD, and climate targets and review the current actions. In this evaluation process, the internal supplier database is important to keep up to date especially if there are significant changes in supplier relationships to ensure proper information flow within the organization. The entire supplier engagement process, which is, in this thesis, defined as a sum of supplier relationship management and supplier development actions, should be a continuous loop starting from careful supplier selection and ending with supplier evaluation. The entire supply chain should be present in this continuous loop from start to end. Alongside the SRM and SD evaluation, there should be an evaluation of suppliers' climate actions and kick-off meetings for new suppliers who are implementing the desired climate targets. This suggested continuous loop is presented in figure 7.

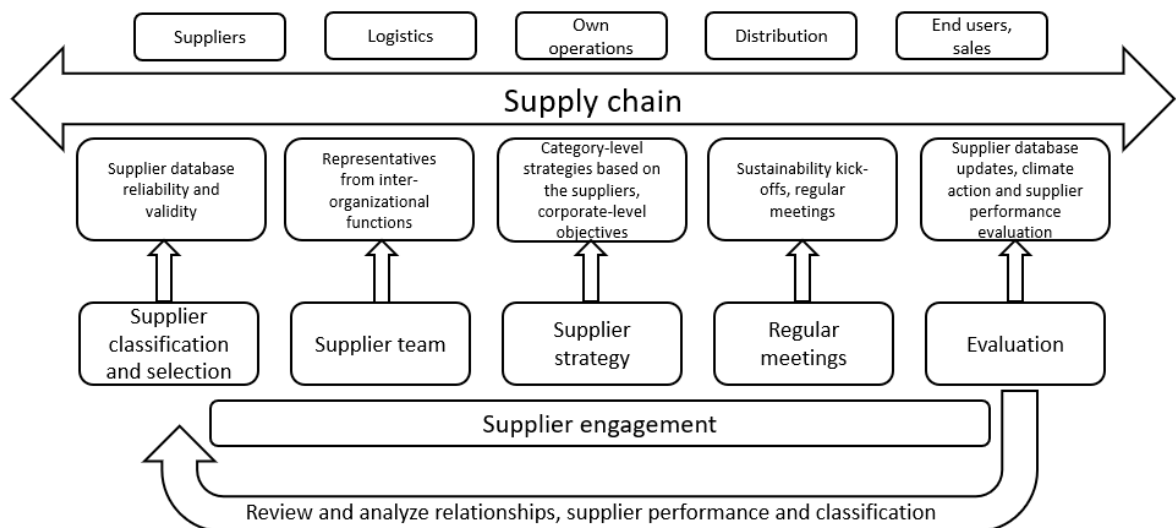


Figure 7 The continuous supplier engagement process

Figure 7 shows that the entire supply chain must be taken into account when planning the SRM and SD actions. Furthermore, the supplier engagement process should be seen as a continuous process, which is developed based on supplier performance and relationship evaluation. The figure also shows the suggested development ideas for the case company's five-step SRM process based on the internal and external interviews.

6.5. Summary of the roadmap

The base of supplier engagement is the internal supplier database and reliable and valid supplier data. Ensuring data reliability, category managers are able to implement SRM and SD actions with selected preferred and the most important suppliers based on the supplier classification process. Unreliable supplier data makes supplier classification and selection more inefficient and is exposing managers to errors thus there is much less time for more important and appropriate suppliers. Managing the supplier database should be continuous and supplier relationships should be evaluated regularly and supplier data must be updated at the same time.

According to the supplier database, there is a lot of variation in the supplier teams. It is possible that the supplier teams include only the supplier manager, without any other members. Also, it is possible that there are already inactivated supplier team members which is indicating that the supplier database is not updated. Again, the supplier database is acting as a base, even though its role is not as huge in building the supplier team. However, supplier teams should be updated, and these teams should include personnel from every necessary business function, such as quality and sales. The goal should be to have the entire supply chain represented in the supplier team.

The supplier team's one objective is to develop a supplier strategy and define the objectives. However, it is also important to know the corporate-level supplier relationship framework and strategies. Category managers are the best option to develop category-level strategies, as there are different needs in different categories. Additionally, supplier team leaders or supplier managers must ensure that the supplier team members have proper know-how of corporate-level SRM and SD actions.

For proper continuous supplier performance evaluation, regular meetings are playing a huge role. The case company has a corporate-level agenda for these meetings, which can be applied based on the current state of a certain supplier and the need of the supplier team. These meetings are in a key role in the future planning and relationship evaluation process; thus, the result of these meetings should be updated in the supplier database. In these regular meetings, it is also important to communicate the future business plans and the current state of the case company. The future business possibilities are increasing the supplier engagement level if the case company is considered as a potential future business partner. Additionally, the kick-off meetings are important channels to increase the suppliers'

awareness of incoming sustainability actions and requirements. However, there should be an additional sustainability-related meeting, especially when the maturity of the supplier is low. It is important to support suppliers in the implementation of climate actions and targets.

7. Results and answers to set research questions

The purpose of this thesis was to investigate the current state of the case company's key or main supplier engagement which was defined as a sum of supplier relationship management and supplier development actions. Additionally, the desired outcome of this thesis was to provide a two-year roadmap for the case company and suggest the development ideas for the supplier engagement process based on the internal and external interviewees. The goal of internal interviews was to find out the development targets and examine category-level supplier engagement. Internal interviewees were category managers who are responsible for category-specific supplier relationships and development actions. Each category manager was responsible for more than 20 suppliers including the main and key suppliers. The external interviews aimed to map the best practices from external companies and different industries.

To achieve these targets, the following main research question was set:

How suppliers can be engaged in the global technology company?

To be able to answer the main research question, two sub-questions were set:

What kind of supplier engagement actions can be used?

How to implement a supplier engagement process?

The thesis aims to find the best SRM and SD practices to ensure the most effective supplier engagement at the category level. The two-year roadmap was built based on the development targets and by integrating the best practices mentioned during the interviews. Interviews provided valuable and relevant data. Based on the interviews, it was possible to define the current state of the SRM and SD in the case company. In addition, the internal data sources provided a comprehensive understanding of the corporate-level SRM and SD framework. In this thesis, supplier engagement was defined as a sum of SRM and SD practices, and examining these two data sources, the best practices for supplier engagement were defined. The engagement process starts with careful supplier selection and classification. It is important to identify potential future partners and those suppliers who are able to provide technological expertise. However, the desired expertise is varying depending on the

category, and for this reason, the category managers should be involved in the supplier selection. Additionally, supplier classification is based on the internal supplier database, which must be updated and validated regularly.

7.1. How suppliers can be engaged in the global technology company?

To ensure the most effective supplier relationship management actions, the supplier team must include personnel from every part of the supply chain from start to end. The team must have a supplier manager, buyers, quality person, and personnel from the sales department at least. It is possible that the team could manage the relationships without having all the representatives, but there might be room for improvement in this part of the supplier engagement process.

Supplier strategies and objectives must be defined by the supplier team. There is also a corporate-level SRM framework which is defining the corporate-level SRM goals. However, category managers should define their own supplier strategies with the supplier teams based on the category's needs. This category should aim to fulfill the corporate-level objectives: to ensure sustainable procurement while driving joint growth and value creation with selected suppliers and develop an optimally transparent long-term relationship between the case company and a limited number of suppliers.

The supplier team should arrange meetings regularly with supplier personnel and a kick-off meeting regarding sustainability and climate actions. These meetings are critical information-sharing forums, and it is possible to evaluate suppliers' performance regularly during these meetings, which makes SRM and SD actions more proactive. It is also important to evaluate the case company's future possibilities and communicate them with the suppliers.

Supplier evaluation is a critical step as it is possible to implement needed SD or SRM actions based on the evaluation. Additionally, it is important to maintain the internal supplier database and the supplier's information must be updated regularly. In the evaluation phase, the relationship and the supplier performance must be reviewed and analyzed from a strategic point of view. After the review, there are possibilities to implement development actions if needed or maintain the supplier classification if necessary. Supplier engagement is a continuous process, and the steps of the process can be applied based on the needs.

To conclude the answer to the main research question:

How suppliers can be engaged in the global technology company?

Suppliers' engagement can be increased by ensuring the proper SRM and SD practices. The proper level of SE can be achieved by selecting suppliers carefully, including expertise from every organizational department in the supplier team, defining the category-specific supplier strategies and objectives, organizing regular meetings including climate program kick-off meetings, and re-evaluating the supplier relationship regularly.

7.2. What kind of supplier engagement actions can be used?

The most effective supplier engagement actions are varying depending on the category. In general, suppliers can be engaged by managing relationships regularly and showing them that the case company has the willingness to cooperate with the supplier. By examining supplier classifications, it is possible to find the most critical suppliers with whom the supplier engagement actions should be implemented. The criteria could be annual spending or the supplier's expertise in some specific area. There are several options to increase the effectiveness of supplier engagement based on the category needs. Reducing the number of suppliers in the supplier base was mentioned during the internal interviews. This action could free up resources to focus on the most critical suppliers and reduce the inefficiently used time regarding SRM actions. Buying more entities could be seen also as one possibility to increase efficiency and lower costs. In both cases, the limited resources could be allocated more efficiently to the most important supplier relationships. In addition to the earlier mentioned regular meetings, regular audits are one of the supplier engagement actions. It is important to have a comprehensive view of suppliers' business. According to the interviews, these regular audits could also be conducted by an external person, who is committed to audits. It is possible that the category managers do not have enough time to conduct regular audits, which is decreasing the level of supplier engagement. Contracts are also acting as a base of supplier engagement, according to the interviews. Long-term frame agreements are ensuring that the suppliers are engaged and willing to continue the business with the case company. Additionally, it is important to communicate the potential future business opportunities to convince the suppliers to have long-term frame agreements.

To conclude the answer to the first sub-question:

What kind of supplier engagement actions can be used?

The engagement actions must be defined within the categories based on the suppliers' needs and capabilities. The supplier base could be reduced and more entities could be bought from fewer suppliers, longer frame agreements could be negotiated, and, in general, the positive development of the case company must be communicated to suppliers. It is important to communicate future business possibilities to suppliers.

7.3. How to implement the supplier engagement process?

Similar to the supplier engagement process, climate actions must be implemented step by step. The case company's climate program could be integrated as part of SRM actions, which means that climate actions must be taken into account in every step of the five-level SRM process. However, the climate program's integration must be started by informing the supplier about the incoming sustainability actions and ensuring that they are able to provide the desired climate-related data. The kick-off meetings are one option to inform suppliers and define common strategies and targets. Additionally, the effectiveness of implementation is dependent on the maturity of the supplier; other suppliers can implement climate actions faster than others; thus the case company must be prepared to support the suppliers in this implementation process. Furthermore, before the climate targets and objectives can be implemented, there must be measurable variables defined to follow the progress of the climate program.

How to implement a supplier engagement process?

The major factor in this implementation process is communication. It is important to make sure that the supplier is aware of upcoming activities. However, it is also vital to define the measurable variables before the implementation process, as there must be key performance indicators to make sure that the implementation process is going as expected. Then it is important to complete the implementation step-by-step based on the two-year plan defined in this thesis.

8. Conclusions and future research suggestion

The performance of the supply chain is depending on the performance of its members. To ensure the proper functionality of the supply chain, the performance of these members must be continuously evaluated and monitored. If there are any deficiencies, the buying company has a couple of possibilities to improve the performance: search for an alternative member or develop the existing ones.

This study examined the case company's supply chain management practices, such as supplier relationship management, supplier engagement, and supplier development. The case company has the corporate-level framework for supplier relationship management, which is ensuring that the relationships are properly managed and suppliers' performance and current state of business are regularly monitored and evaluated. Additionally, the case company has defined inter-organizational supplier teams, which are defined as an efficient way to manage supplier relationships. These teams should include representatives from different business units, such as customer relationship management, sales, quality, and technology. In the case company, the teams do not include sales representatives and few teams included expertise in the aspect of quality. However, it could be stated that the SRM in the case company is highly based on the theoretical frameworks, even though there are some differences at the practical level. Generally, the supplier classification is based on Kraljic's matrix, and the five-step SRM process includes well-known theoretical SRM steps.

The thesis provided a comprehensive view of the current state of supplier relationship management and supplier development actions in the case company. The case company's willingness was to find out possible SRM and SD development targets at the category management level in a particular business line, thus the internal interviewees were category managers. Another request from the case company was to benchmark the current SRM and SD actions with external companies. There were two external interviews conducted. The first external interview did not provide that much valuable information as desired. On the other hand, the second external interview provided a lot of information regarding the SRM and SD actions. This thesis also examined the possibilities to integrate climate actions into a part of SRM actions. In general, sustainability is still quite a new topic in many companies.

For that reason, in both external benchmarking companies the implementation of sustainability was in the early phase and few concrete actions were made. The outcome of this thesis was a roadmap for the case company to improve the current supplier engagement process. The roadmap is based on the corporate-level SRM framework. The suggested roadmap includes the benchmarked best practices and development ideas mentioned during the internal interviews. Generally, continuous evaluation and development of supplier relationship management and supplier development actions with valid and updated supplier data are major keys to success from the supplier engagement point of view.

In the future, the case company should conduct similar research for every business line to be able to ensure the most effective and common supplier relationship management practices. Additionally, similar research could be conducted from the suppliers' point of view: how do the suppliers see the case company's supplier engagement or supplier relationship management actions.

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Appendix 1: Internal interview questions

Interviewee's background

1. What is your position in the organization?
2. What are your main responsibilities?
3. How long have you been in your position?
4. What is your role in the organization's supplier relationship management?
5. How many suppliers are you responsible for regarding SRM actions?

Supplier engagement

1. What is the role of the supplier relationship management in your organization?
2. How do you manage the relationships with your suppliers?
3. Does your organization have a clear short- or long-term plan for supplier relationship management?
4. Do you have a clear short- or long-term plan for supplier relationship management with your suppliers?
5. How is the Climate Program integrated to supplier relationship management?
6. What is the role of the supplier development in your organization?
7. What are the main actions regarding supplier development?
8. Does your organization have a clear short- or long-term plan for supplier development?
9. Do you have a clear short- or long-term plan for supplier development with your suppliers?
10. How is the Climate program integrated to supplier development actions?
11. What are the main challenges in supplier relationship management?
12. What are the main challenges in supplier development?
13. Have these supplier relationship management and supplier development actions affected the supplier engagement?
14. How do you see your organization's supplier engagement in two years?

15. Have these supplier relationship management or supplier development actions developed the

relationship between your organization and the suppliers?

16. Are the supplier relationship management and supplier development actions supported main KPI

development?

a. DTC, OTD, CCC, Savings

b. Other benefits?

17. Are you using the Valmet -level supplier relationship management actions?

a. How well are you familiar with the Valmet-level SRM framework?

b. Are there any inconveniences with these actions?

18. How are the SRM actions documented?

19. Development ideas for SRM and SD?

20. Anything to add?

Appendix 2: The external interview questions

Interviewee's background

1. What is your position in the organization?
2. What are your main responsibilities?
3. How long have you been in your position?
4. What is your role in the organization's supplier relationship management?

Supplier relationship management

5. How many suppliers are covered by supplier relationship management actions?
6. On what basis are suppliers selected for supplier relationship management?
7. What are the current supplier relationship management actions is use?
 - a. Regular meetings, information sharing, supplier involvement
 - b. Others?
8. Are the climate actions integrated in the SRM actions?
 - a. Does your organization require climate actions from its suppliers?
9. Does your organization have clear short or long-term plan for supplier relationship management?
10. Does our organization have general frameworks for supplier relationship management?

Supplier development

11. What is the role of the supplier development in your organization?
 - a. How you see supplier development in your organization?
 - b. How long have your organizations developed its suppliers?
12. Does your organization have clear short- or long-term plan for supplier development?
13. What are the motives behind the supplier development?
14. What are the initiatives that your organization is using to develop its suppliers?
 - a. Using multiple suppliers for the same item to create a competition among the suppliers

- b. Providing supplier with feedback about its performance
- c. Regular audits
- d. Training or education of supplier's personnel
- e. Inviting supplier's personnel to your site to increase their awareness
- f. Direct investments in the supplier's machinery or personnel

15. Are the climate actions integrated to supplier development?

Supplier engagement

16. What are the best practices for supplier engagement?

17. How does your organization engage suppliers for climate actions?

18. Anything to add?