



**SUSTAINABLE SUPPLIER DEVELOPMENT IN PROTECTIVE GLOVE
PURCHASING**

Lappeenranta–Lahti University of Technology LUT

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ABSTRACT

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Sustainability is increasingly present in the business operations and covers not only the internal operations of the companies but the entire supply chain and the parties operating there, such as suppliers. The increased sustainability-related awareness and requirements of customers also drive companies strongly towards increased sustainable operations. The aim of this master's thesis is to understand how companies can ensure their environmental and social sustainability through supplier development. The study is a qualitative case study focusing on the drivers and barriers of sustainability and supplier development. In addition, the practices of supplier development are examined in terms of sustainability. An in-depth literature review of the study is the basis for the interview framework and the empirical part of the research. The empirical part focuses on the case of protective glove purchasing.

The results present that customers are one of the strongest drivers of companies in adapting sustainability as part of the business operations. In addition to customers, companies address potential economic benefits. Third driver is the prevention of risks and economic losses by adapting sustainable goals and practices. In order to be truly sustainable, sustainability must be adapted as part of company's supply chains. This requires close and trustful relationship, in other words collaboration, between the buyer and supplier. Trust is indeed one of the key factors for implementing sustainability, and its lack is seen as a barrier to sustainable supplier development. Hence, if the sustainable performance or delivered product of supplier is not as agreed, there is a risk of loss of reputation and customers, and further economic losses from lost sales and possible sanctions.

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Vastuullisuus on yhä enenevässä määrin esillä yritystoiminnassa ja se kattaa myös yrityksen sisäisten toimintojen lisäksi koko hankintaketjun sekä siellä toimivat osapuolet, kuten toimittajat. Asiakkaiden lisääntynyt kiinnostus sekä vastuullisuusvaatimukset ajavat myös yrityksiä vahvasti kohti vastuullisempaa toimintaa. Tämän tutkimuksen tavoitteena on selvittää miten yritykset voivat varmentaa ympäristö ja sosiaalista vastuullisuuttaan toimittajakehittämisen kautta. Tutkimus on laadullinen tapaustutkimus, joka keskittyy vastuullisuuden ja toimittajakehittämisen ajureihin sekä estäjiin, ja käytänteisiin, joilla vastuullisuutta voidaan viedä hankintaketjuihin toimittajakehittämisen kautta. Tutkimuksessa on syvälinen kirjallisuuskatsaus, jonka pohjalta haastattelurunko sekä tutkimuksen empiirinen osa ovat rakentuneet.

Tulokset osoittavat, että asiakkaat ovat yritysten yksi vahvimista ajureista vastuullisuuden adaptoimisessa. Asiakkaiden lisäksi yritykset tunnistaa mahdolliset taloudelliset hyödyt sekä vastuullisuudesta johtuvat riskit, joita voidaan hallita ottamalla käyttöön vastuullisempia toimintatapoja sekä tavoitteita. Jotta yrityksen vastuullisuus on enemmän kuin sanoja, on vastuullisuustoimet vietävä osaksi yrityksen hankintaketjuja. Tämän toteuttaminen vaatii laajamittaista, läheistä ja luottamuksellista suhdetta ostavan yrityksen ja toimittajan välillä. Luottamus onkin yksi avaintekijöistä vastuullisuuden toteuttamiselle ja sen puute nähdäänkin esteenä vastuulliselle toimittajakehittämiselle. Mikäli paljastuu, ettei toimittajan toiminta, taikka toimitetut tuotteet ole sitä mitä sovittu, on riskinä maineen sekä asiakkaiden menetys ja tätä seuraavat taloudelliset tappiot menetetyistä myynnistä ja mahdollisista viranomaissanktioista.

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Elisabet Vaurasalo

In Järvenpää, September 1st, 2022

ABBREVIATIONS

SCM	Supply chain management
SDS	Supplier development strategies
SSCM	Sustainable supply chain management
SRM	Supplier relation management
TBL	Triple bottom line

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1. Introduction

Global supply chains set a complex and dynamic environment for the companies operating with a large number of actors in the supply network, in a diverse socio-economic context, and under the high pressure of changing demands of customers and other stakeholders. (Harms, Hansen & Schaltegger 2013; 205). Competition between the companies has radically increased and to success on the competitive environment supply chain and supplier relationship management have become increasingly important among companies especially, because the sustainability-related expectations of sourcing decisions are growing (Park, Shin, Chang, and Park, 2010, 496). Control of social and environmental aspects is increasingly important area of expertise in companies. (Harms et. 2013, 205)

Giunipero, Hooker and Denslow (2012, 260) state that traditional supply chain management (SCM) aims to reduce the costs. However, today's competition is investigating more beyond the traditional aspects of competitiveness such as cost, quality, and financial performance. Managers develop products, business processes and systems to respond on environmental and social issues. Thus, sustainable development has a major role in the competitiveness of a company and not all sourcing decisions are made solely based on traditional aspects of competition. (Friedl and Wagner 2012, 3066) In addition to the target of economic performance, environmental and social impacts have been increasingly considered among companies (Hollo, Blomea & Forestl 2012). Therefore, according to Dyllick and Hockerts (2002, 130), sustainability can be described as the mantra of the 21st century.

Sustainability has been increasingly interesting and important topic among academic research and companies. According to Seuring and Müller (2008, 1701) studies of sustainability have been conducted since the beginning of 1990s. Their study aims to present the conceptual framework of sustainable supply chain management (SSCM) by examining triggers of SSCM. The triggers are divided to risk and performance of supplier management and supply chain management for sustainable products. (Seuring & Müller 2008, 1703) On the other hand, Giunipero et al. (2012, 259) argue that sustainability literature exists before 1990s and the major themes of sustainability-related literature are already conducted since

1960s. The themes are presented in table 1. First steps of sustainability were related to environmental concerns. Since 1960s sustainability was related to environmental protection and producers connected their products with regulative approach. In the 1970-1980s the approach of environmental concerns was increasingly integrated to the business and market strategies. Since 1990s environmental sustainability considered the competitiveness of the firm through “green marketing”. Later, in the 21st century, overall sustainability issues moved into the supply chains. Hence, product life cycle, material selection, waste management, packaging and regulatory compliance considerations emerged. (Giunipero et al. 2012)

Time period	Major theme(s)
1960s	Compliance with government regulation.
1970s	Initial actions to integrate sustainability into business.
1980s	Change of corporate position to embrace sustainability. Focus on environmental and resource consequences of products and processes.
1990s	Incorporating sustainability to provide a competitive advantage.
2000s	Proactive approaches to sustainability and the realization of the value of sustainability as a strategic goal and in the supply chain.

Table 1. Major themes in sustainability literature (according to Giunipero et al. 2012).

Companies are facing pressure for adapting sustainability as part of their business. Giunipero et al. (2012, 258) state that one major driver to adapt sustainability for the company is related to compliance with laws and regulations together with top management initiatives. However, laws and regulations are not the only drivers. Companies may pursue on long-term cost efficiency through sustainability adaptation (Morali & Searcy 2013, 647). Some companies also prevent on negative effects, that may occur on the supply chain level, by adopting sustainability practices, e.g., standards and code of conduct (Klassen & Vereecke 2012, 113).

Several sustainability-related issues also appear as the supply chains are dynamic and complex (Hutchins & Sutherland 2008, 1688). Sustainability should be implemented not only for the buying company but for all the companies operating in the supply chain, from upstream raw material companies to downstream end users and disposal of the product (Awaysheh et al. 2010, 1249). Risk management of the complete supply chain may be seen as one of the main challenges and therefore companies increasingly intent to invest resources for traceability and transparency of the chains (Morali & Searcy 2013, 649).

Sustainability is no effort of one company but all the companies operating in the supply chain of the focal (buying) company. Previously sustainability was considered mostly on the buying company level but nowadays it aims to cover the complete supply chain from first-tier suppliers to sub-suppliers and other parties operating among the supply chain. Thus, sustainability is dependent on all individual companies operating in the same supply chain (Hutchins & Sutherland 2008, 1689).

According to Krause, Vachon and Klassen (2009, 18), companies are no more sustainable than its supply chain, and therefore companies must focus on its supplier base and improve the overall sustainability level of the company by evaluating and developing the suppliers and ensuring sustainability of other entities as well. Environmental and social issues require cooperation between buying company and its supplier(s) and therefore supplier relationship management (SRM) by the buying company plays an important role in sustainability matters. Achieving sustainable business typically requires supplier development. (Harms et al. 2013, 206)

The research of SRM, and especially supplier development, has a long history but has, to an increasing extent, increased in the past decades since the globalization and changes on the competitive environment. First studies were published in around 1960s. There have been two “waves” of supplier development research, the first wave of quality management (in around 1990s and second of relationship management issues (around 1995). (Wagner 2006, 556) Liu, Zhang, Hendry, Bu, and Wang (2018) state the sustainable supplier development is still based on traditional elements of supplier development and no adequate framework in

context of sustainability is yet created by the researchers. Sustainability-related framework of supplier development may be difficult to develop as the literature of sustainability is still quite fragmented focusing on certain topics. For instance, environmental and economic aspects individually are most examined. The major themes consider especially environmental issues since 1960s. On the other hand, even today, studies of social aspects and the impact of all three sustainability dimensions together are still rare. (e.g., Seuring & Müller 2008, 1699; Pagell & Wu 2009, 37)

Studies of supplier development are highly examined since the globalization has changed the supply chain activities by increasing the importance of the actors among supply chain. Traditionally companies competed against each other but, nowadays, the supply chains of the companies are called as the competitors. Jin, Hu, Zhou and Sang Won (2019) have studied supplier development in the context of supply chains. They have defined supplier development as a strategic tool of buying companies by helping them to achieve more efficient and competitive supply chains in the complex and dynamic competitive environment. (Jin et al. 2019, 1256)

Since the end of 20th century many studies were conducted in North America devoting to the practices of supplier development (Wagner 2006, 556). The study of Handfield, Krause, Scannell and Monczka (2000) presents the strategic point of view in supplier development practices and examine how companies can avoid and mitigate common pitfalls in supplier activities. The exploratory study of Wagner (2006) examined the European firms regarding supplier development practices by presenting direct and indirect development dimensions. Yawar and Seuring (2020, 2565) argue the supplier development research is fragmented and thus examine the interrelation of the critical elements of supplier development.

“Firms need to engage in collaborative practices with the firms in their supply networks to improve sustainability.” (Gimenez & Tachizawa 2012, 541)

In order to achieve sustainable supply chains suppliers are one of the key factors as collaboration between buying company and supplier(s) and other parties of the supply chain

is highly underlined in context of the literature of sustainable supply chain management (SSCM) (Gimenez & Tachizawa 2012, 531). Companies can mitigate the operational risk by collaborating (Klassen & Vereecke 2012, 113). Furthermore, collaboration provides management and improvement of company's competitive advantage on environmental and social sustainability issues (Gold, Seuring & Beske 2010, 230). True collaboration requires increased effort in information exchange between the company and supplier (Krause & Ellram 1997, 30) and enables the sustainability process and performance (Gimenez & Tachizawa 2012,541). Collaboration has even higher priority in today's competitiveness in which non-core activities of companies are mostly outsourced. On the other hand, strategic products, including sustainability-related innovations, require close relationship with suppliers. Sustainability efforts pursue to reduce the negative environmental and social impact of the production (Krause et al. 2009, 21) SRM and supplier development are a crucial part of the adaptation of sustainability into business and therefor discussed broadly on the theory part of this study.

1.1 Research questions, objectives, and limitations

The brief literature review of this thesis presented the main topics of this study. Sustainability is the key theme and is considered through various aspects from buying company perspective. However, suppliers and other actors of supply chains have a great impact on sustainability performance of companies and therefore SRM, and especially supplier development, is highly included on this study. On the other hand, literature review presented some research gaps. According to Seuring and Müller (2008, 1699), studies of environmental aspect is most examined while social sustainability is still quite rare among the literature. (Seuring & Müller 2008, 1699) Even, all three dimensions are remarkable, this study considers the aspects of social and environmental sustainability. The empirical part of this thesis is a case study aiming to provide suggestions for defined issue set by the case company. Therefore, economic dimension is excluded as a request of the case company.

In addition to delimit the study for environmental and social sustainability, the empirical part of this thesis concentrates on a product area of the case company. The product category is

protective glove procurement. Hence, the aim is to examine the current situation related to environmental and social sustainability of a case company and how to improve and ensure their sustainability of glove supply chains through supplier development. Sustainability is already considered in the case company but is still in the initiation stage, in terms of purchasing and supply chains. Thus, the study consists of two themes, current sustainability themes and sustainable supplier development. Therefore, it is important to first examine the current state of sustainability of the case company and the sustainability-related drivers and barriers the case company has and practices it applies to ensure sustainability. Later sustainability is examined in supplier development process.

This thesis aims to provide an overall picture of the current situation and guidance for the case company's further sustainability activities in terms of SRM, and especially supplier development, in order to become more environmental and social sustainable in the area of glove procurement. The research questions consist of one main question (MQ1) and three sub-questions (SQ1-3). They are presented below in table 2.

Table 2. Research questions.

MQ 1	How can supplier development process help companies to ensure environmental and social sustainability?
SQ 1	Why is environmental and social sustainability of the glove purchasing considered in the case company?
SQ 2	What supplier development practices are used in the case company's glove purchasing?
SQ 3	What are the drivers and barriers of environmental and social sustainability for supplier development of the case company's glove purchasing?

Main research question aims to answer the broad topic of sustainability-related supplier development. Three sub-questions (SQ 1, 2 and 3) support the main research question. SQs divide the broad topic of main question, sustainability and supplier development, into

smaller and more specific parts, which allow the topic to be examined in more depth form. The research questions are considered from the company perspective.

1.2 Conceptual framework and key concept definitions

Conceptual framework, presented in figure 1, aims to describe the theoretical perspective, key topics and concepts of this study and present the relationship between them. In this thesis the key concept is sustainable supply chain management involving supply chain members and the activities conducted between them in order to improve the sustainability of the entire supply chain.

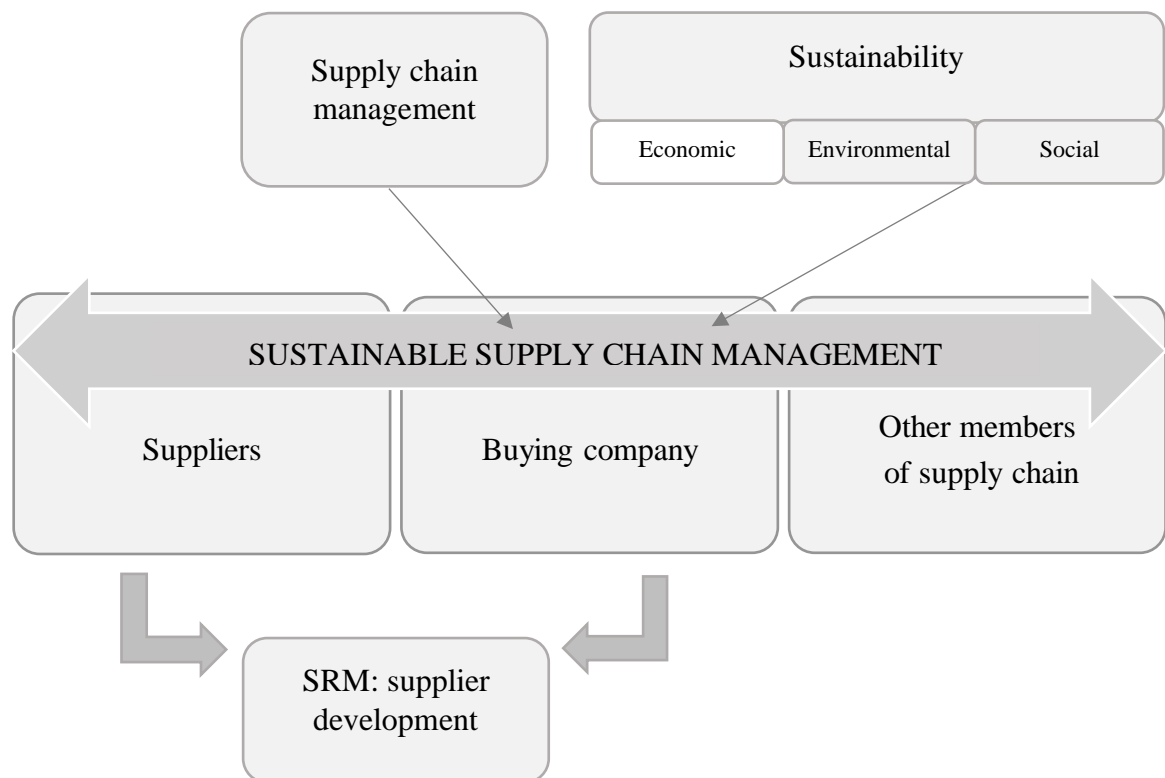


Figure 1. Conceptual framework

The pressure for sustainability actions pursue from internal and external parties, such as customers and shareholders (included to other members of supply chain in the framework). Sustainable supply chain management (SSCM) is the integration of three dimensions of sustainability and supply chain management (SCM). SSCM is closely related to supply chain

activities and as already mentioned on the comprehensive literature review, SSCM involves all the supply chain members for the sustainability implementation. Buying company and its supplier(s) have a relationship which must be developed in order to achieve sustainability goals such as environmental and social performance. Figure 1 presents the conceptual framework and key concepts. The brief definition of the key concepts are provided below.

Sustainability is a broad concept. The most common, and generally accepted, definition is given by World Commission on Environment and Development in year 1987, known also as Brundtland report (e.g., Hutchins & Sutherland 2008, 1688). The concept can be defined as an evolution of society aiming for more equitable and wealth world considering the environmental and cultural aspects which are preserved also for the future generations (Dyllick and Hockerts 2002).

Sustainable supply chain management (SSCM) is a strategy of proactively managing issues and parties among the supply chain and business operations by respecting economic, environmental, and social aspects across the product lifecycle when pursuing long-term economic goals. SSCM not only encompass the first-tier of the supply chain but the complete supply chain from to raw material procurement to customer and material disposal. (E.g., Bakker & Nijhof 2022, 64; Carter & Rogers 2008, 368; Cox 2004, 350)

Supplier relationship management (SRM) is defined as an interaction between the company and its suppliers to achieve common goals through different practices such as supplier selection, development, monitoring and evaluation (Glock, Grosse & Ries, 2017). SRM can be seen as a strategy aiming to achieve common goals by developing the relationship between the buyer and supplier from traditional (e.g., transactional) relationship to collaborative relationship (Park et al. 2010).

Supplier development is a process in which the relationship between the buying company and its supplier(s) is developed through joint actions by, for instance, improving the performance of supplier(s) and thus the focal company (Park et al. 2010, 506). In addition,

Krause and Ellram (1997, 21) state the short-/long-term supply needs of the focal company may be achieved through the development process of supplier's performance or capability.

1.3 Research methodology and data collection

This chapter briefly presents the research methodology and how the data is collected. Conducting a case study should always start by conducting an extensive literature review which indicate the possible research gaps which then defines the research questions and strategy (Kähkönen 2011, 32). After the literature review and defined research questions Saunders, Lewis & Thornhill (2016, 164), suggest deciding whether to use qualitative or quantitative research methods. The empirical part of this thesis is conducted by using qualitative research method because the aim is to provide a qualitative information of the sustainability themes of supply chains to the case company. In fact, Kähkönen (2011, 33) state that case study may provide rich empirical data and thereby to gain a deep understanding of the phenomenon in question.

The study is conducted as a qualitative case study due to the aim of gain deeper understanding of a real-world issue. The study consists of theory and empirical parts. In addition, the research method is already apparent on the positions of research questions which are preferred to examine through qualitative methods. The results thus are not measured but experienced and, for experiences, qualitative research is recommended (Lapan, Quartaroli & Riemer 2012, 6). The empirical part is more specifically a case study which aims to describe the phenomenon diversely but provide a comprehensive and deeper understanding of the researched phenomena. (Metsämuuronen, 2011)

1.4 Structure of the study

This study consists of six main chapters which are presented in this chapter. Figure 2 summarizes the structure briefly. First chapter, the introduction, discuss the reason for conducting the study and what it aims to achieve. First sub-chapter presents the research

questions (main question and sub-questions) and limitation. In addition, the comprehensive literature review, conceptual framework, and key concepts are presented in the introduction chapter of the thesis.

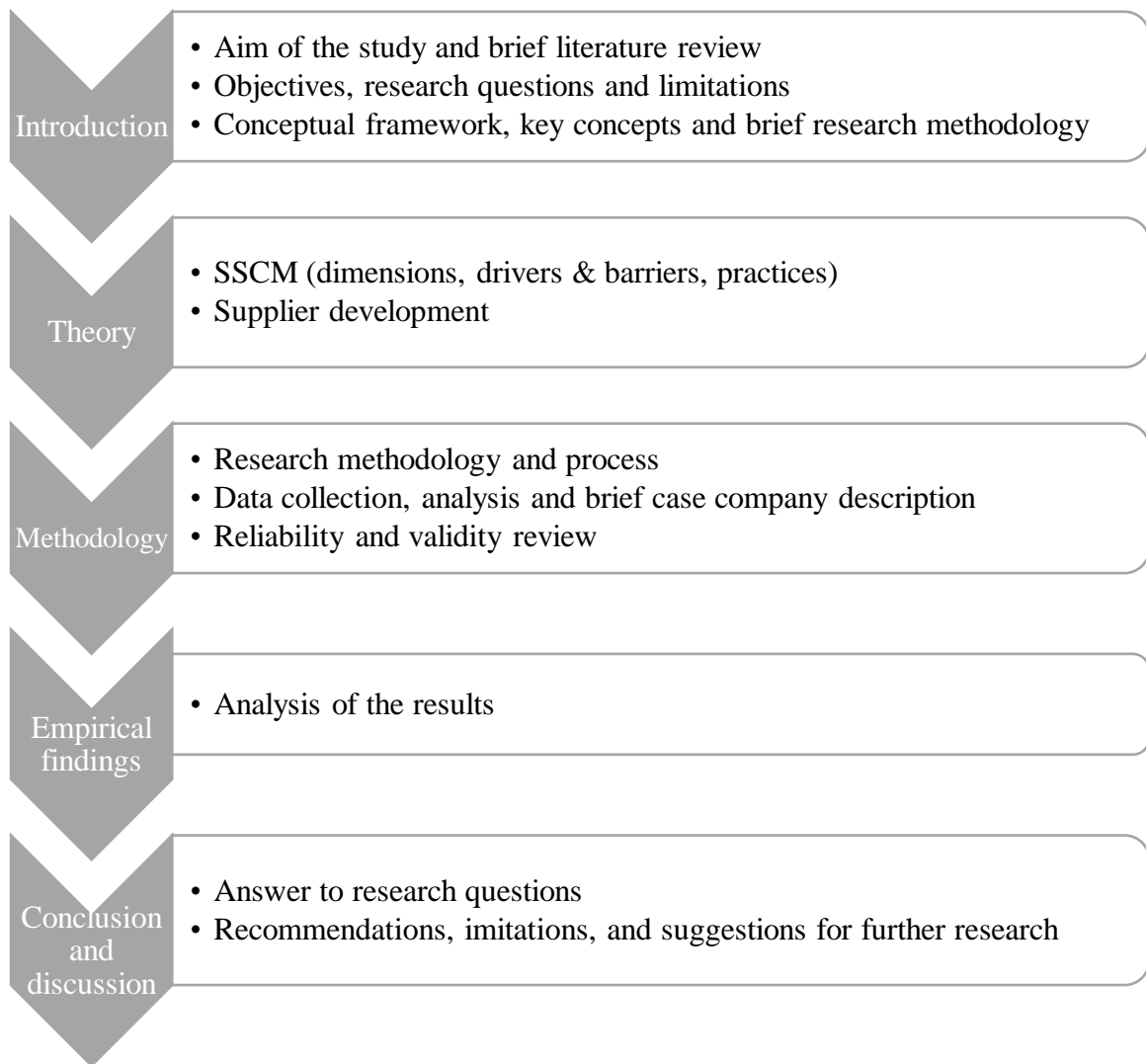


Figure 2. Structure of the thesis.

The second part is the theoretical part of study presenting supply chain management, sustainability, and their integration of sustainable supply chain management theories more deeply than the brief literature review. The theories involve the discussion of sustainability-related dimensions, drivers and barriers and practices. These theories are the base for building sustainable supply chain in the relationships of buying firm and its supplier(s).

The third chapter deals with the second theme of the theory which is supplier development. It presents supplier development as a concept, the concrete steps of the development process, and practices for the development process. The theory is also followed with the environmental and social sustainability themes.

Fourth chapter initiate the empirical part of the study by presenting more closely the research methodology, data collection and analysis, reliability and validity and provide a description of the case company. The case company is not presented by name. Therefore, the presentation is brief and done in general.

The fifth chapter discuss of the empirical findings of the interviews by presenting the results and analysis of the case company in order to understand the importance of supplier relationship management in context of increasing and ensuring the sustainability level of a case company. Finally, the sixth chapter, is the conclusion chapter which aims to discuss of the results and respond for the research questions and, in addition, provides the guidelines and tools for the case company. The aim is to understand the concept of the relation of sustainability on supply chains and how it can effect on the sustainability of the company.

The sixth and last chapter presents the answers for the research questions and conclude the thesis. The answers to research questions are presented in the form of discussion. Recommendations, limitations and suggestions for further research are presented in the final sub-chapter.

2. Sustainable supply chain management

Sourcing decisions depends on the chosen strategy of the company but is increasingly based on the supplier capability to provide products or services which satisfies the needs of the buying company along the traditional attributes such as delivery, cost, quality, or service (Friedl and Wagner 2012, 3066). Legislation places minimum requirements of sustainability for the companies. Buying companies deciding to adapt sustainability broader as part of procurement process cannot consider sustainability only on company level but on the entire supply chain. All the parties operating in the supply chain must thus be considered. Tate, Ellram and Dooley (2012, 173) argue that, for instance, environmental sustainability and environmental-related impact is primarily a function of the chosen suppliers.

This chapter is the theory part of the study and aims to present concepts of sustainability by first presenting the triple bottom line, the base of sustainability, which consists of economic, environmental, and social aspects of sustainability. The next sub-chapter discuss of the drivers and barriers for adopting sustainability into the sourcing processes. Later, the increasing number of sustainability practices are presented. Evaluation and selection of suppliers and supplier development are typically considered as part of sustainability practices, as in this study. However, supplier development is a major theme regarding this study and is therefore discussed in a proprietary sub-chapter.

2.1 Three dimensions of sustainability

Purchasing has been studied already from early mid-1800s considering mostly on first-tier suppliers. During the past two decades purchasing, later incorporated to term supply chain management (SCM), has been considering more broadly second, and even third, tier suppliers as a part of the supply chains. (Krause et al. 2009, 19) SCM is defined as a supplier selection strategy which aims to impact on the number of supplier and their quality by considering procurement, logistics and knowledge management at the same time

(Gualandris, Golini & Kalchsmidt 2014, 258; Morali & Searcy 2012, 635). Hassini, Surti and Searcy (2012, 70) state that SCM aims controlling suppliers, resources, information, process management and funds and further maximize the profitability.

By including sustainability aspects to SCM the aim is to conduct long-term business by considering sustainability dimensions of environment, society and well-being economy (Hassini et al. 2012, 70). Sustainable supply chain management is a business strategy that has been increasingly studied among the literature, and first papers of SSCM are published already since 1990 (Seuring & Müller 2008, 1701). The increased studies initiated already since the World Commission on Environment and Development (WCED 1987, 24) gave the most common definition for sustainable development.

“Sustainable development ensures that it meets the needs of the present without compromising the ability of future generations to meet their own needs.”
(World Commission on Environment and Development 1987, 24)

The definition of corporate sustainability is closely related to the common definition of WCED (1987). To meet the needs today and in the future without compromises, sustainability of the products and/or services involves not only the buying company itself but the suppliers, customers, and other stakeholders, in other words, the complete supply chain (e.g., Bakker & Nijhof 2002, 63; Hutchins & Sutherland 2008, 1689). On the other hand, Dyllick and Hockerts (2002, 131) define corporate sustainability “as meeting the needs of the firm’s direct and indirect stakeholders – without compromising its ability to meet the needs of future stakeholders as well.” SSCM considers all three dimensions of sustainability when coordinating key business processes to develop long-term financial performance at the company and supply chain level (Carter & Rogers 2008, 368).

The study of Carrol (1979) presents the dimensions of corporate sustainability which related to voluntary, ethics, economic and legal processes. Later, sustainability has been divided to three dimensions of economic, environmental, and social sustainability as figure 3 presents. This division is also called as triple bottom line (TBL) presented by Elkington in 1997. (e.g.,

Seuring & Müller 2008) Spangenberg (2005, 47) state that TBL is complex as each of the individual dimensions is dynamic, self-organising and developing entity. However, to be truly sustainable companies must consider all three TBL dimensions while making decisions regarding the supply base (Giunipero et al. 2012, 260) Pagell and Wu (2009, 38) also state that truly sustainable supply chains could produce profit, without harming the environment and society, and continue the business forever. However, they argue that no such supply chains exist. (Pagell & Wu 2009, 38)

Sustainability nowadays is increasingly considered as part of company strategy and companies considering sustainability as part of the business must engage at least on one dimension of sustainability. (Carter & Rogers 2008, 368) However, all the dimensions together, as a interlinkages and self-organising part, should be considered in short and long-term business operations in order to achieve a truly sustainable business. (Spangenberg 2005, 47). Even the literature suggests considering all three dimensions separately, and together, the research of the sustainability is still fragmented and focus mostly on the environmental dimension. Therefore, economic and, especially, social dimensions should be increasingly studied. (Seuring & Müller 2008, 1706)

Considering only one dimension separately from others can succeed in short-term and thus for long-term success all the three dimensions must be considered simultaneously. The research of all three dimension simultaneously is still lacking related to single dimension research. (Dyllick & Hockerts 2002, 132) The challenge of sustainability research is that there is a broad scale of sustainable activities. Being sustainable requires the adaptation of suitable activities for the company. However, there are several key tasks, behaviours, or investments that the literature presents to be the success for achieving sustainable business which makes the sustainability process challenging (Pagell & Wu 2009, 37).

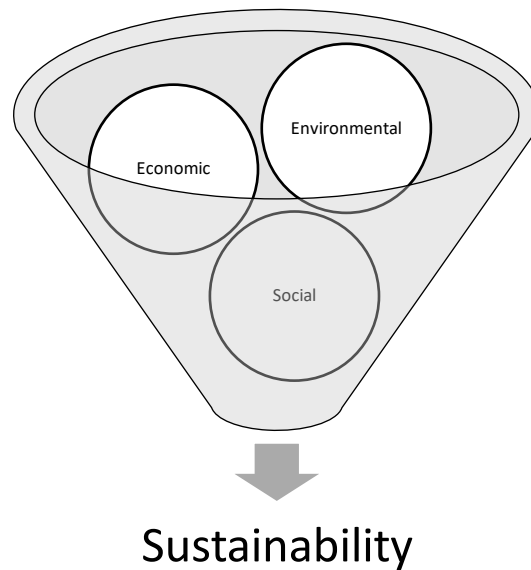


Figure 3. Three dimensions of sustainability.

Sustainability goals, practices and cognitions must be integrated on daily tasks of the organization by the top management, in other words, sustainability must be part of everybody's job at the company, and every day (Pagell & Wu 2009, 39). Companies are increasingly considering sustainability impacts of their business activities, not only by adapting sustainability as part of the business as it is some good activity to accomplish but, because it may decrease the costs and/or increase the revenue of the company (Tate et al., 2012).

Economic sustainability is defined as long-term, or even indefinitely, sustained growth (Spangenberg 2005, 49) which considers the economic requirements of the company, employees, and other stakeholders (Krause et al. 2009, 20). Carrol (1979, 500) argue economic sustainability is the prior responsibility of the company. Economically sustainable companies consider society while doing business and gaining profits. Companies produce required products and services for the society and gain profit of the vending. (Carrol 1979, 500) In addition, companies may invest or do other projects which create economic benefit for the society. (Harmaala & Jallinoja 2012, 19) Dyllick and Hockert (2002, 133) state that companies, considering economic sustainability, must have a continuous and sufficient cash

flow to ensure liquidity and the existence of the company, while generation a consistently higher, than average, profit for the shareholders.

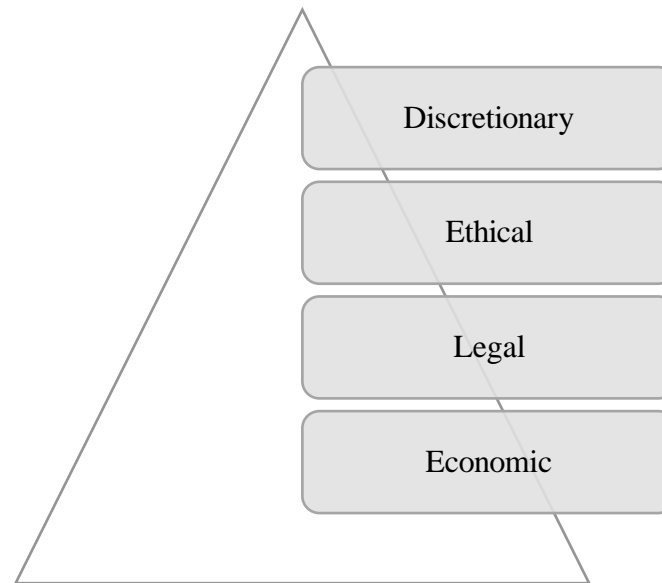


Figure 4. Hierarchy of social responsibility. Adopted from Carter (2004, 5).

Environmental sustainability is closely related to retaining natural resources, minimizing waste, and cutting emissions (Krause et al. 2009, 20). Companies adapting environmental sustainability operate respecting natural resources by consuming them less than the natural reproduction is. In addition, emissions are not released to accumulation rate but to a rate retaining the capability of absorb and assimilate the emissions by natural system. (Dyllick & Hockert 2002, 133) According to Blome, Hollos and Paulraj (2014, 33), upstream green/environmental practices can be defined, for instance, as the following three categories:

- Demand on greener products meaning recycling and the design of products to disassemble
- Supplier selection related to green performance (e.g., ISO certificates and waste reduction practices of supplier)
- Supplier development (improving supplier's green performance in collaborative relationship) (Blome et al. 2014, 33).

Environmental sustainability is highly identified among the legislation. Common laws are related to climate and water system protection, waste and recycling processes, eco-efficiency, and use of energy. Sustainable companies recognise the legislation, comply with it and continuously develop the activities towards more sustainable processes. (Harmaala & Jallinoja 2012, 22)

Social sustainability adds value, human capital of individual partners and societal capital, to the communities in which the companies are operating by considering poverty, injustice, and human rights (Krause et al. 2009, 20; Dyllick & Hockert 2002, 134). Harmaala and Jallinoja (2012, 21) divide social sustainability into four dimensions which are human resources, products, society, and cooperative partners. The dimensions are highly related to the topics of justice such as safety, human rights and supportive of the employees, suppliers, and other members of society. (Harmaala & Jallinoja 2012, 21) Nevertheless, social sustainability aims to integrate human and society aspects to the supply chain activities, in other words, the aim is to protect the health, safety and well-being of people from negative impacts of products and services (Kafa, Hani and El Mhamedi 2017).

The topic social sustainability has received less attention on the literature than environmental and economic sustainability (e.g., Hutchins & Sutherland 2008, 1688; Seuring & Müller 2008, 1702) Corporate social responsibility (CSR) is more common topic on the sustainability literature and considers the economic, legal, and technical requirements of the companies. CSR is about the relationship between the company and public authorities in building the well-being of citizens and the environment (Harmaala & Jallinoja 2012, 14). CSR of the firm can consider having several sub-topics which are presented on the figure 4. In addition to economic, CSR involves legal, ethical, and discretionary topics. Further, the top of the hierarchy, discretionary responsibility, encompasses diversity, environment, human rights, philanthropy, community, and safety which aims to ensure the well-being of society. (Carter 2004, 5-6) The bottom line of CSR is economic pillar as Carrol (1979, 500) argue it is the prior responsibility of the firm but in addition considers society through three other aspects. Thus, social sustainability is tightly involved in responsibility of the companies.

2.2 Drivers and barriers of sustainability implementation

Literature of sustainability discuss the factors that act as drivers and barriers of the sustainability and is highly important for the companies to identify these factors when implementing sustainability as part of the business. Drivers and barriers of SSCM can be divided into external and internal functions. External drivers cover factors beyond the buying company's boundaries (Gimenez & Tachizawa 2012, 537), such as customers/consumers, national and international legislators, shareholders, press/media (Harms et al. 2013, 212), and non-governmental organizations (NGO) (Seuring & Müller 2008, 1703). Market forces, particularly driven by customers, are influencing companies to the adaptation as customers are more aware of the sustainability impacts and increasingly make buying decisions regarding the sustainability of a firm's offerings. Thus, customers are mentioned as the strongest drivers of SSCM. (Morali & Searcy 2013, 647) On the other hand, shareholders' pressure is highly mentioned as drivers in literature as they are waiting for response of the buying firms increasingly regarding the sustainability (Harms et al. 2013, 214).

Internal drivers instead cover the factors within the buying firm (Gimenez & Tachizawa 2012, 537). Such drivers are environmental commitment, availability of resources, strategic role of purchasing function (Gimenez & Tachizawa 2012, 537), sustainability and purchasing department, top management, owners and shareholders, production, marketing, and R&D. Top (senior) management initiative, which is an internal driver, are discussed to have high importance in fostering sustainability (Harms et al. 2013, 212). On the other hand, lack of top management support is seen as a barrier (Giunipero et al. 2012, 267).

Higher cost, coordination effort and complexity, and insufficient or missing communication in supply chain are mostly mentioned as barriers, according to the literature. (Seuring & Müller 2008, 1704) The barrier of higher cost of operations may be important to consider during process initiation as sustainable products and/or services may increase the total cost of the buying company regarding the increased costs of supplier (Krause et al. 2009, 21). Giunipero et. al (2012, 267) state that one high level barrier is the economic uncertainty on

both, buyer and supplier. On the other hand, the increased cost of sustainability is mostly temporary as in long-term perspective sustainability indicate cost savings through reduced health, safety and mitigation-related costs and increased efficiency, for instance. Thus, these long-term savings are also seen as drivers of sustainability. (Morali & Searcy 2013, 647, 649) Other commonly mentioned drivers in literature are risk management, brand, corporate image, increased operational efficiencies, and corporate culture. (Giunipero et al. 2012, 267; Morali & Searcy 2013, 647) Summary of the drivers and barriers are presented in table 3.

Table 3. Drivers and barriers of sustainability implementation.

DRIVERS AND BARRIERS OF SUSTAINABILITY IMPLEMENTATION

EXTERNAL DRIVERS

Customers, legislation, shareholders, press/media, NGOs, market forces

INTERNAL DRIVERS

Environmental commitment, resources, strategic role of purchasing function, top management (initiative), owners and shareholders, production, marketing, R&D

EXTERNAL AND INTERNAL BARRIERS

Cost, coordination effort and complexity, lack of communication, economic uncertainty,

Burtland definition of sustainability is challenging companies on the operational level (Hutchins and Sutherland 2008, 1688) as the operators may lack the understanding of sustainability as a concept (Morali & Searcy 2013, 649). In this case, the International Organization of Standardization may help to understand the core subjects of sustainability and provide guidance for implementation process. ISO 20400:2017 provides, for instance, help for procurement processes. (ISO 2017)

In addition, there is a broad scale of activities available, and finding suitable processes for the company is seen as one of the first barriers according to the coordination complexity. In addition to broad scale of activities, the components of sustainability are more difficult to identify and ensure than traditional set of competitive priorities. (Krause et al. 2009, 20) On the other hand, coordination challenges increase as the literature suggest considering sustainability dimensions as unity, meaning that economic, social, and environmental sustainability are strongly covarying. (Seuring & Müller 2008, 1703; Gualandris et al. 2014, 263) Implementing all three dimensions of sustainability is relatively limited. The lack of understanding the sustainability as a whole and resources, such as time, people, and finance, challenge the adaptation of sustainability into business processes. (Morali & Searcy 2013, 649-650)

Companies wishing to implement sustainable practices requires enough resources (Gimenez & Tachizawa 2012, 537). Initial buyer and supplier investment and lack of resources of finance, people, time, or supplier are mentioned to be barriers to adapt sustainability. (Giunipero et al. 2012, 267) However, effective supplier relationship management may be a key to achieve the resources by close cooperation, or collaborative relationship between the buyer and supplier. Supplier development thus is one of the most important practices to achieve sustainability performance. (Gimenez & Tachizawa 2012, 541) In the next sub-chapter 2.3 practices are discussed more.

2.3 SSCM risks and practices

A fundamental concern of companies is whether the supplier can respond for the buying company demand and competitive priorities such as cost, delivery, quality, or service addressed by each company in different level of importance (Friedl and Wagner 2012, 3066). Sustainability concerns have increased the complexity and challenges of SCM as companies are increasingly pressured to consider sustainability in the daily operations. Harms et al. (2013, 210) presents important challenges of the supply chains by dividing them into three sustainability dimensions (see table 4).

Economic issues are related, for instance, on quality assurance, cost reduction, and competitive pressure. Environmental issues, to the other hand, are related to reduction of negative impacts on the environment which are, for instance, waste and greenhouse gas emissions and considers use of materials and resources in the context of retain the biodiversity. Social issues consider people, their health, rights, working conditions, and equality, to name some. (Harms et al. 2013, 210)

Challenges occur especially when considering the measures and indicators of sustainability as it is more difficult to measure sustainability than other strategic activities (Krause et al. 2009, 20). Gualandris et al (2014, 268) argue that sustainability performance is complex to measure and rarely studied. However, the need for measurements is identified and, according to Morali and Searcy (2013, 650), companies stress the need to measure sustainability performance of the companies but lack the implementation as no quantitative measures are created. In addition, companies measure their own success rather than supplier performance. Even the measures were implemented the risk management and monitoring are identified challenging especially in developing countries (Morali & Searcy 2013, 649-650).

Table 4. Sustainability-related challenges in supply chain (Adapted from Harms et al. 2013, 210).

Economic	Environmental	Social
<ul style="list-style-type: none"> • Supplier reliability • Quality • Costs • Competition • Innovative potential 	<ul style="list-style-type: none"> • Waste • Greenhouse gas emissions • Negative impacts on the environment • Use of materials and resources • Renewable energy • Biodiversity 	<ul style="list-style-type: none"> • Health • Human rights • Child and forced labour • Equality • Freedom of association • Job security

In addition to challenges, there occur risks in global supply chains. SSCM-related risks may result from lack of environmental and/or social performance but also from operational disruptions. Therefore, companies increasingly ask their suppliers to comply with the guidelines set by the environmental and social standards. (Seuring & Müller 2008, 1704) Environmental risks encompass, for instance, environmental damage caused by toxic materials or chemicals. Social risks may appear for instance from neglect of labour practices, such as working condition, work safety, and forced labour (Klassen & Vereecke 2012, 105).

Environmental and social practices aim to develop the relationship between the buyer and its supplier(s) and reduce or avoid the risks that occur on global supply chains. Hollos et al. (2012) studied the effect of green and social practices on firm performance and state that green practices reduce costs and improves the operational performance through sustainable supplier co-operation. Golicic and Smith (2013, 80) define green practices as “activities or actions taken to reduce or eliminate the environmental impact of supply chain management-related functions or processes.” Nevertheless, environmental practices may include every environmental effort regarding the creation (e.g., supplier relationship management/partnership or purchasing policies), development/design (e.g., eco-design, product innovation), production (e.g., pollution prevention) and/or delivery of a product to the end user (e.g., logistics process or customer cooperation), and in addition, to the disposal of the product (Golicic & Smith 2013, 80; Blome et al. 2014, 33).

Hollos et al. (2012, 2982) argue that companies, especially purchasing department, must consider green production methods that eliminate dangerous chemicals, toxic materials, or high CO₂ emissions to improve operational performance. In addition, to eliminate waste and emissions, by reducing packaging materials company may cut down on costs. (Hollos et al. 2012, 2982) Table 5 provides a summary of environmental and social sustainability practices.

Table 5. Environmental and social sustainability practices.

Environmental	Social
<ul style="list-style-type: none"> • Product/technical innovation • Design for environmental and life-cycle analysis • Environmental management systems • Eco-design • Environmental requirements • Monitoring • Environmental codes of conduct and certifications 	<ul style="list-style-type: none"> • Global standards and policies • Reporting framework (e.g., GRI) • Supplier social audits • Labour practices • Social codes of conduct

Social sustainability aims to improve the transparency of the supply chains. Social issues capture individual and societal level. Thus, according to Awaysheh and Klassen (2010, 1248), “social practices and performance in operations and the supply chain encompass all management practices that affect how a firm contributes to the development of human potential or protects people from harm, thereby capturing both positive and negative aspects, respectively.” (Awaysheh & Klassen 2010, 1248) Harmaala and Jallinoja (2012, 111-112) present nine elements that encompass social sustainability development. The elements are child labor, forced labor, freedom of association, discrimination, work health and safety, disciplinary proceedings, working hours, fair compensation, and management.

Harmaala and Jallinoja (2012, 111) state that ILO and Universal Declaration of Human rights by United Nations are the basis for social management systems which, according to Beske & Seuring 2014, 327), aim to improve the sustainability of the supply chains. Thus, the practices may include guidelines such as global standards and supplier code of conducts set by the buying company (Beske & Seuring. 2014, 327). Social standard SA 8000 encompass the nine elements of social development (Harmaala & Jallinoja 2012, 113), and set specific criteria which must be met to comply with the standards (Beske, Koplin & Seuring 2008, 65-66). Nevertheless, International labour organization (ILO) and Global compact are related to the overall activities of the business (Beske et al. 2008, 66), and provide a foundation for ethical considerations (Harms et al. 2013, 49).

Reporting systems, such as GRI, provides a framework for the company to communicate their social performance to the internal and external stakeholders. Thus, it is a tool for providing transparency of the companies. In addition, GRI helps companies to understand the sustainability impacts not only on the society but environment and economy. (Global reporting, 2022) However, social practices are challenging to implement as the suppliers may operate in long-distance. Ensuring supplier compliance with the required systems are recommended to be followed up by the buying company. Monitoring the compliance may be complicated in long-distance. (Awaysheh & Klassen 2010, 1248, 1259- 1260)

UN Global compact is a corporate sustainability initiative aiming to develop the economic, social, and environmental sustainability of societies by exploiting the ten principles of UN Global compact which encompass values according to human rights, corporate/employment principles, environment, and anti-corruption. In addition, Global compact initiative respect Sustainable Development Goals (SDG). United Nations Department of Global Communications (2020) presents seventeen SDGs of sustainable development. The goals include economic, environmental, and social topics such as decent work and economic growth, clean water and sanitation, climate actions, no poverty, health, and well-being. (United Nations Department of Global Communications, 2020)

Gualandris et al. (2014) have studied environmental and social impacts on sustainability performance through SSCM by defining internal (buying company level) and external (operational level) practices. Internal practices include the guidance such as environmental and social management systems, certifications, design for environment and life-cycle analysis which are related to direct environmental and social impacts aiming to reduce them. (Gualandris et al., 2014, 260-261) As already mentioned, corporate sustainability strategies are closely related to innovations and technology (Ray & Ray 2018, 959) and, according to Gualandris et al. (2014, 260), by adopting internal practices companies may develop innovative technologies to, for instance, prevent pollution, cut emissions, or minimize waste, and thus improve the sustainable performance of the company. On the other hand, external practices aim to improve the environmental and social performance of supplier base through

codes of conduct, environmental requirements, and collaboration with suppliers. (Gualandris et al. 2014, 260)

In addition to green and social practices, internal and external practices can be divided into reactive and proactive sustainable supply management practices. Reactive practices have low strategic importance in developing new capabilities. Proactive practices, instead, are dynamic and have great importance in such activities affecting long-term sustainability performance. (Kähkönen, Lintukangas & Hallikas 2018, 528) The study of Kähkönen et al. (2018) divide sustainable supply management practices into four groups which are sustainability guidelines, reporting and formalization of the visibility of sustainability, upstream and downstream supply chain management actions.

The four groups aim to ensure and secure the sustainability of the complete supply chain, not only the buying company. Guidelines aim to ensure the regulations of activities by using standardization, certification, and labelling. Visibility of sustainability is conducted through external evaluators, written CSR reports, lists of sustainable suppliers and including CSR indicators for supplier performance measurement. Upstream SCM actions consider supplier sustainability audits, traceability of the origin of purchased materials and products. On the other hand, downstream SCM actions aim to enhance transparency of the supply chain for the end-user. (Kähkönen et al. 2018, 526) Transparency is seen as a driver of adopting social sustainability practices as it improves the image of the company in terms of sustainability (Awaysheh et al. 2010, 1259)

3. Supplier development and sustainability

Supplier relationship management (SRM) as a broad topic integrating company and its supplier to pursue common goal. Supplier development is seen as one of the most important practices in context of SRM and sustainability adaptation (Glock et al. 2017), and should be considered as a part of company strategy (Handfield et al. 2000). Supplier development has several definitions but refers to the buying firm effort and improvement of supplier performance and/or capabilities. The definition of Krause and Ellram (1997, 21) for supplier development is commonly used in the literature. The definitions of other papers are particularly ident (see figure 5).

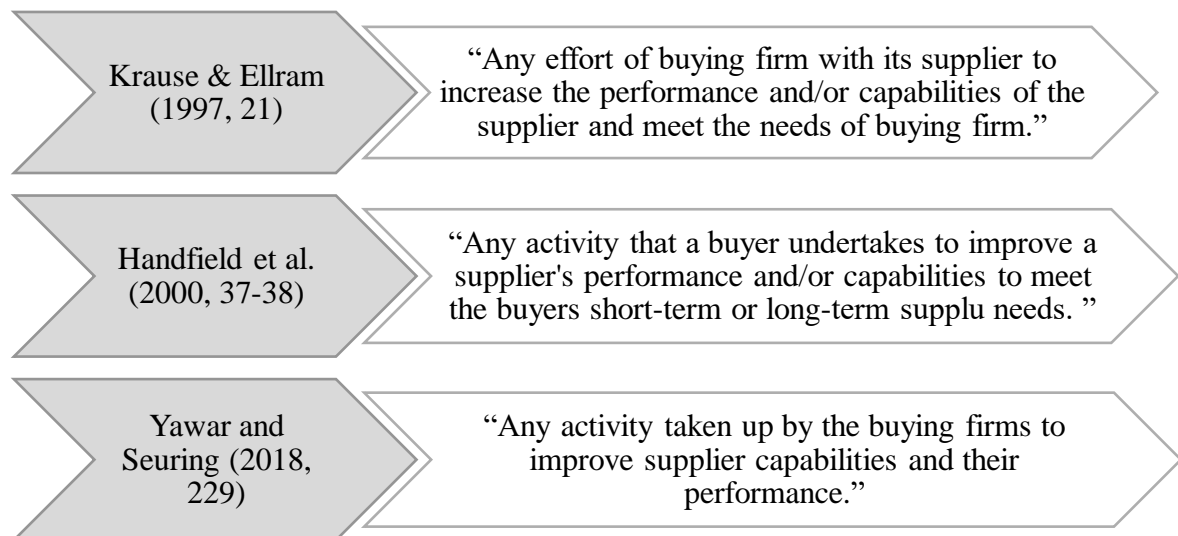


Figure 5. Definitions of supplier development.

A relationship between buying firm and supplier initially based on traditional aims, such as price. Traditional development relies on short-term efforts and is seen more as reactive and tactical manner to, for instance, reduce costs on short-time period. (Watts and Hahn 1993) Short-term efforts are also seen as a tactic way of pressuring the supplier to develop the quality by threats. According to Krause and Ellram (1997) the buying company may threat to move the business for another supplier if the current supplier is not able to increase the

quality through development process. Cox (2004, 349) state that short-term development process requires less investments from buying firm and needs less effort to initiate the process. Instead of short-term action and the result-oriented targets, the focus should be strategic to achieve performance outcomes (Dalvi & Kant 2018, 492). The base for strategic supplier development should be considered among buying firms' top management level as the development process is strategic manner to achieve strategic goals (Handfield et al. 2000, 39).

Supplier development is important for several reasons. Krause and Ellram (1997, 22) present three perspectives of the importance of supplier development. First, companies rely on suppliers to meet today's requirements on the competitive environment and therefore, the supply base of the company must be designed to be equal to the buying companies' competitors or even better. Second, proactive supplier development may help companies to advance their competitive strategies. Third, the industrial base of developed countries remains with the help of supplier development. In addition, development programs may not only benefit the supplier but also domestic country. (Krause & Ellram 1997, 22)

Even SSCM encompasses several practices Watts and Hahn (1993) have presented a broad range of supplier development-related practices which, according to Krause and Ellram (1997), differ among the companies. Sourcing decisions are increasingly based on supplier capabilities. In case the current supplier lacks the required capabilities buying firm has the option to replace the supplier or initiate a development process. However, according to Harms et al. (2013), replacement is not highly adapted practice. The choice between replacement and development depends on the buyer's motivation, desirable outcomes, and the maturity of buyer-supplier relationship. (Handfield et al. 2000, 37; Wagner 2006, 557)

Krause (1999) state that strategic perspective positively influences on supplier. If the supplier is highly significant, and strategically important for the buying firm's competencies, the relationship may be developed towards closer relationships, even collaboration, which is a long-term effort and involves both parties. (Glock et al. 2017) Collaborative relationship requires mutual trust from both, buying company and supplier. On the other hand, open

communication, commitment, top management support and sharing data and other sensitive information among the collaborative parties is inevitable. (Yawar & Seuring 2020, 2573; Park et al. 2010) Trust is the key enabler for successful collaborative relationship providing long-term benefits, improving the relationship, and thus impacting on the performance of supplier and operational performance of buying firm. Collaboration and high level of trust are related to the situation in which both parties win. (Yawar & Seuring 2020, 2567; Li, Humphreys, Yeung & Cheng. 2007, 277)

3.1 Drivers and barriers of supplier development

Supplier development is motivated by positive performance outcomes (Dalvi & Kant 2018, 492), and long-term benefits in terms of competitiveness and cost-effectiveness. Jin et al. (2019, 1256) define supplier development as a strategic tool of buying companies helping them to achieve efficiencies and competitiveness on the supply chains. Hence, supplier development may help companies to achieve competitive advantage by developing their suppliers (Krause & Ellram 1997, 22). Cost savings, for instance in reducing transaction costs, may motivate companies to develop their suppliers or supply base. These savings are achieved by long developed relationship between the buying company and its suppliers. The close relationship, collaboration, requires mutual trust through which positive impacts are achieved (Li et al. 2007, 277).

Literature presents supplier development-related barriers. Supplier development may require extra effort and increase the cost. Strategic development of suppliers generally requires high effort, investments, and continuous improvement (Bai & Sarkis 2011, 13505). Furthermore, supplier development and positive results require high level of mutual trust. Increased effort and investments must be ensured by a trustful and close relationship in order to not pose problems in terms of the potential opportunistic behaviour on the supplier part (Wagner 2006, 557). Trustful and close relationships between buying company and its suppliers are difficult to create in global business environment. Thus, buying firms prefer suppliers operating closely. This allows closer relationship and managing societal issues effectively. (Yawar and Seuring 2018, 231)

3.2 Concrete steps of supplier development

Supplier development aim to improve, for instance, performance outcomes (Davi & Kant 2018, 492), purchased products (Watts & Hahn 1993, 17), efficiencies and competitiveness (Jin et al. 2019, 1256). To improve the defined attributes supplier development is an option which has received increased attention in recent years (Glock et al. 2010, 247). Development process can be implemented between the buying firm and one or more suppliers, or it can be global effort (Krause and Ellram 1997, 21).

Development process include several practices. Handfield et al. (2000, 38) presents following four practices: assessment, incentives, pressure, and direct work. Supplier operations can be assessed, and incentives can be used in order to improve supplier performance. Sometimes buying companies are pressuring suppliers to competition among each other's in order to improve the performance. Instead of pressuring, buying companies can work directly with supplier by providing education, training, or other activities. (Handfield et al. 2000, 38) Glock et al. (2017, 248) have presented the conceptual framework of supplier development process and categories. Figure 6 presents the suggested steps which are the followings: preparing, developing, and monitoring. (Glock et al. 2017, 248)

The development process starts with preparation stage by evaluating the need of the development activities (Glock et al. 2017, 252). Handfield et al. (2000, 37) suggest three options to consider when the current supplier is not meeting the requirements of buying firm. First, the company can bring the outsourced activity in-house. Second, the current supplier can be replaced by another supplier. Third, initiate the supplier development process. Hence, supplier can be further developed or replaced depending on the supplier's position, buying firm resources, and chosen strategy or targets (Wagner 2006, 566). In case development is confirmed suitable suppliers or entire supply base must be identified for the process (Glock et al. 2017, 252).

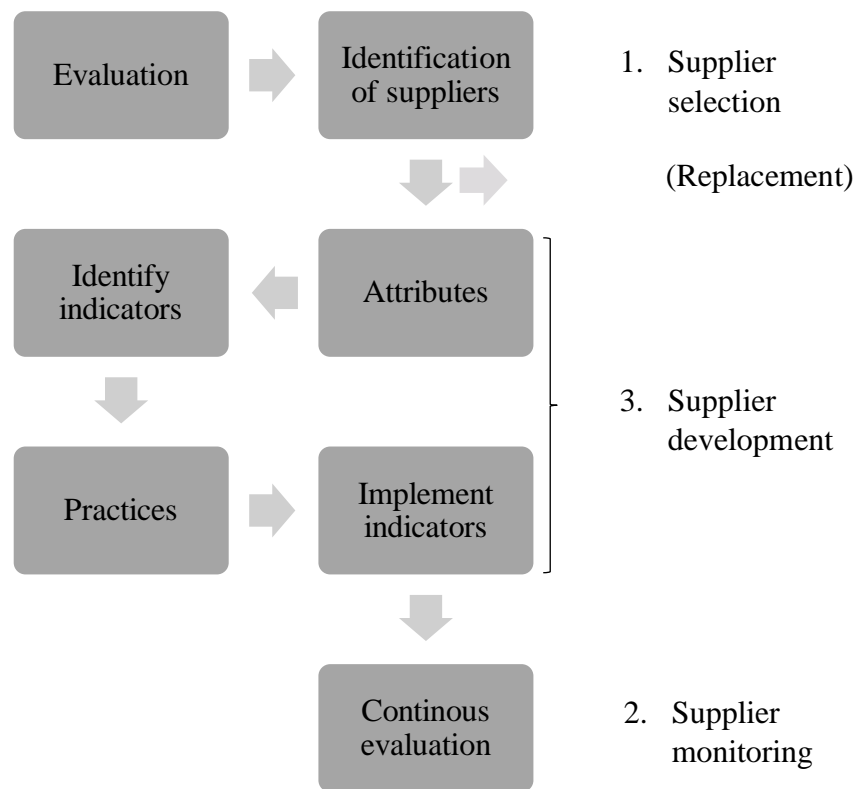


Figure 6. Supplier development process.

Development process is recommended if the current supplier can be developed to meet the current and future needs of the buying company (Liu et al. 2018, 101). It may also be a more cost-effective option when comparing to the cost of finding new supplier to fulfil all the requirements (Krause & Ellram 1997, 21). Supplier development process encompasses the whole process from preparation stage to monitoring and controlling stage. Actual supplier development stage encompasses activities, such as selecting attributes and suitable practices and identifying and implementing suitable indicators. The attributes can be, in addition to sustainability, cost, quality and capacity. (Glock et al. 2017, 248) Critical suppliers and commodities can be executed by using, for instance, pareto or portfolio analysis based on market-driven requirements. However, reactive supplier development passes this step as the interest is in certain supplier deficiency. (Krause et al. 1998, 45, 48)

After identifying the attributes which are to develop, practices and indicators must be applied for the development of identified attributes. Practices for sustainable supplier development

are discussed more deeply in the next sub-chapter. Finally, to measure the success metrics must be implemented. The type of metrics depends on the developed attributes. (Krause et al. 1998, 51)

In the final step the impact of the practices to the development process must be implemented, monitored, and continuously evaluated to see if the selected practices are adequate to the development of chosen attributes. Monitoring in this context refers to a continuous supervision of the implemented practices. (Glock et al. 2017, 255) Companies using strategic approach may use rewards and have supplier recognition programs to foster suppliers' continuity in the improvement process even the development effort is finished. Not all development processes are successful and corrective actions may be necessary. (Krause et al. 1998, 52) Supplier development process may also lead to the termination of relationships (Bai & Sarkis 2011, 13506).

Sustainability is an increasingly addressed topic among supplier relationship management and nowadays buying firms must address several sustainability issues when undertaking supplier development practices (Liu et al. 2018, 101). Sustainable supplier development (SSD) is defined as any definition of supplier development but include two or more elements of TBL to the definition (Jia, Stevenson, and Hendry 2021, 1) In case of SSD the chosen attribute is sustainability (Glock et al. 2017, 248)

Zimmer, Fröhling and Schultmann (2016) presents sustainable supplier management framework which includes sustainable supplier selection, monitoring, and development. First, supplier selection, is defined as a process which identifies and evaluates suitable suppliers and supply chains. The aim is to select options for performing the defined sustainability requirements. This is directly followed by supplier monitoring which is continuous analysis and evaluation process of suppliers. The aim is to gather information on how suppliers are complying with the defined minimum requirements related to sustainability. (Zimmer et al. 2016, 1413-1414) Sustainable supplier development is triggered from supplier evaluation either within selection or monitoring process as

evaluation elicits critical strategies and suppliers, supplier deficiencies and positions (Zimmer et al. 2016, 1414; Krause et al. 1998, 45).

3.3 Supplier development practices

Supplier development, in general, requires effort and commitment of all parties involved in the process. Previous research has examined development practices, but the comprehensive research has been lacking. (Sánchez-Rodríguez, Hemsworth & Martínez-Lorente 2005, 290) Several studies address supplier development as strategic tool (Jin et al. 2019, 1256). The study of Sancha, Longoni and Giménez (2015) discuss the practices of supplier development in terms of sustainability.

“Sustainable supplier development practices are oriented towards the achievement of environmental and social goals.” (Sancha et al. 2015, 95)

The study of Yawar and Seuring (2020) presents supplier development strategies (SDS) which are used to achieve improved supply chain performance. SDS are, in addition, an initial step towards economic performance and later social and environmental supplier performance. The strategies are divided into two dimensions, direct and indirect. (Yawar & Seuring 2018, 228)

Previous research discuss the direct and indirect strategies (e.g., Zhang, Pawar & Bhardwaj 2017; Wagner 2010; Yawar & Seuring 2020; Wagner 2010). Direct supplier development requires buying company involvement and active role among the SDS activities (Yawar & Seuring 2018, 228). In addition, direct SDS require close relationship between buying firm and supplier, also called as relationship- (Wagner 2010, 538) or transaction-specific resources (Krause 1999, 207). According to Wagner (2010, 537), direct strategy involves capital, human, and knowledge transfer-related practices. On the other hand, indirect SDS uses communication and external market forces (Wagner 2010, 538), and requires nothing, or only limited resources, from buying firm (Yawar & Seuring 2020, 2565).

Literature categorizes supplier development practices in several additional ways. The study of Liu et al. (2018) introduces evaluation and assessment, knowledge transfer, management involvement and incentives which are highly mentioned in the literature as well. In addition, they add competitive pressure as development strategies. (Liu et al. 2018, 102) Bai and Sarkis (2011, 13507) present the comprehensive list of supplier development practices and activities based on the previous literature. The list is divided to four main categories (knowledge, investment and resources, feedback and communication, and management and organization), and several activities companies can use for the development process. The aim is not to use all activities, but to choose the ones that suit the company's processes. (Bai & Sarkis 2011, 13507) Next the important practices, such as evaluation, management systems, collaboration, trust, knowledge transfer, investments, certifications and audits from the comprehensive are discussed.

Evaluation is one of the buying company practices of supplier development (Krause et al. 1998, 40), and includes the following activities:

- incentives offerings
- improvement through assessing
- communication of the supplier evaluation results and performance goals
- increasing competition by using multiple sources. (Wagner 2010, 537)

Further, evaluation of suppliers in terms of sustainability is related to the assessment of environmental and social performance (Sancha et al. 2015, 95), and may include questionnaires and supplier visits (Gimenez and Tachizawa 2012, 533), and requires feedback, such as incentives and penalties, from buying company. Feedback provides supplier a direction for improvement. (Krause, Scannell & Calantone 2000, 36) Evaluation is used mostly for improving product and processes. Feedback sessions may include education which helps suppliers to improve their sustainability-related product and processes, performance, and income flows. (Yawar and Seuring 2018, 232)

Management systems can serve as criteria of evaluating and selecting suppliers. These activities are related to guidelines which aims to authenticate the commitment of suppliers into sustainability matters. (Harms et al. 2013, 208) International Organization of Standardization provides the minimum standards to evaluate and select suppliers (Harms et al. 2013, 214). According to Beske and Seuring (2014, 327), standards are commonly used in SSCM. Examples of such standards are ISO 9000 (quality), ISO 14001 (environment) and ISO 26000 (social). These standards are a cost-effective way of a buying company to pass the sustainability requirements on its suppliers. (Harms et al. 2013, 214)

Collaboration is highly discussed on the literature of supplier relationship management and development. Gimenez and Tachizawa (2012, 536) argue that evaluation is a good first step to identify the needed actions for improving environmental and social performance. However, assessment alone is not enough to improve the environmental and social sustainability. Hence, collaboration must be considered in order to achieve sustainable supply chain (Sancha, et al. 2015, 95). It is related to the direct supplier development strategies and means working directly with the supplier of the buying firm providing them with training, support, and/or other activities (Gimenez and Tachizawa 2012, 536). Collaboration requires long-term relationship and trust between the buyer and supplier. Collaboration is one of the key elements to develop sustainability (Yawar & Seuring 2020, 2567) and firm's competencies (Glock et al. 2017).

Trust positively associates with collaboration (Yawar & Seuring 2020, 2583) creating a long-term relationship between buyer and supplier. Trust and joint actions impact on the competitive advantage and operational effectiveness of buying firm. (Li, Humphreys Yeung & Cheng 2007, 238, 244) In order to achieve collaborative relationship mutual trust is required from both. Other practices are open communication, commitment, top management support and sharing data and other sensitive information among the collaborative parties. (Yawar & Seuring 2020, 2573)

Knowledge transfer is mentioned as an important action in the literature. (Liu et al. 2018, 102) Knowledge can be transferred by codified and electronic or tacit knowledge, and helps

suppliers to improve their efficiency on production, distribution, and several other activities. (Wagner 2010,538) Knowledge transfer can be carried out by training or education programs (Liu et al. 2018, 102). In terms of sustainability, supplier training can be related to social (e.g., health and safety) and environmental practices (Sancha et al. 2015, 95). Buyer and supplier may not have similar definition and understanding of sustainability as a concept. Therefore, training and education can help to improve sustainability of supply base. (Giunipero et al. 2012, 267). Training activity initiate by setting sustainability objectives based on the historical performance and survey feedback of supplier (Zhang et al. 2017, 506).

Investments of buying company can be asset-specific but also non-asset-specific. The aim is to improve the products and/or processes of supplier. (Yawar & Seuring 2018, 229) Investment and resources enable buying companies to involve in supplier processes, such as transaction and capacity, extending financial assistance (Yawar & Seuring 2018, 229), and providing training programs or equipment for supplier (Glock et al. 2017, 246). On the other hand, buying company involvement may pose problems in terms of potential opportunistic behaviour. Therefore, specific investments must be secured by building trust and long-term relationship. (Wagner 2006, 557) All investments must be monitored in order to track the cost and performance impact (Glock et al. 2017, 247).

Certifications and audits have received less attention in the literature (Yawar & Seuring 2020, 2576). Certifications aims to eliminate the incoming inspection at the buying firm's premises by certifying supplier's production and processes (Krause 1999, 213). It can be seen as one of the first steps before initiating knowledge transfer with supplier (Wagner 2010, 539). Auditing, instead, is a continuous practice of evaluating suppliers and proactively identifying potential sustainability risks. Audits can be used for ensuring suppliers' compliance with quality, standards, and (ethical) codes of conducts. (Zhang et al. 2017, 505)

Sustainable product development is a topic presented by Krause et al. (2009, 21). The practice is related to Kraljic's (1983) framework for strategic, leverage, bottleneck, and

noncritical items in terms of sustainability implementation. In addition, the framework can be used in the development process while identifying critical commodities (Krause et al. 1998, 48). All the item categories must encompass the set of sustainability priorities. To, for instance, minimize the negative environmental effect and ensure social sustainability of strategic items the study suggests product/service innovation by cooperating with the supplier and openly share know-how knowledge.

In this case, supplier relationship is important as buying company must cooperate with suppliers having sustainability as a competitive business priority as the buying company is no more sustainable than its suppliers. For leverage items, for instance material decisions, sourcing sustainable alternatives is recommended. Bottleneck items are already difficult to manage and no pressure for sustainability can be put for the supplier. Thus, sustainable alternatives must be developed, for instance, industry-wide if possible. Noncritical items are to be revised as there are several suppliers on the market for delivering sustainable alternatives. (Krause et al. 2009, 21)

4. Methodology

In this chapter the methodology of the thesis is presented. The following chapters focus on the empirical part of the study by presenting the results received from the data collection. The aim of the empirical part is conducting a deeper understanding of how sustainability of the case company can be fostered and ensured through supplier development in context of environmental and social sustainability.

In order to understand the topic deeper, the study is conducted as a qualitative case study method. This is due to the aim of the study. Next, the research methodology, process, data collection and analysis, reliability, and validity are presented. In addition, the case company is briefly presented even though it is kept as anonymous.

4.1 Methodology and process of the research

This study is conducted as qualitative research. More precisely the method is a case study. The aim is to understand the processes of sustainability development and adaptation of the case company and how supplier development may help in the process. Qualitative case study aims to use contextually rich data from bounded real-world setting to examine a selected phenomenon (Barratt, Choi & Li 2011, 329). Technically qualitative research aims to identify the presence absence of some issue (Kirk & Miller 1986). Eskola and Suoranta (1998, 16) state that qualitative research process initiates without presumptions or hypothesis meaning that the researcher has no determined presumptions regarding the topic and case company. The data of this study is bounded real-world setting of a case company's environmental and social sustainability development and adaptation and is thus a limited topic to investigate.

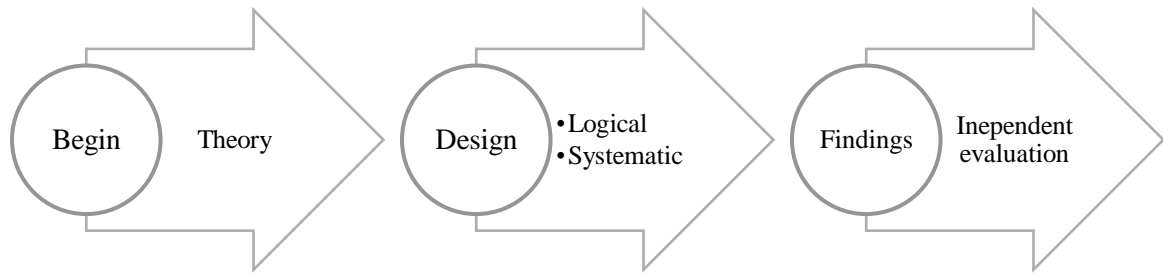


Figure 7. Three elements for confirmatory case study methods (Johnston et al. 1999).

Lack of objectivity and methodological rigor has been criticized when conducting case studies (Johnston et al. 1999, 201). For the criticism Johnston et al. (1999, 201) suggest three elements for using qualitative case studies which are presented on the figure 7. First, the research must begin with the study theories. Second, the research design must ensure to be logical and systematic by defining the unit of analysis, selecting appropriate cases and decide how the chosen data is collected. Third, the findings must be evaluated independently. (Johnston et al. 1999, 201, 206)

4.2 Data collection and analysis

This thesis is an anonymised case study requested by the case company. However, in general it can be said, the case company is a limited company (Ltd) operating in Finnish markets. The purchasing department operates with domestic and global suppliers. The case company is part of a global group and some of the glove purchases are conducted through the corporation's centralized purchasing department. However, the company is guided by the corporation but is able to conduct independent decisions, for instance, in terms of sustainability.

According to Yin (2003 cited in Kähkönen 2011, 34), multiple sources of data should be used in order to establish construct validity and reliability. One way to collect data for case study is to conduct interview with a variety of interviewees and focus the interview questions

directly to the topics of the case study. The type of interviews can vary from structured interviews to open-ended questions. Chosen type of interview defines the way how the interview is executed. For instance, structured interview includes same questions for all interviewees. On the other hand, open-ended is related to a conversation between the researcher and interviewee. (Jonston et al. 1999, 207-208; Eskola & Suoranta 1998, 64)

In order to respond the research questions, the preliminary data for the empirical part of this study, is collected by interviewing six individuals of the case company. Semi-structured interview was chosen to this study. According to Eskola and Suoranta (1998, 64), semi-structured interview is a type which provides more freedom for the situation and interviewees to respond the questions. All interview questions are same for all interviewees, but the responses are given by the interviewees themselves. (Eskola & Suoranta 1998, 64)

The case company was selected for this study as it has already taken some steps towards sustainability. The process is still in the beginning, especially in terms of ensuring sustainability in supply chains. Table 6 presents the interviewees of the case company, their position, and duration of the interview. Interviewees were selected in a cooperation with the contact person of the case company. Interviewees are from several units of the company. Four interviewees are from management and two from operational level. Due to the anonymity, the units are presented as levels in which the interviewees are operating on. However, all the interviewees are working in different positions in the company but are still involved in the sustainability matters at some level. In addition, various positions and units provide more comprehensive data for the study and increase the validity and reliability of the study. Anonymity provided an open and honest environment for the interviews.

Table 6. Data of interviewees, units, and duration.

Interviewee	Unit of the interviewee	Duration of interview
Interviewee A	Management level	48 min
Interviewee B	Management level	38 min
Interviewee C	Management level	53 min
Interviewee D	Management level	48 min
Interviewee E	Operational level	52 min
Interviewee F	Operational level	27 min

In order to get interviewees familiar with the themes the research questions were sent to them two days before conducting the interview. The interview questions were equal for all six participants (see Appendix 1). However, the knowledge varied between the participants and therefore some additional questions were included for the interview process. All six interviews were conducted as face to face meetings at the company's main office during June and July 2022. The first three interviews were held on one day in the first week, the next two one day in the second week, and the last interview couple weeks later. The interviews were held in Finnish which is the native language of each interviewee and thus ensures the interview situation to be open and fluent. The interviews were recorded and later translated from Finnish to English.

Data analysis is one of the most critical phases in the process of case research (Kähkönen 2011, 37). First three interviews were held in the first week and the analysis of the recorded data was conducted before the next interviewing day. The next two interviews were analysed a week before the last interview which, on the other hand, was analysed right after the interview meeting. In order to increase the validity of this study the steps of analysis are presented below.

- 1) Pre-coding: transcription and reading, colour coding and other notes.
- 2) Colour-coding: several groups regarding the interview questions and aims of the study.

In order to increase the validity, the steps were accurately documented. After executing the interviews, all audios were transcribed into proprietary Word documents translated from English to Finnish. In the first, original transcription, all interviews were combined into one document, but as individual interviews. This original document has 59 pages. It was saved without further edits. Hence no coding or notes were made for this version. In the second version, the transcriptions were organized in such a way that under the interview questions, each interviewee's answer to each question can be found. Irrelevant words were removed from this second version. Thus, the coding is more explicit, and the answers can be analysed more clearly. The coding process has two main themes, sustainability and supplier development. Under the main themes, the sub-themes were color-coded into the following groups: risks, drivers, barriers, steps of development process, basic requirements, environmental sustainability, and social sustainability.

Another way to collect data is from documents of the case company. Johnston et al. (1999, 208) finds documents as precise and consistent but must be carefully examined for objectivity reasons as the data of documents may be edited to reflect on the desired image. In addition to interviews, this empirical part consists of secondary data, company documents, such as supplier code of conduct, supplier evaluation form, and sustainability release. The data is used for a more detailed understanding of the themes in terms of the case company. Some general information has been mentioned of these documents in the study, but no precise data has been collected from them.

Secondary data is supportive. The case company has no comprehensive sustainable reports, but the release includes information of the energy management system and other sustainability targets. The supplier code of conduct is based, for instance, on the UN Global compact and ILO. Before accepting a new supplier for the case company, the supplier evaluation is required. One part of the evaluation is a form of supplier evaluation which includes general questions and sustainability related questions of environment and social aspects. For instance, environment management system (ISO 14001) is asked.

4.3 Reliability and validity

Evaluation of reliability and validity are relevant and essential, even the most important issues, in research in general when conducting research (Kähkönen 2011, 38). According to Kirk and Miller (1986), reliability and validity apply equally well to qualitative observations. Ellram (1996, 104) state that both, qualitative and quantitative research, requires reliability and construct, external, and internal validity. Kirk and Miller (1986) describe reliability as “the extent to which a measurement procedure yields the same answer however and whenever it is carried out” and validity as “the extent to which it gives the correct answer.” Construct validity includes elements of multiple data sources, establishing and maintaining a chain of evidence and draft review by key informants. External validity instead must be addressed during the research design of the study and means evaluating the results of the study if they reflect the phenomenon of the study. Internal validity is related to explanatory study which aims to demonstrate that one outcome was caused by an independent variable. (Ellram 1996, 104-107)

However, in this qualitative case study of one company, reliability has no such high importance. In order to ensure the reliability, the study methods, data collection and analysis methods are presented in this chapter comprehensively. The language of interviews was Finnish, the native language of all participants involved in the interviews, and later the interviews were translated into English which effect on the reliability. However, the interview questions are carefully created and interviewed. The reliability is increased by the theory part which is highly based on peer-reviewed literature.

Construct validity was ensured by using several interviewees and by conducting six individual interviews from separate company units. On the other hand, data was gathered from secondary sources, which is seen, according to Kähkönen (2011, 38) to strengthening the construct validity. According to Ellram (1996, 114), case study is more generalizable for multiple case study results than for single case study. As this is a specific, single company, case study it decreases the generalization of the results.

5. Empirical study

This chapter presents and analyses the empirical results based on the interviews. The aim is to provide an empirical view to the topic of this thesis. Findings are structured according to the themes of interview process. The interview questions are presented on Appendix 1. First theme is related to the company's sustainability in general discussing, for instance, the targets, risks, drivers and barriers. Second theme focus on supplier development which discuss of the concrete steps of supplier development process, basic requirements of glove purchasing, supplier selection, development practices, and drivers and barriers of supplier development implementation.

The results mostly consider environmental and social aspects. However, as presented in the introduction and theory part, economic sustainability cannot be completely excluded from any part of the sustainability themes. Economic aspects are highly considered among the interviewees as the study is closely related to business environment. Empirical results together with theoretical part aim to provide data for the later answering the research questions.

5.1 Sustainability of the case company

The first theme, sustainability, aims to provide an insight into how the interviewees understand the concept of sustainability and how they see the topic in their company. In addition, the theme provides information on where the case company is in terms of sustainability and what are the drivers of sustainable business and what are the barriers to the process. First, the interviews were asked to describe sustainability in business context. Sustainability is seen as one topic among the traditional attributes of price, quality, and delivery time. Furthermore, it is described as a change in attitudes that comes from each of us as individuals. Most of the interviewees divide the concept of sustainability to environmental, economic, and social dimensions and mention it is a megatrend, competitive

advantage, and company strategy. According to some of the interviewees, sustainability is seen as followings:

“—It (sustainability) is in our strategy that we are responsible for the next generations.”

“It (sustainability) is like a big umbrella under which the environmental-related obligations are, and we operate as a company in order to provide a future for next generations as well. However, environment is only one dimension. In addition, there is social dimension.”

“Without the fact that we would not be economically profitable company, we cannot be a socially sustainable company or an environmentally sustainable company.”

Based on the results, especially at the management level, sustainability is defined by the company’s means. Hence, sustainability is communicated in common perceptions in the case company. Interviewees C and D described sustainability as it is discussed in the company for the employees and customers. According to them, minimum level of sustainability is to comply with laws and regulations. Business in general, must be profitable and thus profitability and sustainability must be considered together. In order to be social and environmentally sustainable company, economic dimension cannot be excluded. When the company is economically sustainable profitable business is done, more staff is hired, more taxes are paid, and more profitable it is for the community and environment. Thus, when the “base” of economic sustainability is achieved, other sustainability dimensions are possible to consider. In addition, interviewees A, C and D mention the responsibility for the next generations which is included to the company strategy.

In the case company, sustainability is seen in different ways depending on the interviewee. However, the common result of interviews is that sustainability is described as taking small steps. Such steps are mentioned to be recycling, well-being at work, energy, fuel, and material savings. Well-being of the company’s employees is highly considered in the case company. On the other hand, working conditions, safety, and other social sustainability matters are extended beyond the suppliers and their employees. Interviewee B state that good

working conditions is the key for receiving goods from suppliers. Furthermore, based on the interviews, sustainability in the supply chains has recently been considered by sending codes of conduct to suppliers. In addition to codes of conduct, sustainability is added to the supplier evaluation. Hence, sustainability issues are considered in supply chain level by including sustainability-related questions to the process of selecting new suppliers to the supplier base of the case company. According to majority of the interviewees, the corporation has introduced sustainability goals and activities which are small steps towards deeper understanding of the sustainability issues.

The concept of sustainability is related to the risk reduction. Risks appear in business environment and the interviewees describe the sustainability-related risks to be linked on all the three pillars of sustainability. The most highlighted risks were mentioned to be supplier's social sustainability risks such as work conditions and safety, child labor, and other employee risks. In addition, the brand risk and economic loss was mentioned. Preventing sustainability-related risks, economic, social, and environmental factors are increasingly considered in the case company's business operations. On the other hand, interviewee A mention that sustainable business environment has a risk of "greenwashing". This is related to the companies' marketing sustainability with no concrete sustainability actions. According to some of the interviewees, sustainability actions of the case company are executed "step by step" in order to not be sustainable only by words but in practice as well. Interviewee D argue that without measures a company cannot be truly sustainable and therefore several environmental impacts are measured and reported to internal and external stakeholders (e.g., employees and customers).

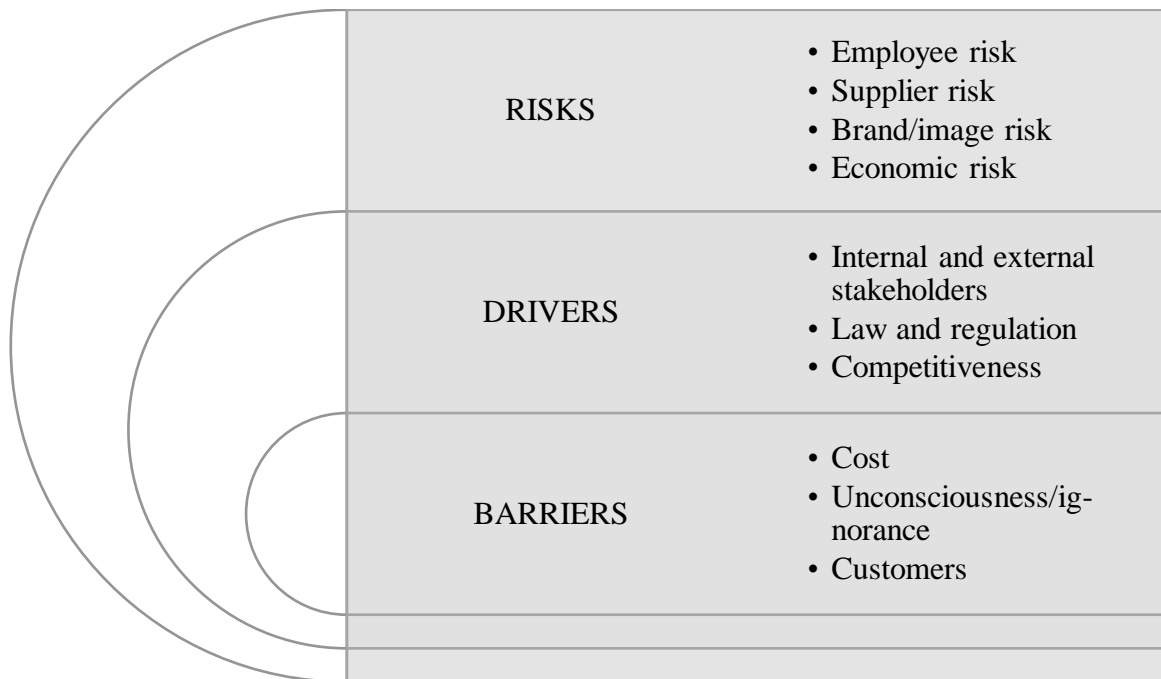


Figure 8. Risks, drivers and barriers of sustainability of the case company.

Based on one interview, there is a risk that goods are not delivered if employees are not treated according to the basic standards of social sustainability. People are the ones who do the sustainability and business. Healthy employees (suppliers) are safer to work with. Other drivers of sustainability adaptation are the owners/top management of the company, customers, business targets, society, law and regulations, moral, preventing negative impact, and the company image for current and future employees and customers. The impact of internal drivers such as top management and employees varied between the responses of the interviews. Employees are seen as drivers and barriers simultaneously. Sustainability actions can motivate employees to act more sustainable way. On the other hand, interest and awareness differs among the employees impacting on the sustainability decisions.

“Should we pay a little more to a reliable and familiar partner or to choose a cheaper price from someone new (supplier) who wants us to be our supplier at any cost?” (Interviewee B)

The most significant driver is customers which was mentioned by all interviewees. As customers have become more aware of the sustainability, the requirements towards case

company are increasing rapidly. On the other hand, customers are addressed to be barriers due to their sustainability-related requirements. In the end, the cost may be the major reason for customer not to choose sustainable product over the basic product. However, increasingly sustainability requirements of the customers are arising to be as important factors as traditional attributes such as quality even the transition in glove business is slow.

The aim is to foster sustainability in long-run but, based on the interviews, sustainability communication is still lacking from management level to employees. Sustainability communication is done by brochures and other company documents, but the actual discussion, guidance, and education is still seen as a barrier on employee level. Employees, working closely with the customers, are more informed of the sustainability of the case company than other employees of the company.

Other barriers, according to the interviewees, are unconsciousness and/or ignorance, complexity of monitoring the suppliers, and cost. The last mentioned was mentioned by three interviewees. Even though sustainability is highly valued in the case company and may prove to be more advantageous in long-run, sometimes it is necessary to compare the cost and sustainability in purchasing decisions. However, some practices of ensuring sustainability in supply chains cannot be conducted due to lack of resources and complexity of the processes. One of the interviewees mentioned to be responsible of several supply chains of gloves. Thus, the complexity of examining the origin of all gloves and used raw materials is a significant barrier of sustainability activities. Summary of risks, drivers and barriers are presented on figure 8.

5.2 Supplier development

Supplier development aims to provide a framework of how suppliers are developed in order to comply the sustainability targets and how the case company ensures that suppliers are complying the sustainability requirements. Interviewees from operational level were able to provide most information for the second theme, but some information was received also from management level. First, interviewees were asked to briefly explain how they

understand the concept of supplier development. Even though the interviews were executed in Finnish, the concept was challenging. Interviewees mostly described the benefits of supplier development instead of the concept itself. However, interviewee F was able to provide a comprehensive summary of supplier development as following:

“It (supplier development) means that cooperation is developed in order to achieve a partnership. It means that we do it together and that we can get the job done, in certain manners, in the supply chain. In addition, supplier is kept up-to-date if some requirements change, so that it (supplier) really is aware of them (changes). It is also followed that supplier advice the changes in the production and supply chain, that it goes as it should.”

Based on the interviews, other explanations of supplier development were related to competitive advantage which can be achieved through the development process. Hence, the company remains strong, and the customers are served better. Interviewee A state that on one day supplier is operating well but must grow when the world changes (for instance, customer and legislation-related requirements and case company’s own desires) and competition increases. Even though the case company is a significant company on the markets, interviewee E argue that sustainable products can be developed but supplier (company) is more difficult to impact on.

Suppliers of the case company can be categorized regarding the volume. In terms of protective equipment, suppliers have a critical role. Interviewees mentioned that the case company’s largest material flows of gloves are received from long-term partners. Interviewee B state that the relationships with the long-term suppliers are highly maintained and the cooperation is working as expected. In addition, interviewee F explain that when new gloves are considered the production is mostly situated to suppliers already delivering the largest material flows. On the other hand, new suppliers/manufacturing plants are occasionally considered but interviewee E considers resources, guidance, knowledge in executing the sourcing process, and further auditing and monitoring activities are still lacking.

Based on the interviews purchasing of gloves are strictly monitored. In order to produce protective and sustainable gloves, the basic requirements of protective equipment must be familiar. According to the interviewee A, there are several different laws and regulations behind the glove purchasing. Interviewee B mentioned that in addition to regulations, there are categories for the gloves which provide information regarding the adequacy for certain use of gloves. Interviewee E adds that basic requirements of glove purchasing relies on legislation and is strictly monitored and controlled by certain institutions. It is highly important how the goods are produced in order to be safe. Interviewee F thus mentioned that gloves have standards and certifications and must be what is promised for the customer.

The basic requirements of glove purchasing are strictly based on the legislation. Based on the interviews further sustainability requirements instead are more open to be decided by the companies. However, sustainable materials used for glove production must still comply with the basic requirements. In addition to material, glove suppliers are required to comply with other sustainability requirements related to, for instance, employees' working conditions, health and wages. Environmental aspects such as the environmental impacts of the manufacturing plant are increasingly considered.

5.2.1 Concrete steps of supplier development in the case company

The case company has concrete steps of supplier development process even the concept was challenging to explain. Interviewees present the process which can be divided into three stages as follows: activation, communication, and monitoring. Before initiating the development process interviewees mentioned that the development can be executed to existing or new supplier. The impulse for development process arises from the need of new gloves or development of existing ones. According to the interviews, new suppliers are sourced by the product managers. They also execute a pre-evaluation and discuss with the potential suppliers before further actions. Next steps for supplier selection are, for instance, supplier opening documents and evaluation. If the supplier is accepted to case company's supplier base the cooperation and development begins (supplier development process is presented in table 7).

Table 7. Supplier development process.

Steps of supplier development process

Activation	Supplier is sourced and pre-evaluated by the product manager (new supplier) Supplier fullfils documents required by the case company (new supplier) Product manager or purchaser contact the supplier (current supplier)
Communication	1) Case company presents the requirements and attributes to develop 2) Supplier presents how to achieve the target 3) Supplier sends the samples to be evaluated 4) Case company accepts or declines the samples
Monitoring	Supplier product and/or activities are monitored

Development of supplier initiates when the need is identified, and communication is opened with the supplier. Based on the interviews the process continues with the following phases: product manager or purchaser contacts the supplier for further discussion regarding the requirements, attributes, and targets. According to the interviewee F, the targets can be related to sustainability, for instance, sustainable materials used for the gloves. Hence, the product and desired materials are presented to the supplier by the case company. Later, suppliers are suggesting the planned steps towards the set target and produce the samples which are sent to the case company for an evaluation. The product is thus accepted or declined. Interviewee A emphasizes the continuous monitoring.

5.2.2 Sustainable supplier practices

The interviewees prefer to discuss about small steps towards sustainability instead of sustainability requirements. Interviewee B state that no concrete sustainability-related requirement exists for the glove purchasing in the case company. Interviewee E even

describe sustainability of the case company purchases as a “hazy” topic which highly relies on trust. The expectation is to have some sustainable alternatives on range. One of the interviewees add that no actual requirements of sustainability are presented and the sustainability decisions regarding the gloves are mostly based on the personal consideration and expertise. On the other hand, interviewees state that company has executed Supplier code of conduct which refers that the case company do have some initial supplier requirements. Interviewee F state that some suppliers are monitored in order to comply with the requirements. For instance, child labour is strictly prohibited among other social issues. In addition, based on the interviews, some environmental aspects such as sewage issues are mentioned to be monitored.

Sustainability is part of case company’s glove purchases but, based on the interviews, the way of conducting the sustainability adaptation into purchasing processes is mostly based on the documents, such as supplier evaluation form and code of conduct. Sustainability is considered in the evaluation phase when new suppliers are sourced. However, one interviewee describe the sourcing of new suppliers as following:

“I have not opened any single factory as I do not know how they are audited, and it is the most difficult of all that I cannot open new production facilities as I cannot be sure of how they operate.”

Supplier evaluation includes evaluation form in which there are several sustainability-related questions. In addition, suppliers are required to comply with case company’s supplier code of conduct. According to the interviews, suppliers are required to sign the codes of conduct. The compliance with requirements is not further monitored in general, except for some suppliers. One of the interviewees also uses Business Social Compliance Initiative (BSCI) and other document based practices for ensuring sustainability of the supply chains.

The most radical practice is to switch the supplier or discontinue the purchases of certain gloves. According to interviewee F, this may be executed if the product is not acceptable in terms of basic requirements or sustainability. For instance, if the product is assured to be produced by respecting sustainability-related manners but appears to be greenwash switch

may be considered over development. However, if the supplier is highly significant, development is still considered.

Table 8. Supplier development practices – including environmental and social sustainability.

Supplier development practices

Supplier evaluation: suppliers are evaluated by using evaluation form including several environmental and social sustainability-related questions. Some suppliers are audited if permission is received and resources are available.

Supplier audits: executed for national suppliers by the case company as part of the evaluation process. Global suppliers are audited by the corporation, and some by Finnish case company. Products are audited on the point of departure or in Finland by certain institutions.

Supplier Code of Conduct: the document which commit suppliers to comply with the company's ethical principles. Environmental aspects are also included. Suppliers are required to sign the document.

Supplier monitoring: The quality of products are regularly monitored. In addition some suppliers (manufacturing plants) are monitored regularly in terms of sustainability.

Communication and feedback: Purchasers and product managers maintain the communication and provide feedback, for instance, of the new product. This is done especially when launching a new product or developing old product.

Collaboration: environmental and social sustainability is based on trustful, long-term relationship between the companies that work together towards the joint target.

The case company has long-term partners and thus some collaborative practices are mentioned by the interviewees. According to the interviewees, open communication is

highly important in order to create a trustful relationship between the case company and supplier. Trust is mentioned to be the base of sustainability practice between the case company and its suppliers. Interviewee E values the open and trustful relationship and thus requires all the possible information of the supplier and manufacturing plant. The comprehensive information is to achieve some level of transparency of the supply chains. In addition to communication, audits are seen as an important practice but, according to interviewee A, as the case company is operating globally it is not realistic to audit all the suppliers around the globe. According to the interviewees F, if audits are done it is executed in the country of origin or Finland by third party auditor.

Product managers, and casually purchasers, visit supplier and their facilities in order to create and/or develop the supplier relationship. This also provides case company employees' to familiarize to the production environment. One of the interviewees mentioned that long-term glove suppliers are regularly met. Visits are still mostly done on domestic level. Some interviewees consider the corporation supports the case company by executing global supplier audits. Interviewee E adds that domestic purchases are mostly done from suppliers that have a good reputation. Hence, trust is the key for purchasing sustainable products. Summary of supplier development practices of the case company are presented in table 8.

5.2.3 Drivers and barriers of sustainable supplier development

Interviewees were able to provide some drivers and barriers of supplier development. Interviewee A state that suppliers must be capable to respond to the market changes. Therefore, supplier development is seen as a competitive advantage. According to interviewee F, drivers for sustainable supplier development are long-term suppliers, cooperation that is working, and supplier that has high volumes in providing goods. Other drivers, based on the interviews, rely on targets of creating trust between the case company and its supplier aiming to functional and permanent relationship, in other words partnership. Without the trustful relationship there are risks, such as loss of reputation, supply shortages, and environmental or social damage, which are discussed on previous theme. Interviewee E addresses the importance of trust in supplier relationship which must be developed in order

to have truly sustainable products. One interviewee describes the complexity and trust as follows:

“Those materials can come from as many as five countries, and you have to be very careful that the material doesn't come from “wrong” (unsustainable) region.”

Lack of trust and difficulty and complexity of examining the origin of raw materials of gloves are seen as barriers. Based on the interviewees, other barriers of sustainable supplier development are low yearly volumes in providing goods, and lack of knowledge and resources in auditing and monitoring sustainability processes. Interviewee F address that even though supplier has low yearly volumes, the change of supplier requires effort, and it might be more advantageous to develop the supplier than change it. On the other hand, if the item is not significant for the business the switch might be done, or the production of the glove is discontinued. Interviewee F add that even if the cooperation is developed, and it does not work, there may no need to continue the process. Thus, the unfunctional relationship is seen as a barrier of supplier development.

Drivers	Barriers
<ul style="list-style-type: none"> • Competitive advantage • Long-term relationship • Permanent relationship • Working cooperation • High yerly volumes of material flow • Trust 	<ul style="list-style-type: none"> • Lack of trust • Difficulty and complexity of examining the origin of raw materials • Low yearly volumes of material flow • Lack of knowledge and resources • Low importance product • Unfunctional relationship

Figure 9. Drivers and barriers of sustainable supplier development.

Drivers and barriers of supplier development are presented in figure 9. In total, the results highly support the importance of trust between the case company and its suppliers, especially in terms of sustainable development. Trust is a driver and barrier of sustainability. Trustful relationship provide a base for development process as the buyer can trust the gloves comply the basic requirements and sustainability standards of the item and supply chain. Working relationship with supplier lead to long-term permanent relationship and increased volumes. Lack of trust instead may lead to risks. Without trust sustainable products and supply chains may lead to greenwash.

6. Conclusion and discussion

The final chapter six aims understanding the major themes of the study based on the theoretical and empirical parts. This chapter thus presents the discussion and final results of this study. The discussion aims combining theoretical and empirical data of this study regarding the themes of sustainability and supplier development. The themes are presented in the theoretical part of this study. The empirical part examined the themes in context of glove purchasing of a Finnish case company. The results of the study are presented and discussed through the sub-questions. Finally, the aim is to provide an answer for the main research question of how supplier development process can help companies to ensure and improve environmental and social sustainability.

6.1 Answers to research questions

The aim of this master's thesis is to gain deeper understanding of two themes, sustainability and supplier development, separately and together. This is achieved through discussion of the two themes through the literature perspective and empirical results. This study focus on two aspects of sustainability, social and environmental dimensions. Hence, economic dimension excluded. The limitation was done for two reasons which are related to previous literature and the case company requirements.

Studies of social sustainability are still rare (e.g., Seuring & Müller 2008, 1699), and therefore studies of social aspects are important. In addition to social aspects, environmental aspects are considered in the study at the request of the case company. However, the literature and empirical study address the economic aspect cannot completely excluded. According to Carrol (1979, 500), economic sustainability is the prior responsibility of the company. Economically sustainable companies positively effect on society while doing business and gaining profits. (Carrol 1979, 500) Based on the interviews, the most common explanation for sustainability in the case company is related to Carroll's (1979) definition.

Previous literature address that by considering sustainability issues in the firm and its supply chains companies can produce profit without harming the environment and society. However, completely sustainable supply chains do not exist. In order to become more sustainable, companies are suggested to integrate its sustainability goals and practices. This can be done, for instance, by integrating sustainability into the daily tasks of the company by the help of top management. (Pagell & Wu 2009, 38-39)

The empirical result of this study presents that sustainability practices in all levels of the company are implemented step by step. The goals and practices are set by the top management. On the other hand, internal communication requires more efforts to bring sustainability to the awareness of all employees. In addition, it would be necessary to communicate the goals and steps to all employees of the company, especially to the purchasing and sales department. Next, this qualitative study aims providing answer for the main question by first discussing the three sub-questions one by one. First sub-question is presented next.

Why is environmental and social sustainability of the glove purchasing considered in the case company?

Companies have several drivers that motivate them toward sustainability-related actions. Empirical results suggest support for the drivers of sustainability discussed on the theory chapter. According to the results, compliance with laws and regulations can be seen as the minimum requirements of sustainability. This finding corresponds with the literature. Beyond the minimum requirements, literature address customers as the strongest drivers towards sustainability. Morali and Searcy (2013, 647) state that customers are more aware of sustainability and increasingly pressures companies towards more sustainable business. Empirical findings strongly support the statement. Even though quality topics were seen as the most important few years ago, nowadays the customer requirements are emphasized in companies' environmental and social matters of sustainability. However, contrary to positive impact of customers, empirical findings indicate that customers may act as a barrier if the cost is too high to pay. Customers who are less committed to sustainable business may require cheaper products and thus do not pay extra of sustainable products.

Furthermore, sustainability is seen as a tool which may increase the profitability. Morali and Searcy (2013, 649) state that the profitability may be generated, for instance, from increased sales, operational efficiency and/or reduced cost of employee related health and safety. Empirical findings indicate that in long run the cost mostly turns into profits which motivates the companies to pursue on more sustainable business. On the other hand, interviews address that higher costs and lack of other resources (e.g., time and people) are mentioned to be a barrier to foster sustainability.

Other reasons for considering sustainability in the companies are risk-related issues. Previous literature has presented risks of supply chains and how the lack of managing environmental and social issues may cause, for instance, economic and brand risks (Giunipero et al. 2012, 267). Both, literature and empirical results, indicate that the main risk may appear from environmental damage caused by supplier (supplier risk) or poor working conditions (supplier/buying firm risk). All interviewees address the reputation risk. Thus, empirical findings indicate reputation risk to be the most important risk for the company. Hence, managing environmental and social issues in the company helps managing risks. In terms of sustainability risks, economic loss is addressed as second important risk by the interviewees.

What supplier development practices are used in the case company's glove purchasing?

Second sub-question focused on supplier development practices but aims to provide the results of sustainability-related supplier development in the area of glove purchasing. Supplier development is one of the important practices for companies pursuing towards sustainable supply chains. Purchasing departments work closely with the suppliers on daily basis. According to Gimenez and Tachizawa (2012, 541), in order to achieve sustainability goals and performance in the company supplier development is addressed as one of the most important practices. Supplier development is done in the case company as well. The concept of supplier development was not that familiar, but the results indicate that it is adapted to the case company's basic practices.

Figure 10 presents the summary of supplier development practices. The figure includes common practices presented based on the empirical findings. In addition, previous literature addresses the same practices. Supplier development initiate by supplier selection. First step of selection is to identify the needs and continues with the evaluation process. (Zimmer et al. 2016, 1413) Evaluation can be done before supplier selection and/or after the development is completed and the continuous evaluation begins.

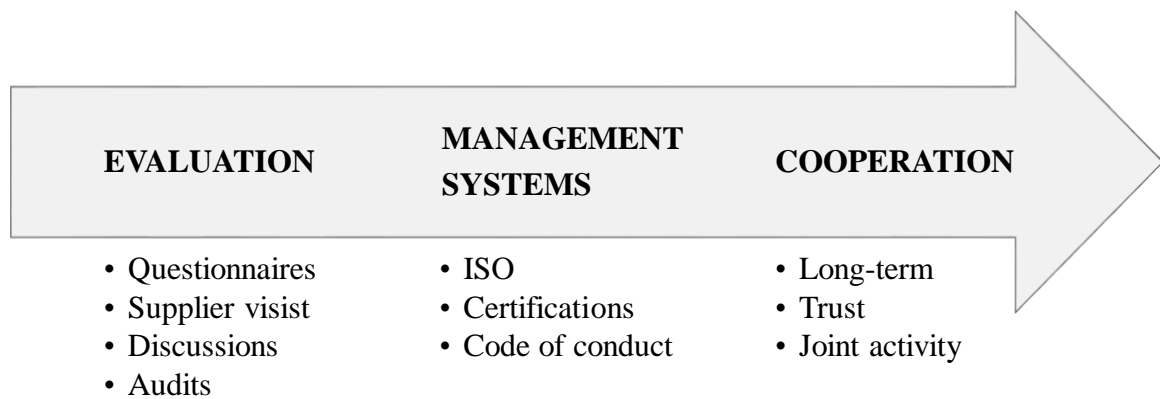


Figure 10. Supplier development practices.

Management systems, such as ISO standards, serve as criteria of evaluating and selecting suppliers (Harms et al. 2013, 208). Evaluation stage of development process may include minimum requirements of complying with buying company standards. Some, or all, suppliers can be required to comply with buying company codes of conduct, standards and/or certifications. Management systems can include sustainability-related requirements. Therefore, in order to avoid sustainability-related risks in global supply chains, companies increasingly require suppliers to comply with the guidelines related to environmental and social standards (Seuring & Müller 2008, 1704). Evaluation is one of the first steps to initiate the supplier development towards sustainability improvements but requires other practices alongside (Gimenez and Tachizawa 2012, 536) The case company results are in line with the previous literature of management systems. However, to foster the sustainability of the case company mainly focus on management systems, such as supplier evaluation form, code

of conduct, (ISO) standards and certifications. These requirements are set for most of the suppliers.

Evaluation and management systems only are not enough to develop sustainability with the help of suppliers. Thus, it is necessary to have relationship-specific practices alongside (Gimenez and Tachizawa 2012, 536). The empirical results indicate long-term relationships, and strong cooperation, even collaboration, which have created high trust between the case company and its important suppliers. Trust is one of the key elements which the employees of the case company mentioned in order to foster sustainability. The literature presents practices, such as supplier visits and feedback sessions, as part of the evaluation process (Gimenez and Tachizawa 2012, 533). According to the empirical finding, supplier visits are mostly done as part of the evaluation but also when developing and maintaining the relationship with supplier. In addition, feedback is used in the developing process when new product samples are sent from the supplier to the case company. For instance, after quality control of gloves made from recycled material the feedback session provides important information for the supplier to further improve the product. In case the materials are not strong enough or working correctly in certain use of the gloves the supplier is required to improve the quality.

What are the drivers and barriers of environmental and social sustainability for supplier development of the case company's glove purchasing?

Competitive advantage is seen as an important motivator for supplier development. The ability to respond with new products to market change is an important source of competitive advantage for many industries. (Li et al. 2007, 232) Results support the literature. As markets are changing rapidly suppliers must develop and be able to respond for new requirements. Furthermore, trustful buyer-supplier relationship has a direct and positive impact on operational effectiveness (Li et al. 2007, 233). Empirical findings emphasize the importance of trust. Functional and permanent relationship between the buyer and supplier is built with trust. Lack of trust may cause risks, such as loss of reputation caused by environmental or social damage on the supplier plant. There may be operators on the market who are not really

sustainable, even though they advertise as such. Hence, it is important to trust the supplier and the sustainable operation and materials in order not to be cheated.

Literature address that supplier development arises transaction costs due to the fear of opportunism and investments. On the other hand, operation cost may decrease through close cooperation. (Li et al. 2007,232, 242) Results indicate that cost is one of the topics influencing on company's overall sustainability decisions. In terms of sustainable supplier development, the barriers are related to lack of resources which may indicate, for instance, to cost, people, time, and knowledge. Other barriers confirmed by the empirical findings are lack of trust, and difficulty and complexity of examining the origin of raw material even suppliers are developed. Sustainable supplier development requires continuous monitoring. Due to lack of resources monitoring and auditing process are not done in the desired level. Therefore, companies cannot be completely sure of the true level of sustainability in their supply chains.

How can supplier development process help companies to improve environmental and social sustainability?

Previous literature and this study present the importance of supplier development in sustainability adaptation process. As the conceptual framework of this study (see figure 1) presents the basic requirement of supplier development is to manage the relationships in sustainable supply chain that includes buying company, suppliers and other members of supply chain. Supplier development provides negative or positive sustainability outcomes depending on the relationships between the buying company and its suppliers. In order to achieve positive impacts development practices must be implemented. Hence, this study address that sustainable supplier development requires close and long-term relationships with mutual trust, in other words collaboration between the buyer and supplier. In addition, all parties (e.g., employees of the buying company and supplier) involved to sustainability development must have clear objects and understanding of the process. Thus, training, communication and knowledge transfer are highly important.

Trustful relationship is the key for truly sustainable products and supply chain instead of greenwashing. Developing buyer-supplier relationship towards close trustful relationship provides tools for improved outcomes of social and environmental sustainability. Environmental outcomes are related to the production (e.g., sewage and emissions) and the materials used to the gloves. Social outcomes can be related to health and safety improvements of the employees operating in buying company or supplier company. Sustainability outcomes of supplier behalf thus effect on the supply chain by improving the sustainability of downstream and upstream.

6.2 Conclusion

Companies consider sustainability for several reasons such as reducing risk, gain competitive advantage, and to serve the customer requirements the best way possible. Managing social and environmental issues of supply chains supplier relationship management has an important role. The basic requirement for maintaining and developing the relationship is to understand how widely the supplier's actions effect the purchasing company's sustainability on a broad scale. Since the purpose of companies is to make a profit, the costs of sustainability can be high. At the same time, when customers push towards more sustainable products, the cost effects are being weighed.

Sustainable supply chain can be a more cost-effective option in the long-term, considering the environment and social issues. In order to achieve this, companies must actively combine not only the economical aspect, but also environmental and social themes as part of supplier cooperation and thus supply chains. This, in turn, is achieved through active cooperation between the management and employees, where all company's employees are aware of the set goals and the manners to achieve them. In addition to internal awareness, purchasing department must actively cooperate with suppliers in order to create close trustful relationship with suppliers. Hence, trust and close relationship between the buyer and supplier motivate companies to develop supply chains, or in other words, suppliers and their products towards more sustainable performance.

7. Recommendations, limitations, and suggestions for further research

This study, as any other studies, has limitations. The main limitation of this master thesis is that it is conducted as a one company case study. Another limitation is the small number of interviews which are from same company. All interviewees were not able to respond for all the interview questions of theme two (supplier development). These factors decrease the generalizability. However, the theory and empirical results of this study provide useful insights into the importance of supplier development in terms of (environmental and social) sustainability implementation. In addition, this study aims to provide data for the research gap of social sustainability.

This study is focusing on protective gloves. A study of, for instance, food or textile industry may have provided different results. Protective gloves, textiles and food have distinct basic requirements and thus sustainability issues may consider other topics in other industries. However, sustainability in general is quite similar for all companies. The topic and results may benefit other industries, managers and researchers as well. Social and environmental issues of supplier behalf are not as distinct as the basic requirements and industry norms. Production of any goods may cause issues regarding working conditions and environmental damage despite of the industry.

The future research could examine the impact of sustainable supplier development in other product categories or industries. On the other hand, the sustainability of protective gloves could be examined more by focusing deeper on the environmental sustainability issues of the materials used in gloves in terms of complying the basic requirements at the same time.

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Appendices

Appendix 1. Questions of interview

To what extent are you involved in sustainability matters of your company? Management or operational level?

Theme 1: Sustainability

1. How would you describe sustainability in business context?
2. How do you see sustainability as part of your company?
3. Does your company have environmental/social sustainability targets? If yes, what?
4. What are the most important sustainability-related risks which may occur from supplier side? (environmental/social risks)
5. What motivates or hinders your company in implementing environmental/social sustainability?

Theme 2: Supplier development and environmental/social sustainability

1. How would you briefly describe supplier development?
2. Could you briefly describe the concrete steps of supplier development?
3. What are the basic requirements for glove purchasing?
4. Is sustainability involved in supplier selection? How?
5. What kind of practices are used to improve sustainability?
6. How is supplier compliance with sustainability requirements ensured?
7. What factors are the drives or barriers the implementation of supplier development?
(In general, and sustainability context)