# SUSTAINABLE SUPPLY CHAIN MANAGEMENT – DRIVERS, PRACTICES AND STRATEGIES ON ENSURING SUSTAINABLE SUPPLY CHAIN

Lappeenranta–Lahti University of Technology LUT
Master's Programme in Supply Management, Master's Thesis
2021
Annamari Saarela
Examiners: Professor Anni-Kaisa Kähkönen
Junior researcher Kati Marttinen

# ABSTRACT

Lappeenranta–Lahti University of Technology LUT

LUT School of Business and Management

Business Administration

Annamari Saarela

**Sustainable supply chain management – drivers, practices and strategies on ensuring sustainable supply chain**

Master's thesis

2021

93 pages, 7 figures, 7 tables and 1 appendice

Examiners: Professor Anni-Kaisa Kähkönen and Junior researcher Kati Marttinen

Keywords: Sustainable supply chain management, SSCM, sustainability, supply chain, drivers, practices, strategies

Sustainable supply chain management has become an important topic for companies. The companies are facing pressure to balance their economic performance with sustainable development. The aim of this master's thesis is to find how sustainability is reflected in the supply chain. The study focuses on the key drivers for companies to do sustainable supply chain management and on the key SSCM practices and strategies. An in-depth article search was conducted in the study and based on it the elements for the study were chosen. The comprehensive literature review set the base for the empirical part of the study. The study was conducted as a qualitative multiple case study, and the data was collected with five semi-structured interviews. In addition, the sustainability and annual reports of the case companies were utilized.

The results of this study indicate that sustainability and SSCM are vital for companies to succeed nowadays. The focus is on environmental and social sustainability. Sustainability is considered important throughout the supply chain and in all business operations. Companies are focusing on different sustainability aspects in the supplier selection, and demand that their suppliers are complying the same sustainability agendas as they are. The results indicate that laws and regulation are the basis for businesses to do SSCM, but many companies have their own will to do more. Stakeholders and especially customers are seen as one of the key drivers to do SSCM. The key SSCM practices include the use of Supplier Code of Conduct, auditing, reducing emissions, as well as work safety, non-discrimination and ethics. According to the findings of this study, companies rarely have a separate SSCM strategy, and sustainability is embedded into the corporate strategy. Sustainability is one of the main aspects in companies' strategies and it is reported extensively.

# TIIVISTELMÄ

Lappeenrannan–Lahden teknillinen yliopisto LUT

LUT-kauppakorkeakoulu

Kauppatieteet

Annamari Saarela

**Vastuullisen toimitusketjun johtaminen – motivaattorit, käytänteet ja strategiat vastuullisen toimitusketjun varmistamisessa**

Kauppatieteiden pro gradu -tutkielma

93 sivua, 7 kuvaa, 7 taulukkoa ja 1 liite

Tarkastajat: Professori Anni-Kaisa Kähkönen ja Nuorempi tutkija Kati Marttinen

Avainsanat: Vastuullinen toimitusketjun johtaminen, vastuullisuus, toimitusketju, motivaattorit, käytänteet, strategiat

Vastuullisesta toimitusketjun johtamisesta on tullut yrityksille tärkeä aihe. Yrityksillä on paineita tasapainottaa taloudellista suorituskykyään kestävän kehityksen kanssa. Tämän pro gradun tavoitteena on selvittää miten kestävä kehitys näkyy toimitusketjussa. Tutkimus keskittyy keskeisiin motivaattoreihin, joita yrityksellä on tehdä vastuullista toimitusketjun hallintaa, sekä keskeisiin vastuullisen toimitusketjun johtamisen käytäntöihin ja strategioihin. Tutkimuksessa tehtiin syvällinen artikkelihaku ja sen perusteella valittiin tutkimuksen elementit. Kattava kirjallisuuskatsaus loi pohjan tutkimuksen empiiriselle osalle. Tutkimus tehtiin kvalitatiivisena monitapaustutkimuksena ja aineisto kerättiin viidellä puolistrukturoidulla haastattelulla. Lisäksi hyödynnettiin tapausyritysten vastuullisuus- ja vuosiraportteja.

Tämän tutkimuksen tulokset osoittavat, että kestävä kehitys ja vastuullisen toimitusketjun johtaminen ovat elintärkeitä yrityksille menestyä nykyään. Painopiste on ympäristöllisessä ja sosiaalisessa vastuullisuudessa. Vastuullisuus nähdään tärkeäksi koko toimitusketjussa ja koko liiketoiminnassa. Yritykset keskittyvät toimittajavalinnassaan erilaisiin kestävän kehityksen näkökohtiin ja vaativat toimittajiltaan samoja vastuullisuustavoitteita kuin hekin. Tulokset osoittavat, että lait ja sääntely ovat yritysten perustana tehdä vastuullisen toimitusketjun johtamista, mutta monilla yrityksillä on oma tahto tehdä enemmän. Sidosryhmät ja erityisesti asiakkaat nähdään yhtenä tärkeimmistä motivaattoreista. Keskeisiä vastuullisen toimitusketjun johtamisen käytäntöjä ovat toimittajien eettinen ohjeisto, auditointi, päästöjen vähentäminen sekä työturvallisuus, syrjimättömyys ja etiikka. Tämän tutkimuksen tulosten mukaan yrityksillä on harvoin erillistä SSCM-strategiaa, ja vastuullisuus on osa yrityksen strategiaa. Vastuullisuus on yksi yritysten strategioiden tärkeimmistä osa-alueista ja siitä raportoidaan laajasti.

## ACKNOWLEDGEMENTS

It feels surreal to say that I am done with my studies in LUT University. Four years went by so fast and this chapter in my life has come to an end. I want to thank my supervisor Anni-Kaisa Kähkönen for her constant support during this writing process. I am grateful for the help and advice I have received from her and from Kati Marttinen. I also want to thank all the companies who participated in this study. Thank you for your time and great and interesting conversations we had. I also want to thank LUT University for the great education and knowledge I have received during the years. I have made lifelong friends and made great memories in LUT.

I want to thank my amazing friends and parents for their support. Special thanks to my dear mother who has supported me through everything in life. I would not have made it this far without you. The next chapter in my life has already started and I am excited to see what the future holds for me.

Annamari Saarela
Turku 18.11.2021

## ABBREVIATIONS

| | |
|---|---|
| **SSC** | Sustainable Supply Chain |
| **SCM** | Supply Chain Management |
| **SSCM** | Sustainable Supply Chain Management |
| **CSR** | Corporate Social Responsibility |
| **TBL** | Triple Bottom Line |
| **GSCM** | Green Supply Chain Management |

**TABLE OF CONTENTS**

## APPENDICES



## FIGURES



## TABLES

# 1 INTRODUCTION

Sustainability and sustainable supply chain management (SSCM) have become key topics for companies. Companies are facing more pressure in this decade to balance the economic benefits and sustainable development. Hence, SSCM has become an effective management mode that takes the economic, environmental and social performances into account at the same time. (Li, Fang & Song 2019) The drivers for rising prominence of sustainability include supply and demand characteristics surrounding energy consumption, an increased understanding of the science behind climate change, and greater transparency concerning environmental and social actions of organizations (Carter & Easton 2011). In addition, the environmental resource limitations, a global population explosion and the corruption of logistics production are reasons for the increased concerns in organizations (Tsai et al. 2021). Previously sustainability initiatives focused on environmental issues, but nowadays all the triple bottom line concepts are adopted in the companies' processes (Singh & Trivedi 2016). After the concept of sustainability became in the awareness of companies, they have adopted SSCM as their core business paradigm, and diverse strategies and frameworks have been developed to establish sustainability on their supply chains (Kang et al. 2012).

Adopting sustainability practices not only improves organizations' and their supply chains' environmental and social performance, but also provides an opportunity for organizations to acquire a new set of competencies that can help them achieve a competitive advantage by undertaking sustainability initiatives both within and outside of organizational boundaries (Saeed & Kersten 2019). Supplier selection is a critical operational and strategic task for the development of sustainable supply chain partnerships. Environmental, social and economic supplier characteristics are all important factors to consider when evaluating and selecting sustainable suppliers. (Sarkis & Dhavale 2015) The drivers for doing SSCM varies a lot between companies. In addition, companies have multiple SSCM practices they imply into their business operations. Therefore, drivers and practices are an interesting research area in SSCM, and an interest for this study. Organizations nowadays may have separate sustainability strategies. The literature argues that organizations should expand their sustainability strategies into their entire supply chains. In addition, the strategies are often

differentiated into compliance and proactive strategies. (Peters, Hofstetter & Hoffmann 2011) Thus, this study aims to find out what kind of SSCM strategies organizations have, and whether the companies' have their own sustainability strategy, or have their strategy embedded into the corporate strategy.

## 1.1 Literature review

SSCM is considered as a relatively new sub-field of supply chain management (Baliga, Raut & Kamble 2019). The first published papers on SSCM were found from the year 1994 (Seuring & Müller 2008). There is a variety of studies on sustainable supply chains and the concept of SSCM has been defined in multiple ways. According to Luthra and Mangla (2018) most of the research papers from the recent years are focusing on literature review. In addition, the studies linked to SSCM are in the initial phases of development and the research papers deal primarily with hypothetical discussion and subjective evidence. The aim for the literature review is to find themes and main elements on what SSCM consists of.

### 1.1.1 Article search

In order to make a comprehensive analysis on SSCM elements, and to find research questions to be answered in this thesis, an extensive and systematic article search was performed by following the process by Quarshie et al. (2016). Five journals were chosen to be searched based on that they have the most SCM and sustainability related articles. The following journals were chosen: *Journal of Operations Management, Journal of Purchasing and Supply Management, Journal of Supply Chain Management, Supply Chain Management: An International Journal,* and *Journal or Business Ethics*. The time frame was set to ten years between years 2011-2021.

A keyword search was performed to get a narrowed search on the most important sustainability topics. Set of keywords that were used were: "SSCM", "sustainable supply chain", "corporate social responsibility", "SSCM practices", "SSCM strategies", "sustainability", "environmental sustainability", "ecological", and "social sustainability".

A research process for article search is presented in Figure 1. After setting the search criteria to the Journal's search, the article search was performed. The keyword search was performed

in May 2021, and the numerical results are based on that timeframe. The results of the key word search and distribution between the journals are presented in Table 1. In one of the searches, the search had to be narrowed to only searching key words from the title, since the number of articles without specification was too wide. In the search of "corporate social responsibility" in the *Journal of Business Ethics*, the number of results was 1115. When narrowed down to only searching key word from the title, the number of results was 492.

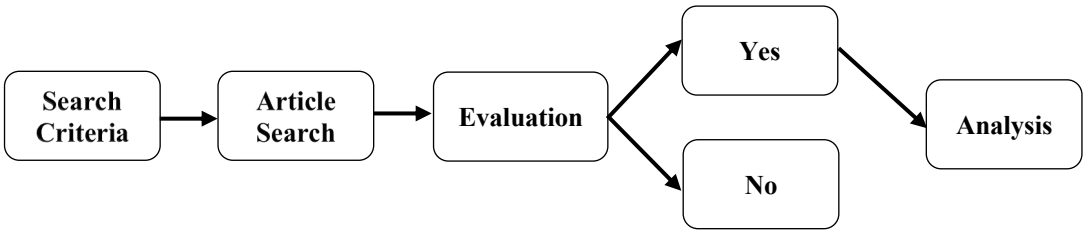


**Figure 1.** Research process for systematic review (In accordance with Quarshie et al. 2016)

**Table 1.** Distribution of the keyword search

| | Journal of Operations Management | Journal of Purchasing and Supply Management | Journal of Supply Chain Management | Supply Chain Management: An International Journal | Journal of Business Ethics |
|---|---|---|---|---|---|
| **SSCM** | 1 | 20 | 12 | 55 | 6 |
| **Sustainable supply chain** | 172 | 207 | 106 | 347 | 15 |
| **Corporate social responsibility** | 85 | 96 | 65 | 227 | 492 |
| **SSCM practices** | 1 | 20 | 12 | 55 | 3 |
| **SSCM strategies** | 1 | 20 | 11 | 54 | 1 |
| **Sustainability** | 208 | 221 | 96 | 323 | 667 |
| **Environmental sustainability** | 176 | 143 | 70 | 279 | 389 |
| **Ecological** | 25 | 27 | 23 | 93 | 222[1] |
| **Social sustainability** | 136 | 173 | 81 | 302 | 76 |

The ten keyword searches resulted together 5814 articles from all five journals. After the key word search, the articles were reviewed by examining their titles. The objective was to find different SSCM elements and themes that recurred in the articles. In addition, there was a desire to find themes and elements around how companies do sustainable supply chain management. Based on the titles, selected articles were then reviewed by reading their abstracts. The articles were included into the analysis based on their importance for this study. If the articles were not relevant for this study, they were rejected.

The main SSCM elements found in the article search were practices, strategies, risks, financial performance and stakeholders, social sustainability and corporate social responsibility, drivers, and enablers and barriers. The classification to different elements allows a comprehensive theory to be made on SSCM elements in chapter 2. In addition, the classification allows an empirical part of this study to be built on these different elements

[1] The key word was modified to ecological sustainability

and themes. Table 2 presents the main SSCM elements that were found in the articles, and main sources that discuss these elements in their articles. It has been justified to select these articles since they discuss the SSCM phenomenon the best and thus is relevant for this study.

**Table 2.** Literature review

| Element | Sources |
|---|---|
| **SSCM practices** | *Kähkönen et al. (2018); Sancha et al. (2019); Zhu et al. (2013); Yong-Hui & Jing-Wen (2017); McMurray et al. (2014); Golicic & Smith (2013); Zimmermann & Foerstl (2014); Kitsis & Chen (2019); Wiengarten et al. (2013); Marshall et al. (2015); Ageron et al. (2013); Morali & Searcy (2013); Paulraj et al. (2017); Hashmi et al. (2015)* |
| **SSCM strategies** | *Akhavan & Beckmann (2017); Lopez & Ruiz-Benítez (2020); Ray & Chaudhuri (2018); Meqdadi et al. (2020)* |
| **SSCM risks** | *Hajmohammad & Vachon (2016); Bode & Wagner (2015); Christopher et al. (2011)* |
| **Financial performance / stakeholders** | *Arora et al. (2020); Reuter et al. (2012); Wolf (2014); Zubairu et al. (2021); Ortas et al. (2014)* |
| **Social sustainability / Corporate social responsibility (CSR)** | *Nakamba et al. (2017); Eriksson & Svensson (2015); Moxham & Kauppi (2014); New (2015); Tang (2018); Ayuso et al. (2013)* |
| **Drivers** | *Sancha et al. (2015); Large & Gimenez Thomsen (2011); Villena et al. (2021); Lo & Shiah (2016); Marshall et al. (2015); Venkatesh (2020)* |
| **Enablers & barriers** | *Rauer & Kaufmann (2015); Farooque et al. (2019)* |

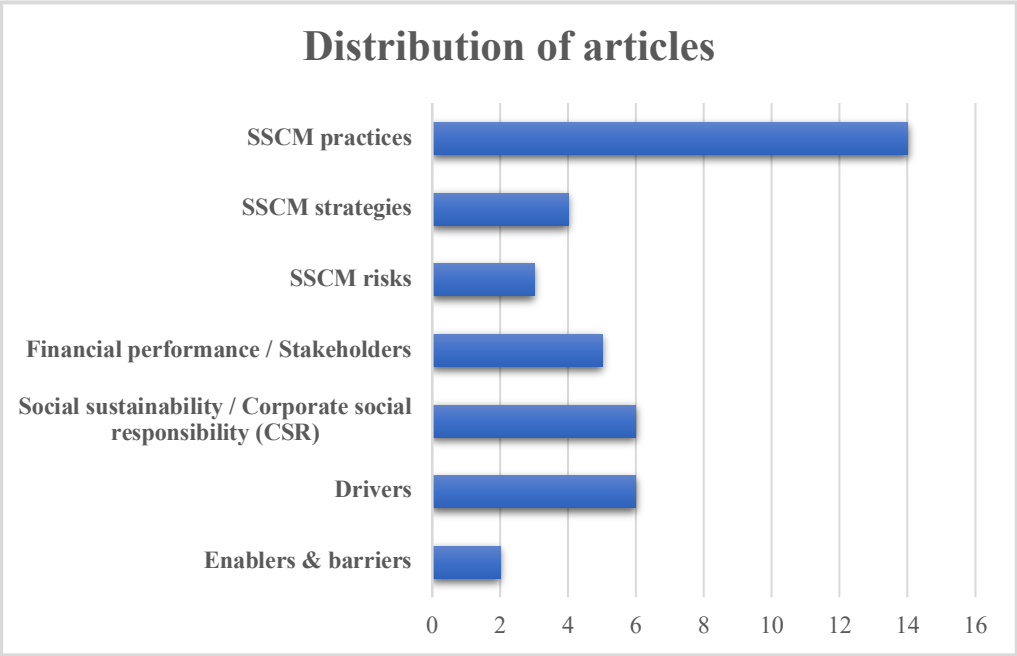


**Figure 2.** Distribution of articles

Figure 2 presents the distribution of the main articles. The most relevant articles were found on SSCM practices. The least relevant articles for this study were found on enablers and barriers. These articles are used in the theory part of the study, but articles from other journals and within the subject are used.

### 1.1.2 Findings on relevant studies

SSCM practices is a topic that has been studied somewhat, and the literature's perspectives varies a lot. Sancha et al. (2019) examined implementation of assessment and collaboration practices, and what kind of impact they have on supplier performance outcome. It was found that collaboration improves the suppliers' performance but assessment causes performance deterioration. Colicic and Smith (2013) in turn studied environmentally sustainable supply chain management practices and their link to firm's performance. The results show that the link between environmental supply chain practices and market-, operational-, and accounting-based forms of firm performance is significant and positive. Govindan et al. (2014) made a research on impact of supply chain management (SCM) practices on sustainability. It was found that the most significant impact on sustainability is waste elimination, supply chain risk management and cleaner production. On the contrary, flexible

transportation, flexible sourcing, ISO 14001 certification and reverse logistics do not have a significant impact on supply chain sustainability. Marshall et al. (2015) focused on their study on what drives the adoption of different social sustainability supply chain practices. The results show that basic and advanced social sustainability supply chain practices are positively related to firm's sustainability culture and how strong it is.

SSCM strategies have not been studied much in the previous literature. The literature varies from what are the best strategies to use to how strategies are adopted in the company. Akhavan and Beckmann (2017) conducted a study on how firms configurate sustainable sourcing and SCM strategies. The findings are multidisciplinary but one of the main things is that companies should not combine sustainable sourcing and supply management practices randomly. López and Ruiz-Benítez discussed on their study how supply chain strategies impact on sustainability. Their study explored the combined effect of lean, resilient and green strategies in the supply chain sustainability of the aerospace manufacturing, and the findings show the differences between these different strategies on the different sustainability dimensions. Harms, Hansen and Schaltegger (2013) in turn investigated two SSCM strategic approaches regarding supplier management in Germany's largest stock companies. According to the results, supplier evaluation and selection adopts a risk-oriented strategy and supplier development adopts a business-opportunity-oriented approach. Luthra and Mangla (2018) studied and analyzed strategies in adopting SSCM practices in India. Nine key strategies to SSCM practices were found and a hierarchical structure of strategies was developed in order to adopt SSCM practices.

Literature on SSCM risks and on financial performance and stakeholders is limited, but they were still elements that stood out from the article search. Hajmohammad and Vachon (2016) studied how supplier sustainability risk can be managed. They present four distinct risk management strategies that supply managers can adopt: risk avoidance, monitoring-based risk mitigation, collaboration-based risk mitigation and risk acceptance. Teuscher et al. (2006) also studied risk management in SSCM and present a framework that can help companies reduce their risk exposure and make progress in their SSCM. Arora et al. (2020) conducted a study on the link between corporate sustainability executive appointments and financial performance. The findings reveal that the stock market does not significantly react to the corporate sustainability executive appointments. However, under certain firm- and industry- specific conditions, the stock market reacts more or less favorably. Wolf (2014,

317) studied the relationship between SSCM, stakeholder pressure and corporate sustainability performance. The viewpoint was to assume that "SSCM can contribute positively to the reputation of an organization as a ''good citizen'' and, thereby, counter the impression that external stakeholder pressure is the only driver of SSCM". The findings of the study suggest that the stakeholder pressure and SSCM contribute together to a firm's sustainability performance. Meixell and Luoma (2015) also examined stakeholder pressure in SSCM. According to the findings, stakeholder pressure on sustainability in SCM can result in adoption of sustainability goals, sustainability awareness and implementation of sustainability practices.

Studies concerning social sustainability and corporate social responsibility (CSR) are plenty, but literature that is linked to SSCM is limited. Eriksson and Svensson (2015) conducted a study on elements that affect social responsibility in supply chains and beyond. They found 16 elements and they capture management principles and structures of supply chains that are important for social responsibility. Tang (2018) discussed in his article about socially responsible supply chains in emerging markets. The paper illustrates how companies can engage the poor population in their supply chain operations in emerging markets. New (2015, 697) in turn focuses on his paper on modern slavery in the supply chain. According to New "the distinctive characteristics of modern slavery may make conventional supply chain CSR practices relatively ineffective".

Literature on drivers of SSCM was found relatively a lot. Sancha et al. (2015) studied drivers and enablers in a global context on the adoption of sustainable supplier development practices. They distinguished three types of institutional drivers based on the institutional theory: coercive, normative and mimetic. According to the findings, coercive and normative pressures do not have any effect on the adoption of sustainable supplier development practices, whereas mimetic pressures have a positive effect on it. Large and Gimenez Thomsen (2011) in turn made a research on drivers of green supply management performance. The five potential drivers were: the strategic level of the department, green supply management capabilities, the level of environmental commitment, the degree of green collaboration with suppliers, and the degree of green supplier assessment. Based on them, a structural model was formed to explain environmental and purchasing performance. Saeed and Kersten (2019) made a systematic literature on the basis which they were able to make a precise interpretation, clear definitions, restricting and classification of external and

internal drivers. They found 40 unique drivers of SSCM. Narimissa et al. (2019) conducted a similar literature review using metasynthesis and were able to identify 112 drivers of implementation and improvement of SSCM in their study.

Enablers and barriers of SSCM is also one of the topics that has been studied relatively much. Gupta et al. (2020) identified barriers that prevents the adoption, implementation, and upscaling of sustainable supply chain (SSC) innovation in manufacturing industry. They were able to find and identify 33 barriers and then strategies for overcoming these barriers. Narimissa et al. (2019) identified 41 barriers to implementation and improvement of SSCM. Sajjad et al. (2015, 643) studied barriers to SSCM adoption in the New Zealand business context. According to the findings, "lack of supplier awareness, negative perceptions and inadequate government support are identified as barriers to SSCM implementation". Narayanan et al. (2019) conducted a study on barriers of implementing sustainable practices in rubber products manufacturing industry in India. The findings show that the main barrier for this is lack of government initiatives and lack of benchmark on sustainability measurement in Indian conditions.

## 1.2 Background of the topic and research questions

Based on the article search and literature review, three elements were chosen for a closer review for this study. The elements that were chosen are drivers, practices and strategies. The current research papers mainly focus on individual paradigms of SSCM and thus a broader research on the practices, drivers and strategies is needed. Studies focusing on SSCM practices are limited and if found, they focus on case studies and not explaining topic in a broader concept. According to Kang et al. (2012) there is little research or to understand how to adopt SSCM along with what kind of procedure. Reefke and Sundaram (2017) argue that in order to pursue sustainable business development, the underlying dynamics and influential themes for sustainability in supply chain needs to be understood. However, they claim that this area remains characterized by limited theoretical knowledge and practical application. Thus, it is justified to do this study.

Drivers of SSCM have been studied somewhat in the previous literature, but according to Saeed and Kersten (2019, 2) "despite the topic's acknowledged relevance, a process for setting priority based on drivers' importance in the supply chain, as well as their degree of

influence across the supply chain, is still required". In addition, Abdul-Rashid et al. (2017) argue that although various drivers have been identified that have influence on a firm to adopt environmental initiatives, the literature on drivers related to sustainable manufacturing is still limited. According to Marshall et al. (2015) there is a dearth of empirical research on social sustainability supply chain practices. Hong, Zhang and Ding (2018) also argue that scholars have previously focused on SCM practices and literature on SSCM practices is limited. There are few studies made on SSCM strategies but many of them focus on risk management strategies. Thus, it is desirable to do more research on SSCM strategies. Based on the previous literature on SSCM practices, drivers and strategies, there is a research gap for this specific study.

The main research question of this study is:

***"How is sustainability reflected in the supply chain?"***

The sub-questions are:

- *What are the key drivers for SSCM?*
- *What are the key practices of SSCM?*
- *What kind of strategies are used in SSCM?*

## 1.3 Conceptual framework

The conceptual framework of this study is presented in Figure 1. Sustainable supply chain management is in the center, and the triple bottom line aspects; economic, social and environmental are surrounding it. The aim of the study is to find main drivers, practices and strategies of SSCM and how companies use them to ensure that their supply chains are sustainable.


**Figure 3.** Conceptual framework

### 1.4 Definitions

**Corporate social responsibility (CSR)** is "context-specific organizational actions and policies that take into account stakeholders' expectations and the triple bottom line of economic, social and environmental performance (Aguinis 2011, 855).

**Green supply chain management (GSCM)** is described as buying firm's strategies and activities that incorporate environmental issues into supply chain management in order to improve suppliers' and customers' environmental performance (Bowen et al. 2001, 175).

**Supply chain management (SCM)** is "the systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purposes of improving the

long-term performance of the individual companies and the supply chain as a whole" (Mentzer et al. 2001, 18).

**Sustainable supply chain management (SSCM)** can be defined as "strategic, transparent integration and achievement of an organization's social, environmental, and economic goals" (Carter & Rogers 2008, 368). Sustainable supply chains must contribute value to the society and operate within a realistic financial structure (Cuthbertson 2011, 3). SSCM can also be defined as "the management of material, information and capital flows as well as cooperation among companies along the supply chain while taking goals from all three dimensions of sustainable development, e.g. economic, environmental and social, into account which are derived from customer and stakeholder requirements" (Seuring & Müller 2008, 1700).

**Triple bottom line (TBL)** refers to three dimensions of performance: social, environmental and financial. The triple bottom line dimensions are also commonly referred as the three Ps: people, planet and profits. (Slaper & Hall 2011, 4) The TBL terminology was created by John Elkington, and it provides a framework for measuring the success and performance of the business using the three lines: economic, social and environmental (Alhaddi 2015, 6). Corporation's ultimate success should be measured not only by the traditional financial bottom line but also with its social and environmental performance (Norman & MacDonald 2004, 243).

### 1.5 Research methodology

The empirical part of the study is conducted by using qualitative research method. According to Creswell (2009) qualitative research is understanding and exploring the meaning individuals or groups ascribe to a social or human problem. The research process involves emerging questions and procedures, data collection, data analysis inductively building from particulars to general themes, and finally the making interpretations of the meaning of the data. The research method must be relevant for answering the research questions. Thus, the research question 'dictates' the choice of methods and type of research setting. This study will be conducted with a multiple case study. A case study research is the emphasis on the production of detailed and holistic knowledge. The analysis consists of multiple empirical

sources that are rich in context. (Eriksson & Kovalainen 2008) In multiple case study multiple cases are studied to understand the similarities and differences between the cases (Gustafsson 2017). Case study is used in many situations to contribute to our knowledge of a group, individual, organizational, social, political and other related phenomenon. If the research questions focus on "what" questions, two possibilities arise. Some of these questions are exploratory and thus exploratory survey, experiment or a case study can be used. (Yin 2003) Thus, it is justified to use case study as a strategy in this research. The data for the analysis is collected through five interviews made for big Finnish global companies. The interviews are done as semi-structured interviews. In addition, secondary data is used from the companies' sustainability reports and strategies.

## 1.6 Limitations

The literature review found multiple elements and themes which were repeated in the study. However, this study focuses only on three elements so that the study does not become too extensive. In addition, this allows to study these three elements comprehensively. Sustainability as a whole can be seen in the responses of the interviewees. Thus, there are clear limitations made to the empirical part of the study so that the results specifically focus on SSCM.

The economic aspect of triple bottom line is presented in the conceptual framework and in the chapter 2.1. However, the economic sustainability of SSCM is not studied in this thesis a lot, since the literature from the topic is limited. Therefore, the economic aspect is deliberately excluded from the interview questions. The economic aspect will not be excluded from the conceptual framework or from the chapter 2.1 that discusses the triple bottom line. This is supported by the fact that in that the economic aspect of the triple bottom line is still seen as an important aspect, and it is belongs to the model developed previously by the researchers. There can be some references to the economic aspects of the company on the responses of the interviewees. They will not be excluded from the empirical part of the study, so that it is ensured that the results are reliable, and the voice and opinions of the interviewees are fully heard.

## 1.7 Structure of thesis

This thesis follows a typical thesis structure. The first part of the study, introduction, presents a comprehensive literature review on the previous studies. In addition, the background of the study, as well as the objectives and research questions are presented. This follows with a conceptual framework and the main themes and key definitions that are present throughout the thesis. Main methodology of the thesis will also be introduced briefly, as well as limitations and the structure of the study.

The second part of the study presents the main theory. The theory focuses on SSCM and on the three elements chosen: drivers, practices and strategies. The third chapter introduces the methodology and data collection methods that are used in the study, as well as the reliability and validity of this study. The fourth chapter presents the empirical analysis of the qualitative study. In the fifth and final discussion chapter, the theory is reflected into the empirical findings and the research questions are answered. Finally, suggestions for future research are given.

# 2 SUSTAINABLE SUPPLY CHAIN MANAGEMENT

SSCM has become the topic of interest for academics and practitioners in recent years (Pagell & Wu 2009; Ahi & Searchy 2013; Beske & Seuring 2014; Dubey et al. 2017; Jia et al. 2018). SCM used to be primarily concerned with ensuring an efficient and responsive production and delivery system from the raw material stage to the final consumer. However, sustainability today demands that supply chains must be explicitly expanded to include supply chain by-products, that the whole life cycle is considered, and that the product is optimized not only from a current cost standpoint but also from a total cost standpoint. In addition, environmental issues in supply chain have grown and brought new challenges of sustainability to industries. (Nishat Faisal 2010)

Organizations are increasingly recognizing the need to address the issue of sustainability in their operations (Ahi & Searchy 2013). Pagell and Wu (2009) also state that there are fundamental issues researchers need to address in order to offer managers models of how to create sustainable supply chains. According to Govindan (2018) environmental sustainability issues continue to dominate SSCM literature, whereas social issues and sustainability as the integration of all three aspects (environmental, social and economic) are themes that are rarely addressed. However, the shift towards sustainability empowers companies to integrate environmental and social issues into their corporate strategies.

## 2.1 Background from triple bottom line

Triple bottom line (TBL) and its three dimensions: environmental, economic and social, as well as sustainability, are two related constructs that are used interchangeably in the literature (Alhaddi 2015). Since the shift in societal focus is towards environmental longevity, businesses need to look at the big picture and see their impact on the world around them (Jackson, Boswell & Davis 2011). The TBL approach suggests that besides economic performance, organizations must engage in activities that have a positive impact on the environment and society (Govindan, Khodaverdi & Jafarian 2013). However, Gimenez, Sierra and Rodon (2012) state that positive financial gains can be made in the process. “Consistency in terms of referring to the three lines simultaneously is built into the structure

of TBL as the construct is explicitly based on the integration of the social, environmental, and economic lines" (Alhaddi 2015, 6). TBL provides a framework for which companies can measure the performance and the success of the business using three lines: economic, social and environmental (Goel 2010). Reporting with TBL it establishes principles by which company should operate to focus on the overall impact of its actions. This includes both positive and negative actions. (Jackson et al. 2011)

Economic performance refers to the topics covered in a company's annual financial report whereas environmental performance includes topics as the amount of energy consumed and its origin, resource and material usage and emissions. Social performance whilst addresses interactions between the organization and its community. Social sustainability means that the company encourages diversity and non-discrimination, ensure quality of life and indigenous rights, promote community involvement and employee relations, the ratio of wages is fair, and health and safety of employees are taken care of. (Goel 2010; Gimenez et al. 2012) Companies can use TBL for highlighting the non-market and non-financial areas of their performance and responsibility. The characteristics of TBL include accepting accountability, being transparent, integrated planning and operations, committed to stakeholder engagement, multi-dimensional measurement and reporting. (Goel 2010)

Carter and Rogers (2008) introduce a theoretical framework of sustainability as it is applied to supply chain. Figure 4 presents the framework of SSCM, which is based on the TBL and four supporting facets of sustainability; strategy, culture, risk management and transparency.

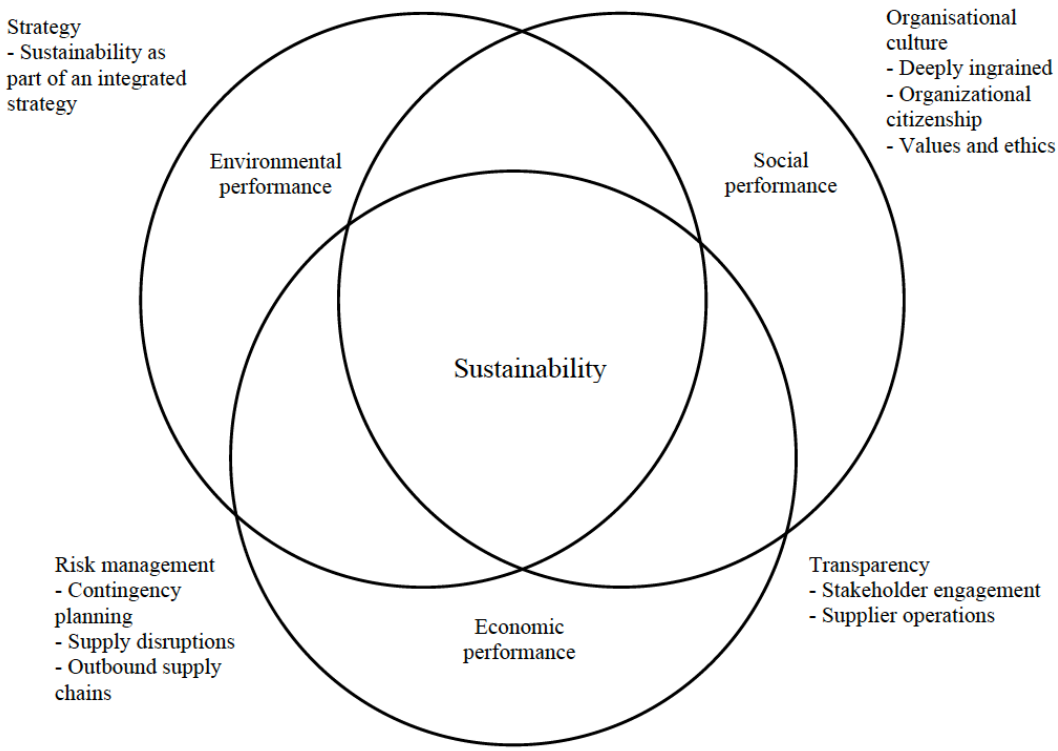


**Figure 4.** Sustainable supply chain management (In accordance with Carter & Rogers 2008)

The four supporting facets, of SSCM are:

1. "strategy – holistically and purposefully identifying individual SSCM initiatives which align with and support the organization's overall sustainability strategy
2. risk management, including contingency planning for both the upstream and the downstream supply chain
3. an organizational culture which is deeply ingrained and encompasses organizational citizenship, and which includes high ethical standards and expectations (a building block for SSCM) along with a respect for society (both within and outside of the organization) and the natural environment
4. transparency in terms of proactively engaging and communicating with key stakeholders and having traceability and visibility into upstream and downstream supply chain operations." (Carter & Rogers 2008 cited in Carter and Easton 2011, 49)

According to Goel (2010) there are multiple benefits of using TBL and reporting it. TBL helps companies ensure a values-driven culture and it is integrated at all levels. In addition, it is beneficial to embed sound corporate governance and ethics systems throughout all levels of an organization. TBL improves management of risk through enhanced management systems and performance monitoring. Companies can also formalize and enhance communication with key stakeholders such as the finance sector, suppliers, community and customers. In addition, one benefit is an ability to benchmark performance both within industries and across industries. TBL also attracts and retains competent staff when organization is focused on values and its long-term existence. Over time these benefits contribute to the increased market value of an organization.

## 2.2 Drivers

Drivers of SSCM are pressures that push organizations toward the implementation of specific sustainability initiatives (Caniato et al. 2012). According to Köksal et al. (2017) drivers are initiating and motivating factors in implementing SSCM practices organizations. There is plenty of literature on drivers of SSCM, and the literature has focused on empirical methods to create theoretical frameworks (Dubey et al. 2017). According to Saeed and Kersten (2019) the previous literature has found multiple drivers of doing SSCM, but why and how many of these drivers exist has not been able to identify. In addition, research on SSCM implementation, that is closely related to the drivers of SSCM and its implementation, has been previously studied a lot. Various conceptual models, strategic issues, stakeholders' perspectives, and performance measurements have been created. (Narimissa et al. 2019) According to Tay et al. (2015) what causes firms to engage in SSCM differs a lot. Some firms are being driven from within their top management, and others are driven by external influences such as stakeholder pressures or customer requirements.

Studies have shown that investments in SSCM initiatives can improve company's performance and competitive advantage (Pullman, Maloni & Carter 2009). A clear identification and classification of the drivers of SSCM can help practitioners to understand better sustainability issues, how to identify difficulties, and to determine the improvements that are required (Saeed & Kersten 2019). In addition, identification of drivers helps

practitioners to predict potential SSCM implementation issues that may arise during implementation and avoid the SSCM implementation failure (Narimissa et al. 2019).

### 2.2.1 Categorization of drivers

Drivers of SSCM can be categorized in multiple ways based on different theories or whether the drivers are influenced externally or internally inside the company. Figure 5 illustrates the categorization of drivers that this thesis focuses on.

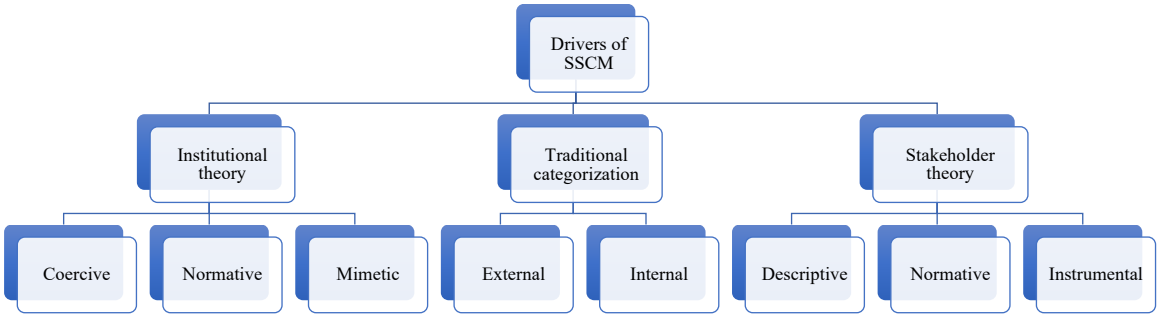


**Figure 5.** Categorization of SSCM drivers

Drivers can be divided into external and internal drivers (Tay et al. 2015; Narimissa et al. 2019; Saeed & Kersten 2019; Zimon, Tyan & Sroufe 2020). In order to measure potential opportunities and threats by organizations, an identification of internal and external drivers and barriers is fundamental procedure inside companies (Narimissa et al. 2019). It is also an initial stage of the SSCM implementation (Sajjad et al. 2015). By doing this, companies can predict potential SSCM implementation problems and avoid failure. It is also initial step of measuring the SSCM performance. (Narimissa et al. 2019)

However, all internal and external drivers do not have a similar level of access to the organizational knowledge and level of value contribution within the supply chain. According to stakeholder theory, the role of pressure can be direct or indirect exerted by different stakeholders in the implementation of sustainability initiatives. Drivers of SSCM can also

be divided into primary and secondary drivers based on the level of access to supply chain knowledge and value-contribution. (Saeed & Kersten 2019)

Versei et al. (2014) examined four theories in their paper: resource-based theory, institutional theory, stakeholder theory, and social network theory. Based on these four organizational theories, they identify four key drivers and enablers that motivate and influence companies in creating sustainable practices in supply chains:

1. Resources such as assets, capabilities, competences, processes and know-how are necessary in implementing strategies and improving competitiveness inside the firm and at the supply chain levels. Effective utilization and sharing of these resources and capabilities between supply chain entities can be seen as competitive advantage. In addition, it enhances the implementation of sustainable practices across the whole supply chain.
2. Institutional pressures at the macro level can influence firms and supply chains to adopt more socially and environmentally conscious practices. State regulations, industrial self-regulation, monitoring organizations, trade or employer associations, and formal stakeholder engagement processes all contribute to this.
3. To ensure the viability of their business operations, organizations must meet the interests of their primary stakeholders.
4. A supply chain can be thought of as a social network comprising interrelated organizations whose success is determined by the systematic integration of business operations and the collaborative performance of supply chain entities. The implementation of sustainability principles can be aided by effective information exchange amongst supply chain partners.

Stakeholder theory is one of the major theories used in social, environmental and sustainability management research (Hörisch, Freeman & Schaltegger 2014; Schaltegger et al. 2017). Stakeholder is defined by Freeman (2010, 46) as “any group or individual who can affect or is affected by the achievement of the organization’s objectives”. Every organization needs to satisfy the demands of its stakeholders since they are all capable of inflicting unacceptable damage on the viability of the organization if their interests are not met. In addition, to reach organizational sustainability, the demands of stakeholders need to be met in order to succeed in this. (Garvare & Johansson 2010) According to Donaldson and

Preston (1995) the three aspects of stakeholder theory are descriptive, instrumental and normative. The descriptive aspect focuses on description of how companies are managed and identification of relevant stakeholders. Instrumental aspect focuses on the effects of stakeholder management on the achievement of corporate objectives. Normative aspect in turn focuses on the discussion of the purpose of the business and moral justifications of stakeholder theory. (Hörisch et al. 2014)

Institutional theory is traditionally concerned with how organizations better secure their positions and legitimacy by adhering to the institutional environment's rules and norms (DiMaggio & Powell 1983; DiMaggio & Powell 2000; Meyer & Rowan 1991; Scott 2007 cited in Glover et al. 2014). "In the literature, institutional theory is used to explain how drivers of SSCM affects decisions regarding sustainable actions, with the overarching theme as to how firms better secure their social fitness and legitimacy by conforming to the rules and norms within their operating sphere" (Saeed & Kersten 2019, 3). According to Scott (1987) companies adopt sustainable practices as a response to external environmental influences. Thus, the three institutional pressures; coercive, normative and mimetic, can be a result from companies adopting sustainability in its actions (Sancha et al. 2015).

Coercive isomorphism is a result from political influence and the problem of legitimacy. It is considered as most influential type of pressure and the pressure comes from government, authorities and regulatory bodies. (DiMaggio & Powell 2000; Saeed & Kersten 2019) Coercive pressures are crucial to drive environmental management and sustainability (Glover et al. 2014). Mimetic isomorphism stems from standard responses to uncertainty. Mimetic pressures arise when competitors embrace sustainability practices and companies are then pressured to follow these sustainability actions. Normative isomorphism is associated with professionalization and the pressures originate from social obligations. The pressure comes from NGOs (non-governmental organizations), trade unions and society. (DiMaggio & Powell 2000; Saeed & Kersten 2019) Normative pressures drive organizations to be more environmentally conscious and institutional research is required to understand new social rules and organizational responses to environmental issues (Glover et al. 2014).

All these institutional pressures can influence organization's sustainability initiatives, but the institutional pressures have still been revealed to be theoretically distinct but not

necessarily empirically distinguishable (Saeed & Kersten 2019). Sancha et al. (2015) argues that studies have found that firms are subject to institutional pressures of normative expectations, coercive regulations, mimetic isomorphism, media and NGO scrutiny and public policies.

### 2.2.2 External drivers

External drivers or pressures are those that come from outside the organization but have a substantial impact on how the organization operates internally. External SSCM drivers initiate or encourage focal organizations to adopt sustainability practices. (Saeed & Kersten 2019) External drivers are classified different ways in literature, and this chapter presents the external drivers found from the literature.

Tay et al. (2015) divided external drivers into six categories: 1. government; policies and regulation, 2. competitors, 3. customers, 4. suppliers; collaboration with suppliers, 5. investors; pressures from investors, 6. NGOs; influence of NGOs. Narimissa et al. (2019) found five external drivers in improving sustainability in Iranian oil and gas supply chain by using a Delphi study. The main drivers found are: supply and allocation of financial resources, customer support until complete satisfaction, product life management, evaluation supply chain risk management, importance of reducing waste and environmental dangers. Abdul-Rashid et al. (2017) in turn found three main external drivers: regulation, public awareness and suppliers. Regulation includes for example compliance with local market regulations, legislation and standards. Public awareness can be pressure from the local or international public and environmental advocacy groups. The external driver of suppliers is their pressure of choosing green initiatives. Mathiyazhagan et al. (2015) argue that the most significant force when company is making the decision to engage in sustainable practices are pressures from external stakeholders. According to Versei (2014) organizations need relentlessly improve their capabilities and adopt strategies to meet the key stakeholders' requirements. Because of this, stakeholders' commitment to sustainability can be the key driver for the adoption of sustainability practices at the supply chain level.

Saeed and Kersten (2019) divided external drivers into three clusters: regulatory pressures, societal pressures, and market pressures. The cluster of regulatory pressures includes five

drivers. *Government legislation* contributes to sustainability-related awareness and encourages companies to adopt sustainability practices. If a company operates in more than one country, they have to follow *regional (e.g., the E.U.) or international regulators* to adopt sustainability related practices as proposed by legislators. *Professional/trade associations* pressure organizations to implement sustainability practices (Zhu & Sarkis 2007). Compliance can benefit the company by gaining an access to international markets, whereas non-compliance can lead to penalties and exclusion from the members' list (Saeed & Kersten 2019). There are various incentives such as *financial benefits* to companies who adopt sustainability practices. The financial benefits include tax exemptions and ISO 14001 certification. (Xu et al. 2013) *Certifications* act as a driver for companies, and according to the literature they promote SSC practices. Companies that are certified are more likely to adopt sustainability practices and they are more concerned about their environmental sustainability performance. (Saeed & Kersten 2019) With certifications, firm can improve their operational performance, gain competitive advantage, and increase market share (Walker, Di Sisto & McBain 2008).

Societal pressures include six drivers. *NGO pressure* is one of the drivers that push organizations and their supply chains to adopt sustainability practices. (Saeed & Kersten 2019) If company has poor social and environmental practices, *media/press* is quick to inform about this to consumers (Harms et al. 2013). *Value-based networks* can also be one influential factor that drives companies to adopt sustainability initiatives. In addition, *public pressure (societal groups)* is one of the main drivers that push organizations to act sustainably. (Saeed & Kersten 2019) Consumers are more aware of sustainability issues, and demand that companies produce high-quality, safe and environmentally friendly products (Tate, Ellram & Kirchoff 2010). *Consumer organizations* can also exert pressure towards companies to act more sustainably and adopt sustainability practices. In addition, *social well-being/community focus* is a driver that pushes companies to fulfill local communities' expectations. (Saeed & Kersten 2019)

The cluster of market pressures found eight drivers. Companies face pressure from various market factors such as supplier and shareholders. In addition, market-related drivers usually deal with sustainability issues that are concerning companies' business performance and relationship improvement. (Saeed & Kersten 2019) One of the main drivers is *competitive*

*advantage.* Companies are driven to improve their sustainability performance and develop environmentally friendly technologies to gain competitive advantage. (Meixell & Luoma 2015) In addition, *competitor's pressure* drives companies to achieve the same level of sustainability performance as their competitors (Saeed & Kersten 2019). Organizations also face *shareholders'/investors' pressure* (Harms et al. 2013; Meixell & Luoma 2015). Investors can withdraw their investments if the company is not performing sustainably or adopting sustainability practices. (Saeed & Kersten 2019). In addition, organizations face *institutional pressure* from banks, financial institutes and stakeholders (Ayoso, Roca & Colomé 2013). Banks can cut or suspend credit from the company if they involve in unsustainable practices. *Suppliers' pressure* also acts as a driver for companies to adopt sustainability goals across the supply chain. Suppliers can also provide new ideas for implementing sustainability actions. (Saeed & Kersten 2019) *Customers' pressure* is an important driver in achieving sustainability performance (Gualandris & Kalchschmidt 2014). Organizations pay attention to their customers' demands and needs in order to achieve customer satisfaction. According to the literature, higher customer satisfaction is positively correlated with adoption of sustainability actions. (Saeed & Kersten 2019) In addition, *reputation/image* is a big factor in implementing sustainability practices (Mzembe et al. 2016). Organizations want to fulfill their stakeholders' expectations and gain better sustainability image. In addition, a positive brand image increases the sales, and acts as a role model for competitors. (Saeed & Kersten 2019) *Globalization* is also one of the main drivers to implement sustainability practices in the company. It also gives companies an opportunity to learn from their global competitors regarding their sustainability actions and performance. (Hsu et al. 2013)

### 2.2.3 Internal drivers

Internal drivers of SSCM include organizational-related elements that are supported by efficiency targets, corporate values and corporate responsibility objectives (Saeed & Kersten 2019). Literature has classified internal drivers in multiple ways and this chapter presents the external drivers found from the literature.

Tay et al. (2015) divided internal drivers into three categories: 1. people issues, 2. strategic issues, and 3. functional issues. People issues include top management commitment, culture

and employee involvement including middle management. Strategic issues in turn consist of alignment of company's strategy with purchasing strategy, company's SSCM strategy, competitive advantage, risk management, performance management and organizational size. Functional issues include purchasing and supply function. According to Sajjad et al. (2015) the support of senior management is a critical factor in the successful introduction and implementation of environmental or social programs of a company. Tay et al. (2014) also argue that having top management commitment and supportive culture are one of the internal drivers. In addition to this, including employees is beneficial, as well as including middle management.

Literature has found five drivers of GSCM: green supply management capabilities, the strategic level of the purchasing department, the level of environmental commitment, the degree of green supplier assessment, and the degree of green collaboration with suppliers. Green supplier assessment and green collaboration have a direct influence on environmental performance. The purchasing department's strategic level and the firm's level of environmental commitment drive these two practices. The environmental performance has proven to have a positive influence on company's purchasing performance. In addition, the purchasing capabilities mitigate the impact of commitment on green collaboration. (Large & Gimenez Thomsen 2011)

Narimissa et al. (2019) found five main internal drivers that are: use of warehousing and control systems, strengthening shopping centers and domestic manufacture, top management and leadership support of SSCM, three-dimensional sustainability implementation including economic, environmental and social, and importance of meritocracy in employment. Abdul-Rashid et al. (2017) found four internal drivers in their study: competitiveness, customers' awareness, cost reduction and company culture. Competitiveness can mean gaining competitive advantage or becoming an environmental leader among competitors. Customer awareness can lead to pressure from local or international customers to choose green initiatives. With cost reduction, the pressure is in reducing production costs, and in company culture the desire is in innovating and becoming a pioneer in the field.

Saeed and Kersten (2019) classified internal drivers according to four clusters: corporate strategy, organizational culture, organizational resources, and organizational characteristics.

The operational and economic SSCM-related goals can only be met by ensuring support inside the organization and by creating strategic sustainability performance-related targets. The cluster of corporate strategy includes four drivers. *Top management's commitment* is a political force within the company that encourages proactive sustainability behaviors and successful implementation of firm's sustainability initiatives. (Saeed & Kersten 2019) In *organization's strategy* the sustainability-related issues must be noted since the strategy acts as a driver for the implementation of sustainability initiatives inside the organization (Schrettle et al. 2014). *Cost-related pressure* is a driver of cost reduction (Caniato et al. 2012). Firms desire to have energy savings, reduction in material consumption, increased efficiency and profit by implementing sustainability initiatives. *Operational/economic performance* goals can be achieved by implementing sustainable strategies that provide long-term monetary benefits. (Saeed & Kersten 2019)

Organizational culture cluster found five drivers of SSCM. Environmental degradation and lack of CSR have raised public awareness and demand for sustainable products and services. (Saeed & Kersten 2019) *Sosio-cultural responsibility* refers to an organization's moral obligation in the society which it operates, and it is represented by voluntary efforts to achieve harmony with social norms and expectations (Hsu et al. 2013). *Innovativeness* driver is an organization's willing to change and improve their existing sustainability practices and reach sustainability goals (Gualandris & Kalchschmidt 2014). *Code of business conduct* provides standardized and common decisions, procedures, and systems that fulfill the needs of its stakeholders. *Information dissemination* driver in turn means that sharing sustainability related information internally and externally is a requirement for implementing sustainability practices. In addition, it helps in the generation of new ideas and the promotion of supply chain collaboration. (Saeed & Kersten 2019) *Health and safety* drives organizations to report and reduce work-related health and safety incidents. The pressure comes from variety of stakeholders such as NGOs, employees and media. (Haverkamp, Bremmers & Omta 2010; Saeed & Kersten 2019)

The cluster of organizational resources found six drivers. With adequate *organizational resources* the firm's sustainability initiatives can be driven, and the availability of resources encourages the adoption of sustainable practices. (Saeed & Kersten 2019) *Resource depletion* is one of the main drivers why companies adopt sustainability practices (Schrettle

et al. 2014). Companies are influenced to improve their sustainability performance and efficient use of available natural resources. Organizations that have already adopted sustainability practices gain *human capital (skills and capabilities)* in sustainability management. (Saeed & Kersten 2019) This encourages companies to further implement sustainability-related actions (Schrettle et al. 2014). *Employees' pressure/involvement* act alone or through their unions to pressure their company to internally adopt sustainability practices. Thus, employees are considered to be one of the main internal drivers of adopting sustainability practices in the company. (Saeed & Kersten 2019) *Physical capital (technology and equipment)* can help in the successful implementation of sustainability practices throughout the supply chain, and it enhances their operational and sustainability performance (Schrettle et al. 2014). *Training and development* of one's employees helps organizations to increase their sustainability related performance. In addition, this supports employees to update their skills, improve job performance, and decrease errors and waste. (Veleva & Ellenbecker 2001; Saeed & Kersten 2019)

Organizational characteristics include six drivers. The *size* of the company influences decisions involving sustainability (Saeed & Kersten 2019). Large companies can face more internal pressure to implement sustainability initiatives, and the pressure comes from employees, as well as external pressures from regulatory, media, and social organizations (Tate et al. 2010; Saeed & Kersten 2019). Small organizations on the other hand are subjected to greater pressure from their competitors and customers. *Industrial sector* influences the set of demands and associated risks. Different industrial sectors have different requirements for sustainability performance assessment, and the expectations from stakeholders might differ. The organization's *position in supply chain* is considered as a vital driver of SSCM. Focal organizations face external supply chain pressures and in order to achieve sustainability goals, they develop their relationships with suppliers. In addition, downstream supply chain participants may be under more pressure than upstream supply chain partners to adopt sustainability practices. *Geographical location* is one of the most important drivers when choosing an operational site. (Saeed & Kersten 2019) Organizations must follow the laws of the countries which in they operate, and some countries might have stricter regulations related to social and environmental practices than others (Tate et al. 2010; Saeed & Kersten 2019). *Degree of internationalization* affects on the pressure to adopt sustainability practices. Multinational organizations are typically under more pressure to

adopt sustainability practices than non-international organizations. Customers and other shareholders are pressuring them to maintain the same degree of social equity and environmental preservation in every country they operate in. *Current level of sustainability actions* affects on the stakeholder pressure. Stakeholder pressure is lower for firms with a higher level of sustainability performance, whereas stakeholder pressure is higher for organizations that have not implemented any sustainability initiatives. (Saeed & Kersten 2019) Table 3 summarizes the external and internal drivers found in the literature.

**Table 3.** Internal and external drivers of SSCM

| Internal drivers | External drivers |
|---|---|
| *Alignment of strategies* | *Certifications* |
| *Code of business conduct* | *Competitive advantage* |
| *Company culture* | *Competitors and their pressure* |
| *Competitive advantage* | *Consumer organizations* |
| *Competitiveness* | *Customer support until complete satisfaction* |
| *Cost reduction* | *Customers and their pressure* |
| *Cost-related pressure* | *Evaluation supply chain and risk management* |
| *Current level of sustainability actions* | *Financial benefits* |
| *Customers' awareness* | *Globalization* |
| *Degree of green collaboration with suppliers* | *Government legislation and policies* |
| *Degree of green supplier assessment* | *Importance of reducing waste and environmental dangers* |
| *Degree of internationalization* | *Institutional pressure* |
| *Employees' pressure/involvement* | *Media/press* |
| *Geographical location* | *NGOs and their influence and pressure* |
| *Green supply management capabilities* | *Product life cycle management* |
| *Health and safety* | *Professional/trade associations* |
| *Human capital* | *Public awareness* |
| *Importance of meritocracy in employment* | *Public pressure* |
| *Industrial sector* | *Regional or international regulators* |
| *Information dissemination* | *Regulation* |
| *Innovativeness* | *Reputation/image* |
| *Level of environmental commitment* | *Shareholders'/investors' pressure* |
| *Operational/economic performance* | *Social well-being/community focus* |
| *Organization strategy* | *Stakeholders' pressure* |
| *Organizational resources* | *Suppliers and their pressure* |
| *Organizational size* | *Supply and allocation of financial resources* |
| *Performance management* | *Value-based networks* |
| *Physical capital* | |
| *Position in supply chain* | |
| *Resource depletion* | |
| *Risk management* | |
| *Socio-cultural responsibility* | |
| *SSCM strategy* | |
| *Strategic level of the purchasing department* | |
| *Strengthening shopping centers and domestic manufacture* | |
| *Three-dimensional sustainability implementation* | |
| *Top management and leadership support of SSC* | |
| *Top management commitment* | |
| *Training & development* | |
| *Use of new warehousing and control systems* | |

## 2.3 Practices

The role of SSCM practices is important to organizations to develop and increase their environmental, economic and social performance (Narimissa et al. 2020). By adopting SSCM practices, the organization can improve their environmental performance of products

and processes and monitor the CSR of partners along the supply chain (Gualandris, Golini & Kalchschmidt 2014). In addition, SSC is becoming an important approach in their business strategies to contribute to sustainable development. SSCM practices have been implemented by several companies in their supply chain operations. (Narimissa et al. 2020) It has been agreed that SSCM practices can improve the company's environmental and social performance (Kitsis & Chen 2019; Hong et al. 2018). However, the economic implications of such practices are unclear. Previous research has found contradictory evidence of the link between sustainable practices and the economic outcomes. (Kitsis & Chen 2019)

According to Sajjad et al. (2015) investments in SSCM initiatives can improve the organization's performance and competitive advantage. Companies have various different practices that are relates to managing, implementing and ensuring sustainability in their supply chains. Why companies pursue sustainability practices varies a lot. These are driven by firms' own drivers and goals, such as motives that are instrumental (driven by self-interest), relational (concerned with relationships among group members) or moral (concerned with ethical standards and moral principles). (Kähkönen et al. 2018; Kitsis & Chen 2019) However, it is argued that the adoption of SSCM practices is slower than expected and the current SSCM implementation is not effective (Narimissa et al. 2020).

### 2.3.1 Categorization of practices

According to Gualandris et al. (2014) the distinction between internal and external practices, as well as their coordination, has always been one key characteristic of SCM. SCM has been defined by many as the management of business activities and relationships both internally within the organization, and externally with suppliers. SSM practices can be divided into internal and external practices based on the nature of the practices, environmental and social based on the sustainability dimension, or into reactive and proactive based on the strategic type and importance (Kähkönen et al. 2018).

There are practices that enhance the relationships between the partners, and the flow of goods and information, or issues of sustainability. In *strategic orientation* the company's strategic values are addressed. (Beske, Land & Seuring 2014) TBL usually guides the sustainable strategy of a company, and all of the three dimensions are taken into account in the decision

making (Gimenez et al. 2012). It is important for the company to include SCM orientation into all of the decisions for successful management of the supply chain (Pagell & Wu 2009). *Continuity* is concerned with the structure of the supply network, and how the partners of the supply chain interact on the permanent level. The practices that include in this are long-term relationships, partner development and partner selection. *Collaboration* on the other hand links structural aspects to business processes. The goal of joint development is to create new technologies, products and processes. In addition, technical and logistical integration, as well as enhanced communication are main practices in collaboration. Companies adopt various practices of *risk management* to mitigate the risks. (Beske et al. 2014) With individual monitoring of suppliers, the company can audit their partners and identify their needs and progress towards wanted goals (Koplin, Seuring & Masterharm 2007). In addition, standards and certificates guide the actions of companies. Pressure from different groups is also one of the risks why companies need to adopt specific business practices so that they can respond to these pressures. The last category is *pro-activity (for sustainability)* and the practices that include in this are learning, stakeholder management, ability to innovate and life cycle assessment. Companies can benefit from stakeholder knowledge by actively engaging them into the processes and learning together. In addition, life cycle assessment is an important practice in implementing sustainability strategy. (Beske et al. 2014) In addition, in the dynamic surroundings of sustainable markets, a company's ability to innovate is essential (Klassen & Vereecke 2012).

According to Kähkönen et al. (2018, 526) SSM practices can be categorized into four main groups:

1. "sustainability guidelines – including standardization, certification, and labelling – to ensure the regulation of activities
2. reporting and formalization of the visibility of sustainability using external evaluators, writing CSR reports, using lists of sustainable suppliers and including CSR indicators for supplier performance measurement
3. upstream supply chain management actions, such as supplier sustainability auditing and putting effort into the traceability of the origin of purchased materials and products
4. downstream supply chain actions that aim to enhance the transparency of the supply chain for the end-customer."

Govindan et al. (2014) divided SSCM practices into lean, resilient and green practices. The lean practices include waste elimination, total quality management, and just-in-time (JIT) (Panizzolo 1998; Shah & Ward 2003; Schulze & Strömer 2012; Govindan et al. 2014). The resilient practices consist of supply chain risk management, flexible transport and flexible sourcing (Christopher & Peck 2004; Tang 2006; Govindan et al. 2014). The green practices in turn include cleaner production, ISO 14001 certification and reverse logistics (Rao & Holt 2005; Zhu, Sarkis & Geng 2005; Govindan et al. 2014). The study found that all of the lean, resilient and green SCM practices do not have a significant impact on the sustainability of a supply chain. However, the lean, resilient and green practices with significant impact on supply chain sustainability found out to be waste elimination, supply chain risk management and cleaner production. All of these practices found to have significant impact on all three aspects of supply chain's sustainability. (Govindan et al. 2014)

Zimon, Tyan and Sroufe (2019, 6) proposed an implementation framework that consists of three broad strategic responses: reactive, cooperative and dynamic. They represent the company's business priorities and their underlying strategic mindsets. In the reactive category, the description of practices is "adopting a minimum set of actions to comply with sustainable regulations and requirements such that organizations can focus on managing their economic performance". In the cooperative category the description of practices is "going beyond basic compliance and a myopic profitability goal, organizations adopt sustainability as collaborative actions toward environmental friendliness and socially responsibility". And in the dynamic category the description of practices is "embracing sustainability as part of the organization's vision to build dynamic capabilities and competitive advantage, while actualizing 'environment-first, society-second, and economics-third' principles in practices".

Jia, Diabat and Mathiyazhagan (2015) divided SSCM practices under six categories and identified the most influential practices from the literature. The categories are: supplier, design, management, customer, employee and internal. The practices are presented in Table 4.

**Table 4.** SSCM practices on six categories (Jia et al. 2015)

| Supplier | Design | Management |
|---|---|---|
| ***Supplier's ISO 14000 certification***<br><br>***Supplier compliance auditing Sustainable packaging***<br><br>***Asking for suppliers to commit to waste reduction goals***<br><br>***Using a life-cycle analysis to evaluate the environmental friendliness of products and packaging***<br><br>***Providing training to build supplier's environmental management capacity***<br><br>***Cooperating with suppliers for environmental objectives*** | ***Design of products for reduces consumption of material and energy***<br><br>***Design of products to avoid/reduce use of hazardous products and/or their manufacturing process***<br><br>***Optimization of process to reduce solid/liquid waste/emission***<br><br>***Designing products with biodegradable materials***<br><br>***Designing products with recyclable materials*** | ***Maximizing use of renewable or recycled source materials***<br><br>***Manufacturing from healthy raw materials in all probable end-of-life scenarios***<br><br>***Company-wide environmental audits***<br><br>***Use of reverse logistics***<br><br>***Commitment to GSCM from senior and middle level managers*** |
| **Customer** | **Employee** | **Internal** |
| ***Cooperation from customers for eco-design and cleaner production***<br><br>***Cooperation from customers for green packaging*** | ***Environmental awareness training***<br><br>***Environmental safety practices*** | ***Reducing resource consumption during production***<br><br>***Reducing wastage and spill-over during production***<br><br>***Using recyclable packaging materials***<br><br>***Using environment-friendly storage*** |

2.3.2 Environmental practices

Companies are facing more pressure to integrate GSCM into their operations since the concern about environmental issues and regulations is on the rise (Li & Huang 2017). In addition, stakeholders judge the success of a company not solely based on the financial performance, but also in terms of environmental and social performance. Company's environmental investments have previously been seen as financial burden, but there has been a shift in the thinking since becoming environmentally sustainable, the company can reduce

their material, production and warehouse costs. In addition, there is an increase in the product quality, reduce in the transportation and logistics costs and increase in their innovativeness. (Wiengarten et al. 2013)

Organization can approach the environmental management in the supply chain by using this framework: "internalizing activities in the supply chain related to the environment, or by employing market-based mechanisms, without significant commitment of its own resources to improve environmental performance outside operations". Based on the framework, Vachon and Klassen defined two sets of green supply chain practices:

1. "activities using markets or arm's-length transactions conducted by the buying organization in order to evaluate and control its suppliers, termed here as environmental monitoring
2. activities comprising a direct involvement of the buying organization with its suppliers to jointly develop environmental solutions, termed here as environmental collaboration". (Vachon & Klassen 2006, 798)

Environmental monitoring focuses on the results of supplier's environmental efforts, such as obtaining certification, adhering to specific regulations, or having all of their environment-related documentation in order. Practices included in environmental monitoring are gathering and processing supplier information through publicly disclosed environmental records, company-specific questionnaires and supplier audits. Companies examine their suppliers more nowadays and adopting product stewardship principles to assure the proper use of their products. In addition, code of practice, public standards and ISO 14001 certification are important practices when monitoring suppliers and imposing environmental safe-guards on them. (Vachon & Klassen 2006) Gualandris et al. (2014) also argue that ISO 14001 certifications and environmental management systems have a positive and significant link to environmental performance of production plants. In turn, environmental collaboration requires the buying company to devote specific resources to develop cooperative actions to address the supply chain's environmental issues. The focus is not on the immediate outcome of the suppliers' environmental efforts, but on the process whereby environmental operations or product can be achieved. Practices included in this are joint planning sessions regarding the environment, knowledge sharing activities pertaining

to greener product design or process modification, and waste reduction in the logistical processes. (Vachon & Klassen 2006)

According to Gualandris et al. (2014) the internal practices include environmental management systems, certifications and design for environment and life-cycle analysis. Also, the internal support for environmental commitment is included in these (Li & Huang 2017). With these internal practices, companies can develop innovative technologies to prevent pollution and minimize emissions, effluents and waste. External practices in turn include the mechanisms that are implemented at corporate and plant levels to assess and improve the environmental, as well as social performance of their supplier base. (Gualandris et al. 2014) These practices consist of green purchasing, cooperation with customers, environmental requirements, investment recovery and eco-design. Investment recovery refers to the use of recycling, redeployment and other similar techniques to derive better value from materials and products. Eco-design in turn means the use of technical improvements to products and processes that mitigate the environmental risk. (Li & Huang 2017) In addition, environmental requirements that decrease the use of water, energy and fuel consumption, as well as overall waste and use of packaging are one of the external practices. (Gualandris et al. 2014) According to Li and Huang (2017) green management practices include producing environmentally friendly products and minimizing overall impacts via green production, as well as green R&D and green marketing. Also, Collins, Roper and Lawrence (2010) argue that recycling is an important practice, and it is one of the most common ones in organizations.

### 2.3.3 Social practices

According to Hollos et al. (2012, 2974) Social practices are "the buying firm's efforts to induce socially responsible behavior, such as good working conditions, avoidance of child labor, appropriate and fair wages and high safety standards in its own operations and the operations of its suppliers." Alghababsheh and Gallear (2020) state that socially sustainable SSCM practices are the practices, mechanisms, methods and activities by which companies influence their suppliers' actions and capabilities to meet social objectives. CSR is strongly reflected into the social sustainability of a company. According to Khoury et al. (1999, cited in Dahlsrud 2008) CSR is the overall relationship of the corporation with all of its

stakeholders; customers, employees, communities, owner, investors, government, suppliers and competitors. In addition, socially responsible business practices strengthen corporate accountability, respects ethical values and is in the interests of all stakeholders (Dahlsrud 2008). Despite the fact that environmental issues are frequently associated with sustainability, social practices are equally as important (Collins et al. 2010).

Alghababsheh and Gallear (2020) divided social practices into supplier assessment practices and supplier collaboration practices. The supplier assessment practices are practices which by buyer guides, assesses, monitors and controls their suppliers' internal actions related to working hours and conditions, health and safety, employees' welfare and avoidance of child labor. Companies often use Supplier Code of Conduct where they state their expectations and standards of acceptable behaviour from suppliers (Andersen & Skjoett-Larsen 2009). By auditing suppliers, the company can check whether the supplier is complying with the requirements they have given in the Supplier Code of Conduct (Lund-Thomsen 2008). The supplier collaboration practices refer to practices by which buyers work closely with their suppliers in order to build their capabilities and effectively improve performance. These practices supplier development and education programmes. In addition, the buyer can establish collaboration practices such as mutual interaction routines to share know-how, allocating sustainability specific investments, organising joint meetings, and awarding suppliers subsidies to obtain third-party certification. (Alghababsheh & Gallear 2020)

Marshall et al. (2015) in turn divided social practices into basic and advanced practices. The basic social practices focus on monitoring and coordinating processes, procedures and performance that are already established. Advanced social practices in turn are innovative practices that open up new markets for supply chains. The basic practices give safeguards for companies to monitor and incentivize social sustainability behaviours, whereas advanced practices comprise a willingness to deliberately deviate from current operations

The basic social sustainability supply chain practices include health and safety of workers in supply chain, training, developing ethical code of conduct with suppliers to ensure human and employees' rights and worker conditions, non-discrimination and diversity, anti-corruption, and social accountability systems such as SA8000 (Bai & Sarkis 2010; Chardine-Baumann & Botta-Genoulaz 2014; Marshall et al. 2015; Büyüzközkan & Karabulut 2017;

Li et al. 2019; Alghababsheh & Gallear 2020). These basic social sustainability supply chain practices involve monitoring the suppliers' sustainability compliance. Regulatory social sustainability and corporate social sustainability directives are used to monitor them. The monitoring practices are arms-length practices, and they are used to control and evaluate suppliers. They focus on minimizing risk through inspection and control. Other basic social practices are reporting the safety of products, materials, components or processes. Using public documentation to judge regulatory compliance, assessing suppliers' conformance to company-specific sustainability practices and auditing suppliers' sustainability performance are listed in basic social practices. In addition, companies can improve their performance with safety management systems, and gaining a certification can lead to positive impact on the customers' minds. The advanced social sustainability supply chain practices in turn include new products and processes focussed on fair-trade agreements that engage the supply chain with non-traditional partners to provide social programs like education and health care to ensure community benefits. These practices extend beyond monitoring and compliance to implementing fundamental changes in the supply chain. (Marshall et al. 2015)

**Table 5.** Summary of SSCM practices

| Social | Environmental |
|---|---|
| ***Allocating sustainability specific investments*** | ***Audits*** |
| ***Anti-corruption*** | ***Certifications*** |
| ***Audits*** | ***Clean production*** |
| ***Awarding supplier subsidies to obtain third-party certification*** | ***Code of practice*** |
| ***Compliance*** | ***Cooperation with customers*** |
| ***Diversity*** | ***Design for environment and life-cycle analysis*** |
| ***Education*** | ***Eco-design*** |
| ***Fair-trade agreements*** | ***Environmental management systems*** |
| ***Health and safety*** | ***Environmental requirements*** |
| ***Health care*** | ***Gathering and processing supplier information*** |
| ***Human and employees' rights*** | ***Green marketing*** |
| ***Interaction*** | ***Green production*** |
| ***Monitoring*** | ***Green purchasing*** |
| ***Non-discrimination*** | ***Green R&D*** |
| ***Organizing joint meetings*** | ***Internal support*** |
| ***Public documentation*** | ***Investment recovery*** |
| ***Reporting*** | ***ISO 14001 certification*** |
| ***Safety management systems*** | ***Product stewardship*** |
| ***Social accountability systems*** | ***Public standards*** |
| ***Supplier Code of Conduct*** | ***Questionnaires*** |
| ***Supplier development*** | ***Recycling*** |
| ***Training*** | |

## 2.4 Strategies

SSCM strategies vary a lot in companies. Experts must consider three sustainability dimensions in SSCM adoption: environmental, social and economic. These dimensions need to be embedded and all connected factors into the organization's value chain. In this regard, the sustainability strategy should first be connected with the company's business plan, so that the sustainability effort may be effectively executed across the whole value chain, including supply chain. (Narimissa et al. 2019)

One of the key reasons why organizations are encouraged to implement SSCM strategy is the perception of potential risk or business loss as a result of unethical supply chain practices. Companies using SSCM strategies can avoid, mitigate, and manage environmental and social risks. (Sajjad et al. 2015) In addition, according to Deutch and Rideg (2013, 658) "companies must take into account the environmental and social impacts and risk associated with the entire supply chain (e.g. focal company, upstream and downstream processes, logistics), the opportunities of energy and resource utilization reduction offered by productivity enhancement, and innovations supporting the greening of products, processes or entire business models". The use and creation of specific management and standards systems (e.g. ISO 14001, SA8000), supplier and distributer evaluation schemes, Balance Scorcard-based or Supply Chain Operations Reference type performance measurement systems and the platforms of inter-company communication and training are important in the SSC strategy.

Deutch and Rideg (2013) state that four types of supply chain strategy can be distinguished. In passive supply chain strategy, the company ignores the social and environmental aspects of the operation. In reactive supply chain strategy, there is no deep intra- and inter-firm commitment nor collaboration about sustainability. Confrontative supply chain strategy in turn connects sustainability affects with cost efficiency. Proactive supply chain strategy incorporates the collaborative partners' opportunity seeking and process views, as well as the use of innovative solutions.

Akhavan and Beckmann (2017) found six categories of how companies can integrate sustainability into sourcing strategies:

1. Internal integration and governance; this includes behaviors such as top management executives' dedication to defining goals and communicating a sustainability corporate culture. It embraces the development of codes of conduct, policies and guidelines.
2. Supplier screening with focus on social issues; it defines social criteria, usually minimum criteria, for selecting best suppliers. To control the social impact of supplier activities, companies use widely accepted social standards and refer to codes of conduct.
3. Supplier screening with focus on environmental issues; it establishes requirements for suppliers in terms of adhering to set environmental standards. The activities to monitor suppliers' performance are gathering supplier information through surveys and publicly available records about environmental aspects.
4. Supplier development with focus on social issues; the focus is on assisting suppliers in the implementation of social requirements and improvement of capabilities. Training, development of corrective action plans, follow up activities and guidelines are activities that are included in this.
5. Supplier development with focus on environmental issues; the goal is to improve the eco-performance of supplier. The supplier development activities can consist of supplier training, cooperation on product design, process modification and shared development of eco-efficiency innovations. The buying firm is directly involved in this through shared asset investments and knowledge-sharing.
6. External governance and inter-organizational collaboration; these are collective activities outside the direct supply chain, such as collaborating with NGOs, other non-profits and industry competitors to develop and share SSCM knowledge.

Sustainability is presented in all these six categories as multi-dimensional construct that combines three axes social, environmental and governance.

Luthra and Mangla (2018, 196) in turn identified the following nine strategies on implementing SSCM practices:

1. "Understanding of the sustainability impacts of their supply chain
2. Management involvement, support and commitment
3. Establishing a vision and objectives for supply chain sustainability

4. Training, education, motivation and incentive programs of SC member about best practices
5. Behavioral changes in the complete supply chain
6. Joint industry collaboration and partnership
7. Communicating business expectations with suppliers
8. Use of clean technologies and modern information management approaches
9. Product stewardship"

According to López and Ruiz-Benítez (2020) the key success factor for transformation toward sustainability is the integration of lean, resilient and green strategies into supply chain decisions. The goal of Lean Supply Chain Management is to optimize all activities throughout the whole supply chain, from suppliers to distribution. "Lean supply chain strategy focuses on building close, long-term relationships with high levels of information transparency with suppliers for the purposes of cost reduction and quality improvement" (Lamming 1993 cited in Piercy & Rich 2015, 288). Piercy and Rich (2015) argue that the benefits of lean practices affect not only on the environmental sustainability but also to other sustainability dimensions.

Companies are facing more risks nowadays and they involve environmental, social and economic hazards. Unexpected natural disasters and man-made disruptions can be worsened by a leaner and more globalized structure. Thus, the primary goal for companies is the search for resilient supply chain. (López & Ruiz-Benítez 2020) The ability of a company to quickly recover from a disruption can be strengthened by including redundancy and flexibility into its supply chain (Sheffi & Rice Jr. 2005). In addition, the company needs to establish its sustainability factors and assess sustainability-related risks. If these risks are properly managed, they risks should reduce the consequences and impact of current decisions on the natural and social environment, as well as the financial performance of a company. (López & Ruiz-Benítez 2020)

GSCM assists companies and their partners in achieving corporate profit and market share objectives by reducing environmental risks and impacts while improving their ecological efficiency. Thus, GSCM practices should be implemented to improve supply chain's sustainability. (López & Ruiz-Benítez 2020) In addition, the implementation of green

purchasing capabilities has a positive impact on the environmental and economic performance of a company (Yook, Choi & Suresh 2018), and thus green strategy is noteworthy.

Harms et al. (2013) investigated suitable strategies for large German companies, and the strategies used were risk-oriented strategy and opportunity-oriented strategy. In risk-oriented strategy SSCM is considered as reducing risks and managing them and costs, whereas in opportunity-oriented strategy SSCM is developing more sustainable products. The goals of SSCM also vary. In risk-oriented strategy the goals are in reputation management and risk reduction, and in opportunity-oriented strategy the goal is to become a market leader and fostering research and development (R&D). The external drivers of risk-oriented strategy are regulators, press and media, and internal drivers are purchasing. In opportunity-oriented strategy the external drivers are customers and consumers, and internal drivers are marketing and R&D. The focus on supplier management processes in risk-oriented strategy is on supplier evaluation and selection, whereas in opportunity-oriented it is in supplier development. When it comes to measures and corrective actions at suppliers' site, termination of supplier-buyer relationship in case of non-compliance is the act in risk-oriented strategy. However, in opportunity-oriented strategy the measures are in training and having dialogue with the supplier.

# 3 METHODOLOGY

After the theoretical discussion of sustainable supply chain management and related elements, the empirical part is conducted. The chapter presents the methods that are used to carry out the study. The used research methodology will be presented, and how the data is being collected. In addition, the chapter will more extensively discuss the interviews and interviewees, as well as how the data is being analyzed. Finally, the reliability and validity of the study are discussed.

## 3.1 Research methodology

This study is conducted with a qualitative research method. Creswell (1998, 15) defines qualitative study as "an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting." Qualitative research is particularly relevant when the prior insights about a phenomenon under scrutiny are modest (Eriksson & Kovalainen 2008, 5).

The study used is case study. "Case study is an exploration of a 'bounded system' or a case over time through detailed, in-depth data collection involving multiple sources of information rich in context" (Creswell 1998, 61). In case study, the main purpose is to investigate the case in relation to its economical, historical, technological, social and cultural context (Eriksson & Kovalainen 2008). According to Gustafsson (2017) when a study includes more than one single case, a multiple case study should be used, and this is frequently associated with several experiments. In multiple case study multiple cases are studied to understand the similarities and differences between the cases. Thus, multiple case study is used for this study. Case studies are generally preferred when "how" or "why" questions are being posed (Yin 2003). According to Eriksson and Kovalainen (2008) the research questions are related to the understanding and solving of the case, and more specifically what the case is about and what we can learn from it.

### 3.2 Data collection

The primary data was collected with semi-structured interviews. Semi-structured interviews include outline of topics, issues, or themes, but variation in wording and sequence. The questions include 'how' and 'what' questions. The major advantage in semi-structured interviews is that the materials are somewhat comprehensive and systematic, and the tone of interview is fairly conversational and informal. The order of questions can also vary in each interview. Secondary data is already existing empirical data, such as textual data. (Eriksson & Kovalainen 2008) Secondary data of the companies was utilized, and it was collected from interviewee companies' sustainability reports and strategies.

**Table 6.** List of interviews

| CASE COMPANY | INDUSTRY | INTERVIEWEE'S POSITION IN THE COMPANY | LENGTH OF THE INTERVIEW |
|---|---|---|---|
| Company A | Transportation and logistics | CEO | 28 min |
| Company B | Industrial | Head of Supply Chain Sustainability | 23 min |
| Company C | Construction | Compliance Manager | 41 min |
| Company D | Industrial | Supplier Sustainability & Quality Specialist | 43 min |
| Company E | Retail | Country Sustainability Manager | 40 min |

The five case companies selected for the study are all based in Finland and are global big corporates. The interviewees were selected based on their position in the company and knowledge and work experience on supply chain's sustainability. Table 6 presents the industries of the case companies, interviewees' position in the company and the length of the interview. The companies and interviewees are anonymous in this study. The interviews were done during September 2021, and all the interviews were made via video. The

interviews were held in Finnish, and it allowed the conversation to be open and smooth. Appendix 1 presents the interview questions. The interviews were also recorded so that they could be transcribed later.

### 3.3 Analyzing the data

After conducting the interviews, the data was processed and analyzed. Figure 6 describes the data analyzing process used.


**Figure 6.** Data analyzing process (In accordance with Creswell 2009)

Organizing and preparing data for analysis involves transcribing interviews, optically scanning the material, typing up field notes and sorting and arranging the data into different types. An important step after this is to read through all the data and obtain a general sense of the information and reflect on its overall meaning. (Creswell 2009) The audios were listened and transcribed into computer, and then read through multiple times to begin detailed coding process. According to Eriksson and Kovalainen (2008) coding means that the different themes and features of the empirical data are being classified and given a

specific code. Coding is used to generate a small number of themes or categories, typically five to seven categories for a research study (Creswell 2009). The written transcript was color coded into different groups: drivers, environmental practices, social practices, suppliers, and strategies. The final step of the analyzing process is the interpretation of the meaning of themes of the data. The lessons learned can be the personal interpretation of the researcher, or the meaning derived from a comparison of the findings with information gathered from the literature (Creswell 2009).

### 3.4 Reliability and validity

Reliability and validity are classic evaluation criteria used for the evaluation of research in social sciences and in business research (Eriksson & Kovalainen 2008). Proposal developers need to communicate the steps they will take in the study to check the accuracy and credibility of their findings (Creswell 2009). Reliability tells you the extent to which a measure, procedure or instrument produces the same result on multiple trials (Eriksson & Kovalainen 2008). In addition, qualitative reliability demonstrates that the researcher's approach is consistent across different researchers and different projects. (Eriksson & Kovalainen 2008; Creswell 2009) Qualitative validity on the other hand indicates that the researcher uses particular procedures to ensure that the findings are accurate (Creswell 2009). To say that the research findings are valid is, in theory, to say that they are true and certain. It means that the findings are accurately reflecting the phenomenon referred to and are supported by evidence. (Eriksson & Kovalainen 2008)

Since nature of this study is qualitative and the data was collected through semi-structured interviews, the probability to receive the same results is low. The study was conducted as multiple case study and multiple companies were interviewed and the interviewees were all in different positions. This increases the reliability of the study. However, five interviews is a relatively low number of interviews, and all of the case companies are large global firms. Thus, the results can vary in different industries and sizes of companies.

# 4 EMPIRICAL ANALYSIS

This chapter presents the empirical findings. The analysis covers the interviews made for five case companies in Finland. In addition, the secondary data such as the sustainability reports and strategies of the companies are used. The analysis seeks to follow the same order as presented in the theory chapter. First, the analysis discusses how sustainability is generally seen in the companies and what kind of role it has. After this the drivers, practices and strategies are discussed. Finally, the possible future sustainability aspects and themes in supply chain are being analyzed.

## 4.1 Sustainability in case companies

Sustainability is seen as an important factor in all five case companies. The role of sustainability has changed over the years and its importance will grow even bigger in the future. The term *sustainability* is seen differently in different organizations and industries. In company C the term has changed throughout the years and sustainability is appearing in operations stronger every year. According to interviewee C: *"Sustainability is reflected in the activities in many ways – from values to the practical measures and goals."* In their procurement, sustainability appears in ethicalness, work safety and in environmental efficiency. In company E, sustainability is seen in all their business operations. *"It is our top thing – now is decade of sustainability."* The company is also attending in the United Nations Climate Change conference. In company B, sustainability has always been and will be an important thing in their business. According to interviewee B, they are pioneers in many areas of sustainability. In addition, sustainability is perceived so important that they have set up their own global sustainability unit. In company D, sustainability affects on the whole industry and is a crucial part of their business. They use renewable raw materials and have focused on the environmental sustainability of their factories. Sustainability is also seen in their sustainable development goals. According to interviewee A, sustainability consists of multiple things. *"For us it is the perspective of environmental sustainability, social sustainability, legality and compliance, and the perspective of human well-being – sustainability has a huge role in our business."*

According to interviewee A, sustainability comes above from the global level. It means that they act sustainably in everything they do, and there are targets and indicators set that are monitored. Interviewee C states that sustainability is a sum of many things: *"Sustainability is strongly reflected in the values – we also strive for production to be as smooth as possible, so there is also a connection to that."* According to interviewee B, sustainability has for years been an important part of the strategy. *"It has been a long way. Starting from the raw materials and external pressure, but that (sustainability) is clearly at the heart of our strategy."* Interviewee D also sees that sustainability comes from the organization's strategy. In addition, stakeholders and pressure from the society are factors that have affected on doing sustainable business. In company E, sustainability comes broadly from everything; their values, strategy, and from their own strong will to do sustainable business.

Interviewee D states that over three years ago sustainability and SSCM has been more connected to projects. Nowadays it is integrated into the whole company and its operations. In all companies' sustainability's role has become even bigger and important. According to interviewee A, the environmental responsibility has become clearer and the targets regarding CO2 (carbon dioxide) have grown. *"Since 2012 we have taken clear targeted environmental sustainability measures – we want to be CO2 neutral in the first phase of our operations and then expand it to our subcontractors so that the whole supply chain is CO2 neutral".* In addition, compliance has changed, and it has become more clearly measurable. Social sustainability has also grown, and many new aspects have entered with the Covid-19. According to interviewee B, there is more pressure coming from investors, financiers and customers. The role of sustainability has grown in every company, and company B has tried to get closer to the beginning of the supply chain and ensure that the areas of sustainability are also implemented in there. Interviewee E also states that the role of sustainability grows every year, and they want to inform their customers every week on different sustainability subjects on how they and their customers can live more sustainable life.

### 4.2 Drivers

This chapter discusses the drivers to do SSCM. The chapter is divided into external and internal drivers.

### 4.2.1 External drivers

When discussing the external drivers of SSCM, it became evident that even though the external drivers varied, laws and regulation were seen important in every case company. According to interviewee A, implementation of legislation is an important factor, and they act as a reliable partner. Interviewee B states that in their industry there is a lot of regulation, but their company does more than what the regulation requires: *"Our company is a pioneer in sustainability. We are the first to do it (sustainable supply chain management) and we strive to go beyond what the regulation requires specifically in terms of traceability and ensuring sustainability of raw materials."* Companies C and E also state that they have done more than what the regulation requires and have set stricter guidelines when it comes to sustainability. According to interviewee D there is no proper law for ensuring supplier sustainability, but their procurement has agreed processes where they have sustainability checks. In addition, when it comes to work safety, it has different regulation that needs to be complied with. The company is also required to report annually on what they are doing to combat modern slavery.

Another key driver that was common in the case companies was stakeholders. According to interviewee E, customers are the most important stakeholder for them, and acts as a driver to do sustainability in all of their operations and in business. *"If you are thinking as a consumer, it is important to you that the company you are going to buy something from - that you can trust in that the whole supply chain is sustainable from the beginning of a production."* Interviewee E also states that other stakeholders are also important. Their employees want to be employed in a company where their sustainability values meet the values of the company. In addition, media and investors influence on doing SSCM. The company will not receive funding if the sustainability matters are not handled. Interviewee A states that: *"Social sustainability is seen in our brand - sustainability is done with the stakeholders and for the stakeholders.* According to interviewee D, investors are interested in sustainability and rating companies compare companies. Thus, it is one driver why they want to be the most sustainable partner in their industry. In company C stakeholders are also main driver to do SSCM: *"Customers, buyers, investors and pressure from media influence sustainability, and it is a key part of the corporate image."*

### 4.2.2 Internal drivers

When discussing the internal drivers, it was revealed that in companies B, C and E their own desire to do SSCM is one of the key drivers for them. In addition, in company A they do acts that drive their organization into more sustainable direction: *"Initiatives are taken that reduce the burden on the environment, but there are also initiatives that we do that are voluntary – we also act legally and financially in a sustainable way. It creates efficiency and controls operations and gives our employees the impression that we are a sustainable company."* Interviewee B, C and E also state that one driver to do SSCM is their employees. According to interviewee B: *"Sustainability is in our DNA, and our employees assume that we take care of these things and are proud of it. – Sustainability is our competitive advantage, and we are showing the way to others how these (sustainability) things should be handled."* Interviewee E also mention that SSCM is a competitive advantage for them: *"Sustainable business is profitable business – the fact that we invest in such things is also profitable and generates revenue and money under the line. It is also an expense, but without that expense there will be no profit."* In addition to these, company E does charity and thus strives their social sustainability agendas. According to interviewee C, drivers to do SSCM for them are that the production is disruption-free, and operations are transparent. In addition, sustainability is embedded into their organization's values, which strongly drive their operations to be sustainable. All of the case companies state that one of their main drivers to do SSCM is to achieve net-zero carbon emissions. The companies have committed to taking action to achieve this goal, and the CO2 targets are featured in each company's sustainability report.

## 4.3 Practices

This chapter discusses the SSCM practices of the case companies. At first, practices that are related to the whole supply chain's sustainability are discussed. Many of the interviewees mentioned these practices in both, environmental and in social practices, and thus they are presented together. After this, practices that are strictly environmental and social practices of the companies are presented separately in their own chapters.

*Supplier Code of Conduct*

The case companies have different environmental practices they comply, but the most common practice in the companies were supplier audits and following the Supplier Code of Conduct. All of the companies have their own Supplier Code of Conduct they follow. In company A, the suppliers must accept the Supplier Code of Conduct to become a registered supplier. Without a signed contract, no business can be executed. In addition, the supplier must have relevant licenses, permits, applied standards, insurance and tax information. (Company A, 2021) According to interviewee A, the company does not use any suppliers that are not approved by their Supplier Management Tool (SMT). For high-risk suppliers an integrity due diligence process is used to ensure that the collaboration with these suppliers will not result in adverse effects for their customers or the company and its stakeholders. (Company A, 2021) In cases where the subcontractor does not follow the rules, the company has their own process for this. Interviewee A states that: *"In practice, we give warnings and if the subcontractor does not meet the SMT requirements, then we will cut off the billing and it will not be possible to use that subcontractor internally. Finance controls this. So, either you (subcontractor) are approved, or you are not used."*

For company B, Supplier Code of Conduct is a key element in their supplier management system. To ensure the suppliers' compliance with the Supplier Code of Conduct, the company has implemented systematic controls for counterparty screening and monitoring. All the potential business partners and suppliers undergo an automated pre-screening. (Company B, 2021) According to interviewee B, the Supplier Code of Conduct is the frame what suppliers are expected from. Things included in it are for example working conditions, ethical business practices, climate change, environmental practices, environment and work safety. The Supplier Code of Conduct is a tool for how they ensure that the suppliers are performing in a sustainable way, and there are different processes and practices to monitor it. Interviewee B states that they have their own process for situations where the supplier does not act sustainably or there have been some breaches detected. *"The primary aim is to have discussion with the supplier, depending on of course the seriousness of the breach. We aim to find how the situation can be improved. Of course, if the situation is so critical that it is noticed that the supplier does not want to improve things, then we are ready to put*

*working with them on hold. But as a rule, the aim is to work together with the supplier to find the solutions."*

In company C, the Supplier Code of Conduct is a guide that all subcontractors, suppliers, consultants, intermediaries and agents must adhere. It is included in agreements with the parties, and it outlines the expectations the company has for everyone they do business with. The supplier Code of Conduct includes topics such as fair working conditions, discrimination and harassment, anti-corruption, anti-bribery and fair competition. The company aims to ensure that the working conditions are fair, and they have zero tolerance for any form of human trafficking or forced or child labor. In addition, the company has a hotline where employees, suppliers' employees and other third parties can anonymously report on the breaches of Code of Conduct. (Company C, 2021) According to interviewee C: *"In supplier management tools, we have sought to ensure that in terms of sustainability, all tools are multidimensional – sustainability is combined in all processes and tools."* The interviewee states that the Supplier Code of Conduct is used in the selection of suppliers. If it is found that the supplier is not acting sustainably, it is always taken seriously. It depends on the level of the violation how they proceed. If necessary, trading will be suspended for the settlement period. If the suspicion becomes true, then a purchase ban process can be used, and the supplier can be banned permanently if the situation so requires.

In company D, the Supplier Code of Conduct has been aligned with the company's own Code of Conduct. The suppliers must commit to the company's Supplier Code of Conduct, and there are also often other sustainability requirements agreed in individual supplier contracts based on specific risk. The company has developed their processes to verify that their suppliers are acting according to their environmental, social and economic responsibility requirements. The company renewed their Supplier Code of Conduct in 2020, and it takes into account their stakeholder's greater expectations, strategic sustainability 2030 targets, and it is aligned with the ethical principles that guide the company's work. (Company D, 2021) According to interviewee D, they have minimum things that they inspect from each supplier. It is important that the supplier systematically develops sustainability matters in their operations, and that they take these matters forward to their suppliers. Interviewee E states that: *"We have a supplier check, that is a specific check where we check that the supplier does not have any sanctions or crimes that would be seen as an*

*obstacle."* The company also has a specific process for situations where the supplier has not acted sustainably, or there has been a breach. *"It is emphasized that the first thought cannot be to give up the supplier or issue a warning. The aim is to give them a chance to rectify the situation – of course, it may make more sense to sometimes to stop working with a supplier if the owners have committed a lot of crimes."*

Company E's Supplier Code of Conduct has been the base for much of their sustainability work since 2000. It is the base for their work to secure human rights and good working conditions throughout their supply chain. The company has expanded the scope of its implementation and regularly reviews and updates their standards and programmes. (Company E, 2020) According to interviewee E, the Supplier Code of Conduct guides the supplier selection, and there are certain criteria the suppliers are required to adopt. The company works only with supplier and service providers that share their values, uphold their standards and want to have a positive impact on societies and communities. When suppliers adopt their Supplier Code of Conduct, they must also ensure that their subsuppliers understand and apply the company's standards too. (Company E, 2021) In the Supplier Code of Conduct of the company, there are must requirements set for their suppliers and service providers. The requirements include that the supplier does not use child labor, there is no forced or bounded labor, no corruption or bribery, no severe environmental pollution, workers are prevented from exposure to severe health or safety hazards, fair working hours and wages, and that the supplier provides accident insurance to all of their workers. (Company E, 2012)

*Auditing*

Company A does audits for their suppliers. In 2019 the company did 104 physical audits. (Company A, 2020). According to interviewee A, they have internal audits, as well as audits they conduct to their customers. In internal audits, they are evaluated in relation to the set goals. Sustainability topics are regularly reported to the region and their progress is scored. Other main practices for the company are monitoring and evaluating the performance of their suppliers. The evaluation process is conducted by questionnaires which contain relevant criteria for suppliers' selection and evaluation. (Company A, 2020)

Company B conducted nine sustainability audits in 2020. The sustainability audits are conducted by the company's own local sustainability specialists or a 3rd-party auditor. Due Covid-19 they were forced to postpone some of the audits. (Company B, 2021) According to the interviewee B, the suppliers are interviewed, and they need to do self-assessment questionnaires. In risk assessment, mapping of supply chains and operations, desk-based research, supplier self-assessment questionnaires, supplier engagement and discussion are used (Company B, 2021). The audits address different things, but the emissions are one of the most important subjects in them. The audits aim to verify that the suppliers operate in a sustainable way, and that they follow all the guidelines and rules.

Company C conducts around 20-30 supplier audits every year. The suppliers are evaluated regularly on their performance in the environment, ethics and safety. (Company C, 2021) According to interviewee C, supplier audits do not apply to all suppliers. Certain suppliers are chosen to be audited based on the riskiness of a supplier. However, there is automatic monitoring of sanctions for every supplier. The supplier must also audit their own suppliers if the company wishes so (Company C, 2021b). Interviewee C also states that the suppliers must fill self-assessment questionnaires. Thus, they can receive information on what the supplier is doing to ensure sustainability in their actions and business, and that they are complying with the company's sustainability standards.

In company D on-site audits are used to evaluate how their suppliers perform against their sustainability requirements. In addition, the suppliers do self-assessment questionnaires, and they make up 48% of the company's spend. During Covid-19, the company did fewer audits. 33 on-site audits were made, and 13 were third-party audits and they included sustainability criteria and covering environmental and social responsibility aspects. (Company D, 2021) According to interviewee D, the audits include aspects such as force labor, well-being at work, diversity, equality and inclusion. In addition, the supplier is asked what kind of acts they are doing for social sustainability. The questions include what kind of acts and means the supplier must guarantee social sustainability in supply chain, and less yes/no questions. Based on the assessment and audit results, the company gives their suppliers recommendations, and follow the development actions of those suppliers who they are expecting to improve their sustainability management. The company has also opened a compliance and ethics channel for their suppliers to raise concerns, since some ethical and

sustainability related issues are difficult to assess using questionnaires and audits. Thus, suppliers can raise concerns themselves in the channel, and this will help the company to identify misconducts. (Company D, 2021)

Company E uses their own and third-party auditors to check their suppliers' Code of Conduct compliance (Company E, 2021). The company does announced and unannounced audits to their suppliers. If the supplier fails to develop its business to fulfill the company's Supplier Code of Conduct requirements and to correct any deviation within a given time frame, the supplier is phased out and the business agreement is terminated. Due to Covid-19 the company has not been able to do all the audits in supply chains, and thus there has been a greater need to do many of the supplier compliance checks remotely (Company E, 2021b). Interviewee E states that, each country does audits only for their service providers. The audits for product suppliers are not done in Finland, but they do have an indirect procurement department who does the audits for suppliers. A plan is done yearly to determine which suppliers are audited. All suppliers are not audited yearly, but still regularly. Thus, each country can rely on that the suppliers and products are reliable, and the products have passed the criteria when they come to the stores.

*Training*

Providing training and education to their own employees, as well as to their suppliers are important practices in the case companies. In company A, the employees must complete mandatory training on the Code of Conduct, anti-bribery, anti-corruption and antitrust (Company A, 2021). According to interviewee B, the suppliers are also educated and trained, especially in emerging markets. Thus, it is ensured that they are acting sustainably. In company C, they engage with their suppliers to minimize risks in the supply chain environmental breaches, and also conduct employee training in proper environmental practices (Company C, 2021). In company E, the employees are provided training yearly. They increased their investment in training last year in order to build the useful skills to deliver their business and sustainability goals. (Company E, 2021)

### 4.3.1 Environmental practices

*Reducing emissions*

In all of the case companies, the mission to reduce CO2 emissions is strongly reflected in their business and operations. In company A, one of the main practices are related to their Net Zero Carbon programme. Their mission is to achieve CO2 neutrality by 2030. (Company A, 2021) Interviewee A states that: *"We try to take this environmental aspect into account in all our activities."* Company A also has an environmental program for their customers. They provide a CO2 reporting for their customers that gives information about their emissions. They also offer an emissions calculator for sea freight in their webpage, and the customer can calculate and optimize their CO2 emissions per container and for their entire ocean freight supply chain (Company A, 2021). According to the interviewee A, the company also neutralizes the emissions from sea transports automatically for the customer. *"We create awareness of how much emissions they are creating in which model of transport, and we offer the opportunity to reduce and neutralize them. Then it is up to the customer to decide if they want to invest in it."* In addition, the customer can use UN-approved neutralization projects where they pay the delivery company, and they use the money to neutralize the emissions from the delivery.

Company B is also doing a lot of actions towards environmental sustainability. They are committed to reach carbon neutral production by 2035 and are also helping their customers to reduce their greenhouse gas emissions by at least 20 million tons annually by 2030. To achieve this, the company has a portfolio of renewable, lower emissions, and circular solutions for transportation, aviation and marine uses, and also for plastics and chemicals industries. The company is constantly evaluating different ways to reduce emissions in the supply chain, and they track and analyze the sources of GHG emissions in their production. (Company B, 2021) According to the interviewee B, they also have certain environmental criteria in their refineries that also aim to reduce emissions.

Company C has a goal to have net-zero carbon emissions in 2045. This goal is in line with the Paris Agreement and the company is committed to having their climate target approved as a Science Based Target. The policy changes in reducing carbon emissions are seen in all

of their markets. (Company C, 2021) Interviewee C states that environmental sustainability is reflected in every sector. The policies will be seen in the company's supply chains and procurement. The acts towards reducing emissions will be seen in the choices of materials, pursuing resource efficiency and circularity. In addition, there will be a transit to using renewable fuels, increasing the use of electricity from renewable sources, efficient transport solutions and using electrification and automation. (Company C, 2021)

Company D strives to operate as resource wisely as possible and minimize the impacts on the environment. The main goal for the company is to cause zero fossil CO2 emissions by the year 2030. Their long-term targets include that their mills are fossil free, and that they use no fossil-based fuels in production. (Company D, 2021) Interviewee D also states that in their factories they have their own environmental practices that are taken into account. To reach these environmental goals, the company is committed to improve their energy efficiency, invest in new technologies and electrification, and utilize bio-based fuels. In addition, circular economy is used to endure the raw materials and products as long as possible. The company also aims to utilize industrial side streams to improve resource efficiency. The goal is to utilize 100% of production side streams by 2030. (Company D, 2021)

Company E's environmental sustainability goals are also targeting to reduce emissions in their supply chain. The main goal is to become circular and climate positive by 2030 and reduce CO2 emissions in absolute terms by more than the company's value chain emits. Other ambitions are to being powered by 100% renewable energy, while increasing energy efficiency, as well as ensuring zero emissions from home deliveries. In addition, the company is striving for zero waste by reducing operational waste and increasing their recycling rate. It is also important for them to going circular in the supply chain. The aim is to work together with the suppliers to improve packaging, IT equipment and construction materials to find more circular, as well as resource-conscious solutions. (Company E, 2020; 2021) According to interviewee E, there are many environmental practices that the company follows. Efforts have been made to reduce emissions by switching to electric delivery vehicles, and solar panels are used. In addition, the company has their own wind turbines, and they produce biogas out of their biowaste, and sell it forward.

*Traceability*

Traceability of origin of a raw material or a product is an important step in a sustainable supply chain. Company B sources from responsible and carefully selected suppliers who are committed to certification and principles of a sustainability. One of their main raw materials is fully traceable, and the development of traceability is important for the company. (Company B, 2021c) Company C also has requirements for the traceability of a raw material (Company C, 2021d). Company D states that they want to ensure that they know the origin of their raw materials and packaging so that they can ensure the sustainability of their supply chain. Their main raw material is 87% traceable and it is obtained from certified sources. The company is currently focusing on tracing the origin of manufacture of the raw materials they purchase, and also plan to extend their analyses further into supply chain. They have also added an obligation for their suppliers to provide the information on the origin of manufacture of the raw materials. (Company D, 2021)

### 4.3.2 Social practices

Social sustainability has a big role in all of the case companies' business. Nowadays the role of sustainability does not only extend to environmental sustainability, but also to social sustainability. Thus, companies are doing more to ensure socially sustainable supply chains, and they report about it more. The main social aspects that came up in the interviews are diversity, equality, ethicality and compliance. Company A's business activity is based in high ethical and legal standards. Integrity is a key element in their business behavior and thus they are able to foster trust with their stakeholders. The company has a Compliance Programme designed to ensure that they comply with the legal and regulatory requirements, and with their internal standards. (Company A, 2021) Interviewee A states that: *"Compliance has been in our business for years, but it has also changed its shape and become more clearly measurable."* In addition, social responsibility has grown with the Covid-19 pandemic there has become a lot of new responsibilities.

According to interviewee A, diversity is a global initiative. They are committed to value all human rights and are promoting the development of a culture that fully supports and respects all human rights. (Company A, 2021) The social sustainability aspect is also seen in the

selection and cooperation of the suppliers. Interviewee A states that: *"The most visible thing is that all subcontractors (and suppliers) must meet certain objectives of the operation."* The company uses only SMT approved suppliers, and the suppliers must take a stand on the quality and well-being of their employees. Thus, it is ensured that the suppliers are acting in accordance with the social sustainability objectives. The health and safety of the employees and suppliers are important for the company. The company is committed to fair working conditions in full compliance with local and international labor rights. Suppliers in Asia have been provided with training material to ensure safe driving and prevent accidents. In addition, the company managed the Covid-19 pandemic by training and providing awareness sessions for all of their business locations. Business Continuity Plans were also revised, tested and put in place in all countries. (Company A, 2021)

Social sustainability aspects are present in Company B's business and interviewee B states that: *"The questions (or issues) of social sustainability have come into being in recent years and we have invested in them."* Equality, human rights, and health and wellbeing of people are discussed in the sustainability report. They expect all of their business partners to share their commitment to respect and remediate, as well as promote positive human rights impacts. The company also supports the elimination of all forms of modern slavery and has close engagement and collaboration with their raw material suppliers to advance human rights and mitigate modern slavery risks in their supply chains. (Company B, 2021) In the Supplier Code of Ethics, the company sets requirements for their suppliers that they must comply with. The requirements also extend to the supplier's own employees, their suppliers and other stakeholders to ensure that the supplier is operating in socially sustainable way. The suppliers must comply with human rights and employee's rights and provide their employees a healthy and safe workplace in accordance with the laws and regulations applicable to its operations. In addition, the supplier must have zero tolerance for corruption, bribery and money laundering. (Company B, 2020) According to interviewee B, work safety, equality and diversity is taken into account in all operations. Safety of the employees and suppliers is integral to their values. In 2020, they reached their best result in occupational safety performance. (Company B, 2021)

Many of the social sustainability aspects are the focus areas for Company C. Interviewee C states that the challenges are in that how to ensure that the starting point of the supply chain

is sustainable. The issues lie in that how to make sure that for example raw material suppliers are ensuring safe working conditions for their employees. *"In many cases, those things are related to fulfillment of working conditions, the exploitation of workers, underpaying, and these are the more prominent aspects. The biggest challenges relate to ensuring the sustainability of the supply chain, for example working conditions at the beginning of a supply chain for some material. Especially if there are many 'stairs' and production reaches another continent, then the investigation can be more challenging."* However, the company is doing a lot of actions to tackle these issues. Health and safety, ethics, diversity and inclusion are present in the company's business. The company is committed to creating good working conditions and safe working environment for their employees and sub-contractors. The health and safety objectives are addressed through industry-leading standards. They develop safety solutions, an inclusive culture and leadership that are focused on systematic performance monitoring and targeting. The company also focuses on anti-corruption and preventing ethical breaches. This is ensured with ethical framework, preventive processes and employee training. The Supplier Code of Conduct also addresses the social sustainability aspects and targets that the supplier must comply with. The suppliers are evaluated regularly on their performance in ethics and safety, as well as environment. (Company C, 2021)

Ensuring a responsible corporate culture is highly important for Company D. The responsible corporate culture is measured with an ethics barometer. The results have shown that business ethics are viewed important at the company and people act ethically at the workplace. Diversity, inclusion and equality are seen important, and an e-learning course for the employees was launched. The practices and requirements for their suppliers are stated in the Supplier Code of Conduct. (Company D, 2021) According to interviewee D, the criteria vary a bit between different procurement categories, but are still roughly the same. The company uses audits, training and questionnaires to ensure that the supplier is operating in a socially sustainable way. *"In my opinion, the social sustainability aspect is difficult – a questionnaire is how a large mass is being verified. And we must understand that thousands of audits cannot be carried out and the number of audits is limited. A large survey makes it so much more difficult to verify the sustainability of a supplier (than an audit)."* The company is improving their 'Know your business partner' processes and train their personnel. In addition, the transparency of their business partners is important to ensure regulatory, compliance and preventive actions to mitigate corruption, fraud, money

laundering, trade sanction and human rights violation risks. Safe working conditions are a principle in the company's business and the safety management includes the safety of their employees, subcontractors, partners and stakeholders. (Company D, 2021)

The areas of social sustainability are in a big part of company E's operations and values. Equality, diversity and fair working conditions are important for the company. According to interviewee E, they expect the same social sustainability practices and actions from their suppliers and partners as they themselves comply with. They are working closely with their suppliers to develop health and safety systems and processes in the supply chain, and focus especially on health of the workers, safety, emergencies, fire prevention and chemicals. The Supplier Code of Conduct also states these social sustainability requirements. The company is committed to support the human rights and develop equality throughout their value chain. Through the Supplier Code of Conduct, the company communicates their expectations on suppliers in terms of building and promoting a diverse, inclusive workplace. (Company E, 2021)

### 4.4 Strategies

The study examined how sustainability is reflected in the strategies and whether the case companies have their own sustainability strategy, or is the strategy embedded into the corporate's strategy. Company E is the only company that has their own sustainability strategy. All the other case companies have sustainability embedded as part of their corporate strategy, and it is in a significant part of the strategy. In addition, the strategic sustainability objectives are seen in a huge part of the companies' sustainability reports.

The United Nations Sustainable Development Goals (SDGs) are widely known around the world (United Nations 2021). The SGDs are prominently displayed in all of the case companies' sustainability reports. Figure 7 presents the SDGs that are listed in the case companies' reports. Company E is the only one that has all of the SGDs mentioned in their report.

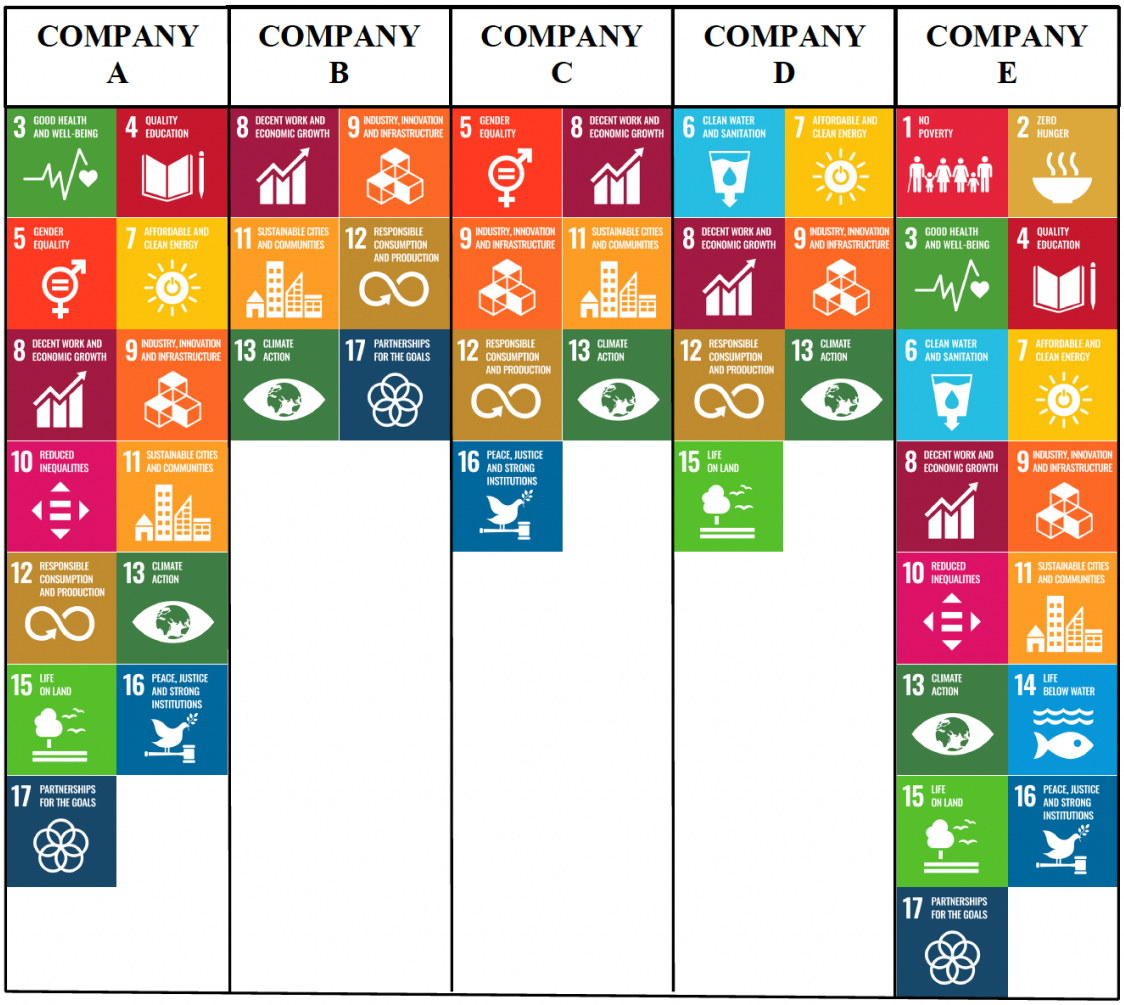


**Figure 7.** United Nations Sustainable Development Goals in case companies

According to the interviewee E, sustainability is seen as all-encompassing entirety in the company and thus it needs its own strategy. The sustainability strategy describes the company's sustainability agenda and ambition. The company's sustainability ambitions and commitments are set for 2030 in line with the UN Sustainable Development Goals (STDs), and the strategy will be annually reviewed to secure alignment with the company's strategic framework. (Company E, 2020) According to the interviewee, the sustainability strategy focuses on health and sustainability, climate affairs, and equality. The company focuses on climate change and reducing GHC emissions. Most of the emissions in their supply chain come from materials, production, home deliveries and customers using the products at home. The goal is to be climate positive by 2030. In order to reach these goals, the company is committed to use resources in a smarter way, reduce more greenhouse gas emissions than the value chain emits, and continue to secure and develop responsible sourcing standards.

The Supply Code of Conduct is in the core of the company E's work to ensure human rights and good working conditions throughout the supply chain. Related to the supply chain, the strategy states that the company is committed to respect human right in all areas of their business, and they continue to ensure the implementation of international labor standards. In addition, they ensure that the workplaces are safe, and the value chain is made up of diverse business partners. (Company E, 2020)

Company C is aspiring to provide industry-leading shareholder value while helping to ensure a sustainable future for their customers, employees and communities. It is in the core of their strategy to create sustainable solutions that meet and exceed their customer needs. According to interviewee C, sustainability is in a big part of the company's current strategy period. *"The key objectives related to this strategic period are to be a leader in safety, ethics, environmental responsibility and in risk management."* The company has set a target to achieve net zero carbon emissions by 2045. They have built partnerships for innovation and different innovative projects and solutions to reduce emissions. Since 2015, the company has decreased their carbon emissions by 34 percent. The company prioritizes sustainability throughout their value chain and thus aims to contribute to their own climate target and to their customers' and partners' sustainability goals. (Company C, 2021c)

The net zero carbon programme is at the core of Company A's strategy. They seek to achieve CO2 neutrality for their sea freight shipments by 2030. (Company A, 2021) Interviewee A states that sustainability is in a huge role of their corporate strategy and the annual and sustainability reports also emphasize the environmental sustainability aspects in their strategy. The company has goals in reducing their carbon footprint, embrace new renewable energy and support their partners and customers with sustainable logistics solutions. In addition, the company's business activities are conducted to the highest moral and ethical standards. (Company A, 2021b)

Sustainability is in the heart of Company D. It is stated in their strategy that their business is based on renewable raw materials and recyclable products and the production is done sustainably. (Company D, 2021) Interviewee D also states that sustainability is in a big role of the company's strategy. They develop their operations in a sustainable way, and always in line with environmental, social and economic aspects (Company D, 2021b). The

company's strategic 2030 sustainability objectives help them prioritizing their sustainability related work. In addition, these objectives support the SDGs. They utilize resources efficiently and aim to be fossil free by 2030. Also, the company seeks to work towards fossil free raw materials for their products by 2030. The company also addresses that their suppliers in the supply chain are expected to share their sustainability expectations and work towards improving their own practices. They will develop the safety at work and strive for improved ethical company culture. (Company D, 2021)

Company B's strategy strongly focuses on environmental sustainability and combating climate change. The company's aim is to become the leader in renewable and circular solutions and lead the way towards a sustainable future. They are committed to reach carbon neutral production by 2035 and reduce their customers' greenhouse gas emissions every year by at least 20 million tons annually by 2030. (Company B, 2021b) In addition to these, the company is driving for efficiency and transformation in their operations to ensure world-class performance in safety, reliability and productivity (Company B, 2021).

### 4.5 Future sustainability aspects in supply chain

In the interviews, the future state of supply chain sustainability was analyzed generally and within the case companies' business areas. All interviews revealed that the role of sustainability throughout the business operations and supply chain will grow bigger. Interviewee E states that: *"This will become even more important. No one can afford not to incorporate these things into everyday life and busines. You will not have the opportunity to do profitable business in the future if you are not caring about sustainability."* According to the interviewee D suppliers will be more involved in the development of SSC together with the buyer. *"It is more of a model of a collaboration – that they dare to tell honestly (about sustainability issues)."* Interviewee C sees the focus on the origin of the raw material and its sustainability as an important area in the future. For instance, there have been cases where the production of a raw material has not been socially sustainable. These cases can increase, and the awareness will also increase. Thus, different parties must take more responsibility of their own procurement behavior and ensuring the sustainability of the entire supply chain. In addition, as the use of foreign labor will increase, the cases of labor exploitation need to be kept in minimum.

According to the interviewee A, cyber security will be one of the main topics in the supply chains in the future. Since Covid-19 companies have moved into hybrid work model, and the issue will be how cyber-attacks and threats can be managed. Interviewee E also states that companies need to be able to quickly adapt to market changes (business agility), and Covid-19 showed the importance of this. In addition, technology will become part of ensuring sustainable supply chain according to the interviewee D. Supplier sustainability applications have come to the market, and they will be utilized in the future.

# 5 DISCUSSION AND CONCLUSIONS

The main objective of this study was to identify how sustainability is reflected in the supply chain. In addition, this study has investigated SSCM drivers, practices and strategies. This concluding chapter discusses the main findings on the empirical part. The research questions are answered, and the theory is simultaneously mirrored into the results. Finally, suggestions for future research are given.

## 5.1 Answering to the research questions

***How is sustainability reflected in the supply chain?***

The literature of sustainability and SSCM focus on environmental and social sustainability. Sustainability is applied to the companies' environmental, social and economic performances, and the TBL concept is used when reporting it (Carter & Rogers 2008; Alhaddi 2015). Sustainability can be seen as vital for companies to succeed nowadays. Stakeholders demand companies to take sustainability into account in all of their operations and in the whole supply chain. In addition, for some, doing sustainable business can be a competitive advantage. The focus in the past years has been on the environmental aspects (Govindan 2018). However, it can be seen that the importance of social sustainability aspect has grown in companies to the same extent as environmental sustainability. Companies report about social sustainability even more, and it is considered as important in the whole supply chain. In addition, the Covid-19 pandemic has forced companies to take even more responsibility of their employees throughout the whole supply chain, and to take social sustainability issues more broadly into account.

The impact of sustainability in supply chains has grown a lot during the years. Companies are focusing on different sustainability aspects in the supplier selection, and demand that their suppliers are complying the same sustainability agendas as they are. Sustainability is reflected in supply chain in many ways, and it is seen differently in different industries and organizations. The environmental sustainability aspects in supply chain can be seen in the companies' aims to reduce emissions and to be environmentally friendly in all operations.

In turn, social sustainability aspects in supply chain focus on for example work safety, equity and human and employee rights.

***What are the key drivers for SSCM?***

The key drivers for companies to do SSCM are related to the regulation and laws in their industries (Tay et al. 2015). Regulation is the basis for the business, but many companies do more than what the regulation and laws insist. The own will to do sustainable business and SSCM is noticed to be one of the main drivers. It can also be a competitive advantage for the companies and thus act as a driver for them (Sajjad et al. 2015). Companies are more increasingly taking sustainability initiatives into account in their supply chains, and the motive to this comes purely from their own desire to be the most responsible partner in the industry.

Different stakeholders also drive companies to act sustainably (Saeed & Kersten 2019). Customers is one the main group who drive companies to be sustainable. Nowadays, it is the premise in the minds of customers that companies act sustainably and the whole supply chain is sustainable (Tate et al. 2010). In addition to the customers, other stakeholders like media, employees and investors influence companies to do SSCM. Today, it is becoming increasingly apparent that investors want to invest in companies that are doing sustainable business. Sustainable business is also profitable business. As mentioned, companies can seek competitive advantage with SSCM, but also do profitable business because of it.

The drivers to do SSCM are also often related to environmental sustainability. Companies are committed to reduce emissions and achieve net-zero carbon emissions. This is not only because of the external pressure and regulation related to reducing emissions and for example global warming, but the companies' own will to do so is strongly reflected in this. Companies can thus communicate to customers and other stakeholders that they are doing acts to tackle global warming and thus be positively positioned in the minds of customers.

***What are the key practices of SSCM?***

The environmental and social SSCM practices are focused on supplier management and how to reduce emissions in the supply chain. The use of Supplier Code of Conduct is seen as one of the main practices. According to Andersen and Skojett-Larsen (2009) companies use it to state their expectations and standards of acceptable behaviour from suppliers. The results indicate the same, and it is widely used to ensure that the suppliers are performing in a sustainable way and complying with all the standards. In addition, supplier auditing is one of the main SSCM practices. Companies audit their suppliers to ensure that they are complying with the requirements that are given (Lund-Thomsen 2008). The suppliers are evaluated on different things related to social and environmental sustainability. Other SSCM practices in the literature include supplier and employee training, questionnaires and ensuring traceability of the origin (Vachon & Klassen 2006; Marshall et al. 2015; Kähkönen et al. 2018). The findings of the study also indicate that these practices are used and conversations with the suppliers are held.

The results indicate that the key environmental SSCM practices are related to reducing emissions in the supply chain and in the companies' operations. The literature also states that environmentally friendly or green practices are important (Li & Huang 2017). Companies are focusing on targeting the zero-net emissions in their supply chains. In addition, companies are evaluating new ways to reduce emissions in the whole supply chain as environmental sustainability is reflected in every sector. The literature includes social SSCM practices such as health and safety of the workers in supply chain, ethical code of conduct, human and employees' rights, non-discrimination, diversity and anti-corruption (Chardine-Baumann & Botta-Genoulaz 2014; Bai & Sarkis 2010; Marshall et al. 2015; Büyüzközkan & Karabulut 2017; Li et al. 2019; Alghababsheh & Gallear 2020). The findings of the study found these as the key social SSCM practices. Ensuring social sustainability in supply chains is vital to avoid for example the use of child and forces labor. The results indicate that ensuring the whole supply chain's sustainability all the way from the beginning is difficult, and thus it is important that companies focus more on this.

Table 7 summarizes the key drivers and practices that were found both from the literature and from this study.

**Table 7.** Key SSCM drivers and practices

| Drivers | Practices |
|---|---|
| ***Competitive advantage***<br>***Laws & regulation***<br>***Own will***<br>***Reducing emissions***<br>***Stakeholders*** | ***Anti-corruption***<br>***Audits***<br>***Compliance***<br>***Diversity***<br>***Ethics***<br>***Non-discrimination***<br>***Questionnaires***<br>***Reducing emissions***<br>***Supplier Code of Conduct***<br>***Training***<br>***Work safety*** |

***What kind of strategies are used in SSCM?***

Most of the companies have sustainability embedded into their corporate strategy and do not have a separate sustainability strategy. It is notable to see that companies do not want to present their sustainability strategy separately, but report sustainability affairs together with the corporate strategy. There are few reasons for this. Firstly, most of the companies see sustainability being reflected to all of its operations and it is not a separate part of the company's functions and activities. Thus, it is justified to have it embedded to the whole organization's strategy. However, there might be a shift in the future where companies also do a separate sustainability strategy where all aspects are discussed more comprehensively. Because no unequivocal response was received in the interviews, an unambiguous answer to general SSCM strategies cannot be given.

Companies have been focusing on increasing the financial performance in previous decades, but there has been a significant shift in that companies are now including sustainability aspects in the strategy. This is seen not only as a competitive advantage, but also as an own will to endorse sustainable business. In the literature, one of the SSCM strategies is supplier development with focus on environmental issues (Akvahan & Beckmann 2017). The corporate strategies mainly focus on environmental sustainability and targets aiming for carbon neutrality and reducing emissions. This is reflected to the whole company and supply chain is in a big role in this. Social sustainability aspects and issues are also in a visible part

of the strategies. Companies report about diversity, ethicality, inclusion, compliance and human rights in their strategies, and how they corporate them into their business.

All of the case companies still have some similar procedures to opportunity-oriented strategy. For instance, in situations where breaches have been noticed in the actions of suppliers, practices such as having dialogue with the supplier and providing training are used. However, all of the companies can as a last option to terminate the supplier-buyer relationship in case of non-compliance, and this is the act in risk-oriented strategy.

## 5.2 Suggestions for future research

The elements chosen for this study were based on the article search made. Since the subject had to be narrowed down, a lot of interesting elements were left out from this study. Risk management was one of the topics that rose many times in the literature. It is an important element of SSCM, and it affects on many aspects of supply chain. Since the impact of technology in business has increased, it brings many risks as well, such as cyber threats. Studying these matters in supply chain management context is important. Stakeholders and their importance was a common response in the interviews. Thus, studying the stakeholders' and the buyer-stakeholder relationship impact on supply chain management would be an interesting research topic.

# REFERENCES

Abdul-Rashid, S.H., Sakundarini, N., Ariffin, R. & Ramayah, T. 2017, "Drivers for the adoption of sustainable manufacturing practices: A Malaysia perspective", *International Journal of Precision Engineering and Manufacturing,* vol. 18, no. 11, pp. 1619-1631.

Ageron, B., Lavastre, O. & Spalanzani, A. 2013, "Innovative supply chain practices: the state of French companies", *Supply chain management,* vol. 18, no. 3, pp. 265-276.

Aguinis, H. 2011, "Organizational responsibility: Doing good and doing well.".

Ahi, P. & Searcy, C. 2013, "A comparative literature analysis of definitions for green and sustainable supply chain management", *Journal of Cleaner Production,* vol. 52, pp. 329-341.

Akhavan, R.M. & Beckmann, M. 2017, "A configuration of sustainable sourcing and supply management strategies", *Journal of Purchasing and Supply Management,* vol. 23, no. 2, pp. 137-151.

Alghababsheh, M. & Gallear, D. 2020, "Socially Sustainable Supply Chain Management and Suppliers' Social Performance: The Role of Social Capital", *Journal of Business Ethics,* vol. 173, no. 4, pp. 855-875.

Alhaddi, H. 2015, "Triple bottom line and sustainability: A literature review", *Business and Management Studies,* vol. 1, no. 2, pp. 6-10.

Andersen, M. & Skjoett-Larsen, T. 2009, "Corporate social responsibility in global supply chains", *Supply chain management,* vol. 14, no. 2, pp. 75-86.

Arora, P., Hora, M., Singhal, V. & Subramanian, R. 2020, "When do appointments of corporate sustainability executives affect shareholder value?", *Journal of Operations Management,* vol. 66, no. 4, pp. 464-487.

Ayuso, S., Roca, M. & Colomé, R. 2013, "SMEs as "transmitters" of CSR requirements in the supply chain", *Supply chain management,* vol. 18, no. 5, pp. 497-508.

Bai, C. & Sarkis, J. 2010, "Integrating sustainability into supplier selection with grey system and rough set methodologies", *International Journal of Production Economics,* vol. 124, no. 1, pp. 252-264.

Baliga, R., Raut, R.D. & Kamble, S.S. 2019, "Sustainable supply chain management practices and performance: An integrated perspective from a developing economy", *Management of environmental quality,* vol. 31, no. 5, pp. 1147-1182.

Beske, P., Land, A. & Seuring, S. 2014, "Sustainable supply chain management practices and dynamic capabilities in the food industry: A critical analysis of the literature", *International Journal of Production Economics,* vol. 152, pp. 131-143.

Beske, P. & Seuring, S. 2014, "Putting sustainability into supply chain management", *Supply chain management,* vol. 19, no. 3, pp. 322-331.

Bode, C. & Wagner, S.M. 2015, "Structural drivers of upstream supply chain complexity and the frequency of supply chain disruptions", *Journal of Operations Management,* vol. 36, no. 1, pp. 215-228.

Bowen, F.E., Cousins, P.D., Lamming, R.C. & Farukt, A.C. 2001, "The role of supply management capabilities in green supply", *Production and operations management,* vol. 10, no. 2, pp. 174-189.

Büyüközkan, G. & Karabulut, Y. 2017, "Energy project performance evaluation with sustainability perspective", *Energy (Oxford),* vol. 119, pp. 549-560.

Caniato, F., Caridi, M., Crippa, L. & Moretto, A. 2012, "Environmental sustainability in fashion supply chains: An exploratory case based research", *International Journal of Production Economics,* vol. 135, no. 2, pp. 659-670.

Carter, C.R. & Liane Easton, P. 2011, "Sustainable supply chain management: evolution and future directions", *International journal of physical distribution & logistics management,* vol. 41, no. 1, pp. 46-62.

Carter, C.R. & Rogers, D.S. 2008, "A framework of sustainable supply chain management: moving toward new theory", *International journal of physical distribution & logistics management,* vol. 38, no. 5, pp. 360-387.

Chardine-Baumann, E. & Botta-Genoulaz, V. 2014, "A framework for sustainable performance assessment of supply chain management practices", *Computers & Industrial Engineering,* vol. 76, pp. 138-147.

Christopher, M., Mena, C., Khan, O. & Yurt, O. 2011, "Approaches to managing global sourcing risk", *Supply chain management,* vol. 16, no. 2, pp. 67-81.

Christopher, M. & Peck, H. 2004, "Building the Resilient Supply Chain", *The international journal of logistics management,* vol. 15, no. 2, pp. 1-14.

Collins, E., Roper, J. & Lawrence, S. 2010, "Sustainability practices: trends in New Zealand businesses", *Business strategy and the environment; Bus.Strat.Env,* vol. 19, no. 8, pp. 479-494.

Creswell, J.W. 2009, *Research design: qualitative, quantitative, and mixed methods approaches,* 3rd edn, Sage, Los Angeles.

Creswell, J.W. 1998, *Qualitative inquiry and research design: choosing among five traditions,* Sage Publications, Thousand Oaks (Calif.).

Cuthbertson, R., Cetinkaya, B., Ewer, G., Klaas, T., Piotrowicz, W. & Tyssen, C. 2011, *Sustainable Supply Chain Management Practical Ideas for Moving Towards Best Practice,* Springer Berlin Heidelberg, Berlin, Heidelberg.

Dahlsrud, A. 2008, "How corporate social responsibility is defined: an analysis of 37 definitions", *Corporate Social Responsibility and Environmental Management; Corp.Soc.Responsib.Environ.Mgmt,* vol. 15, no. 4, pp. 1-13.

Deutsch, N., Drávavölgyi, T. & Rideg, A. 2013, "Note on the development of sustainable supply chain strategy", *Chemical Engineering Transactions,* vol. 35, pp. 655-660.

DiMaggio, P.J. & Powell, W.W. 2000, *The iron cage revisited institutional isomorphism and collective rationality in organizational fields*, Emerald Group Publishing Limited.

DiMaggio, P.J. & Powell, W.W. 1983, "The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields", *American Sociological Review*, pp. 147-160.

Donaldson, T. & Preston, L.E. 1995, "The stakeholder theory of the corporation: concepts, evidence, and implications", *The Academy of Management review,* vol. 20, no. 1, pp. 65-91.

Dubey, R., Gunasekaran, A., Papadopoulos, T., Childe, S.J., Shibin, K.T. & Wamba, S.F. 2017, "Sustainable supply chain management: framework and further research directions", *Journal of Cleaner Production,* vol. 142, pp. 1119-1130.

Eriksson, D. & Svensson, G. 2015, "Elements affecting social responsibility in supply chains", *Supply chain management,* vol. 20, no. 5, pp. 561-566.

Eriksson, P. & Kovalainen, A. 2008, *Qualitative methods in business research,* Sage, London.

Farooque, M., Zhang, A. & Liu, Y. 2019, "Barriers to circular food supply chains in China", *Supply chain management,* vol. 24, no. 5, pp. 677-696.

Freeman, R.E. 2010, *Strategic management: A stakeholder approach,* Cambridge university press.

Garvare, R. & Johansson, P. 2010, "Management for sustainability - A stakeholder theory", *Total quality management & business excellence,* vol. 21, no. 7, pp. 737-744.

Gimenez, C., Sierra, V. & Rodon, J. 2012, "Sustainable operations: Their impact on the triple bottom line", *International Journal of Production Economics,* vol. 140, no. 1, pp. 149-159.

Glover, J.L., Champion, D., Daniels, K.J. & Dainty, A.J.D. 2014, "An Institutional Theory perspective on sustainable practices across the dairy supply chain", *International Journal of Production Economics,* vol. 152, pp. 102-111.

Goel, P. 2010, "Triple Bottom Line Reporting: An Analytical Approach for Corporate Sustainability.", *Journal of Finance, Accounting & Management,* vol. 1, no. 1.

Golicic, S.L. & Smith, C.D. 2013, "A Meta-Analysis of Environmentally Sustainable Supply Chain Management Practices and Firm Performance", *The journal of supply chain management; J Supply Chain Manag,* vol. 49, no. 2, pp. 78-95.

Govindan, K. 2018, "Sustainable consumption and production in the food supply chain: A conceptual framework", *International Journal of Production Economics,* vol. 195, pp. 419-431.

Govindan, K., Azevedo, S.G., Carvalho, H. & Cruz-Machado, V. 2014, "Impact of supply chain management practices on sustainability", *Journal of Cleaner Production,* vol. 85, pp. 212-225.

Govindan, K., Khodaverdi, R. & Jafarian, A. 2013, "A fuzzy multi criteria approach for measuring sustainability performance of a supplier based on triple bottom line approach", *Journal of Cleaner Production,* vol. 47, pp. 345-354.

Gualandris, J., Golini, R. & Kalchschmidt, M. 2014, "Do supply management and global sourcing matter for firm sustainability performance?", *Supply chain management,* vol. 19, no. 3, pp. 258-274.

Gualandris, J. & Kalchschmidt, M. 2014, "Customer pressure and innovativeness: Their role in sustainable supply chain management", *Journal of purchasing and supply management,* vol. 20, no. 2, pp. 92-103.

Gupta, H., Kusi-Sarpong, S. & Rezaei, J. 2020, "Barriers and overcoming strategies to supply chain sustainability innovation", *Resources, Conservation and Recycling,* vol. 161, pp. 104819.

Gustafsson, J. 2017, "Single case studies vs. multiple case studies: A comparative study", .

Hajmohammad, S. & Vachon, S. 2016, "Mitigation, Avoidance, or Acceptance? Managing Supplier Sustainability Risk", *The journal of supply chain management; J Supply Chain Manag,* vol. 52, no. 2, pp. 48-65.

Harms, D., Hansen, E.G. & Schaltegger, S. 2013, "Strategies in Sustainable Supply Chain Management: An Empirical Investigation of Large German Companies", *Corporate social-responsibility and environmental management; Corp.Soc.Responsib.Environ.Mgmt,* vol. 20, no. 4, pp. 205-218.

Hashmi, M.A., Damanhouri, A. & Rana, D. 2015, "Evaluation of Sustainability Practices in the United States and Large Corporations", *Journal of Business Ethics,* vol. 127, no. 3, pp. 673-681.

Haverkamp, D., Bremmers, H. & Omta, O. 2010, "Stimulating environmental management performance", *British food journal (1966),* vol. 112, no. 11, pp. 1237-1251.

Hollos, D., Blome, C. & Foerstl, K. 2012, "Does sustainable supplier co-operation affect performance? Examining implications for the triple bottom line", *International Journal of Production Research,* vol. 50, no. 11, pp. 2968-2986.

Hong, J., Zhang, Y. & Ding, M. 2018, "Sustainable supply chain management practices, supply chain dynamic capabilities, and enterprise performance", *Journal of Cleaner Production,* vol. 172, pp. 3508-3519.

Hörisch, J., Freeman, R.E. & Schaltegger, S. 2014, "Applying Stakeholder Theory in Sustainability Management: Links, Similarities, Dissimilarities, and a Conceptual Framework", *Organization & Environment,* vol. 27, no. 4, pp. 328-346.

Hsu, C., Choon Tan, K., Hanim Mohamad Zailani, S. & Jayaraman, V. 2013, "Supply chain drivers that foster the development of green initiatives in an emerging economy", *International journal of operations & production management,* vol. 33, no. 6, pp. 656-688.

Jackson, A., Boswell, K. & Davis, D. 2011, "Sustainability and triple bottom line reporting– What is it all about", *International Journal of Business, Humanities and Technology,* vol. 1, no. 3, pp. 55-59.

Jia, F., Zuluaga-Cardona, L., Bailey, A. & Rueda, X. 2018, "Sustainable supply chain management in developing countries: An analysis of the literature", *Journal of Cleaner Production,* vol. 189, pp. 263-278.

Jia, P., Diabat, A. & Mathiyazhagan, K. 2015, "Analyzing the SSCM practices in the mining and mineral industry by ISM approach", *Resources Policy,* vol. 46, pp. 76-85.

Kähkönen, A., Lintukangas, K. & Hallikas, J. 2018, "Sustainable supply management practices: making a difference in a firm's sustainability performance".

Kang, S., Kang, B., Shin, K., Kim, D. & Han, J. 2012, "A theoretical framework for strategy development to introduce sustainable supply chain management", *Procedia - Social and Behavioral Sciences,* vol. 40, pp. 631-635.

Kitsis, A.M. & Chen, I.J. 2019, "Do motives matter? Examining the relationships between motives, SSCM practices and TBL performance", *Supply chain management,* vol. 25, no. 3, pp. 325-341.

Klassen, R.D. & Vereecke, A. 2012, "Social issues in supply chains: Capabilities link responsibility, risk (opportunity), and performance", *International Journal of Production Economics,* vol. 140, no. 1, pp. 103-115.

Köksal, D., Strähle, J., Müller, M. & Freise, M. 2017, "Social Sustainable Supply Chain Management in the Textile and Apparel Industry—A Literature Review", *Sustainability (Basel, Switzerland),* vol. 9, no. 1, pp. 100.

Koplin, J., Seuring, S. & Mesterharm, M. 2007, "Incorporating sustainability into supply management in the automotive industry – the case of the Volkswagen AG", *Journal of Cleaner Production,* vol. 15, no. 11, pp. 1053-1062.

Large, R.O. & Gimenez Thomsen, C. 2011, "Drivers of green supply management performance: Evidence from Germany", *Journal of Purchasing and Supply Management,* vol. 17, no. 3, pp. 176-184.

Li, J., Fang, H. & Song, W. 2019, "Sustainable supplier selection based on SSCM practices: A rough cloud TOPSIS approach", *Journal of Cleaner Production,* vol. 222, pp. 606-621.

Li, Y. & Huang, J. 2017, "The moderating role of relational bonding in green supply chain practices and performance", *Journal of purchasing and supply management,* vol. 23, no. 4, pp. 290-299.

Lo, S.M. & Shiah, Y. 2016, "Associating the motivation with the practices of firms going green: the moderator role of environmental uncertainty", *Supply chain management,* vol. 21, no. 4, pp. 485-498.

López, C. & Ruiz-Benítez, R. 2020, "Multilayer analysis of supply chain strategies' impact on sustainability", *Journal of purchasing and supply management,* vol. 26, no. 2, pp. 100535.

Lund-Thomsen, P. 2008, "The Global Sourcing and Codes of Conduct Debate: Five Myths and Five Recommendations: The Global Sourcing and Codes of Conduct Debate", *Development and change,* vol. 39, no. 6, pp. 1005-1018.

Luthra, S. & Mangla, S.K. 2018, "When strategies matter: Adoption of sustainable supply chain management practices in an emerging economy's context", *Resources, Conservation and Recycling,* vol. 138, pp. 194-206.

Marshall, D., McCarthy, L., McGrath, P. & Claudy, M. 2015, "Going above and beyond: how sustainability culture and entrepreneurial orientation drive social sustainability supply chain practice adoption", *Supply chain management,* vol. 20, no. 4, pp. 434-454.

Mathiyazhagan, K., Diabat, A., Al-Refaie, A. & Xu, L. 2015, "Application of analytical hierarchy process to evaluate pressures to implement green supply chain management", *Journal of Cleaner Production,* vol. 107, pp. 229-236.

McMurray, A.J., Islam, M.M., Siwar, C. & Fien, J. 2014, "Sustainable procurement in Malaysian organizations: Practices, barriers and opportunities", *Journal of Purchasing and Supply Management,* vol. 20, no. 3, pp. 195-207.

Meixell, M.J. & Luoma, P. 2015, "Stakeholder pressure in sustainable supply chain management", *International journal of physical distribution & logistics management,* vol. 45, no. 1, pp. 69-89.

Meqdadi, O., Johnsen, T.E., Johnsen, R.E. & Salmi, A. 2020, "Monitoring and mentoring strategies for diffusing sustainability in supply networks", *Supply chain management,* vol. 25, no. 6, pp. 729-746.

Morali, O. & Searcy, C. 2013, "A Review of Sustainable Supply Chain Management Practices in Canada", *Journal of Business Ethics,* vol. 117, no. 3, pp. 635-658.

Moxham, C. & Kauppi, K. 2014, "Using organisational theories to further our understanding of socially sustainable supply chains: The case of fair trade", *Supply chain management,* vol. 19, no. 4, pp. 413-420.

Mzembe, A.N., Lindgreen, A., Maon, F. & Vanhamme, J. 2016, "Investigating the Drivers of Corporate Social Responsibility in the Global Tea Supply Chain: A Case Study of Eastern Produce Limited in Malawi", *Corporate social-responsibility and*

*environmental management; Corp.Soc.Responsib.Environ.Mgmt,* vol. 23, no. 3, pp. 165-178.

Nakamba, C.C., Chan, P.W. & Sharmina, M. 2017, "How does social sustainability feature in studies of supply chain management? A review and research agenda", *Supply chain management,* vol. 22, no. 6, pp. 522-541.

Narayanan, A.E., Sridharan, R. & Ram Kumar, P.N. 2019, "Analyzing the interactions among barriers of sustainable supply chain management practices: A case study", *Journal of manufacturing technology management,* vol. 30, no. 6, pp. 937-971.

Narimissa, O., Kangarani-Farahani, A. & Molla-Alizadeh-Zavardehi, S. 2020, "Drivers and barriers for implementation and improvement of Sustainable Supply Chain Management", *Sustainable development (Bradford, West Yorkshire, England),* vol. 28, no. 1, pp. 247-258.

New, S.J. 2015, "Modern slavery and the supply chain: the limits of corporate social responsibility?", *Supply chain management,* vol. 20, no. 6, pp. 697-707.

Nishat Faisal, M. 2010, "Sustainable supply chains: a study of interaction among the enablers", *Business process management journal,* vol. 16, no. 3, pp. 508-529.

Norman, W. & MacDonald, C. 2004, "Getting to the Bottom of “Triple Bottom Line”", *Business ethics quarterly,* vol. 14, no. 2, pp. 243-262.

Ortas, E., Moneva, J.,M. & Álvarez, I. 2014, "Sustainable supply chain and company performance: A global examination", *Supply chain management,* vol. 19, no. 3, pp. 332-350.

Pagell, M. & Wu, Z. 2009a, "Building a more complete theory of sustainable supply chain management using case studies of 10 exemplars", *The journal of supply chain management,* vol. 45, no. 2, pp. 37-56.

Panizzolo, R. 1998, "Applying the lessons learned from 27 lean manufacturers.: The relevance of relationships management", *International Journal of Production Economics,* vol. 55, no. 3, pp. 223-240.

Panjehfouladgaran, H. & Bahiraie, N. 2014, "Role of critical success factors in sustainable supply chain management", *Journal of Applied Research on Industrial Engineering,* vol. 1, no. 5, pp. 320-328.

Paulraj, A., Chen, I.J. & Blome, C. 2017, "Motives and Performance Outcomes of Sustainable Supply Chain Management Practices: A Multi-theoretical Perspective", *Journal of Business Ethics,* vol. 145, no. 2, pp. 239-258.

Piercy, N. & Rich, N. 2015, "The relationship between lean operations and sustainable operations", *International journal of operations & production management,* vol. 35, no. 2, pp. 282-315.

Pullman, M.E., Maloni, M.J. & Carter, C.R. 2009, "Food for thought: social versus environmental sustainability practices and performance outcomes", *The journal of supply chain management,* vol. 45, no. 4, pp. 38-54.

Quarshie, A.M., Salmi, A. & Leuschner, R. 2016, "Sustainability and corporate social responsibility in supply chains: The state of research in supply chain management and business ethics journals", *Journal of purchasing and supply management,* vol. 22, no. 2, pp. 82-97.

Rao, P. & Holt, D. 2005, "Do green supply chains lead to competitiveness and economic performance?", *International journal of operations & production management,* vol. 25, no. 9, pp. 898-916.

Rauer, J. & Kaufmann, L. 2015, "Mitigating External Barriers to Implementing Green Supply Chain Management: A Grounded Theory Investigation of Green-Tech Companies' Rare Earth Metals Supply Chains", *The journal of supply chain management; J Supply Chain Manag,* vol. 51, no. 2, pp. 65-88.

Ray, S. & Ray Chaudhuri, B. 2018, "Business Group Affiliation and Corporate Sustainability Strategies of Firms: An Investigation of Firms in India", *Journal of Business Ethics,* vol. 153, no. 4, pp. 955-976.

Reefke, H. & Sundaram, D. 2017, "Key themes and research opportunities in sustainable supply chain management – identification and evaluation", *Omega,* vol. 66, pp. 195-211.

Reuter, C., Goebel, P. & Foerstl, K. 2012, "The impact of stakeholder orientation on sustainability and cost prevalence in supplier selection decisions", *Journal of purchasing and supply management,* vol. 18, no. 4, pp. 270-281.

Saeed, M. & Kersten, W. 2019, "Drivers of Sustainable Supply Chain Management: Identification and Classification", *Sustainability (Basel, Switzerland),* vol. 11, no. 4, pp. 1137.

Sajjad, A., Eweje, G. & Tappin, D. 2015, "Sustainable Supply Chain Management: Motivators and Barriers", *Business strategy and the environment; Bus.Strat.Env,* vol. 24, no. 7, pp. 643-655.

Sancha, C., Longoni, A. & Giménez, C. 2015, "Sustainable supplier development practices: Drivers and enablers in a global context", *Journal of purchasing and supply management,* vol. 21, no. 2, pp. 95-102.

Sancha, C., Wong, C.W.Y. & Gimenez, C. 2019, "Do dependent suppliers benefit from buying firms' sustainability practices?", *Journal of purchasing and supply management,* vol. 25, no. 4, pp. 100542.

Schrettle, S., Hinz, A., Scherrer -Rathje, M. & Friedli, T. 2014, "Turning sustainability into action: Explaining firms' sustainability efforts and their impact on firm performance", *International Journal of Production Economics,* vol. 147, pp. 73-84.

Schulze, A. & Störmer, T. 2012, "Lean product development–enabling management factors for waste elimination", *International Journal of Technology Management,* vol. 57, no. 1/2/3, pp. 71-91.

Seuring, S. & Müller, M. 2008, "From a literature review to a conceptual framework for sustainable supply chain management", *Journal of Cleaner Production,* vol. 16, no. 15, pp. 1699-1710.

Shah, R. & Ward, P.T. 2003, "Lean manufacturing: context, practice bundles, and performance", *Journal of Operations Management,* vol. 21, no. 2, pp. 129-149.

Singh, A. & Trivedi, A. 2016, "Sustainable green supply chain management: trends and current practices", *Competitiveness review,* vol. 26, no. 3, pp. 265-288.

Slaper, T.F. & Hall, T.J. 2011, "The triple bottom line: What is it and how does it work", *Indiana business review,* vol. 86, no. 1, pp. 4-8.

Tang, C.S. 2006, "Robust strategies for mitigating supply chain disruptions", *International Journal of Logistics: Research and Applications,* vol. 9, no. 1, pp. 33-45.

Tang, C.S. 2018, "Socially responsible supply chains in emerging markets: Some research opportunities", *Journal of Operations Management,* vol. 57, no. 1, pp. 1-10.

Tate, W.L., Ellram, L.M. & Kirchoff, J.F. 2010, "Corporate social responsibility reports: a thematic analysis related to supply chain management", *The journal of supply chain management,* vol. 46, no. 1, pp. 19-44.

Tay, M.Y., Abd Rahman, A., Aziz, Y.A. & Sidek, S. 2015, "A review on drivers and barriers towards sustainable supply chain practices", *International Journal of Social Science and Humanity,* vol. 5, no. 10, pp. 892.

Teuscher, P., Grüninger, B. & Ferdinand, N. 2006, "Risk management in sustainable supply chain management (SSCM): lessons learnt from the case of GMO-free soybeans", *Corporate Social Responsibility and Environmental Management; Corp.Soc.Responsib.Environ.Mgmt,* vol. 8, no. 4, pp. 1-10.

Tsai, F.M., Bui, T., Tseng, M., Ali, M.H., Lim, M.K. & Chiu, A.S.F. 2021, "Sustainable supply chain management trends in world regions: A data-driven analysis", *Resources, Conservation and Recycling,* vol. 167, pp. 105421.

United Nations (2021). The 17 Goals. [www document]. [Accessed 15 October 2021]. Available https://sdgs.un.org/goals

Vachon, S. & Klassen, R.D. 2006, "Extending green practices across the supply chain: The impact of upstream and downstream integration", *International journal of operations & production management,* vol. 26, no. 7, pp. 795-821.

Veleva, V. & Ellenbecker, M. 2001, "Indicators of sustainable production: framework and methodology", *Journal of Cleaner Production,* vol. 9, no. 6, pp. 519-549.

Venkatesh, V.G., Zhang, A., Deakins, E. & Mani, V. 2020, "Drivers of sub-supplier social sustainability compliance: an emerging economy perspective", *Supply chain management,* vol. 25, no. 6, pp. 655-677.

Villena, V.H., Wilhelm, M. & Xiao, C. 2021, "Untangling drivers for supplier environmental and social responsibility: An investigation in Philips Lighting's Chinese supply chain", *Journal of Operations Management,* vol. 67, no. 4, pp. 476-510.

Walker, H., Di Sisto, L. & McBain, D. 2008, "Drivers and barriers to environmental supply chain management practices: Lessons from the public and private sectors", *Journal of purchasing and supply management,* vol. 14, no. 1, pp. 69-85.

Wiengarten, F., Fynes, B. & Onofrei, G. 2013, "Exploring synergetic effects between investments in environmental and quality lean practices in supply chains", *Supply chain management,* vol. 18, no. 2, pp. 148-160.

Wolf, J. 2014, "The Relationship Between Sustainable Supply Chain Management, Stakeholder Pressure and Corporate Sustainability Performance", *Journal of Business Ethics,* vol. 119, no. 3, pp. 317-328.

Xu, L., Mathiyazhagan, K., Govindan, K., Noorul Haq, A., Ramachandran, N.V. & Ashokkumar, A. 2013, "Multiple comparative studies of Green Supply Chain Management: Pressures analysis", *Resources, Conservation and Recycling,* vol. 78, pp. 26-35.

Yin, R.K. 2003, *Case study research: design and methods,* 3rd edn, Sage Publications, Thousand Oaks (CA).

Yook, K.H., Choi, J.H. & Suresh, N.C. 2018, "Linking green purchasing capabilities to environmental and economic performance: The moderating role of firm size", *Journal of Purchasing and Supply Management,* vol. 24, no. 4, pp. 326-337.

Zhu, Q. & Sarkis, J. 2007, "The moderating effects of institutional pressures on emergent green supply chain practices and performance", *International Journal of Production Research,* vol. 45, no. 18-19, pp. 4333-4355.

Zhu, Q., Sarkis, J. & Geng, Y. 2005, "Green supply chain management in China: pressures, practices and performance", *International journal of operations & production management,* vol. 25, no. 5, pp. 449-468.

Zhu, Q., Sarkis, J. & Lai, K. 2013, "Institutional-based antecedents and performance outcomes of internal and external green supply chain management practices", *Journal of purchasing and supply management,* vol. 19, no. 2, pp. 106-117.

Zimmermann, F. & Foerstl, K. 2014, "A Meta-Analysis of the "Purchasing and Supply Management Practice-Performance Link"", *The journal of supply chain management; J Supply Chain Manag,* vol. 50, no. 3, pp. 37-54.

Zimon, D., Tyan, J. & Sroufe, R. 2020, "Drivers of sustainable supply chain management: Practices to alignment with un sustainable development goals.", *International Journal for Quality Research,* vol. 14, no. 1.

Zubairu, N., Dinwoodie, J., Govindan, K., Hunter, L. & Roh, S. 2021, "Supply chain strategies as drivers of financial performance in liquefied natural gas networks", *Supply chain management,* vol. ahead-of-print, no. -.

Company A, 2020, Sustainability report

Company A, 2021, Sustainability report

Company A, 2021b, Sustainability at the company A

Company B, 2020, Supplier Code of Ethics

Company B, 2021, Annual report

Company B, 2021b, Strategy

Company B, 2021c, Traceability

Company C, 2021, Annual and sustainability report

Company C, 2021b, Supplier Code of Conduct

Company C, 2021c, Strategy

Company C, 2021d, Traceability

Company D, 2021, Sustainability report

Company D, 2021b, Strategy

Company E, 2012, Supplier Code of Conduct

Company E, 2020, Sustainability strategy

Company E, 2021, Annual summary and sustainability report

Company E, 2021b, Sustainability report

# APPENDICES

## Appendix 1. Interview questions

1. **What is your position in the company and what are your responsibilities?**
2. **How is sustainability reflected in your company or unit?**
    - Does sustainability have a big role in your company?
    - Where does sustainability come from?
    - How has the role of sustainability changed over the years?
3. **What are the key drivers for SSCM in your company?**
    - External drivers
    - Internal drivers
4. **What SSCM practices do you have in your company?**
    - Environmental practices
    - Social practices
5. **How is sustainability ensured in the supply chain?**
    - What criteria do you have for the suppliers, and how is sustainability seen in the selection of suppliers?
    - What criteria do you have for products if you have them?
    - How do you believe sustainability will change in the future; what could be the main topics or challenges of sustainability in the supply chain?
6. **Do you have sustainability strategy or how is sustainability reflected in your strategy?**
    - Do you have a separate sustainability strategy or is sustainability embedded into your corporate strategy?