

# **MONITORING PRACTICES IN SUPPLY CHAIN SUSTAINABILITY MANAGEMENT- A CASE STUDY**

**Jyväskylä University  
School of Business and Economics**

**Master's Thesis**

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Subject: Corporate Environmental Management  
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## ABSTRACT

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Abstract <p>Despite modern information networks, it is still challenging for companies to monitor their supply chain sustainability. At the same time, stakeholder demands towards corporate responsibility are continuously increasing. A monitoring process for supply chain sustainability can help companies to navigate between these challenges. This study was conducted as a qualitative case study in an industrial company. The objective of the study was to identify case company's supplier monitoring practices and to form a supply chain sustainability monitoring process. This study also aimed to explore suppliers' perceptions and experiences on supply chain monitoring practices. The final goal was to find opportunities to develop case company's monitoring process and practices. A literature review was conducted on sustainable supply chain management (SSCM) literature. In the literature, the triple bottom line approach and the concept of truly sustainable supply chains were essential for this study. The primary data was collected through semi-structured interviews, two of them in the case company and five in supplier companies. Results suggested that suppliers have a positive attitude towards monitoring practices. However, lack of transparency and limited resources were seen as limitations to supply chain monitoring. The key development idea for the case company's monitoring process was identifying a sustainability aspect that is significant for the company and building targets and stakeholder communication around that aspect.</p>	
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## TIIVISTELMÄ

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Tiivistelmä <p>Moderneista tietoverkoista huolimatta toimitusketjujen vastuullisuuden seuranta on tänä päivänä yrityksille edelleen haastavaa. Samaan aikaan sidosryhmien vaatimukset yritysten vastuullisuutta kohtaan kasvavat jatkuvasti. Toimitusketjun vastuullisuuden seurantaprosessi voi auttaa yrityksiä luovimaan näiden haasteiden välissä. Tämä tutkimus toteutettiin kvalitatiivisena tapaustutkimuksena teollisuusyrityksessä. Tutkimuksen päämäärä oli kartoittaa yrityksen käytännöt toimittajien seurantaan ja muodostaa niistä toimitusketjun vastuullisuuden seurantaprosessi. Lisäksi tutkimus pyrki selvittämään yrityksen toimittajien näkemyksiä ja kokemuksia toimitusketjun vastuullisuuden seurannasta. Päämääränä oli löytää mahdollisuuksia kehittää seurantaprosessia ja käytäntöjä. Kirjallisuuskatsaus tehtiin kestävän toimitusketjun johtamista tutkivalle kirjallisuudelle. Kirjallisuudesta tutkimuksen kannalta tärkeiksi nousivat lähestymistapa, joka sisältää vastuullisuuden kaikki kolme osa-aluetta ja aidosti kestävän toimitusketjun käsite. Aineisto kerättiin puolistrukturoitujen haastattelujen avulla, joista kaksi tapausyrityksessä ja viisi toimittajilla. Tulosten perusteella toimittajat suhtautuvat myönteisesti seurantatoimiin. Toisaalta avoimuuden puute ja rajalliset resurssit nähtiin rajoituksina toimitusketjun seurannalle. Keskeinen kehitysidea tapausyrityksen seurantaprosessille oli tunnistaa yritykselle merkittävä vastuullisuusnäkökulma ja rakentaa tavoitteet ja sidosryhmäviestintä kyseisen osa-alueen ympärille.</p>	
Asiasanat toimitusketjujen kestävä johtaminen, toimitusketjun seuranta, tapaustutkimus	
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# 1 INTRODUCTION

## 1.1 Background

Transparency of supply chains has not improved much since the discovery era when the grey area on maps was filled with sea monsters, and the land routes and coastlines were mapped by those who were courageous enough to travel all the way to distant trade ports and cities. In the era of global sourcing, supply chain sustainability management is still challenging for companies. It is especially difficult to monitor suppliers that are further upstream in the supply chain, as companies might only know their first-tier suppliers. Even many of the world's most sustainable multinational corporations struggle to monitor their lower-tier suppliers, despite of their power and resources (Villena & Gioia, 2020). However, issues arising in the supply chain may present a risk and cause significant damage to the company (Hofmann et al., 2014). Additionally, stakeholders such as customers and partners increasingly expect companies to increase transparency in their supply chains and take extended responsibility on the impacts that their business might have on people and the environment in other parts of the supply chain (Boström, 2015). Therefore, sustainability might be seen as companies' license to operate today (Carter & Easton, 2011).

To prevent sustainability issues in the supply chain, companies are using various *sustainable supply chain management* (SSCM) practices. According to MIT Center for Transportation & Logistics and Council of Supply Chain Management Professionals (2021) study with over 1500 respondents from companies mainly in North-America and Europe but also on other continents, 44% of companies use company and supplier code of conduct as a supply chain sustainability management practice. Other widely used practices according to the study are supplier collaboration (33%), sustainability standards and certifications (32%), supply chain traceability and visibility (32%), and supplier audits (31%). However, these practices have not taken place spontaneously. There are various

preceding drivers and considerations before a company decides to adopt sustainable supply chain management practices. These can be related to for instance company performance on different levels, risk management, trust issues, ethical considerations, or stakeholder pressures.

Another reason for increasing interest towards sustainability in companies is that the legal requirements for supply chain sustainability are getting stricter. In 23 February 2022 European Commission adopted proposal for a Directive on corporate sustainability due diligence, legislation proposal that would require companies in EU to have a due diligence process for their supply chain sustainability risks that are related for example human rights and environmental issues (European Commission, 2022). The proposed directive concerns limited liability companies within EU that either have over 500 employees and global net turnover that is over 150 million euros or have over 250 employees and global net turnover of over 40 million euros but operate in high-impact sectors such as agriculture. Additionally, the directive applies to non-EU companies that operate in EU and exceed net turnovers mentioned above within this area (European Commission, 2022). This means that even though the question is about a European directive, it would influence companies and societies where the companies are connected globally.

The proposed directive would establish a due diligence duty for companies, meaning that they should identify and report negative environmental and social impacts in their operations and value chains and to take measures to prevent, mitigate and halt these impacts (European Commission, 2022). Some of the largest companies would be obliged to adapt their business strategy to comply with the science-based 1.5 °C limit to global warming that was set in the Paris Agreement in 2015 and moreover, the proposal for the directive contains duties for company directors including establishing the due diligence process in the company and taking sustainability aspects into account in decision-making (European Commission, 2022). These changes are so profound that companies covered by the proposed directive will need to start preparing for the changes already before they become legally binding. In 2020, there were 354 companies in Finland with 250 to 499 employees, and 286 companies with more than 500 employees (Statistics Finland, 2022).

Some of the largest companies in Finland operate in forest-based sector. In 2021, forest industry products were the largest export category in Finland, closely followed by chemical industry products. Based on preliminary data, forest industry products exports totalled 13 021 million euros and 18,9 percent of all exports from Finland (Statistics Finland, 2022). Therefore contributions towards sustainable supply chain management in Finnish forest-based industry can have major significance not only for individual forest-based companies but also on larger scale as the companies have suppliers from a large variety of different fields, providing raw materials, machinery and tools, other products and different kinds of services. In forest industry, wood-based raw-materials have widely-used voluntary certification systems such as Forest Stewardship Council (FSC) and Programme for the Endorsement of Forest Certification (PEFC). These

certifications are based on forest management criteria that is set in an agreement between forest managers and stakeholders (Lehtonen et al., 2021).

I chose sustainable supply chain management as my research topic because it is a current topic that has gained a lot of coverage in media during the recent years due to unethical behaviours found in famous companies' supply chains. Another reason is that the disruptions in global supply chains during the pandemic have proved that the current supply network does not stand on a solid, sustainable foundation. My personal career aspiration is to help companies to become more sustainable, and supply chain management is an integral part of the process. Despite its name, the Corporate Environmental Management programme at the University of Jyväskylä comprises all three aspects of sustainability: environmental, economic and social. In the thesis I want to incorporate all three aspects as all of them have to be considered while managing a supply chain towards sustainability.

## **1.2 Reason for the study**

Supply chain sustainability has become increasingly important for companies in the era of fast and wide information spreading, tightening legislation related to corporate responsibility, and increasing consumer engagement in responsible and sustainable consumption. In many cases, companies have learned from experience that negligence in responsibility concerning their supply chain can lead to massive loss of reputation. However, supply chains in today's world are usually long and widely spread, and it is difficult to track each phase of the supply chain, let alone to monitor the responsibility and sustainability of each phase. Even if a company has a code of conduct for its first-tier suppliers, it is often difficult or impossible to see beyond the first-tier supplier whether the sustainability principles are actually followed.

To address these issues, sustainable supply chain management (SSCM) field emerged to supply chain management research. Theoretical framework for the research stream has been in continuous development during the past 25 years, slowly establishing into the supply chain management field (Pagell and Chevchenko, 2014; Carter & al., 2020). Researchers have provided a number of different definitions for SSCM, Carter and Rogers (2008) and Seuring and Müller (2008) among the first ones. Moreover, researchers have tested whether theoretical approaches from different field can be applied to SSCM; discussed the profound goal of SSCM such as whether supply chains can become truly sustainable (e.g. Pagell and Wu, 2009); and researched what kind strategies, practices, tools, motivations and barriers that companies have for SSCM and how these might influence aspects such as company's performance or risks. However, the theoretical framework for SSCM research has not yet taken its final form.

SSCM has been researched in the context industries, such as chemical industry (e.g. Foerstl et al., 2010; Leppelt et al., 2013; Meqdadi et al., 2017), clothing industry (e.g. Freise & Seuring 2015; Turker & Altuntas, 2014),

automotive industry (e.g. Koplín et al., 2007; Kumar & Rahman, 2016), electronics industry (e.g. Sancha et al., 2019), and food industry (e.g. Grimm et al., 2014). Wolf (2011) introduces the concept of supply chain sustainability integration, which refers to “the degree to which a manufacturer strategically collaborates with its supply chain partners and collaboratively manages intra- and inter-organization processes for sustainability” (p. 223). She explores the concept in the context of German manufacturing industries using four case studies. However, studies on supply chain sustainability in the forest industry are scarce. Cambero & Sowlati (2014) conduct a literature review of forest biomass supply chain studies. They find that previously, economic and environmental aspects were mostly discussed in separate articles and TBL approach has gained popularity only recently. They also note that the most used sustainability indicators in forest biomass supply chain are GHG emissions (environmental), production and capital costs (economic), and created jobs (social). Feng et al. (2021) study factors that contribute to multi-tier supply chain sustainability in the context of Chinese pulp and paper industry. Gandolfo and Lupi (2021) discuss the transition journey from linear to circular economy and supply chain using a multinational tissue paper manufacturer from Europe as a case company.

Researchers have noted some gaps in SSCM literature. First of all, social sustainability aspect has been lacking in SSCM literature and studies with the *triple bottom line* (TBL) approach are few compared to those that concentrate on economic and environmental aspects (Dubey et al., 2017; Morali & Searcy, 2013; Sancha et al., 2016; Touboulic & Walker, 2015). Additionally, there is also a limited amount of research on how companies turn different sustainable sourcing and supply management practices into a coherent sustainable strategy (Akhavan & Beckmann, 2017) and the few empirical studies concerning monitoring and mentoring strategies mainly rely on buyer company perspective and do not take supplier perspective into account (Meqdadi et al., 2020).

### **1.3 Objectives of the study and research questions**

This Master’s thesis aims to contribute to the SSCM field through a qualitative case study using interview as primary data collection method, supported by direct observation and document review. The practical aim of the research is to map the current SSCM process of the case company, to investigate what kind of perceptions and practices case company’s suppliers have towards supply chain sustainability monitoring and to suggest ways to develop supply chain monitoring practices within the case company so that these could bring value to case company’s stakeholders as well. The case study is conducted in a forest industry company located in Finland and sustainability is a prominent part of the company’s business model and value proposition. The research problem is that the company has already engaged in a number of supply chain sustainability practices but they are scattered under different departments and processes. Moreover, the company wishes to learn how their supply chain monitoring

process could be developed in the future. To gain a broader view on sustainability monitoring practices in the supply chain and how these practices are viewed by supply chain members, the perspective of first-tier suppliers in different product or service categories was added to the case study.

The objective of the research is:

- to conduct interviews and observe the case company to map the current supply chain sustainability monitoring practices and to combine the practices into a supply chain sustainability management process;
- to understand how different suppliers manage their supply chain sustainability, what kind of good practices, challenges and views they see on monitoring and being monitored, and what kind of SSCM practices in the case company could bring value to them as well; and
- to identify opportunities through the literature and the interviews to improve the case company's monitoring practices in the future.

The research questions are:

1. What kind of practises and activities the case company uses for supply chain sustainability monitoring?
2. What kind of perceptions and practices supplier companies have towards SSCM practices?
3. How supply chain sustainability monitoring could be developed in the case company?

## **1.4 Structure of the research report**

The thesis is structure as follows. First, I will conduct a literature review of SSCM research literature. The review is organised based on themes that emerged from literature, including the development of SSCM research and key concepts, drivers for SSCM in companies, things to consider when developing SSCM strategy, and supply chain sustainability monitoring practices and activities. The section ends with a summary of the literature review.

Secondly, I will introduce the research methodology of this study. The section contains an overview of case study approach, introduction to the case in this research, as well as data collection and data analysis methods.

Thirdly, I will go through the results, which consist of the current state analysis of the case company's SSCM practices, perceptions that supplier company interviewees had towards sustainability related monitoring practices, and the SSCM practices supplier companies used or had experienced.

In the fourth section, I will discuss the findings and give suggestions for the case company's SSCM process based on literature review and findings. The report ends with a conclusion.

## 2 LITERATURE REVIEW

### 2.1 Sustainable supply chain management (SSCM)

The theoretical background of this master's thesis is in supply chain sustainability literature. Literature was searched initially in University of Jyväskylä library interface using search words *supplier*, *monitoring* and *sustainability*. Based on the results, most prominent academic databases and publishers were chosen: Business Source Elite (EBSCO), JSTOR, ProQuest Central, ScienceDirect, Emerald Publishing, Springer, Taylor & Francis, and Wiley. Articles were searched using keywords *assessment*, *auditing*, *forest*, *industry*, *management*, *managing*, *monitoring*, *paper*, *procurement*, *pulp*, *supplier(s)*, *supply chain*, *sustainability*, *sustainable*, *system*, *upstream*, and *wood*, and formulating search terms from their different combinations. Article search was limited between the years 2010-2021, to peer-reviewed articles, and articles were chosen based on title and abstract. Snowballing method was used to search for additional articles that appeared in the references of initial articles and on the databases as related articles. Later, additional articles published in the early 2022 were also searched and added to the literature. Although the search was limited to the above-mentioned timespan, some pioneering articles in terms of SSCM theory that were published before 2010 were identified in the literature and included in the review. Literature concerning mainly sustainable logistics was excluded from the review, as it is beyond the scope of this study. Additionally, green supply chain management literature was mainly excluded as it fundamentally emphasizes environmental aspects and omits social sustainability.

First articles in SSCM field appear in the beginning of 2000's and increase significantly in 2008 (Touboulic & Walker, 2015). However, the foundation for sustainability research was laid already in 1987, in the famous Brundlandt report. In the report, sustainable development is conceptualized as development that "meets the needs of the present without compromising the ability of future

generations to meet their own needs” (World Commission on Environment and Development, 1987, p. 8). Despite the early definition of sustainable development that has remained in wide use to this date, sustainability as a concept has proved difficult to define. Researchers have come up with various definitions (Giunipero et al., 2012) which has caused confusion in companies and sustainability practitioners alike. The problems of defining sustainability culminates in the Oxford Dictionary, where the word “sustainability” is defined only in environmental terms, omitting social sustainability. This example demonstrates how language – and the authorities that give definitions to words – shape the way we think and do research.

### **2.1.1 Development of SSCM theory**

Sustainable Supply Chain Management (SSCM) has developed from a marginal topic to a prominent field in supply chain management research (Carter et al., 2020; Pagell & Chevchenko, 2014; Touboulic & Walker, 2015). Carter and Rogers (2008) make an early effort to integrate the concept of sustainability into supply chain management and build a conceptual theory and framework of SSCM. They define SSCM as “the strategic, transparent integration and achievement of an organization’s social, environmental, and economic goals in the systemic coordination of key interorganizational business processes for improving the long-term economic performance of the individual company and its supply chains” (p. 368). Seuring and Müller (2008) define SSCM 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, i.e. economic, environmental and social, into account, which are derived from customer and stakeholder requirements. (p. 1700)

They add that “in sustainable supply chains, environmental and social criteria need to be fulfilled by the members to remain within the supply chain, while it is expected that competitiveness would be maintained through meeting customer needs and related economic criteria.” They construct a three-part conceptual framework by identifying triggers for sustainable supply chain management and introducing two managerial approaches for supply chain management: risks and performance, and sustainable products. Pagell and Chevchenko (2014, p. 45) define SSCM as “the designing, organizing, coordinating, and controlling of supply chains to become truly sustainable with the minimum expectation of a truly sustainable supply chain being to maintain economic viability, while doing no harm to social or environmental systems”.

There have been a number of other literature reviews concerning SSCM or sustainable purchasing, such as Carter and Easton (2011), Hoejmosé and Adrien-Kirby (2012) and Carter et al. (2020). In 2017, many efforts to create a SSCM framework were published. These include literature reviews on framework

development for SSCM such as Ansari and Kant (2017) and Chen and Kitsis (2017). Dubey et al. (2017) take it even further and conduct a literature review to develop an extensive classification for SSCM themes and aspects called World Class Sustainable Supply Chain Management (WCSSCM). The framework contains six themes (Environmental, Social Values and Ethics, Economic Stability, Operational Performance Assessment, Internal Factors, and External Factors) and related aspects or practices. However, there are still a lot of research opportunities in SSCM field (Carter et al., 2020) and framework development opportunities for SSCM still remain (Ansari & Kant, 2017).

In the literature there are also topics that are related to SSCM research and literature, but have a different scope or viewpoint. SSCM and business ethics (BE) research streams have developed separately (Quarshie et al., 2016), although supply chain sustainability topics have been covered in business ethics journals and SSCM seeks to incorporate ethical considerations into SCM. Another related concept is green supply chain management, which Srivastava (2007) defines as “integrating environmental thinking into supply-chain management, including product design, material sourcing and selection, manufacturing processes, delivery of the final product to the consumers as well as end-of-life management of the product after its useful life” (pp. 54-55). This research stream considers the whole supply chain but omits social side of sustainability. Another term close to SSCM is sustainable procurement, which Walker et al. (2012, p. 201) define as “the pursuit of sustainable development objectives through the purchasing and supply process”.

### **2.1.2 True sustainability in supply chains**

The concept of truly sustainable supply chain represents the ideal of supply chain sustainability from theoretical point of view. The concept is used in various articles by different researchers. Pagell and Wu (2009) introduce the concept of a truly sustainable supply chain, meaning that the supply chain “would at worst do no net harm to natural or social systems while still producing a profit over an extended period of time” (p. 38) and claiming that companies with a truly sustainable supply chain have an ability to stay in business for a longer period of time than their competitors with traditional supply chains. Pagell and Chevchenko (2014) identify issues in SSCM research and argue that true sustainability in supply chains is still a distant dream. They state that truly sustainable supply chains cannot be achieved as long as SSCM is regarded as a stand-alone part in supply chain management research.

Ha-Brookshire (2017) discusses moral responsibility as a prerequisite for building truly sustainable supply chains and corporations. She applies the Moral responsibility theory of corporate sustainability (MRCS) and sustainable supply chain (MRSSC), and conclude that only companies that regard sustainability as a perfect duty can achieve true sustainability in their supply chain, and each party of the supply chain must be committed to sustainability. Ha-Brookshire also finds that in order to avoid corporate hypocrisy that might affect sustainability

performance among employees and undermine efforts to achieve true sustainability in supply chains, companies must set a sustainability-oriented structure and set coherent sustainability goals. Truly sustainable supply chain cannot be achieved through practices such as compensating that only aim to reducing negative impacts (Montabon et al., 2016). The concept of truly sustainable supply chain is important for this research, because in the literature it is considered the goal of SSCM. Based on the literature it is evident that true sustainability has not yet been achieved in most supply chains.

### **2.1.3 The Triple Bottom Line approach**

Triple bottom line (TBL) is a familiar concept in both academic world and business world and it refers to performance that is measured not only in economic terms but also in environmental and social terms. Throughout the literature, researchers remark that most studies had concentrated on economic and environmental sustainability, while social sustainability had been a marginal topic in SSCM literature until recent years. In order to address the research gap, this study integrates all the three aspects. Moreover, the concept of true sustainability, as defined by Pagell and Wu (2009), comprises economic, environmental and social sustainability, meaning that if a company wants to achieve truly sustainable supply chains, it has to make efforts on all fronts. According to Carter & Rogers (2008), the triple bottom line indicates that

at the intersection of social, environmental, and economic performance, there are activities that organizations can engage in which not only positively affect the natural environment and society, but which also result in long-term economic benefits and competitive advantage for the firm. (p. 365)

This characterisation seems to suggest that social, environmental and economic aspects are connected to each other and by influencing one aspect, an organisation can have an impact on other aspects as well. Therefore it is worthwhile to analyse all three aspects in this kind of study where one aim is to find opportunities for development.

Triple bottom line approach differentiates sustainable supply chain management from traditional supply chain management (SCM). Beske and Seuring (2014) compare the traditional SCM to SSCM approach and find that organizations with SCM approach concentrate mainly on the economic aspect of the TBL while organizations with SSCM approach consider all three aspects - economic, environmental and social - of the TBL.

The research gap of social sustainability in SSCM literature has been identified by numerous researchers (e.g. Dubey et al., 2017; Morali & Searcy, 2013; Sancha et al., 2016; Touboulic & Walker, 2015). Carter et al. (2020) review SSCM literature from the years 2010–2018 in the footsteps of Carter and Easton (2011). This systematic literature review reveals that research on diversity and human

rights have not been addressed enough in SSCM research. Cambero and Sowlati (2014) conduct a literature review on studies regarding forest biomass supply chain planning. They argue that most studies have not considered all three aspects of sustainability, and therefore a managerial tool for forest biomass supply chain planning that considers economic, environmental and social aspects should be built.

## 2.2 Drivers for SSCM

### 2.2.1 Motives

What motivates companies to engage in sustainability initiatives concerning supply chain management? This kind of questions have been widely addressed in SSCM literature. According to Pagell and Chevchenko (2014), “sustainability is at its core about long-term survival. Most supply chains in existence today will not survive unless they change practices and business models to address their negative social and environmental impacts” (p. 45). This indicates that one of a company’s fundamental drivers towards sustainable supply chain management could be the hope for its long-term existence in the future. Researchers have also listed motives for integrating sustainability into SCM, such as “government regulations, pressures from customers and other stakeholders, managing company image, competitive advantage, supplier management for risks and performance, and environmental and social advocacy” (Morali & Searcy, 2013, p. 638).

Danese et al. (2019) highlight the difference between drivers and enablers towards SSCM and define drivers as “factors that initiate and motivate a company to adopt sustainability practices” and enablers as “factors that assist firm in achieving the adoption of sustainability practices” (p. 2034). Paulraj et al. (2017) review supply chain and business ethics literature and identify three different types of motives that act as prerequisites for a company’s SSCM practices. These are instrumental (to gain benefit), relational (to meet with stakeholder interests) and moral (to do the right thing) motives. However, researchers have mainly framed sustainability in the light of instrumental motives, some arguing that it can be a way to achieve a benefit for the company and others discussing the potential economic trade-offs (Montabon et al., 2016; Xiao et al., 2019). Especially in economic downturns, company managers seem to adopt this approach and base decisions first and foremost on the economic aspects (Giunipero et al., 2012).

The type of principal motives towards SSCM practices has an influence on whether the company can achieve truly sustainable supply chain. Therefore it is important to assess company’s drivers behind sustainability initiatives. Gold and Schleper (2017) argue that “the underlying instrumental logic of contemporary corporate engagement with sustainability, driven by stakeholder pressures, is a key obstacle when aiming for ‘truly’ sustainable supply chains” (p. 425). This

means that companies are not any more seeking sustainable development as a normative goal (for the sake of sustainability itself) but as a means to achieving something else, often economic benefit. Shevchenko et al. (2016) in turn argue that relational motives impede companies from achieving truly sustainable supply chain as stakeholders are giving recognition to companies that can manage stakeholder expectation through compensation activities. Shevchenko et al. elaborate that this way stakeholders actually encourage companies to remain unsustainable, while they should create conditions that force companies to become sustainable. However, instrumental and relational motives can be the first drivers on a company's sustainability journey, making them significant contributors on the way towards truly sustainable supply chains. Paulraj et al. (2017) find that motives, practices and performance are significantly linked to each other and conclude that relational and moral motives are more influential for adapting SSCM practices than instrumental motives, in contrast to Gold and Schleper's (2017) claim.

Some researchers categorise motives into internal and external ones. In the context of New Zealand companies, Sajjad et al. (2020) find that there are both internal and external drivers for SSCM. Internal normative drivers contain commitment from top management and emphasising values, whereas internal instrumental drivers contain cost saving, increase in operational performance, risk management, revenue growth, and long-term survival of the business. External drivers in turn are only instrumental and they contain customer demands, company reputation, laws and regulations on national or international level, general public expectations, and pressure from NGOs (see p. 597). This categorisation includes in the instrumental motives category those motives that Paulraj et al. (2017) distinguish as relational motives.

Drivers for SSCM can vary depending on company's industry and between different organisation within the company. Giunipero et al. (2012) find that managerial initiatives and government regulations are the main drivers for attempting towards sustainability in purchasing and supply chain functions. Additionally, competition, cost savings, increased resource consumption, customer requirements and the need to cut carbon footprint have a moderate influence on adopting sustainability considerations in SCM and purchasing. The researchers note though that the main drivers and barriers vary based on company industry.

Motives can have an influence on compliance and commitment. Chen and Kitsis (2017) create a theoretical framework for SSCM using multi-theoretical perspective and going through over 200 SSCM related articles. They conclude that moral motives lead to higher management commitment and to using stakeholder pressures to build relational practices. These relational practises can be for example communicating, collaborating, fostering trust, managing risks, or exchanging information. If some of these practices are used together, they can generate relational capabilities which facilitate SSCM and TBL performance. Chen & Chen (2019b) conduct an empirical study on supplying companies in China and find that instrumental and moral motives generate compliance, and

that moral motives also lead to stronger commitment towards sustainability. They also find that compliance increases economic and environmental performance while commitment increases social performance.

Company's principal motives towards SSCM can evolve when it adopts more and more sustainability practices and achieves its sustainability goals. Danese et al. (2019) create a sustainability journey of a company with five different stages based on monitoring and collaboration practices that the company has adopted. In the first category, the company has only few monitoring or collaboration practices and the authors call them "non-adopters". In the second category, both types of practices have increased but collaboration practices dominate. In the third stage, monitoring practices have reached the same level with collaboration practices, so their amount is balanced. In the fourth stage, monitoring practices have increased significantly while collaboration remains stagnant. In the fifth stage, collaboration has increased to equally high level with monitoring and they call these companies "full-adopters". Companies in the categories between the first and the last are called "partial adopters" with different orientations. Danese et al. (2019) then analyse the presence and influence of drivers and enablers in each category and find that during the journey from being non-adopter to becoming full adopter, legal and regulative pressure remains an important driver. However, cost reduction pressure that is an important driver in the first stage of the supply chain sustainability journey became less important in the later stages and is replaced by top management and customer pressure. Additionally, the findings reveal that in the full-adopter stage of sustainable supply management journey, it is important to align the plant's goals to its sustainability objectives to create an internal enabler.

### **2.2.2 Supply chain sustainability risks**

Supply chain sustainability risks can act as a driver for SSCM practises in a company because environmental and social issues in some part of the supply chain can cause loss of reputation for a long period of time and serious economic consequences to the company. Therefore sustainable supply chain management practices often work additionally as risk management practices for different kinds of supply chain risks (Hallikas et al., 2020). Hofmann et al. (2014) define sustainability risk as "a condition or a potentially occurring event that may provoke harmful stakeholder reactions" and supply chain sustainability risk as "a sustainability risk within a focal firm's supply chain" (p. 168). Wishing to meet stakeholder expectations - a relational motive - in terms of supply chain sustainability is therefore a driver that contributes to risk management as well.

Despite notable cases where supply chain sustainability issues have caused losses for the buyer company, sustainability risks have rarely been addressed in supply chain risk management literature (Hofmann et al., 2014). Hajmohammad and Vachon (2016) analyse supplier sustainability risk management strategies and predictors in companies. They apply agency and resource dependence theories to form a conceptual framework comprising perceived sustainability

risk and buyer-supplier dependence structure which define the risk management strategy chosen by the supply manager. The risk management strategies are classified into collaboration-based mitigation, monitoring-based mitigation, risk avoidance and risk acceptance. For example, low perceived risk and low buyer dependence but high supplier dependence lead to monitoring-based risk mitigation strategy.

Some researchers have studied the connection between supply chain risk management and company's TBL performance. Miemczyk and Luzzini (2019) conduct a survey of supply managers to assess the impact of risk management practises on TBL performance while combining them with environmental and social practises. Besides environmental practises, social practises also have an effect on environmental performance through risk management practises. However, no link was found between environmental and social supply chain practises and operational and cost performance. Hallikas et al. (2020) conduct a quantitative analysis on data collected from Finnish companies. They in turn find that sustainable purchasing practices have a positive effect on company's purchasing performance as well as operational and reputational supply chain risk management. Despite having different results, neither of the two studies finds negative effect between environmental and social supply chain practises and operational and cost performance.

Supply chain risk management can be either cause-oriented or effect-oriented, depending whether risk management activities aim to minimise causes of the risks or the effects they may cause (Hofmann et al., 2014). Supply chain sustainability risks materialize through different process than traditionally considered supply chain risks: supply chain risks sources cause disruptions which lead to damage to the company, whereas supply chain sustainability risk sources generate stakeholder reactions that cause damage to the company (Hofmann et al., 2014, see p. 168). Therefore, rapidly increasing data availability and fast information distribution to large audiences increasingly contribute to the materialization of sustainability risks. In some cases, risks might cause both disruption and stakeholder reaction (Hofmann et al., 2014).

Managing sustainability risks can ensure better supply chain resilience. Negri et al. (2021) conduct a literature review and discuss the connection between sustainability and resilience in the supply chain. They note that sustainability has gained prominence in supply chain research within a relatively short period of time, whereas supply chain resilience is still a rather marginal research topic. They define sustainable and resilient supply chain as "The management of coordinated supply chains integrating economic, environmental and social considerations in the business system, while dynamically preparing, adapting and reacting to unexpected disruptions, in order to meet the stakeholder requirements and improve firm profitability and competitiveness in the short and long term" (p. 2868). This definition has become especially relevant during the 2020's as the pandemic has caused disruptions in global supply chains due to unavailability of raw materials, logistical bottlenecks, lack of workforce, increased costs and changed consumption patterns. Sustainability supports long-

term viability of a supply chain, whereas resiliency facilitates recovery from disruptions. Risk management practices help to mitigate the causes and effects of those disruptions.

## **2.3 Developing a strategy for SSCM**

### **2.3.1 Supplier roles**

Understanding different types of supplier roles from theoretical perspective can help companies to focus their SSCM activities strategically. Most of the studies concentrate on SSCM from buyer perspective and only few studies seem to analyse supplier perspective and the active role of upper-stream suppliers in supply chain sustainability. Supplier perspective is part of this study to address this research gap and to understand how buyer's SSCM practices influence them and how they in turn actively contribute to supply chain sustainability.

In the supply chain, suppliers act as links between their customer and upper-stream suppliers. Wilhelm et al. (2016) state that first-tier suppliers have double-agency role, which indicates that they should both comply with buyer's sustainability requirements and transmit these requirements to their suppliers. They find that first-tier supplier's amount of resources may influence their adoption of secondary agency role, but also many factors in the buying company have influence: their focus on a certain sustainability or TBL dimension, power use towards suppliers, and the state of sustainability considerations in their purchasing department. This indicate that buying companies can actually influence their supply chain sustainability at least until the second-tier supplier by defining their own sustainability focus and incorporating sustainability considerations into their purchasing decisions.

To increase transparency concerning the origin of raw materials, it might be fruitful to target the efforts directly to an influential upper-stream supplier. Sancha et al. (2019) study electronics supply chain to understand how companies can increase visibility in the upstream supply chain and ensure that conflict minerals are not used in their supply chain. They use the theory of nexus supplier by Yan et al. (2015), and conclude that identifying and concentrating sustainability efforts to nexus suppliers in the supply chain can increase visibility in the supply chain. Sancha et al. (2019) mention however that a single company might not have enough power to force nexus suppliers to source responsibly and therefore collaborative efforts from focal companies driven by policies are necessary. Nexus supplier is defined by Yan et al. (2015) as a supplier that is part of multi-tier supply chain and due to its position in the supply network can have a major impact on focal company's performance. This means that the nexus supplier might not be in close relationship with the buyer and it can even be invisible to the buyer company, however it can provide valuable strategic information about the supply network to the buyer due to its interorganisational

position in the network (Yan et al. 2015). Having said that, this strategy requires focal company to first use other methods to be able to identify companies that act as nexus suppliers. Therefore this strategy might be quite resource consuming and possible only for larger companies.

### **2.3.2 Power differences between buyer and supplier**

The relative power between buyer and supplier can have an effect on how much customer pressure influences supplier's sustainability measures and compliance towards buyer's requirements. Understanding the power differences between buyer and supplier might help company to assess where their SSCM practices and activities towards the supplier can actually have the biggest impact and where they are unlikely to achieve notable changes.

Dabhilkar et al. (2016) suggest to incorporate relative power and interdependence perspectives into sustainable supply management (SSM) both in the literature and in manufacturing companies. They use the Kraljic matrix item categories called leverage, strategic, noncritical, and bottleneck items. The categories are based on relative power and dependence between buyer and supplier and the researchers analyse how supplier compliance towards buyer's sustainability program varies in each category. They find that sustainability program does not increase supplier compliance in bottleneck items category where demand is high and suppliers are few. However, supplier compliance increases due to sustainability program in all other categories. The researchers also find that incorporating social and environmental sustainability as a competitive priority in the supply management function in companies where sustainability is a competitive strategy leads to improved financial performance in strategic components. However, the content or requirements for the sustainability program is not specified in the article.

Buyer's use of coercive or reward power towards supplier can positively effect SSCM, and perceived justice in the supplier side can enhance supplier sustainability performance. However, the use of coercive power can harm supplier's perception of justice. Requiring suppliers to sign a code of conduct is an example of coercive power. (Chen & Chen, 2019a). Wilhelm et al. (2016) have similar finding concerning multi-tier supply chains: buyer's use of non-mediated power that relies on buyer's expertise and supplier's willingness to co-operate might yield better adoption of double agency role than mediated, coercive power use.

### **2.3.3 Performance measurement**

Traditionally company's performance has been measured in economic terms but recently, economic and social aspects have become part of performance assessment due to increased stakeholder requirements. This means that companies' success is increasingly measured in terms of triple bottom line. This

should be considered while planning company's SSCM strategy. The concept of performance is closely related to supply chain sustainability as companies are supposed to perform well on economic terms and sustainable companies should additionally perform well on environmental and social terms (Pagell and Wu, 2009). Supply chain sustainability performance has been a prominent topic also in later SSCM literature. According to Dubey et al. (2017) "audit, assessment and standardization are considered to be the key building blocks of performance assessment, which help organizations to quantify their performance and to continuously strive for better sustainability" (p. 341). Gimenez and Sierra (2013) conduct a questionnaire to purchasing agents to analyse how supplier sustainability governance mechanisms contribute to environmental performance. Their findings indicate that both assessment and collaboration contribute to higher environmental performance, and assessment facilitates collaboration with suppliers.

Supply chain sustainability performance can be assessed using different tools and metrics depending on the chosen sustainability aspect. Bai and Sarkis (2014) identify and evaluate sustainable supply chain key performance indicators (KPI). They suggest KPI development for managers to evaluate supply chain sustainability performance. According to Beske-Janssen et al. (2015), different sustainability aspects are measured and managed with different tools, based on SSCM literature. The aspects are environmental aspect, economic aspect, social aspect and integrative aspect, the last one referring to sustainability in general. The tool for each aspect consists of instrument, concept, system, and standard. For each aspect there is a number of instruments, such as audit and reporting. In this framework however only economic aspect contains risk analysis as an instrument. The general sustainability approach called integrative aspect contains sustainability audit, sustainability benchmarking and sustainability reporting as instruments, sustainability balanced scorecard (SBSC) as the concept, integrated management system as the system, and Global reporting initiative (GRI) and UN Global Compact as standards. Beske-Janssen et al. (2015) suggest that GRI could be used as a common approach to define sustainability performance and measures both in science and in practice. They add that it could help to expand sustainability performance metrics beyond the first-tier suppliers.

Like motivators towards sustainability, SSCM practices that aim to contribute to supply chain performance can also be categorised into internal and external ones. Gualandris and Kalchschmidt (2015) analyse how the development of sustainable supply chain management in a company influence sustainability performance and what is the role of key suppliers' sustainability performance and buyer-supplier trust in this journey. They use a survey conducted in Italian manufacturing companies and find that in the initial state, a company adopts internal sustainable process management practices that have a direct impact on company's environmental and social sustainability performance. Later the company engages in external sustainable supply management practices that contribute directly to supplier sustainability performance. Buyer-supplier trust has a positive influence in this task. Then, improved supplier environmental

and social performance then in turn impacts and is necessary for the company's increasing sustainability performance.

#### **2.3.4 Challenges and barriers**

In order to implement their sustainability strategy, companies must first overcome challenges and barriers that impede sustainability initiatives. Companies might view incorporating sustainability into supply chain management as expensive and requiring an extensive amount of resources such as time, dedicated personnel and special technology (Wolf, 2011). Giunipero et al. (2012) find that the main barriers for incorporating sustainability into supply chain management are the cost of the initial investment in sustainability measures both on the buyer and the supplier side, as well as the uncertain economic times. They find also other barriers that have moderate influence, such as attention to short-term goals, lack of regulations and standards, increased workload for suppliers, lack of managerial support and limited resources. Sajjad et al. (2020) find that internal barriers for SSCM contain economic concerns, strategic and structural limitations, as well as behavioural or psychological barriers. They also find external barriers such as obstacles on supply or demand side, laws and regulations, insufficient public awareness, uneven standards, and cultural issues (see p. 598). According to Danese et al. (2019) the size of the mill also has an influence on adopting SSCM practices. Small mill size can act as a barrier for those companies that are still in the beginning of their sustainability journey.

In global supply chains, cultural, socio-economic and language differences as well as long geographical distances between buyer and supplier and different understandings of the concept of sustainability may create barriers for supplier development in terms of sustainability (Busse et al., 2016). Xiao et al. (2019) advice that in the case of emerging market suppliers, managers in buying companies should contextualize sustainability standards in order to make them more applicable to this context and avoid tensions. Moreover, managers should adopt paradoxical sensemaking, accepting contradictions of sustainability in order to deal with them, instead of trying to resolve them.

#### **2.3.5 SSCM practices**

In order to manage supply chain sustainability, a company has to put in place SSCM practices. Researchers make efforts to categorise these practises. Akhavan and Beckmann (2017) identify six different sourcing and supply management practices in the literature: "Internal integration and governance", "Supplier screening with focus on social issues", "Supplier screening with focus on environmental issues", "Supplier development with focus on social issues", "Supplier development with focus on environmental issues", and "External governance, inter-organizational collaboration and collective initiatives" (p. 140).

These practises contain a number of activities such as “Supplier monitoring”, which is considered a screening activity. Beske and Seuring (2014) in turn identify five key categories of SSCM based on the literature, as well as practices to achieve goals set for each category. These two studies have similar approach but in reverse order. Beske and Seuring have “Categories” as the highest rank and “Practices” below that. Akhavan and Beckmann in turn have “Practices” as the highest rank, followed by “Activities” indicating that that practise is considered as a vague umbrella terms or approach that then contains specific and practical activities. For them, “Strategies” are bundles of practices. However, these strategies do not correspond with Beske and Seuring’s categories. This indicate that the terminology for SSCM is still under development.

Kähkönen et al. (2018) explore the influence of sustainable supply management (SSM) practices to company’s sustainability performance analysing survey data from Finnish companies. Based on the empirical study and literature, they create a theoretical framework in the form of a matrix for categorizing SSM practices, where internal-external creates one dimension, environmental-social the second dimension, and reactive-proactive the third dimension. They argue that reactive practices do not contribute to the company’s sustainability performance as their strategic aim is not to create new capabilities. Proactive practices in turn have a goal to develop new capabilities and the sustainability performance of the company. Finally, they conclude that more research should be conducted on strategic aims and goals of SSM practices.

According to Gualandris et al. (2014), SSCM practices can be divided into internal and external levels. “Internal levers include environmental management systems, certifications, design for environment and life-cycle analysis, which aim to reduce a company’s direct environmental and social impacts” (Gualandris et al., 2014, p. 260). External level comprises practices that aim to reduce environmental and social impacts from suppliers (Gualandris et al., 2014).

Pagell and Wu (2009) identify practices that separate sustainable supply chain management from traditional supply chain management. They find that innovativeness and managerial orientations towards sustainability are the key factors for establishing sustainable supply chain. Beske (2012) discusses Dynamic Capabilities (DC) theory in relation to SSCM research and introduces a framework that combines DC and SSCM practices. These practices have a potential to influence Sustainability Performance of the organisation. Hong et al. (2018) also discuss the relation between SSCM, dynamic capabilities, and company performance. They find that SSCM practices positively influence SC dynamic capabilities, which in turn positively influence company’s environmental performance while not having negative effect on economic or social performance. Danese et al. (2019) in turn analyse different stages of sustainability practices adoption and a company’s sustainability journey.

## 2.4 Monitoring practices and activities

In this study, the focus is in supply chain sustainability monitoring. Even though researchers often list monitoring among SSCM practices in the literature, it has rarely been the main topic of SSCM research. Sometimes researchers use the word “assessment” (Danese et al., 2019) to refer to monitoring practices, but assessment could also refer to a short-term activity which is part of long-term monitoring practice. Monitoring can be defined as “to observe, supervise, or keep under review; to keep under observation; to measure or test at intervals, esp. for the purpose of regulation or control.” (Oxford English Dictionary, n.d.)

Researchers often divide SSCM practices towards suppliers into monitoring and collaboration. According to Danese et al. (2019), monitoring refers to all activities that concern evaluating suppliers, while collaboration in turn requires “working directly with suppliers to improve the environmental performance of their processes and products, as well as social performance” (p. 2034). In this thesis, the focus is on monitoring practices and activities, meaning that collaboration is considered in contrast to monitoring but not as stand-alone subject. Grimm et al. (2022) have a narrower view of monitoring: “Supplier monitoring refers to the more informal type of auditing with the purpose of continuously observing suppliers’ performance” (p. 6).

Meqdadi et al. (2020) define monitoring strategy as “the set of activities that a focal company launches to control and assess a supplier’s sustainability performance” (p. 730). Monitoring the progress of supply chain sustainability requires sustainability measurement (Grosvold et al., 2014). According to Grosvold et al. (2014), the alignment between policy and practice is the main interest in auditing and assessment. They add that monitoring progress towards sustainability goals and objectives is often challenging as it requires engagement from a number of organizations and coordinated systems and practices. Boström (2015) discusses the balance between monitoring and trust. He conducts a case study on Swedish organizations to analyse monitoring and trust as ways to improve extended responsibility in the supply chain and argues that organizations often rely either on overly simple monitoring practices or blind trust. However, they should practice both monitoring and trust, and establish commitment to extended responsibility in the supply chain. Boström also argues that studies should be conducted on different kinds of organizations, not only on large multinationals.

Companies that already have various SSCM practices often still struggle with the uncertainty whether their suppliers actually continuously comply with their requirements, as they are unable to see or directly influence the upper stream of the supply chain (Grimm et al., 2022). Grimm et al. (2022) explore this question in the basis of institutional entrepreneurship. Findings reveal five necessary capabilities for companies that besides implementing a sustainability compliance management system (SCMS) successfully institutionalise their corporate sustainability standards in their multi-tier supply chain. These

capabilities become enablers for SCMS and enhance supplier compliance with sustainability standards. The five key capabilities are dialogue with other companies, risk management, collaboration with external stakeholders, integration of different company functions, and continuous development.

Monitoring global supply chains is challenging even for the most reputable companies. Companies often rely on large well-known auditing companies and trust that the results are accurate. However, Short et al. (2016) find in their study of 17 000 code-of-conduct-based supplier audits in 66 countries around the world conducted by one auditing company that the auditors report less non-compliances when an individual auditor has audited the same site previously, when the auditors have gained less experience or received less training in the auditing company, when the auditing team consists only of males, and when the audit is financed by the supplier that is being assessed.

Sancha et al. (2016) find that supplier assessment increases directly only buyer company's social sustainability performance, and has an influence on supplier social sustainability performance only if collaboration efforts are added. Collaboration has a direct effect on supplier's social sustainability performance. Meqdadi et al. (2020) find that monitoring limits sustainability diffusion only to the dyadic level between the buyer and the first-tier supplier, whereas mentoring or collaboration furthers sustainability spreading beyond the first tier to the supply network. Yet, they suggest that monitoring practices can have an instrumental role in spreading sustainability initiatives to the upper stream supply chain if the buyer first uses mentoring to provide their first-tier suppliers capabilities to monitor the second-tier suppliers. They also emphasise the importance of interaction during the mentoring process to ensure implementation of sustainability initiatives. In their study, on-site visit is considered mentoring practice.

## **2.5 Summary of the literature review**

Even though sustainable supply chain management field started to emerge to supply chain management research over two decades ago, the field is still developing and the SSCM framework has not yet been completely established. This is due to the difficulty to define the concept "sustainability" and subsequent challenges to determine what "sustainable supply chain" actually signifies. However, many researchers have attempted to form a definition for SSCM. The best-known definitions are probably by Carter and Rogers (2008), Seuring and Müller (2008). In Carter and Roger's definition strategic nature of SSCM is emphasized with the main goal of enhancing economic performance, indicating that they see SSCM from instrumental perspective. Seuring and Müller's (2008) definition in turn is based on triple bottom line approach and emphasises relational aspects such as collaboration and stakeholder expectations. However, the SSCM practices as well as the goal of SSCM are clearest defined by Pagell and Chevchenko (2014), who list "designing, organizing, coordinating, and

controlling” (p. 45) as management practices and define truly sustainable supply chain as the end goal.

The concept of truly sustainable supply chain is connected to the triple bottom line approach. A supply chain cannot become truly sustainable if it causes environmental or social harm. At the same time, the company should still be economically viable. If a company wishes to strive for truly sustainable supply chain, it needs to apply SSCM practices that target both environmental and social aspects, in addition to the traditional economic aspects. Therefore the triple bottom line approach is integral to this case study as well.

Based on the literature, drivers for SSCM practices can be either internal or external. Additionally motives can be categorised into instrumental, relational or moral motives. The type of principal motives can influence what kind SSCM practices the company adopts, or whether it just concentrates on compensating for the harm it is causing. Therefore identifying company’s motivations for sustainability is part of data collection in this research. Supply chain risk management is also covered from sustainability perspective, and literature reveal that supply chain sustainability risks are those that can cause reputational damage to the company, which in turn affect company’s economic aspects. Therefore, company’s SSCM practices can actually have long-term economic benefits to the company.

As one of this study’s aims is to map the supply chain sustainability monitoring procedure of the case company, I identified matters in the literature that can influence the success of monitoring practices. These are supplier roles that can contribute to sustainability initiatives in the supply chain; relative power between the buyer and the supplier; performance measurement tools; and barriers to adaptation of SSCM practices. In this study, especially the double-agency role of suppliers is clearly visible as they have to comply with customer requirements but also transmit sustainability requirements to their own suppliers. Supplier compliance towards these requirements in turn might depend on whether buyer has more power in the supplier relationship. Stakeholder requirements encourage companies to increasingly measure and report their performance in all three triple bottom line aspects. Adding new SSCM practices can enhance company’s supply chain performance in economic, environmental or social terms or even all combined. When it comes to barriers, the literature revealed that companies have far more obstacles to adapting SSCM practices than the lack of resources.

This study addresses three research gaps in SSCM literature: lacking triple bottom line approach, mainly absent supplier perspective, and limited amount of research concentrating on supply chain monitoring in SSCM field.

## 3 METHODOLOGY

### 3.1 Case study approach

Case study research aims to picturing a real-life situation through collection information about a particular activity and related interactions, for example in a company (Hair et al., 2015). Eisenhardt (1989) is one of the early pioneers of the case study approach.

Although case study is a research approach that can include both qualitative and quantitative data and methods (Eriksson & Kovalainen, 2008), I chose to concentrate on qualitative research methods in order to gain deep understanding on supplier sustainability monitoring practices. The small number of cases is a limitation of case study approach as the results cannot be generalized, however case study provides deeper understanding of the phenomenon than survey-based approaches (Farquhar, 2012).

In case study research, flexibility of the research design and research questions is advisable and they will evolve during the research process as the researcher familiarizes with the case (Eriksson & Kovalainen, 2008). This is also characteristic of studies that have an exploratory approach (Saunders et al., 2019). In this study, I was using in-depth interviews in order to identify company's supply chain management practices and explore their views on supply chain sustainability monitoring. According to Eriksson & Kovalainen (2008) this is usually the main empirical data collection method in business research.

Hair et al. (2015, chap. 8) include case study in qualitative data collection methods and instruct that in case study it is important to define the unit of analysis and the time scale. In case studies that contain data concerning more than one companies, the researcher should make sure that if comparisons between companies are made, they should be fair so that the companies are in similar situation or development state and that the occurrence times of the situations are not too far away from each other (Hair et al., 2015).

## 3.2 Studied case

I was conducting a case study about SSCM from the perspective of supply chain sustainability monitoring in an industrial company that specialised in forest-based products and was located in Finland. The company's customers are mainly other companies, such as manufacturers. Other important stakeholders for the company include suppliers and subcontractors, business partners and collaborators, government, local community, owners and employees. Sustainability is at the core of company's product innovation and a competitive factor. The company has certifications for systems and raw-materials, such as ISO14001 for environmental management system, ISO45001 for occupational health and safety system, and PEFC and FSC certifications for wood-based raw materials. Company's first-tier suppliers were mainly located Europe and most of them in Finland but the supply chain reached to other continents, meaning that the company had quite short visibility to the origin of supply for other products than certified raw material. Therefore the company had established different supply chain monitoring practices and aimed to develop them further. The aim of the study was to analyse the current situation in the company through interviews, observation and document review and map the current SSCM practices into a process. SSCM concerns company's suppliers especially through different monitoring practices and therefore the company wanted to learn more about their suppliers' perceptions and experiences on SSCM and monitoring practices as well as to understand what kind of SSCM practices in the company would bring value to its supply chain partners as well. The company wanted to identify opportunities to develop their SSCM process and sustainable supply chain monitoring practices in the future.

In this particular case study, the unit of analysis was a company and the time scale from November 2021 to April 2022, totalling six months. The case study was exploratory in nature. Saunders et al. (2019) describe exploratory research as "a valuable means to ask open questions to discover what is happening and gain insights about a topic of interest" (p. 186). They add that exploratory research answers questions that start with "What" and "How" and methods such as literature review and different types of interviews that are rather unstructured can be used to collect data. I decided to use interviews as the primary data collection method. The reason was that interviews could provide more in-depth information compared to, for example, a quantitative survey. As the case study was about the current situation, interviews could help to understand what was going on. The thesis subject was related to supply chain management, and interviews could provide personal views and thoughts that managers had towards sustainability in supply chains.

### 3.3 Data collection

Interview data was collected through two interviews in the case company and five interviews in the supplier companies (Table 1). The suppliers were chosen from the company's supplier list based on their importance to the case company (suggested by the procurement function) and relative economic significance (previous year's annual spend). Additionally, supplier's industry was considered so that different supplier types (raw-material, machines, maintenance, services) would be covered. All the interviews were conducted in March or the beginning of April 2022. The interviews were held online using Microsoft Teams software due to pandemic situation and because most of the interviewees were located in different regions. The interviews were recorded and in addition, the interviewer took notes during the discussions. Interviews were conducted in Finnish and each of them lasted approximately 45 to 60 minutes. The interviews were semi-structured with open-ended questions and flexible question order (Hair et al., 2015). The interviewer had prepared a general structure with themes and draft questions that should be covered in the interviews but the order of discussed themes varied based on interviewee responses. In some cases, interviewer discussed multiple themes during one response and the flexibility of the interview structure allowed that these themes did not need be covered for the second time. I chose this approach because I see it as the most suitable interview style for this topic and most convenient for a beginner researcher.

I interviewed two of the company representatives to understand the current state of SSCM in the company, and five suppliers to understand different perceptions towards supply chain monitoring practices and to learn about good practices towards SSCM in supplier companies. Additionally, challenges and development ideas for supply chain monitoring were discussed in each interview. The interview questions were derived from the themes that emerged in the literature.

The themes covered in the interviews were:

- responsibility of an individual organisation
- drivers and motivations towards sustainability
- SSCM strategy
- monitoring practices and activities for supply chain sustainability
- challenges in monitoring supply chain sustainability
- practices in non-compliance situations
- the future of SSCM

The interviewees were asked questions such as:

- What motivates your organisation to strive for sustainability in supply chains?
- What kind of practices does your organisation use to monitor sustainability in the supply chain?

- How supply chain sustainability risks are assessed and monitored in your company?
- What kind of steps organisations should take to in order to develop their supply chain sustainability?
- What kind of monitoring practices have your customers used to assess supply chain sustainability in your organisation? How have you experienced them?

**Table 1**

Interviewed representatives of the case company (B1-B2) and suppliers (S1-S5).

<b>Interviewee</b>	<b>Position</b>	<b>Industry</b>
B1	Procurement manager	Forest-based
B2	Compliance manager	Forest-based
S1	Supplier quality and sustainability director	Forest-based
S2	Sustainability specialist	Machine technology
S3	Business manager	Waste management
S4	CEO	Technical maintenance
S5	Area manager	Cleaning services

According to Eriksson and Kovalainen (2008), a qualitative interview is not an easy data collection method and therefore using it should be well justified. Interviews can be conducted in different kinds of milieus and the researcher can use visual material to facilitate some questions (Hair et al., 2015). According to Hair et al. (2015), interview is a suitable data collection method for complex topics or sensitive issues. Sustainability can be considered a particularly complex and sensitive topic as the definition of the concept has been difficult to define even for researchers and some sustainability related topics such as the impact of humans on global warming have caused heated debates among politicians, public and the media. Therefore, using interview as primary data collection method is well justified. Interview questions cannot be the same as research questions due to their different nature: interview questions provide data that becomes textual when the interviews are transcribed, whereas answering research questions requires analysing this data (Eriksson & Kovalainen, 2008).

For the purpose of triangulation, direct observation and documents were used as additional data. Triangulation is an integral part of case study research and enhances credibility of the research (Hair et al., 2015; Farquhar, 2012; Yin, 2015). Triangulation means using multiple ways to verify information, such as

different data sources, using different methods and comparing the findings, using different theories for interpretation, or having more than one researcher analysing the data (Hair et al., 2015). It is not necessary to use all them in one research (Hair et al., 2015). However, it is beneficial to look for opportunities for triangulation throughout the research project (Hair et al., 2015; Yin, 2015). Documents for review (Table 2) were chosen based on interviews and discussions in the case company. The current state of the SSCM process was mapped using company's integrated management system software (see Appendix 1 and Appendix 2).

**Table 2**

Reviewed documents.

<b>Source</b>	<b>Document</b>
External	Case company's website
External	Sustainability report on the website
Internal	Work safety questionnaire for suppliers
External	Code of Conduct
Internal	Supplier audit questionnaire

Direct observations that are part of qualitative research can be conducted during the interviews or in as a participant-observer and the location and time of single observations can vary (Yin, 2015). Data that is collected through observation can be in the form of text such as narratives, image or video, or numerical information (Hair et al., 2015). In this study, observation data was collected by participating in internal supplier evaluation activities, which took place as online Teams meetings. These meeting resulted in written narratives that describe the content of the events. Observations were made in three supplier evaluation meetings that took place during one week of November 2021.

Some obstacles appeared during the data collection process. At the planned time window for data collection, a Europe-wide crisis took place affecting supply chains, which might be the cause for that finding participants for interview was challenging. Social desirability bias might also have influenced the data, meaning that interview respondents tend to give responses that show their organization in a favourable light due to social pressure regarding sustainability issues (Walker et al., 2012).

### 3.4 Data analysis

Qualitative data analysis aims to “identify, examine, compare, and interpret patterns and themes” (Hair et al., 2015, p. 301). Interview data was analysed using thematic approach. The process of data analysis started by transcribing the interview data. Each of the interviews were transcribed carefully within one week after the interview took place, making transcriptions manually without using automatic software. In this study, content of the interviews was more important than interaction and communication details. Therefore I made basic level transcriptions that contained the words in spoken language but omitted repetition and filler words, as well as pauses and non-lexical words (Finnish Social Science Data Archive, n.d.). All the interviews were transcribed before moving to the next phase.

The interview data was then coded using inductive approach. The purpose of coding is to reduce data from full text to smaller meaningful pieces that are marked with descriptive names or numerical values (Hair et al., 2015). In inductive analysis, the codes and themes emerge from the data and the aim is to search for common ideas, activities, themes and patterns (Eriksson & Kovalainen, 2008; Farquhar, 2012). These stem from the empirical data, without applying any predetermined categories or theoretical approaches (Eriksson & Kovalainen, 2008).

First, the transcribed interviews were coded and the codes were then collected together and arranged to general groups of similar ideas and keywords. The second coding round was more detailed and existing codes were clarified and new ones added. The themes started to take shape and some new themes emerged. Finally, the themes were reviewed and refined, resulting in 18 key themes. These themes were divided into two groups: perceptions and practices. This process applied to all the interviews and the results were used to analyse the current state of the case company’s SSCM and to map the process, as well as to identify supplier perceptions and practices related to supply chain sustainability monitoring. During the analysis process, research questions were also reviewed and refined as suggested by Eriksson and Kovalainen (2008).

## 4 RESULTS

### 4.1 Current state analysis of the case company

Two management level persons were interviewed from the case company, purchasing manager (B1) and compliance manager (B2). The interviews contained the same themes as with other interviewees, but different aspects were emphasized based on the interviewee's area of expertise. The interviews gave an overall picture (Appendix 1) of the current SSCM practices and how the company manages sustainability related stakeholder requirements.

Customer requirements were seen as the main driver for sustainability practices in the company. Additionally, financier perceptions were considered potential motivator. Business opportunities and legal requirements were also seen as influential:

After all, there could even be a financial side that pressures to get involved in this kind of [sustainability initiatives] ... And then customers and their demands for responsible operations and procurement and overall, that is probably the driver that is quite strong in the background. But through it companies do also seek growth, business growth in order either to be profiled as a pioneer in the issue of responsibility, that we are really take care of these issues, or to take part in the growth that comes from sustainability... But the legislation is coming as well, and there are the requirements on European level and even requirements from other continents about what kind of products you should have or how you should act there. (B2)

The amount of customer inquiries was considered high and the interviewees perceived that the sustainability certifications for raw-materials that the

company had achieved did not translate to fewer customer inquiries and reporting requirements concerning raw-material sources:

Thinking about wood or those raw materials, then at the moment we are in such a happy situation that we have all the suppliers certified, they have either PEFC or FSC or even both ... And in a way this is the curious thing to me that we do have certifications and our suppliers do have certifications and still we have to tell our own customers very carefully the full description. Even the customer has a certificate, so sometimes it feels like what is the benefit from that certificate when the fact that you have it does not help at all. (B1)

The company's internal value towards environmental and social sustainability in procurement function was not evident to the interviewees. The interviewees held company's external image important and perceived many external drivers towards supply chain sustainability practices. However, the relative importance between sustainability aspects and economic aspects in purchasing decisions was not clearly defined in the company:

Maybe it would be good to know what our value for this is. If we have for example two different suppliers and one of them has taken care of these things better, we know everything transparently and so on, but on the other hand is more expensive for us, then which aspect weighs more? Because it also makes me think that we should somehow consider our reputation, image ... How much we are willing to invest in each aspect, that is the thing. (B1)

Based on document review on the case company's website, sustainability had a visible role in the company's product portfolio and external communication, and design for the environment was part of the company's competitive strategy. The interviewees also pointed out that product safety was important for the company. The company had a sustainability report on their website, mentioning company's sustainability strategy that contained targets and KPIs for different aspects of the business, including supply chain sustainability. B1 indicated in the interview that one of the targets had already been achieved. Additional requirements were expected to come from corporate level in the future.

The company managed supply chain's country related sustainability risks by purchasing mainly from Europe and preferably and mostly from companies that were located in Finland. Suppliers in this area were trusted due to strict legal requirements and perceived general compliance towards legislation and regulations in Finland and EU:

Of the products themselves or the raw materials we procure, we do not really import anything ourselves. Then the basis is that the supplier has

already had to report at EU level as to what the substance contains, where it comes from, that it is safe. (B1)

B1 explained that the supplier compliance management process started by verifying economic information and legal compliance of the supplier. The supplier was then requested to provide necessary certifications and documents. Company paid attention especially to raw-material supplier's certification, and for forest-based raw-materials certification was required. Chemical products also had an additional process where chemical safety was verified through an online system. If the chemical contained safety risks that had been learned either from chemical's safety data or from employee experience, alternative options were assessed and if possible, the chemical was replaced. The origin country of the chemical was always inquired from the supplier. Concerning subcontractors, the company monitored supplier's legal and social compliance through online system called Trusted Partner. Additionally, regular co-operation meetings were held with subcontractors that continuously performed work on the company's site. The co-operation meetings were mainly concerning work safety. Additionally, this kind of subcontractors were requested to fill work safety questionnaire while making the supplier contract and subcontractor's subcontractors working on-site had to be approved by the case company. Suppliers were also requested to sign code of conduct as part of the supplier contract. The practice had taken place for a couple of years and all the new suppliers were required to sign the code of conduct. The code covered ethical, economic, environmental and social requirements for the company and its partners. The interviewees also mentioned that the company had a whistle blowing line that was available to all the company's stakeholders.

Supplier audits were also discussed with the interviewees. A questionnaire was sent to supplier beforehand, followed by on-site visit by company's own employees. The general questionnaire included questions on code of conduct compliance, practices and systems to ensure social sustainability in the supply chain, and practices to ensure environmental sustainability in supplier's operations. Forest-based suppliers needed to fill additional part about supply chain transparency, certifications and measures to ensure legal compliance and mitigate environmental risks such as biodiversity loss. The suppliers were selected for auditing based on their criticality, relative size from the buyer's perspective, or in case difficulties or misconducts had been observed. In case the auditor reported findings, a corrective action plan was requested from the supplier.

The company had joined a cluster of industrial companies that conducted supplier assessments jointly through a professional third-party service provider. This was seen as a good practise and the perceived benefits included the expertise of a professional auditor, possibility to suggest which suppliers the company wishes to audit, as well as the greater customer pressure towards suppliers to accept auditing. The cluster assessment was mainly aimed for suppliers and subcontractors providing industrial services.

Additionally, the company conducted yearly internal supplier evaluations. Based on direct observation in the internal assessment, a number of prominent suppliers and subcontractors for each business unit as well as general maintenance were chosen and assessed by company's employees responsible for the operations. Currently the assessment contained supplier quality and work safety related aspects.

The interviewees perceived that supplier risk assessment could be developed further and the role of sustainability certificates and environmental and social aspects in purchasing decisions could be clarified. Additionally, B2 suggested that the company could identify relevant sustainability issues and create targets and measurements for those issues. The progress towards the targets could then be communicated to customers who ask about company-specific sustainability targets in their assessments.

## **4.2 Perceptions of supplier companies**

### **4.2.1 Three parts of a supply chain**

From supplier interviews, it became evident that companies understand the word "supply chain" from different perspectives depending on their industry and role in the company. Interviewees saw supply chain through three different lenses: supply chain towards their suppliers; supply chain towards their customers; and their own place in the supply chain. Some of the interviewees discussed why suppliers need to be engaged in emission reduction initiatives and how emission reductions in their suppliers' factories contribute to their own emission performance and targets:

Of course we have those climate goals and the supply chain has its own, so we would like our suppliers to be involved in that work, because really we cannot reduce emissions if suppliers are not involved... And then of course that we would get direct data from the suppliers so that we could then better calculate our emissions too... And then we have pretty much identified our biggest emitters of CO<sub>2</sub> I mean carbon dioxide wise... we have clearly recognized that probably half of our emissions in the supply chain are produced in China. (S2)

Some of the interviewees in turn explained the same situation but from different perspective, how their own emission reductions contribute to their customers' sustainability performance. They saw emission reduction initiatives as potential value-added services and a response to customer requirements:

Most importantly, what customers want is that we are able to measure their performance, in a way that if there is their waste management then what it causes, what kind of emissions, how it can be offset. (S3)

This three-part characteristic of supply chains made some of the interviewees ask whether we were talking about the supply chain towards their suppliers or towards their customers. One interviewee discussed the European Commission proposal for a Directive on corporate sustainability due diligence and noted that it will make a major difference if the law will apply to the whole value chain, meaning that companies should, besides their suppliers, monitor their customers as well. The company had taken a stance on the law proposal noting this difference.

Additionally, the stakeholder pressure in the supply chain did not only come from the customer side but can also from the supplier side as some interviewees remarked. This was especially relevant to the service company interviewees. Two of them had added sustainable options or measures to their service offering. One told that they actually had to inform and educate their customers on sustainability issues. They had strived to incorporate sustainability measures into their traditional services, but also offered sustainable solutions as value-added services. However, the interviewee had noticed that still quite many customers were not interested in sustainable solutions:

We have conscious customers who ask after these things, but it is unfortunate to say that we have a lot of customers who do not ask for those things from us and do not necessarily pay attention to them in their own operations, at least not visibly. So, it is kind of that we awaken them, how is for example sorting... going at your place, it is still in its infancy for many customers. So maybe in a way we are the one who takes it there to the customer, that it would be worthwhile to act in this way, that this would be a better course of action. (S5)

#### **4.2.2 Organisational structure influences sustainability initiatives**

Based on the interviews, organizational structure, roles and management initiatives play an important part in SSCM. In one company sustainability management position had been added to company's procurement function in order to emphasize sustainability aspects and responsibilities in the procurement. Another interviewee mentioned that in their company there was a separate sustainability function that supported the procurement. One interviewee said that customer concerns about biodiversity had led the company to hire new professionals to address that area. Additionally, one interviewee mentioned that they had a separate organisation to respond to customer inquiries that "do come all the time" (S1). One interviewee described how sustainability matters in procurement were led by the company's sustainability function but procurement personnel still paid attention to them in their daily work:

We do not have an actual sustainability person in the procurement or who would be responsible, of course it is that as whole and all the people of course also regard it in their own work but there is no one assigned person, hence it is now sustainability team's role to pull it forward. (S2)

In the case of international corporations, sustainability requirements coming from the corporate level could encourage companies to take sustainability measures at the local level: "Now that the company has been sold ... to a [foreign] corporation, of course, they also have demands" (S4). Additionally, multinational corporation could have different expectations for their local companies that were situated in different locations. One interviewee mentioned that same corporation might have local companies that are at different stages on their sustainability journey: "These [environmental objectives] come from Finland, so we have very different levels of countries [of operation], being at different levels in these matters, Finland is a pioneer in many aspects" (S5).

In service companies, employees' commitment to sustainability measures was seen important and different measures had been taken to engage employees. These included online trainings to employees about sustainability in their daily work and encouraging employees to share their ideas how the company could develop in terms sustainability and responsibility. One interviewee explained how measurable emission reduction targets motivated company's employees to perform better because it brought meaning to their work:

[Measurable emissions targets] also motivate our staff and then we can show that we do not only talk but we also perform. There is probably the one reason, there is the inner desire as well... Of course it has an economic effect, if you drive well then it takes less fuel, that is the good side, but then also the environment thanks. It is what has been seen that drivers want because we do a lot of co-operation with drivers and customers as well as our internal customers that is felt meaningful ... And we also have very active customers and internal crew that they bring up ideas on whether something could be done about this. (S3)

Based on the interviews, companies considered it important that the sustainability targets and opportunities to participate in sustainability initiatives flowed all the way from top to down but also from down to top as seen in the previous quote. One interviewee highlighted that in labour intensive companies it is important engage all the employees with sustainability issues:

Of course it is the question about management, how we lead the crew from top down, how the issues land all the way to the practical level, so that our each and every employee considers those aspects while working and not

that we speak highly great things and then our cleaner would not know or recognize those ways how they should act. (S5)

One interviewee noted that customer's contact person's role often influences whether they choose value-added sustainability services. The interviewee added that if sustainability is managed as a separate function in the company, purchaser might not see it as relevant aspect in their decisions.

#### **4.2.3 Supply chain monitoring has limitations**

Not surprisingly, interviewees pointed out many limitations and challenges in supply chain monitoring. Interviewees perceived that they had so many suppliers that it was impossible to monitor them all equally, that it was impossible to delve into every sustainability aspect simultaneously, resources were not sufficient, mapping supply chains was difficult, changing circumstances caused challenges to monitoring, origin of the raw material or component or length of the supply chain was unknown, or authorities in some countries did not provide access to information or companies could provide false documents in foreign language. The general perception was that monitoring beyond first-tier suppliers was challenging and supply chains that reached beyond Europe contained a lot of "grey zone" that was invisible to the focal companies. Interviewees had the perception that everything just could not be known. Therefore companies tried to engage their own suppliers into supply chain monitoring practices:

We have clearly observed that it is only that we know the tier-1 those our own [suppliers] but what is then the following and the one after, there the risks are then, so we cannot get that far but of course we hope and try to emphasise that our suppliers would be aware of what happens at their suppliers. But that monitoring is very challenging. (S2)

Interviewees whose companies purchased preferably from Finland or EU area admitted that they did not have knowledge about the origin of the purchased items or the knowledge was very vague. In some companies, the origin of raw-materials or main components was better known than the origin of other supply:

From Europe, yes, so if we talk about raw-materials. But then components of course they are so varied, sure we are interested in main component's suppliers, if we talk about for example mechanical transmission then we do know where they come from, but if we talk about smaller components then it is very difficult to know their origin where they come from... So if we talk about very small amounts, but if we talk about very small objects, of course they will probably come to us from the Far East. (S4)

Those companies that had direct suppliers globally and especially in China viewed it crucial to visit the supplier site. These companies also pointed out limited resources due to large supplier base and subsequently directed the monitoring efforts to the most risk-prone areas and industries. One interviewee in turn explained that their company has chosen to keep their raw material supply chains carefully limited in order to reach better coverage of monitoring and assessment practices in the supply chain. The interviewee described their role between the customer that provides waste as raw material and the customer that buys it, and the monitoring challenges related to this setting:

If we think about raw material... then it is not that easy to monitor because we, through the consumer, are completely at the mercy of companies for how well they do, for example, upstream sorting... Or then if there are a lot of new actors involved whom the raw material is sold and then their locations change so that they are from Finland to abroad, then tracing the chain what is really going on there at the factory or user can sometimes be challenging when it starts and we yet have that relationship pretty fresh. Then I am always wondering if everything goes as agreed and reads... But in change there is always the risk. (S3)

The interviewee also saw that verifying the documents and information from suppliers located abroad was challenging as the authorities were not always as co-operative and suppliers could even send false documents. Some interviewees had also experienced hesitance or denial from suppliers concerning on-site visits.

All in all, the overall takeaway from the interviews was that suppliers considered it impossible to monitor all the companies, to monitor all of them equally or to monitor all the aspects simultaneously. Most of the interviewees emphasized that they personally saw it important to increase transparency in the supply chain. However, a contradiction between ideal and practicality was perceived and some of the interviewees perceived that the responsibility was not equal to all companies. One interviewee justified why the responsibility cannot be equal to all companies in the supply chain:

In my opinion [responsibility] cannot be equal to all because companies often have a lot of suppliers, for example we have 24 000 suppliers and so we do not have possibilities to handle all the suppliers with equal focus, tools are not enough, resources are not enough, neither there is need because that 24 000 consists of all the suppliers that invoice [our company] ... (S1)

Two interviewees said that the amount and extent of responsibility varied and depended on the nature of buyer-supplier relationship and the product or service type. One of the interviewees felt that companies in Europe in a way washed their hands by relying only on legal requirements. Most interviewees saw that companies should be responsible for ensuring that the previous loop of chain,

their direct supplier, acted responsibly. Some interviewees were also concerned about the following loop of chain, their customer.

#### **4.2.4 Laws and stakeholder expectations are tightening**

In the interviews it became clear that companies trusted that the legislation in EU and Finland ensured that sustainability aspects of the products brought within this area had been verified, and that companies in this area also complied with legal requirements. However, one interviewee mentioned that complying with environmental permits was “basic level” and that economic laws and risks had already been taken into account before the word “sustainability” entered the discussion.

Many of the interviewees referred to tightening laws and regulations as well as mounting customer pressure as drivers to their supply chain sustainability targets and practices. Two interviewees discussed the European Commission due diligence directive proposal aiming to tackle the problem of grey area and enforce transparency into supply chains. They both saw that legal requirements concerning supply chain transparency were clearly tightening. Even though the new directive was still in proposition stage, interviewees had considered its impact on supply chain monitoring:

And now that a lot of regulations are coming concerning [global supply chains] that specifically request that you get wind of not only the tier-one but further, then we’ll see how companies will react, let’s see what will pass but clearly there is the state of mind that you should be aware and you should have this due diligence process in order and it should cover, the scope is very wide. Thus, we’ll see whether it will pass as it is but at least those drafts, clearly the standard will rise significantly. (S2)

The contradiction between transparency and trade secret was also discussed in this context:

Especially now if this European Union’s law will pass as it has been speculated, then it would require that it goes all the way to the last supplier. So then if we kind of contact supplier A and ask who is your tier-one supplier then they could not refuse it. But I do not know how this will be solved because often these are trade secrets as well. That this cannot be so that everything is open. (S1)

However, the amount of reporting was seen as already high and suppliers perceived that new sustainability concerns were emerging to customer inquiries once in a while. One interviewee suggested that a common reporting system would be help to control the workload from reporting and to comply with upcoming legal requirements. The interviewee suggested that clear requirements

and transparent automated system would make reporting more reasonable and described the current workload:

It burdens firms to have some kind of questionnaires all the time, questions about something, if it is not well automated transparent information sharing through some kind of a system or other, that it would not burden anything. Because there is so much reporting that at the moment feels like it takes at least from my working time already probably 80 percent yearly. (S2)

#### **4.2.5 The role of customers in SSCM**

The importance of customers in SSCM initiatives was apparent in the interviews – either as pressurizer towards sustainability measures or as recipient of value-added sustainability services or encouragement towards better practices. Many of the interviewees held customer pressure as a motivator behind their supply chain sustainability efforts and strived to pass on these requirements to their own suppliers. One of the interviewees saw responsibility as a requirement to have larger companies as customers:

Our customers demand that responsibility issues have been addressed and monitored and so on, but we want to do business with companies and if it is a requirement for bigger companies then of course we will answer their call that we have those things in order. (S4)

It was also seen that customers set expectations and requirements to their suppliers due to their own sustainability targets:

Sure we receive a lot of stakeholder pressure, or maybe expectations, because we have a huge number of customers of course... And the most demanding customer groups are certainly visible brands and retail chains and commercial actors which themselves have very high goals. (S3)

#### **4.2.6 SSCM contributes to the image of the company**

Interviewees saw that corporate responsibility and sustainability initiatives positively influenced corporate image and could be used in brand building as a way to differentiate from competitors. According to S1, public commitments to responsible sourcing and expecting UNGP compliance from suppliers “influences how investors see us and how we get loans and how our stock goes on the market”. The interviewee added: “This is intentional brand building that you have to be interested about [supply chain sustainability] and if you do not do things well it will then be noticed. So, we want to be a good and responsible purchaser.”

Some of the interviewees had noticed that other companies around them were clearly engaging in supply chain sustainability. They also noted the reputational risks and referred to noncompliance cases seen in media. Suppliers generally viewed it important to show to external stakeholders that the company took good care of corporate responsibility internally. One interviewee noted that auditing was a good opportunity to communicate to their suppliers that sustainability aspects were important for the company. Another interviewee said that they liked to choose suppliers that disclosed sustainability aspects and impacts. Contrastingly, one interviewee said that they acknowledged sustainability aspects and paid attention to them in their operations but did not want to highlight them on their website. The interviewee mentioned that they sometimes used LinkedIn to communicate these aspects.

#### **4.2.7 Suppliers have positive attitude towards monitoring**

All the interviewed suppliers saw monitoring activities in the positive light and beneficial to the supplier, either from their own perspective or thinking about their suppliers' attitudes. Questionnaires and audits were seen as opportunities to get valuable external feedback and develop the operations. Additionally, they were seen as opportunities to improve customer relations and were therefore received with positive mindset:

I have clearly noticed that in audits in which I have participated that [suppliers] have received us very positively and rather like we can support them if they have something... it is seen like a carrot. (S2)

Other interviewee told how filling up a pre-audit questionnaire reminded him about an instruction that needed to be updated and he then completed the task before continued answering the questionnaire. The interviewee admitted that filling up a questionnaire caused a lot of work because some information needed to be searched but above all saw the questionnaire as a good thing because it helped to prepare for the audit.

Supplier collaboration and training was also discussed in the interviews. One interviewee recalled that mostly suppliers had been positive and receptive towards training initiatives coming from buyer-side:

Usually suppliers take a positive attitude, I have had some experience about negativity but per se suppliers are extremely positive. That just usually is the model of cooperation, because ultimately, there are euros at stake. Usually suppliers have this kind of principle that continuous learning as well, they want to improve their operations and learn better. Normally it goes like that. (S1)

#### **4.2.8 Internal motivations and ethical considerations**

Interviewees were asked about what motivates their companies towards sustainability and their personal view of how far each company's responsibility reaches in the supply chain. The general feeling was that interviewees personally wanted to see more transparency in the supply chain and held it important to increase awareness of the origin of raw-materials and products, even though they considered it difficult in reality. Interviewees perceived that their company's motivation towards sustainable development stemmed from common values and shared commitment within the company, as well as common values with partners and customers. Two of the interviewees mentioned ethical considerations as motivators towards increased sustainability in the company. These included "doing the right thing" and preserving the earth for future generations. Some of the interviewees referred to sustainability related reports and news and saw that their company wanted to contribute to common goals:

Well, sure now that all sorts of global reports related to the environment have been covered in news, it is a small part of what a single company of this size can contribute but at least we have done our bit. (S4)

#### **4.2.9 Emissions, biodiversity and social aspects are topical issues**

While discussing legal requirements and customer inquiries, interviewees often mentioned topics that currently dominate the requests. Many of the interviewees referred to public discussion and news about environmental and social issues that had influenced their SSCM focus. These included climate change and emission reduction targets, biodiversity, social issues and child labour, supply chain transparency, and new legal requirements such as waste law reform in Finland. One interviewee remarked how changing legal requirements influenced stakeholder inquiries: "This changing requirement field highlights that we have to be more transparent. Transparency is clearly a trend that we see is coming now and everybody is asking after it" (S1). Environmental aspects and practices were noted by another interviewee:

Now at the moment I could say that special attention is received by these circular economy achievements, then of course carbon handprint or footprint whichever one wants to observe, and then of course biodiversity as a rising [topic], so those are the things that we are being asked at the moment. (S3)

In general, environmental aspects seemed to gain more attention than social aspects as current sustainability topics, however some interviewees mentioned that social aspects are emerging: "In particular that human rights viewpoint is clearly one that is rising its head" (S2).

Suppliers viewed CO<sub>2</sub> emissions as a topical supply chain sustainability aspect. Some of them noted that their suppliers' operations form a major part of their total emission load. Some suppliers in turn discussed the carbon footprint caused by their own operations, such as driving vehicles to perform services and work travel. Some interviewees also noted that their customers were willing to purchase value-added services to track and reduce their own emission load. One interviewee mentioned that their emission reduction targets were in line with Finland's carbon neutrality goal:

On the other hand, company is the people who work there, so it is that we all commit to those common goals and in a way our goals follow Finland's environmental goals and the same way as Finland wants to be carbon neutral by 2035 we think that also [our company's] operations need to be carbon neutral by then. (S5)

One interviewee also mentioned that biodiversity has been an emerging theme in customer inquiries and suggested that biodiversity could be a central sustainability aspect in forest industry as well. Interviewees were asked how they see supply chain management changing or developing in the future. One of them saw that emissions related to each product will shape purchasing decisions:

Especially when buying is related to the climate at emission scope level three, it will be a factor that will change the buying behaviour so that in the future we will also have to make purchasing decisions based on the emission value associated with the product. Not just euros per tonne or euros per kilometre, but euros per tonne with a certain emission value. (S1)

## **4.3 Suppliers' SSCM practices**

### **4.3.1 Strategic choices and economic benefits**

Interviews revealed that companies had chosen different strategic approaches to sustainable supply chain management depending on the distribution and size of their direct supplier network, the industry in which they operated and the size and resources of the company in question. Based on interview responses, the companies could be categorized into two groups: companies that sourced globally and companies that sourced only or preferably from Finland and EU. In the companies that sourced globally, supply chain strategy was based on risk management.

Another strategic choice was whether the company strived to be a forerunner. In this case, interviewees saw that the company should choose specific sustainability aspects to concentrate on, depending on the company's profile and customer interests:

For sure the basic process needs to be in order already due to mere legal and regulatory requirements, and the rest of the development could be about what kind of strategy has been chosen for the company whether it is going on basic level or striving to be a forerunner, and what are the aspects that are especially significant for your own company or the important customer segment. (S3)

One interviewee noted that for some companies “good average” was enough. However, some companies saw additional sustainability measures as a way to generate business or potential competitive advantage, or as way to differentiate from competitors. Many of the interviewees saw sustainable supply chain management as a win-win situation with both environmental and cost saving benefits. One interviewee argued that demanding sustainability from suppliers and purchasing from responsible sources generated better quality and better reliability of raw-material supply as being a responsible purchaser was a way to differentiate from competitors also as a customer. The interviewee also added that responsible suppliers had the best charging structure. In these companies, seeing environmental and social sustainability as a way to enhance company’s economic measures acted as a driver for sustainable development.

Two of the interviewees gave similar description of the steps to take in order to develop SSCM process in the organisation. According to them, it was important first to map company’s own practices and commitments and then, define the goal state and create a roadmap towards the goal:

Well, first of all, the company has to look at what kind of practices they themselves have, what they have already promised, what they are already committed to, and then it's a good idea to mirror whether they are enough or not. And then I think you have to make yourself kind of a roadmap what is the target state you want to get to and where you should go. And then another thing that is quite good to follow is what is happening in the business area where that company is and how to stand out there. (S1)

Interviewees also noted that the goals and practices should be evaluated and developed during the process based on the company’s targets:

You have to make a study of the situation that here we are and then decide those most significant sustainability issues for us that we at least want to have in order... And when we have reached that good operating model and of course it will be developed continually, then maybe we will consider again whether we still want to do something at some point or whether this is fine for us. (S3)

As can be seen from the previous quote, some of the interviewees discussed the practice of giving specific importance to a certain issue that is relevant or

important to the company and defining additional targets and indicators to that issue. This brings us to the internal sustainability indicators that companies used to measure their practices. Interviewees gave examples such as the percentage of suppliers that had signed code of conduct, the number of critical suppliers that had been audited, or the number of suppliers that had gone through Ecovadis-assessment. Interviewees also mentioned that some of the targets could be related to current issues or topics that are relevant to the company or important to its stakeholders.

### 4.3.2 Risk management

Risk management was a recurring theme in the interviews and interviewees were asked how their companies manage supply chain sustainability risks. Companies managed their supply chain risks with different approaches depending on their industry and supplier base. Moreover, many of the companies based their SSCM processes and practices on perceived supply chain sustainability risks. Two of the interviewees stated that their companies based SSCM on risk management approach. Both companies had identified risks in each product category and in each country, and determined the level of risk for each supplier based on the evaluation of these two aspects. Both interviewees stated that monitoring efforts should be directed to those suppliers that belong to high-risk category and one of the interviewees felt that it is the only way to be able to manage large global supplier base:

This has to be done on a risk-based basis and that's like the plot of the thing. You must be able to identify high-risk suppliers, actors, categories and focus on them, and put particular weight on them, and kind of categorize the suppliers and raw material groups that you operate with. That's the only way, otherwise you can't. (S1)

The other interviewee called risk-based approach a “risk matrix” as it was based on the combination of country risk and industry risk. The interviewee explained that company's insurance provider had provided a comprehensive analysis of sustainability risks in different countries:

We have utilized by our insurance company's [country lists] through which we have actually just updated our risk matrix, so it contains countries and then second there are those purchase categories, we have a whole range of them. This shows our purchasing categories... all of these have now been risk assessed by country. (S2)

Laws were trusted inside EU and Finland, and especially Finland was seen as a low-risk area. The company that brought items to this area was considered responsible for supply chain compliance and sustainability in the upper stream. While asking about supply chain sustainability risk management practices, one

interviewee answered that they did not have that kind of practices and justified it with the trust on domestic suppliers: “I somehow believe these big [companies] in steel industry... have things okay there. Sure, as said we do not have evidence about it but we believe that in Finland they do the right things” (S4).

Most of the interviewees mentioned certain geographical areas that contained high risks or specific challenges. One interviewee mentioned mining as an example of industry that has different types of social and environmental risks in different parts of the world. Certain countries in Asia were recognized as having high social risks in terms of labour rights and working conditions, as well as high emission levels. Some of the interviewees also discussed cultural challenges while communicating sustainability requirements with suppliers in Eastern Europe and Asia. One of them noted that misunderstandings were more common when the assessment or training material was in foreign language to the supplier, and therefore the company had made efforts to translate the material to suppliers’ own languages. Pandemic situation was also discussed by many interviewees and one described supply chain challenges that derived from different ways of handling pandemic situation in different socio-political environments.

Interviewees had similar perceptions of risks related to different types of suppliers. Multinational corporations and large companies in general were seen as less risky because of their policies, standards and public commitments. It was perceived that small and medium-size suppliers needed more careful assessment. One interviewee concluded that the more labour-intensive the industry was, the more it contained risks. Some industries were mentioned by interviewees as particularly challenging or risky, including waste recovery and steelmaking.

One interviewee pointed out that changing external circumstances created challenges to monitoring activities and increased risks, while another interviewee acknowledged that risk analyses had to be updated on a regular basis as the situation in some area could also get better over time. Additionally, one interviewee pointed out that changing external circumstances indicated that it was a good time to assess and update company’s risk assessment tools.

### **4.3.3 Code of conduct**

Based on interviews, code of conduct seemed to be a default practice in companies. Many of the interviewees mentioned that their suppliers had to sign code of conduct as part of supplier contract. For some companies signing the policy was the first step in new supplier “opening” and the first proof that supplier complied with legal as well as buyer company’s own requirements. The interviewees explained that the code of conduct, also called supplier policy by some interviewees, contained minimum requirements for the supplier in terms of economic, environmental and social responsibility. One interviewee said that their company required all the suppliers to sign the code of conduct and additionally to show their own code of conduct, as it could be assumed that companies comply with their own policies:

Of course in this initial stage it is also good to note that... it is not enough for us that they only sign our policy but that we also see their own code of conduct or their policy for their suppliers... If they match with our demands, we basically know that they will follow their own. (S2)

Another interviewee said that in their company all the raw material suppliers had to sign the policy. In case other than raw-material supplier refused to sign the policy, supplier's own code of conduct could be enough if it contained equivalent commitments and requirements. This facilitation was related to relative power between the supplier and the buyer: "Some of the suppliers are so big that honestly, we cannot force them to accept our [code of conduct], they would say that you don't have to buy" (S1).

Code of conduct was seen as a basis of trust between the buyer and the supplier when it was part of supplier contract and non-compliance would therefore have economic consequences to the supplier. One interviewee introduced their parent company's code of conduct that applied to their company as well. When asking whether the policy was distributed also to suppliers, the interviewee replied that it could be found on the parent company's website.

#### **4.3.4 Supplier assessment questionnaires**

Some of the interviewed companies used self-assessments and supplier questionnaires as SSCM practice. Supplier questionnaire could help companies to determine whether auditing was needed or whether some aspects were to be corrected before establishing supplier contract. One interviewee summarized the content of their supplier questionnaire:

It contains all the basic information, of course environmental permits and operations related permits will be checked, then these sustainability, ILO and other guidelines related to personnel and labour rights there, and occupational safety is one important [aspect] as well, what kind of work safety certificates customers and partners possibly have... (S3)

Interviewees explained that the questionnaire generated points based on the answers and the supplier had to pass a predetermined minimum score. In case the supplier failed to reach the minimum score or gave wrong answers to critical questions, a closer examination of the situation was required. The assessment was followed by a corrective action plan a possible audit in case the supplier really did not meet the minimum requirements:

For example, we have agreed that when a supplier performs an Ecovadis assessment, the minimum number of points in order to get out of the class, so to speak, is limited to 45 points of 100. And if it stays under that, then

it will be a so-called closer inspection. So you need to understand what is happening and then you need to build a corrective action plan. (S1)

One interviewee said that each of their suppliers fills an assessment questionnaire. Two of the interviewees discussed Ecovadis assessment as a good tool for supplier assessment and one of them said that it lessens the reporting burden on the supplier side as the same report could be given to all the customers that requested Ecovadis assessment, noting that many of their customers actually used it.

On one hand, self-assessments were seen as trustworthy because suppliers were requested to give documents to support their responses. On the other hand, one interviewee admitted that self-assessment could not be trusted without a precaution because sometimes the documents were difficult to verify:

I was thinking one day [whether self-assessment can be trusted] when I sent it to a new customer and it came back. And then I asked our procurement department... how much you can trust them, and they just said that you have to evaluate it yourself and ask little bit from others and see what information can be found anywhere. So you can't really trust it 100% because you may not be able to check all that information. But of course it is a tool, if something is missing there then you can go for an on-site audit and then get to know it better. (S3)

#### **4.3.5 Auditing**

Auditing was a familiar practice in the interviewed supplier companies. Some of the interviewees had knowledge or personal experience of conducting supplier audits, while some had closer experience of being audited. Based on the interviews, audits were often preceded by self-assessment or auditing questionnaire that either determined the need for audit or was part of it. After the audit, findings were categorized as major or minor and finally, a corrective action plan was created if needed. Based on the interviews, audits were a common supplier monitoring method, as highlighted by one interviewee:

Here at the corporate side it is practically a regular way of working because they are audited for their operations and they have to prove to someone their own excellence, as we of course try to show our own excellence. (S5)

As previous section indicated, some companies determined the need for auditing based on supplier questionnaires. Other criteria for supplier audits were the supplier's size from the buyer perspective, criticality, perceived difficulties or issues, or if the supplier did not pass self-assessment. In risk-based supply chain management, auditing was seen as the last step in risk-management process, after initial supplier risk categorisation based on country and industry, and supplier self-assessment:

And based on that [self-assessment], the last step is audit, we do about forty of them every year, we look at it on the basis of risk, then of course which are our biggest suppliers, then if we have noticed that there have been some difficulties, or then if we feel that it is a critical supplier to us, that it is really significant to us as [a company]. We have these different criteria on the basis of which these yearly auditing decisions will be made. (S2)

According to the interviewees, audits were conducted either by buyer company's personnel, or by a professional auditor from an assessment service company. Some of the companies had these two types of audit conducted separately, while one interviewee told that their company sent their own employee to audit suppliers together with external auditor. One interviewee explained that they always send their own employee to audit together with third-party auditor in order to communicate company's expectations and establish better relationship with the supplier:

We want after all that there is our own [employee] participating. Sure, if we did it so that there would be only external auditor, then those could be done as much as there was money, but we really want our own employee to be there and representing us and telling and of course creating that relationship and making the most of that audit in a completely different way. We've felt that this has been a good way to operate. And clearly at least our clients have done the same way. (S2)

Additionally, interviewees mentioned that their companies had also been audited by authorities, certification providers and company clusters. One interviewee saw professionally conducted auditing as an opportunity to assess how the company performs compared to other companies in the same industry:

We have twice... gone through this [cluster] audit by Kiwa Inspecta and passed with really good grades, and there were, among other things, questions related to responsibility as well. So, if you compare our company with other companies in our field then we got better than average grades, so we as a company really do the right things for both the environment and health and safety. (S4)

Many interviewees emphasized the importance to visit the supplier's site during the audit and two of the interviewees emphasized that it is crucial to visit suppliers. One interviewee said that their company always visited new supplier if it was located outside Finland. However, the pandemic has affected auditing practices and forced companies to pause on-site audits. Most of the interviewees admitted that they conducted relatively few audits compared to the total number of suppliers, and one interviewed company did not have auditing practices

towards suppliers at all. Contrastingly, one interviewee said that their company conducted a lot of supplier audits and described their sample auditing practice that took place in addition to official third-party audits and on-site visits to new suppliers:

We have annual targeted inspections internally that we take for example raw-material suppliers or raw-material users for audit and we take from there around 5 to 10 suppliers and then someone else than me will do it of course objectively by our own company and will go to see if there is anything to remark or recommend... And every year it is a different group and we take the sample for inspection randomly. (S3)

#### **4.3.6 Process for non-compliance situations**

Interviewees also discussed how serious non-compliance situations were handled. In case a serious non-compliance such as human rights violation was detected, companies considered it as a self-evident “no-go situation” and followed a procedure to handle the case. Suspending the supplier temporarily was seen as one solution, and terminating supplier contract was also an option, especially if corrective actions could not take place immediately. One interviewee said that they end the supplier contract or put the supplier on hold for a long period of time and after that the supplier has to go through an audit process before it could be considered again:

As there has unfortunately even been some environmental crimes in Finland in this field, we have had a policy that such partners go on a break for a while, that we do not work with them and it applies to the whole concern, and then after a certain period of time, if there is a need for their services, we can conduct an audit but usually it is then quite a long break when nothing is done. (S3)

One interviewee emphasized that in serious non-compliance situation, earlier supplier evaluations did not have significance anymore: “You cannot do any compromises there, regardless of the supplier's classification or profile” (S1). Other interviewee explained how the responsibility for handling non-compliance situation moves higher in the organization in serious cases. Additionally, timeframe for corrective actions was reduced from one year to immediate action:

Of course, if there would be something significant, for example child labour, then it would be escalated immediately, there is a clear process for that... Then we do not give one year anymore to fix things, but then what is going on has to be solved immediately, and then it goes quite high, we have own presidents for each region or regional leaders, so it is then escalated to the management level, in the end the information has to go up there so that we can decide what to do with that supplier. (S2)

#### 4.3.7 Platforms for supplier management and data collection

Even though interviews did not contain questions about information management systems or performance data, these themes surfaced in all of the interviews. Some of the interviewees were willing to show their internal platforms or software through shared screen function while explaining how they conducted risk management or assessed their sustainability performance.

One interviewee introduced the company's automated supplier risk management system, where after accepting the code of conduct supplier's risk was assessed based on the country and industry, and in case the supplier was categorized as risky, a self-assessment questionnaire was sent automatically to supplier. In case the self-assessment result was insufficient, the system automatically alerted related person from the company to evaluate the situation and conduct an audit. The supplier could also send evidence of corrective actions directly to the system. Another interviewee stated that online data transfer made sustainability work much easier, although stressing that it was still important to visit the supplier.

All of the companies collected or planned to collect some kind of sustainability data either from their suppliers or in their own operations. Mainly, CO<sub>2</sub> emission data was collected from supply chain partners. One interviewee said that they collected data to monitor their suppliers' audit findings:

We... write down all the audit findings and where they are related, whether it is work safety or human rights, labour rights, we have noted all that data and we can see how the remarks are distributed and if there have been any major findings, we always classify them major or minor. (S2)

Even though online systems and data management platforms were seen helpful in reducing manual workload and boosting competitive advantage, some limitations and development ideas were also discussed. One interviewee said that chemical consumption and its reduction was difficult to track for each customer site as the chemicals were sometimes transported from one place to another and the supplier potentially did not have an advanced enough system to track chemical deliveries for each site. Other interviewee felt overwhelmed by the amount of reporting and wished that a common reporting platform would be introduced, especially due to planned EU-wide reporting requirements concerning supply chain transparency:

In order to avoid having to report all the same things so many times to different places, we would have one system and all the companies could report there and there would be a reasonable way to export that data, that would be wonderful, it would be the perfect outcome. (S2)

One company had an internal sustainability reporting system that over long term could produce data of company's sustainability performance. The system contained supply chain as a topic but it had not been used for supply chain monitoring purposes by the company. However, the data had been used for customer reporting. The interviewee hoped that in the future the company could get visual reports and detailed analysis of their sustainability performance from the system:

It's quite new, it's now the second year we've been filling it... and I actually asked the software developer Worldfavor that I would like to see the data, where our curves are going so to say. But yeah, I only received this kind of compilation from there. I believe it's still possible to get more detailed analysis from there how our things are developing. Sure, I can also export things to Excel from there, and we've used that because in Finland for example large forest-based companies... have been interested in these issues and we have then reported them ahead. (S4)

#### **4.3.8 Work safety, labour rights and employee wellbeing**

Work safety, labour rights and employee wellbeing measures were brought up by interviewees as parts of corporate responsibility. These aspects were discussed especially in the context of having company's own or subcontractor's employees working on customer site. Some of the drivers behind these practices were customer expectations, risk management, and retaining employees in the company. One of the interviewees highlighted company's work safety targets and noted that their customers were conscious about work safety measures:

We have the zero accidents target and all the accidents are investigated and we monitor accidents at work, on the way to work, and our employees have a responsibility to make those safety observations, we have targets for those and we report them on a monthly basis... All in all, safety issues are very important to our customers, probably it has been a practice on the industrial and business side for such a long time that they also expect us to do those things. (S5)

Labour rights were also seen as an important aspects of supply chain sustainability by the interviewees. One interviewee explained that they have a separate process for subcontractor monitoring because they have identified risks when the subcontractors purchase the actual services from other subcontractors, often from abroad. The interviewee noted that these employees might not have access to information about their labour rights in Finland due to language challenges. The company considered it important to ensure that these second-tier subcontractor's employees would have the same rights and opportunities as their own employees. Therefore they had developed a separate assessment process for this type of subcontractors:

It is a three-tiered audit, we first interview the one from whom we basically buy the service and then we go to that site to see who's all there so that we then get wind of how that chain flows there... because we after all want that the things we allow for our employees, that the ones from whom we buy those services that they would have those things equally well, and then that the same rights and benefits flow to those subcontractor's subcontractors. (S2)

Employee wellbeing was discussed by an interviewee whose company operates in labour-intensive service industry. The interviewee noted that in the industry employee turnover is high and many of the employees are not educated to the profession, meaning that they stay in the company only for a short period of time. Additionally, most of the employees have language challenges due to their foreign background. The interviewee emphasized the need to be a responsible employer and described the company's training material that was available in different languages and contained a lot of picture guides, as well as extensive employee health care services and practices in challenging situations. The company also had employee reward programs to encourage employees and recognize good performance. The interviewee saw that employee recognition was needed to retain employees longer in this industry.

#### **4.3.9 Supplier collaboration and development**

Even though collaboration and development activities with suppliers were beyond the scope of the study, interviewees were asked about this kind of activities in their company in order to gain deeper understanding of suppliers' SSCM practices and to contrast them to monitoring activities. Interviewees mentioned practices such as conversations with suppliers, SSCM development programmes with chosen suppliers, worker's voice questionnaire for supplier's employees through a third party, and supplier training. One of the interviewees also explained how the company had started training suppliers in advance to be able to comply with upcoming requirements:

We have now started this kind of big climate project where we start training suppliers how to report [product-specific emission value] and start telling them that in a moment this will be an absolute requirement... Either you will provide or no more business with us. (S1)

One interviewee explained how the company used trusted suppliers to get information of potential new suppliers located in foreign countries. In case information of a certain potential supplier was difficult to find, the company could ask from their existing suppliers in the same country whether they had any information or experience of the potential supplier. In some cases provided information had influenced their supplier selection. The interviewee saw that

their existing suppliers had “trust on good collaboration” and therefore did not use the opportunity to discredit their competitors. The interviewee also noted that often new supplier relationship was established because existing suppliers did not have a certain product in their portfolio, and existing suppliers provided reliable information and wanted to help because choosing a poor-quality supplier could have bad consequences to their customer and subsequently to their own business.

## 5 DISCUSSION

### 5.1 Findings

The objective of the research was to conduct interviews and observe the case company to map their current supply chain sustainability monitoring practices, to understand what kind of perception their suppliers have towards monitoring and being monitored, as well as to identify opportunities to develop the case company's SSCM practices in the future so that these would bring value to company's stakeholders as well. I interviewed two manager-level employees from the case company and five representatives of supplier companies in different industries to understand different perceptions towards supply chain monitoring and SSCM practices. Moreover, barriers, drivers and development ideas towards supply chain monitoring were also discussed in each interview.

The main findings concerning the case company were as follows. (a) Customers were case company's key motivator towards SSCM. (b) The amount of stakeholder inquiries concerning raw-material origin was high despite company's raw-material certifications. (c) The weight of sustainability aspects in purchasing decisions was not yet clarified. (d) Sustainability was integral part of company's overall business model, value-proposition and stakeholder communication. (e) Supply chain sustainability risks were managed geographically, purchasing mainly from Europe and preferably from Finland. (f) Case company's main supply chain sustainability monitoring practices were reviewing supplier's economic aspects and legal compliance, requiring all the suppliers to sign code of conduct, having additional environmental and social requirements for wood raw-material and chemical suppliers and subcontractors performing on-site works, conducting supplier audits, and internal supplier evaluation (see Appendix 2).

The main findings concerning suppliers were as follows. (a) The results indicate that suppliers saw supply chain as a two-way entity where they are not just passive recipients of buyer's pressure and monitoring activities but rather active agents that can influence and contribute to supply chain's sustainability in both directions and through their company's own commitments. (b) Suppliers had positive attitude towards monitoring activities and they supported increasing transparency in the supply chain, however the companies saw the contradiction between transparency and trade secret as limitations. (c) The main SSCM practices were code of conduct or supplier policy, self-assessment questionnaire and auditing. The practices were based on company's sustainability strategy and supply chain risk management approach. (d) Interviewees saw that the future of SSCM was shaped by the development of data management systems and new EU-level legal requirements. (e) The main development idea beyond legal compliance was to choose a sustainability aspect or issue that is especially significant to the company and set targets and indicators for this aspect and highlight it in stakeholder communication.

In terms of environmental aspects, CO<sub>2</sub> emissions were discussed by many supplier interviewees and the interviewees considered that emission reductions at one level influence the emission performance on other levels of the supply chain and even beyond the supply chain by contributing to national carbon neutrality targets. Emission reduction goals and achievements in one company would therefore bring value to supply chain partners as well. As one interviewee suggested, activities towards maintaining biodiversity could also be a significant aspect in forest industry. Biodiversity aspects are considered in forest use regulation and FSC and PEFC certification requirements, and therefore it could be communicated to stakeholders clearly that sourcing only certified wood-based raw material contributes to sustaining biodiversity.

When it comes to social aspects, most of the interviewees mentioned that work safety was important to them and their customers. Additionally, working conditions of foreign employees such as subcontractor's subcontractors was considered important. Interviewees suggested that these aspects can be improved by having familiarization material in foreign workers' own language and creating a separate assessment process for subcontractors in order to make sure that possible subcontractor's subcontractor complies with labour rights properly. Interviewees were also concerned about social aspects in the upper stream supply chain, especially if the origin of the product was located in Asia. However, lacking transparency in the upper-stream supply chain obstructed monitoring practices unless the company had direct suppliers there. As many of the interviewees were concerned about trade secrets, only legal requirements would help to increase transparency in the upper-stream for those companies that purchase end products from suppliers in the EU or Finland. Therefore the companies at the lower-stream supply chain can only influence sustainability at the upper-stream supply chain through practices that require their own suppliers to adopt sustainability measures, and supporting them adopting double-agency role to transfer the same requirements to the second-tier suppliers. If the

company wants to increase transparency at the origin of product raw materials, identifying nexus-suppliers at the upper-stream supply chain could be an option as well, although it might require extensive resources.

The first research question was how the case company currently uses monitoring practices to make sure that their suppliers comply with their requirements and policies. Based on observation in the case company, sustainability had gained importance at the strategic level and new initiatives and commitments had been introduced recently. The company had SSCM practices including verification of supplier's economic sustainability, requesting suppliers to sign Code of Conduct, supplier audits, internal supplier evaluation, work safety questionnaire and regular safety meetings with on-site suppliers as well as approval of subcontractor's subcontractors working on-site, requiring PEFC or FSC certification for wood raw material, reviewing chemical and wood raw material safety information based on company's requirements for product safety, and inquiring product origin from chemical suppliers. These practices were compiled into a monitoring process.

The second research question was what kind of perceptions supplier companies have towards SSCM practices. The results indicate that the suppliers submit to the perception of not being able to monitor everything, and then pick their battles and formulate a strategy and procedures accordingly. Companies seem to consider SSCM practices from competitive perspective and finding an economic justification for social and environmental efforts acts as a driver towards adapting new SSCM practices. Legal requirements seem to form a backbone for SSCM and some companies consider them enough, while some companies adopt additional SSCM practices and increased sustainability related stakeholder communication as strategic choices. Suppliers seem to view monitoring activities towards themselves positively, and as an opportunity to develop their processes based on customer expectations and professional feedback. Suppliers' main monitoring practices were code of conduct, supplier assessment questionnaire and audit. Company's sustainability risk management approach shaped the SSCM process and electronic systems and platforms had a central role in managing the SSCM process and sustainability data.

The third question was how supply chain sustainability monitoring could be developed. The interviewees mentioned development opportunities in data management systems, such as a comprehensive reporting system that would decrease burden in sustainability reporting and harmonise the requirements. Another development opportunity concerned company-specific sustainability targets. Some of the interviewees noted that customers have recently started to ask for company's own targets and how these were measured. One possible reason for this might be that codes of conduct that are added to supplier contracts are usually quite general and therefore customers wish to see concrete sustainability measures and their suppliers' own targets. This suggests that some companies are moving from "supplier mass management" based on supplier policies and code of conducts to a more practical approach that requires suppliers

to assess and measure their own sustainability aspects beyond mere legal compliance in order to appear credible in terms of sustainability.

In summary, suppliers gave the following development ideas that would also bring value to supply chain partners: (a) Using common supply chain sustainability reporting platforms and assessment tools for supplier evaluation when available; (b) Establishing CO<sub>2</sub> emission reduction and biodiversity as company's significant sustainability aspects. (c) Considering the sustainability initiatives and value-added services suppliers can offer. (d) Close co-operation between purchasing and sustainability functions in the company or establishing a sustainability role within purchasing function.

Interviews with the case company revealed that having wood raw material certifications did not decrease customer inquiries on raw-material origin, which made having the certificate feel somewhat useless. This is interesting because certification requires verifying the origin of raw material as well as many sustainability aspects, whereas most other product categories do not have this kind of widely used certification programs. As visible sustainability contributions have the potential to bring economic benefits to the company but at the same time supply chains contain a lot of "grey area" where information is difficult to obtain, it is possible that companies target their monitoring efforts to those product categories where information is provably available. This might hinder suppliers from other sustainability measures as they need to use resources for reporting information that overlaps with certification requirements. In order to decrease reporting burden and to increase true sustainability in the supply chains, it is desirable for companies to focus supplier monitoring practices on those product categories that are not yet subject to high certification standards.

## **5.2 Connections between the literature and results**

The findings provided many connections to the SSCM literature. Based on the findings, Carter and Rogers (2008) definition of SSCM seems relevant. Interviewees' responses also contain similar ideas with Seuring and Müller (2008) description of sustainable supply chain where "environmental and social criteria need to be fulfilled by the members to remain within the supply chain, while it is expected that competitiveness would be maintained through meeting customer needs and related economic criteria" (p. 1700). According to Hofmann et al. (2014) supply chain sustainability risks materialize as stakeholder reactions that cause damage to the company. The results indicate that companies in this case study had similar perception as many of the interviewees were referring to cases in media and company image.

Suppliers' double-agency role was visible in interviews. Wilhelm et al. (2016) defined the double-agency role so that a supplier has to comply with customer's sustainability requirements and transmit these requirements to supplier's own suppliers. This means that unless the first-tier supplier adopts the double-agency

role, customer's sustainability requirements will not be passed on to second-tier suppliers. Many of the interviewed companies requested their suppliers to comply with code of conduct but also to transmit the same expectations and requirements to their own suppliers. Additionally, increasing stakeholder requirements towards the suppliers made them to increase requirements towards their own suppliers as well. Wilhelm et al. (2016) suggest that the customer can support the supplier adapting double-agency role by focusing on a certain sustainability dimension, exercising influence over the supplier, and considering sustainability aspects in their purchasing function.

Supplier perception of how organizational structure influences SSCM were similar to the research findings by Ha-Brookshire (2017) in that companies should have a structure that supports SSCM and set clear sustainability goals that communicate to stakeholders that the company truly is committed to sustainability not only in speeches but also in practice.

Drivers and motivators were discussed in the findings and consistent with the literature, especially with Paulraj et al.'s (2017) categorisation of motives into instrumental, relational and moral motives. Economic benefits, which Paulraj et al. categorise as an instrumental driver, held a strong position motivating companies to add sustainability measures to their SCM. The perceived economic benefits included being able to gain larger customers, gaining better quality suppliers, and having an opportunity to bring new value-added products to market. However, companies did not only have instrumental motives but also relational and moral motives. Customer expectations were mentioned as an important driver by the case company as well as most supplier companies, being the main relational motivator besides policy makers. Interviewees also emphasised moral motives such as "doing the right thing" and preserving the Earth for future generations.

One interviewee was convinced that suppliers who commit to supply chain responsibility have better reliability of supply and better-quality products. This idea is consistent with the finding by Dabhilkar et al. (2016) that prioritising social and environmental aspects in purchasing decisions leads to improved financial performance concerning strategic components in companies where sustainability is a competitive strategy. Being a demanding customer in terms of sustainability requirements can be seen as a way to increase supply chain resiliency which is discussed by Negri et al. (2021).

Gimenez and Sierra's (2013) find that both assessment and collaboration practices with suppliers contribute to higher environmental performance, and assessment facilitates collaboration with suppliers. This can be seen in the data. One of the supplier companies sends their own employee to participate in assessment in order to better establish relationship with the supplier and many of the interviewees emphasized the importance to visit the supplier during an assessment.

Trust and risk management seem to intertwine in interview responses. For most of the companies lower perceived supplier sustainability risk is related to higher trust and the other way around. Boström (2015) criticises organizations

for relying either on simple monitoring practices or blind trust. Based on the interviews it seems that the issue has been noticed in companies as many of the interviewees mentioned tightening reporting requirements and company-specific sustainability targets and indicators.

However, the interview responses indicate that companies perceive themselves unable to perform SSCM with the expectation of supply chains becoming truly sustainable, as defined by Pagell and Chevchenko (2014). In order to understand whether interviewees perceive true sustainability as a feasible outcome, they were asked how far the responsibility of one supply chain member should reach and whether the responsibility is equally large for all supply chain partners. The general perception was that responsibility cannot be the same for all supply chain members due to differences in industries and buyer-supplier relationships, and that everything cannot be monitored, even though that would be ideal. This suggests that true sustainability in supply chains is still an unrealistic dream for most companies as noticed by Pagell and Chevchenko (2014).

Another interesting finding was that long-term survival of the company as a motivator towards SSCM was not mentioned by any of the interviewees. According to Pagell and Wu (2009) companies with a truly sustainable supply chain can survive in the market longer than their competitors with traditional supply chains. Interviewees clearly recognized the potential competitive advantage from sustainability measures but none of them mentioned that it could actually define the long-term existence of their company.

Based on the results, stakeholder communication plays an important role in SSCM. Good communication is needed to diffuse sustainability thinking within the company, to make each employee understand their contribution towards company's sustainability targets as well as to engage them in sustainability initiatives such as idea sharing. Moreover, it is important to make sure that company's employees as well as subcontractor's employees and suppliers understand the sustainability requirements and information they receive. This might require company to make sure that important information is not only in English but in other necessary languages as well.

Based on the literature and supplier suggestions, SSCM should be chosen by company management as the strategic direction over traditional SCM. The initiative towards the company's sustainable development should be taken at the managerial level and the management should communicate the value of environmental and social sustainability to subsidiaries, mid-management and employees clearly, as well as justify the importance of sustainability aspects in purchasing decisions. Then a company should assess what are the current practices, what is the desired outcome and what kind of steps need to be taken in order to get there. The procedures should be clearly defined and responsibilities allocated between different teams and roles.

In order to increase transparency as well as environmental and social responsibility in the supply chain, communication with external stakeholders is needed. Communicating about company's sustainability measures and targets is

a way to show external stakeholders that these aspects are significant for the company. Moreover, it can be a way to take a forerunner position in the market and to show example to other companies, as well as to take a stance on global issues. On the other hand, being open to the ideas, initiatives and sustainable product options from supply chain partners is a way to show suppliers that their contribution towards supply chain sustainability is valuable.

### **5.3 Suggestions for the case company**

Based on the literature and results, some practical recommendations can be given to the case company in order to develop the SSCM practices in the future. The suggestions can also be found in Appendix 2. (a) A sustainability self-assessment questionnaire could be sent to suppliers in the beginning of supplier relationship. In order to lessen reporting burden, the questionnaire should be compact for those low-risk suppliers that can provide third-party assessment report of have sustainability-related certifications. (b) The company could choose a sustainability aspect that significant to the company or its customers, develop target and measurement for that aspect, and report progress towards the goal to stakeholders. (c) The company could assess and clarify its sustainability values and requirements concerning purchasing and communicate these top-down to all the employees. Additionally, internal roles and co-operation models in sustainability matters could be mapped. (d) The company could make an informed risk assessment for sustainability risks and measure numerically the coverage of current supply chain monitoring practices. This would help to assess whether the current procedures and practices are sufficient. Currently, supply chain risks are managed by purchasing mainly from Europe and preferably from Finland, which can be considered low-risk areas. However, issues arising further upstream in supply chain can become sustainability risks and have an effect on corporate reputation. (e) The company could add environmental and social aspects to internal supplier assessment activities. The question could be for example "Does the supplier take visible measures to decrease environmental impacts, such as packaging waste or CO<sub>2</sub> emissions?"

## 6 CONCLUSIONS

The aim of this master's thesis was to map the current supply chain sustainability monitoring practices of the case company and to combine them into a SSCM process; to understand what kind of perceptions case company's suppliers have towards SSCM and how they monitor supply chain sustainability; and to identify opportunities to develop the case company's SSCM process and monitoring practices.

Based on the results, the main monitoring practices of case company's SSCM were verifying economic aspects and legal compliance, category-specific environmental and social requirements for wood raw-material and chemical suppliers and subcontractors performing on-site works, code of conduct, supplier audits, and internal supplier evaluation. These practices were compiled into a SSCM process. Suppliers perceived sustainability related monitoring practices positively but truly sustainable supply chains seemed unrealistic due to lack of transparency and limited resources. Suppliers' main SSCM practices were code of conduct or supplier policy, self-assessment questionnaire and auditing. Company's sustainability risk management approach shaped the monitoring process.

The key development idea was to choose a sustainability aspect or issue that is significant to the case company and set targets and indicators for this aspect, highlighting the importance of it in stakeholder communication. Emission reductions in one part of the supply chain would bring value to the whole supply chain and therefore this could be a meaningful sustainability aspect for the case company. Other potential significant aspects could be biodiversity and subcontractors' social responsibility.

Using interviews as the main data collection method provided in-depth information about the discussed themes and provided multiple insights for answering the research questions. Literature review provided understanding of the development of the SSCM research field and some research gaps could be identified and considered while conducting this research.

Some limitations emerged during the study. The number of interviewed supplier companies is limited to few key suppliers chosen by predetermined

criteria and therefore do not represent the whole supplier base of the case company. The interviews were conducted in Finnish language and interviewees' responses might be affected by the Finnish terms used in the interviews. For the term "sustainability" I used a word that refers to responsibility, as it is more commonly used in Finnish. This could have influenced the responses. Third viewpoint from a sustainability assessment professional was intended to be incorporated into the study but eventually the planned interview could not take place.

To build on this study, it could be fruitful to add customer perspective and study the interactions between suppliers, focal company and customers. Additional research on the double-agency role of suppliers could also have practical implications in companies that struggle extending their SSCM practices beyond first-tier suppliers. Finally, an approach that resembled backcasting method was suggested in the interviews to map a pathway towards desired state of SSCM in a company. This approach could also be used in future studies to map a pathway towards truly sustainable supply chains.

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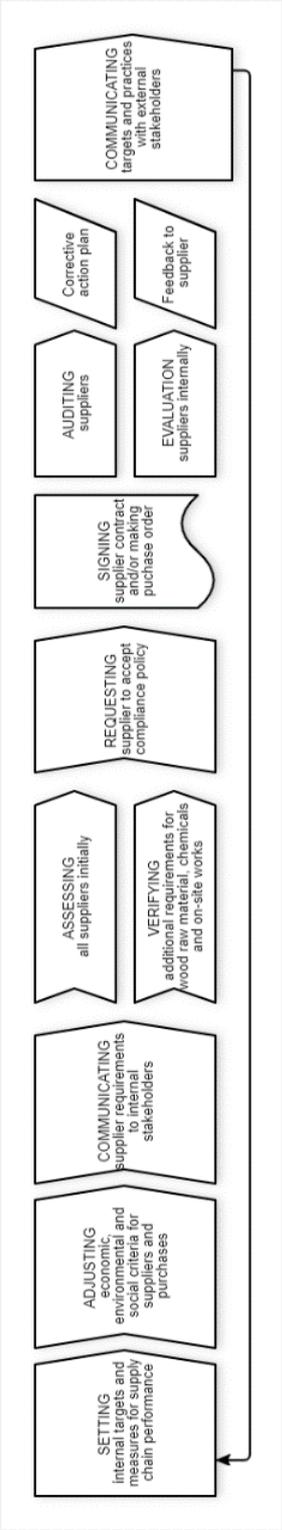
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# APPENDICES

## APPENDIX 1: Overview of case company's SSCM process



## APPENDIX 2: Case company's supply chain monitoring process with suggestions

