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Sustainable Purchasing & Supply Management (PSM) in the Fashion Industry

An exploratory study of PSMs impact on achieving the Sustainable
Development Goals



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ABSTRACT

Sustainable practices across fashion supply chains have gained an increased importance over the past few years. As the fashion industry is the second most damaging economic sector, many brands strive for incorporation of more efficient and sustainable operations. Fashion businesses acknowledge the urgent need for transformation of production patterns while taking into consideration Triple Bottom Line dimensions. They also underline the importance of achievement of Sustainable Development Goals (SDGs). However, this cannot be reached without alteration of purchasing and supply management processes (PSM). PSM not only influences the structure and the output of the supply chain, but also constitutes a large part of spending in the case of many businesses. Driving innovation and sustainability efforts in the PSM sphere, creates value for businesses, but it is still not clear how fashion should approach this topic in order to extract most benefits.

The purpose of this study is to investigate how PSM practices can enable the achievement of sustainability goals in fashion. Additionally, the thesis aims to explore drivers, conditions, and barriers for PSM as an enabler in this specific sector in order to identify trade-offs and create useful recommendations. Therefore, the research question is: “How can purchasing and supply chain management practices enable the achievement of sustainability goals in the fashion industry?”. In order to answer this question, a qualitative study was conducted. After thoughtful analysis of the literature, the empirical material was collected, including semi-structured interviews with representatives of Scandinavian fashion brands and sustainability experts. Additional information from sustainability reports was gathered in order to examine the current industry situation and evaluate drivers, conditions, and barriers for PSM.

Our analysis of theoretical and empirical findings showed that PSM can enable the achievement of SDGs and improve the overall sustainability performance of a company. However, there are certain conditions that need to be fulfilled by fashion businesses in order to enhance this transformation. These include investing in PSM knowledge and technology innovation, understanding the concepts of TBL and ISO 20400, identifying consumer personas and adjusting business philosophy. All of this needs to be supported by top management and legislation that will boost the general sustainability incentives in the sector.

ACKNOWLEDGEMENT

This master thesis concludes our journey at BI Norwegian Business School and marks the final year of Master of Science in Business with a major in Supply Chain and Operations Management. Our focus revolved around exploring how the fashion industry can do better in terms of more sustainable purchasing and supply management practices. As both the sector and the topic of sustainability are close to our hearts, the entire process was very educational and exciting. With the kind support of many individuals and good, stable collaboration between each other, this thesis became a reality and for that, we are utterly grateful.

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Karolina and Mie

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List of Abbreviations:

CSR - Corporate Social Responsibility
GrSCM - Green Supply Chain Management
ISO - International Organization for Standardization
PSM - Purchasing and Supply Management
SC - Supply Chain
SCM - Supply Chain Management
SDG - Sustainable Development Goals
TBL - Triple Bottom Line

1. INTRODUCTION

This master thesis is based on a qualitative study with expert interviews for the purpose of investigating how purchasing and supply management practices can enable the achievement of sustainability goals in the fashion industry. Hence, our research topic revolves around sustainable PSM and its contribution to the green shift in the sector. This introductory chapter includes background for the thesis, followed by the importance of the topic, purpose, research question and thesis structure, as well as a list of limitations.

1.1 Background for the thesis

Climate change and the growing human impact on the environment are part of a broader societal discussion and regulatory alterations around the world. As environmental consciousness and the idea of achieving sustainable development goals become more valid than ever, they appear to be a solution to the challenges and disruptions that climate currently is facing (United Nations, n.d.-b). Moreover, businesses around the world are starting to realize that the involvement in green activities is valid, not only from the perspective of the environment, but also to improve the reliability and image of the brand. Currently, implementation of certified systems and rearrangement of investments, as well as operational processes – from manufacturing and marketing to transportation and logistics – are critical to prove the credibility of businesses' environmental involvement (Fertik, 2019). Business management systems based on a combination of operational efficiency and strategies to minimize waste in labor, processes, energy, and raw materials are crucial to implement. Therefore, businesses need to reconsider the way they procure and manage supplies, in order to successfully address social, economic, and legal issues. Over the past few years, a wide number of organizations have decided to act by rethinking their supply chains and sourcing strategies. However, the spectrum of required adjustments and changes varies from industry to industry, depending on the complexity of operational processes or the volume of production and waste created (Chouinard et al., 2011).

One of the industries that relies heavily on the natural resources of our planet is the fashion industry. Fashion is the second most damaging economic sector to the

planet, right after the fuel industry and it is responsible for 10% of the world's greenhouse emission and 20% of the industrial wastewater pollution (UN Fashion Alliance, 2021).

As the clothing manufacturing process is very complex, it generates a lot of waste and damage at almost every stage. From overuse of water to appliance of various chemicals including toxic dyes, the sector negatively influences the ecosystem, as well as health of factory workers and farmers. Moreover, poor quality clothing can have an impact on the health of societies that use it. A Greenpeace study for the Detox Campaign from 2012 highlighted 11 chemicals that are commonly used in clothing production containing toxins and dangerous hormone disruptors that remain in the human body even after a single use of a garment (Greenpeace, n.d.). Recent studies prove that these chemicals continue to be used by a high percentage of fashion companies (Manickam & Vijay, 2021). In addition, harmful materials (such as polyester) generate several times more carbon dioxide than cotton. However, the biggest impact is illustrated by ocean pollution. Synthetic materials release microplastic particles during the washing process. These synthetic microfibers finish-up in rivers, and consequently oceans where they are no longer possible to biodegrade. This proves an overall, enormous environmental impact that the industry has, affecting the state of water, land, and air – the inseparable parts of human existence. In fact, the industry's emissions are estimated to increase by 2030 due to the growing consumption and more land required to produce fiber (Ferraz, 2022) (Figure 1; Figure 2).

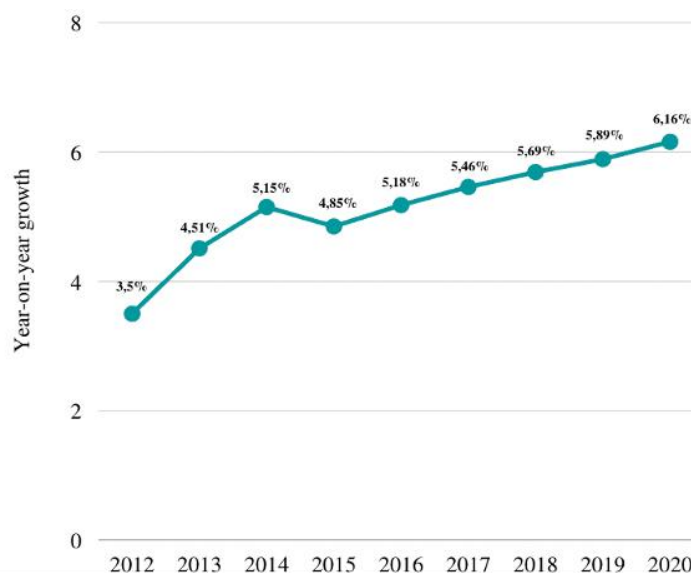


Figure 1. The Fashion Industry – Growth Rate Worldwide (CNTAC, 2021)

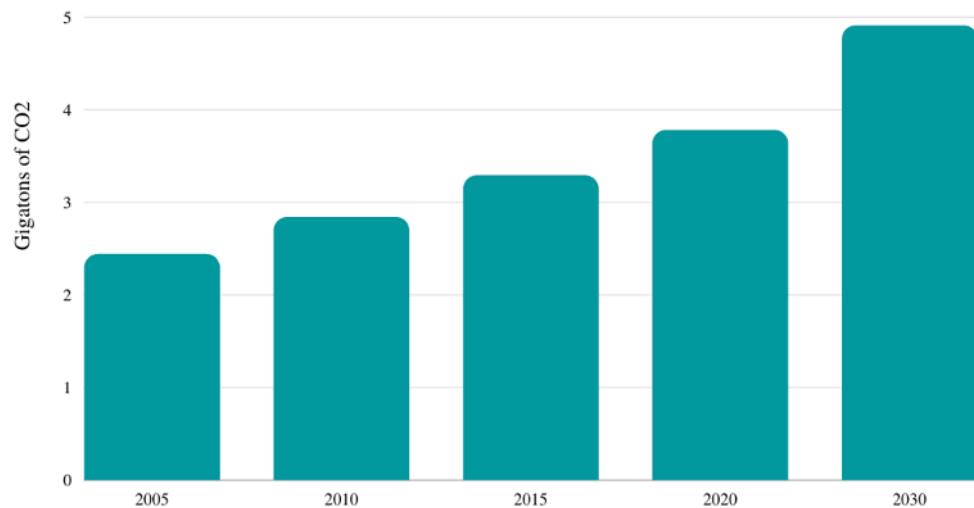


Figure 2. The Fashion Industry – Growing Climate Pollution (Napper & Thompson, 2016)

Despite rising awareness of this impact and the availability of technological innovations that can help streamline production processes and minimize huge textile waste, it still remains mostly unsolved. As the demand for clothing is constantly growing, and manufacturers and suppliers look for ways to reduce the cost of production, the actions undertaken by this sector do not often align with environmental protection. Overproduction and irresponsible fast fashion practices across the supply chains still take place.

The improvement and change in fashion are challenging, as the path of a finished product leads through numerous stages (Ellevate, 2019). Achieving sustainability does not only revolve around using the right fabrics. It is ensuring a transparent strategy with deep organizational culture and proper risk management that does not only take into the consideration the economic performance, but also the natural environment and society. Production and distribution of clothing should be complemented by the use of raw materials, respect for human rights, convenient working conditions, and the control over the entire SC (Maersk, n.d.). It is also a collective responsibility, where both companies and consumers take their part. Therefore, companies need to consider every element of their value chain, implement new ways of distribution with closed circulation and utilize the surplus of production (BCG, 2020). Fortunately, the importance of new business requirements, corporate social responsibility and sustainable development goals caused a clear shift towards more conscious purchasing and supply management (PSM) for many fashion brands around the world. Among the greatest priorities for

sustainable and transparent action within the industry are digitization, intelligent sourcing processes, consolidation of supplier base and cross-functional collaboration (Berg et al., n.d.).

In order to restrain the negative environmental impact of the sector, it is necessary to set clear sustainability goals and consider ways of transforming the supply chain that could help to achieve them. For a big part of the industry, this means making more conscious decisions in regard to use of chemicals, reducing greenhouse gas emissions in the production processes and choosing more sustainable suppliers. Moreover, recycling and managing raw materials more wisely, investing in better quality, and looking after animal welfare, as well as ethical working conditions across the factories are among the essential conditions. Closed circulation considering the ways of distribution and disposal of surplus clothes from production, and from the consumer, are also considered as indispensable steps in moving towards the green shift in the sector.

Transforming the entire supply chain is not an easy task, and it requires resources, a properly tailored business model and a long-term strategy. However, companies that are willing to be transparent and align their business models to sustainable fashion guidelines can earn greater trust from their consumers. Fashion brands must work on improving every aspect of a product's life cycle, and we believe that transformation of purchasing, and supply management processes can contribute tremendously to this process.

Due to the extensive influence of the industry, numerous Scandinavian brands decided over the last few years to apply sustainable thinking into their strategies (Stang, 2018). They are aware of "the power of going green" and the importance of achievement of SDGs, but also highlight the large amount of responsibility, high costs and eternity of this process (Holzweiler, n.d.). Moreover, despite the existence of general, universal guidelines for the industry, there are no binding rules, directions, or national laws for an environmental-friendly SC and PSM transformation. Therefore, it is essential to gain knowledge on undertaken actions and current state of the Scandinavian brands to identify how PSM could enable the achievement of sustainability goals.

1.2 Purpose of the thesis and research question

The purpose of this study is to investigate how PSM practices can enable the achievement of sustainability goals in the fashion industry. We seek to identify how fashion brands manage sourcing within supply chains, and how they could potentially improve their methods in order to achieve greater advantage and accountability in regard to the sustainability goals.

In collaboration with a number of Scandinavian fashion brands and sustainability experts, we will look into what a sustainable PSM means to them, how their SCs and PSM efforts look now, what they are doing to achieve SDGs and which ones, as well their plans for the future. We believe that this will provide a good overview of the current state of PSM in the Scandinavian industry and help to identify drivers, conditions, and barriers for the sustainable transition in the sector. Evaluation of values and needed actions will serve as a basis of concluding how PSM can enable the achievement of sustainability goals in fashion. As a result, we hope to create a set of universal recommendations on how to drive PSM initiatives across the fashion supply chains in order to achieve SDGs. Our chosen research question is therefore:

RQ: “How can purchasing and supply chain management practices enable the achievement of sustainability goals in the fashion industry?”

In order to answer this research question, our focus revolves around studying PSM practices and the SDGs approach in the Scandinavian fashion sector that already participates in the transition. Our goal is to investigate the importance of sustainability goals as well as sustainability frameworks and standards among the industry players. Furthermore, we want to investigate the drivers, conditions, and barriers for PSM as an enabler to achieve sustainability goals. To help answer our research question we have developed two sub-questions. These were:

1. How is the current industry situation regarding sustainability and PSM practices?
2. What are the greatest drivers, conditions, and barriers for implementation of sustainable PSM in order to achieve sustainability goals?

As previous research on this particular topic is limited, we believe that the sub-questions will serve as a useful guide to map and analyze the current state and

potential of the fashion industry in terms of PSM functions and the SDGs achievement. These are also crucial while designing and conducting interviews and provide a solid foundation for answering the research question. The collected data is principally based on qualitative semi-structured interviews from actors in the industry, and available literature. The study will use a systematic combining approach, with the goal of better understanding how fashion actors should transform their PSM functions, and how these functions could enable the achievement of sustainability goals.

1.3 Relevance and the importance of sustainable PSM

This paper is of high relevance, mainly due to the greenhouse emission generated by the fashion industry and a societal pressure for an immediate change. As mentioned previously, the pollution related to this sector is enormous and there are still no universal rules that would indicate the course of action for main actors. Sustainability is all around us, and many fashion brands take a stand on transforming their supply chain practices. Moreover, there is only 8 years left to reach the 17 Sustainable Development Goals (SDG's) set by the United Nations in 2015. The United Nations believes that integrating its goals to the industry will help to tackle the environmental and social issues tightly connected to clothing production and consumption through implementation of sustainable design, new technologies, transformed resource management and engaging with customers for greener consumption practices (United Nations, 2015b). In addition to these goals, a vast majority of companies embark on setting their internal targets in order to address the issue of impact. As PSM is a key link to the upstream supply chain, it has a critical role to play in shaping a company's footprint, both directly through purchasing processes and indirectly through design of the product (Cherel-Bonnemaison et al., 2021).

One of the main reasons for narrowing down the scope of the thesis to exclusively PSM is related to the priority of transforming its functions across the industry. PSM does not only influence the outputs of the supply chain, but also its structure, giving a possibility to make the SC and, respectively, the business, more sustainable (Niu et al., 2017). It is also crucial for businesses, as a large part of the company's total spending and value creation come from PSM (Balls et al., 2019). In the worldwide perspective, current sourcing models are mostly characterized by long lead times, maximized order sizes, low flexibility and high, negative environmental impact

(Berg et al., 2020). Hence, recent studies point out the importance of reinventing PSM to be more balanced and flexible, as well as increasing end-to-end productivity and building stronger, strategic supplier partnerships that drive innovation and sustainability (Berg et al., 2020).

Focusing primarily on PSM also provides an opportunity to approach the topic more in depth. By looking deeper into the specific sustainability goals, as well as the PSM functions through which those may be achieved, we will be able to clearly define changes and needs for the years to come. Based on findings from PSM examination, and with the help of insights from different actors in the industry, we aim to formulate a set of recommendations for a successful sustainable-sourcing transformation. In effect, we hope that these can be a useful inspiration for a broader public and simultaneously, fill the knowledge gap in this area.

1.4 Thesis structure

This master thesis is outlined in six chapters. The first chapter consists of the introduction part, where we provide the background, aim, motivation and relevance of the research. In the following chapter, available theory and research on the thesis topic is presented, as well as a chosen conceptual framework that supports the data analysis and further discussion. The third chapter describes the chosen research methodology and verifies choices in terms of research strategy and design. This section also describes the chosen data collection methods. Moving forward, the fourth chapter consists of empirical findings from the qualitative interviews and organizational documents we conducted and acquired from the key industry actors. In chapter five, we discuss main findings in line with our research question and theoretical background. Finally, the final chapter consists of main conclusions to the research question and recommendations for the industry, in addition to limitations and future research.

1.4.1 Illustration of the thesis structure

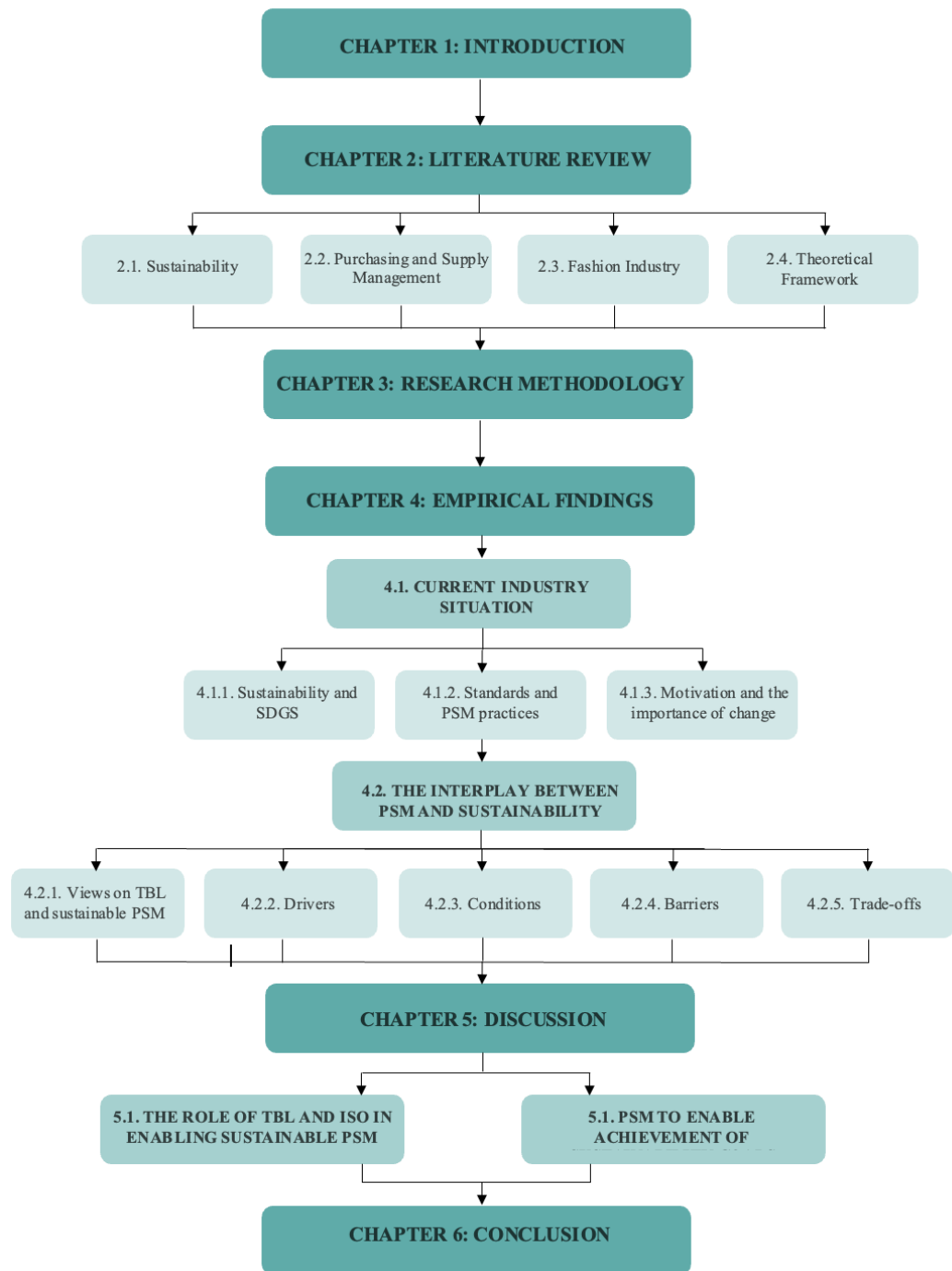


Figure 3. Thesis structure

1.5 Limitations

This study was subject to several limitations. Firstly, focusing primarily on PSM functions instead of the entire supply chain might seem narrow in evaluation of companies' sustainability efforts. However, we found it important to narrow down the scope of the paper in order to go more in depth on certain dimensions, believing that PSM might have a significant effect on achieving sustainability goals.

Our research was conducted in Norway and based on the profiles of the Scandinavian brands. This is mostly due to the location, time, and resource limitations. We also believe that ecological awareness and the number of sustainable actions undertaken in Scandinavia are relatively high in comparison to other countries across the world, hence it might be difficult to generalize the results. Furthermore, we identify the limitations related to the nature of our research design and the sample size. Moreover, the results cannot be automatically generalized and adjusted to the whole industry, as companies and countries differ in terms of size or level of environmental consciousness. We are also aware that further research and legal actions across countries are needed in order to establish a clear vision for sustainable PSM. However, we aim to interpret the outcomes with caution, hoping that the findings will be a useful inspiration for a broader public.

2. LITERATURE REVIEW

The purpose of this chapter is to discuss previous relevant literature and theories that provide a foundation for the research topic; “How can purchasing and supply chain management practices enable the achievement of sustainability goals in the fashion industry?”. The review and discussion of the existing literature will provide the basis for developing knowledge on relevant research that is undertaken in the field. Firstly, we will focus on the origins of sustainability, and respectively, sustainable development goals, green supply chains, triple bottom line and challenges with the topic. Secondly, we will dive deeper into purchasing and supply management theory, analyzing the importance, current situation, trends, and challenges related to the topic. Thirdly, we will concentrate on the fashion industry, its impact, the importance of change and approach to SDGs. In addition, PSM trends in the sector, as well as sustainability enablers and internal measurements will be discussed. Lastly, based on the findings in the reviewed literature and aspirations for the further research, a conceptual framework will be provided.

2.1 Sustainability

In the modern business environment, sustainability is broadly defined as “development that meets the needs of the present without compromising the ability of future generations to meet their needs” (United Nations, n.d.-b). The term comes from the field of social science and was first coined in 1987 in the belief that “forested environments can only be sustainable if future generations will be able to enjoy the same benefits as the current generation” (Leon, 2013). A sustainable organization is therefore a structured entity that is capable of sustaining its own operation with an earned income, simultaneously contributing to the growth of the socio-ecological environment under which it operates (Parrish, 2010). The term also relates to the strategy of creating shared value, and therefore everyone in the company’s value chain – from suppliers to customers – is a key stakeholder (Lozano, 2011).

2.1.1 Sustainable Development Goals

In 2015 the United Nations released a 2030 Agenda for Sustainable Development that includes 17 Sustainable Development Goals (United Nations, 2015b). These goals represent the concept of global change and serve as a roadmap to eradicate

poverty, protect the planet, and ensure peace, prosperity, and justice for all (Stafford-Smith et al., 2017). They are based on the belief that sustainable, environmentally friendly economic and social progress is only feasible in a more justly ordered world (Osborn et al., 2015). Hence, the UN calls on governments, the private sectors, and citizens to meet these in order to ensure a better and more equitable future (United Nations, 2015). A vast majority of businesses and organizations around the world, regardless of its size or scale, is aware of the impact of its activities and bases their models on the strategy of sustainable development (Costanza et al., 2016). As 17 SDGs serve as an inspiration, firms aim to balance management of economic, social, human, and environmental aspects (Rumbley, 2017). The key assumption of this is to facilitate a strong sustainability culture and stakeholder engagement while increasing transparency (Bali Swain & Yang-Wallentin, 2020).

2.1.2 Triple Bottom Line

Triple bottom line (TBL) is a concept that underlies the idea of sustainable development which balances the economic, environmental, and social dimensions in order to create value (Gimenez et al., 2012). It moves away from a traditional way of doing business in which the organization's overarching goal is profit generation and increasing the wealth of its shareholders (Cruz & Wakolbinger, 2008). Naturally, generating profit is essential, but TBL indicates that when acting in accordance with environmental and social needs, companies can create more long-term value (Pullman et al., 2009). Economic sustainability as a part of the TBL concept revolves around reinvesting profits into the business to help it expand, simultaneously engaging in community well-being. This is tightly related to Corporate Social Responsibility (CSR) that contributes to the organization's competitiveness and builds its reputation and trust (Agrawal & Singh, 2019). Moreover, this dimension of TBL indicates allocation of profits to improve welfare of employees, including working conditions and fair salary (Birkel & Müller, 2021). From the societal point of view, TBL indicates a holistic approach to human capital that includes employees and communities affected by the company's activities (Gimenez et al., 2012). Businesses should aim for stimulating regional or national development through sustainable actions. Finally, the environmental aspect of TBL includes preserving the environment and used resources – this can include use of

materials and technologies, relationships with suppliers or limiting the ecological footprint (Foran et al., 2005).

2.1.3 Green Logistics and Supply Chain Management

The sustainable tendencies around the world bring attention to a logistic trend that aims to integrate all product flow operations in the supply chain – green logistics (Rodrigue et al., 2017). Green logistics is defined as the coordinated management of all processes required to move items through the supply chain while taking into account environmental considerations (McKinnon et al., 2015). This procedure includes everything from the sourcing of raw materials to the manufacturing system and distribution to the final consumer (McKinnon et al., 2015). It also serves as a concept that refers to the execution of international treaties and regulations imposed on countries, industries, or organizations (Zhang et al., 2020). Green logistics' major goal is to strike a balance between economic, environmental, and social dimensions through an operations management that meets market needs at the lowest possible cost (Seroka-Stolka & Ociepa-Kubicka, 2019). Implementation of green practices must therefore encompass sourcing management, raw material purchasing, eco-friendly production, distribution, marketing, and reverse logistics that enhances circularity within the closed loop (Seroka-Stolka & Ociepa-Kubicka, 2019).

As the environmental performance across the entire supply chain became valid, it led to a creation of another important term – green supply chain management (GrSCM) (Geng et al., 2017). GrSCM is defined as the involvement of businesses, including suppliers and consumers in a direct, collaborative planning to reduce the environmental effect of manufacturing operations (Hervani et al., 2005). Srivastava (2007) additionally states that GrSCM is driven by regulatory requirements and consumer pressures, hence ranging from reactive monitoring to proactive collaborative practices. Flows associated with a strong environmental impact can only be reduced through strong collaborations and integrations of ecological performance into the SC practices (Geng et al., 2017).

Younis et al. (2020) state that GrSCM is characterized by four practices that include eco-design, green purchasing, environmental cooperation, and reverse logistics. These are all tightly related to four different dimensions of a company's performance, including environmental, operational, economic, and social

performance (Younis et al., 2020). Environmental performance describes a company's ability to reduce their ecological impact, including reducing air emissions and waste (Chan et al., 2012, Kuei et al., 2013). Furthermore, operational performance revolves around efficiency in manufacturing and delivery of high-quality products (Zhu et al., 2005). Consequently, economic performance is characterized by a company's ability to improve financial results through the implementation of sustainable practices that improve the firm's reliability and overall market position (Zhu et al., 2005). Lastly, social performance includes increasing a company's image by protecting the health and safety of the employees and ensuring overall wellbeing of stakeholders (Ashby et al., 2012).

2.1.4 Challenges and Barriers to Implementing Sustainability

Despite the attractiveness of sustainable development notions, there are certain challenges and barriers that occur prior to transition and implementation of the concept (Alvarez Jaramillo et al., 2019). In the majority of industries, it is far more frequent to pursue solutions that generate instant results and economic gain (Stewart et al., 2016). The idea of an integrated and long-term sustainability approach seems too vague and demanding. Moreover, businesses across the world acknowledge the challenge of changing habits related to the existing social, psychological, and physical structures (McLean & Borén, 2015). According to Gupta et al. (2020) sustainable development is dependent upon the ability to transform outdated procedures and implement innovation. Moreover, the current level and pace of desired changes is too slow, considering the climatic, economic, and political environment (Gupta et al., 2020).

Among the main challenges to implementing sustainable practices in any of the industries is lack of knowledge, lack of motivation and lack of experience (Longo et al., 2019). Longo et al. (2019) highlight that despite a growing interest and environmental pressures; the knowledge gap is still concerning. Businesses that aim to effectively address this issue should strive for better understanding of their stakeholders and engage in an ecological narrative to ensure accountability and transparency (Powell, 2021). The lack of motivation is tightly related to a low commitment and inappropriate incentives across the sectors (Powell, 2021). Honing on that, promotion of green habits and visibility of environmentally friendly patterns in action can address this issue in many organizations (Stewart et al., 2016).

The lack of experience is often a result of low level of governmental engagement and an absence of experimentation (Gupta et al., 2020).

While analyzing the barriers to applying sustainable patterns into a company's actions and overall business model, literature points out clear division between internal and external barriers (Gupta et al., 2020, Laurett & do Paço, 2018, Connell, 2010). Among internal barriers, Gupta et al. (2020) identifies the lack of allocating sustainability efforts in capital decisions, lack of expertise and disbelief regarding benefits, lack of motivation and low bargaining power with suppliers. Furthermore, there is often a lack of metrics to consider external environmental costs and a great majority of businesses do not integrate ecological factors into long-term business strategy (Gupta et al., 2020). In addition, there is often a lack of resources and no access to innovation (Stewart et al., 2016). Last but not least, sustainability and financial departments often do not align their goals together, struggling to embrace balance between risks and opportunities. When it comes to external barriers, the greatest one consists of lack of laws or reinforcement of existing laws towards sustainability (Gupta et al., 2020). Without external legislative pressures, the level of public knowledge and motivation remains unchanged. Furthermore, market competition, technical information and lack of innovation are among the greatest obstacles that impact efficient and effective green shift (Connel 2010).

2.2. Purchasing and Supply Management

Weele (2010) defines purchasing and supply management (PSM) as

“The discipline that is concerned with the management of external resources - goods, services, capabilities, and knowledge - that are necessary for running, maintaining, and managing the primary and support processes of a firm at the most favorable conditions.

Early references to PSM date back to the 1830s, and severe supply conditions, including wars and financial crises, have aided in the development of PSM as a management discipline (Leenders & Fearon, 2008). PSM's role in spanning organizational boundaries and managing their external networks has become increasingly important since companies spend 60-80% of their total costs on purchased goods and services from suppliers (Bals et al., 2019). Consequently, PSM largely determines what the organization can accomplish within the network,

and is one of the most critical management activities by which businesses can stay competitive and achieve their objectives (Gadde & Wynstra, 2017).

2.2.1 Importance of PSM

PSMs primary focus lies in the interaction with the upstream supply network, but it should also recognize internal functions, downstream interests and demands (van Weele & van Raaij, 2014). In recent years, researchers have emphasized the strategic contributions that purchasing can yield to organizations (Stanley & Wisner, 2002). Strategic PSM can help to facilitate beneficial organization-environment alignment and foster cross-functional integration among supply chain activities (Chen et al., 2004). In today's competitive and dynamic business environment, companies rely heavily on their supplier network for delivery of vital direct and indirect goods and services (Bals et al., 2019). Successful PSM allows businesses to form collaborative supplier relationships, which has a significant impact on the final product or service (van Weele & van Raaij, 2014). For example, companies that involve suppliers early, achieve on average a 20% reduction in materials cost, a 20% improvement in material quality, and a 20% reduction in product development time, compared to companies with no supplier involvement (Monczka et al., 2010, p. 7). According to Tchokogué et al. (2017), the extent to which PSM's strategic contribution is achieved is determined by the environment in which an organization operates and its position within the organizational structure.

2.2.2 Current Situation and Trends

Traditionally, PSM has been viewed as an operational function, with a strong emphasis on cost reduction through negotiating tactics and contracting (van Weele & van Raaij, 2014). This viewpoint has expanded considerably in recent decades as companies realize that effective PSM strategies are required to improve competitiveness (Giunipero et al., 2012). Although PSM practices attract more strategic attention and resources, it is a difficult process with a number of internal barriers, including the mindset of PSM practitioners themselves (Andreasen & Gammelgaard, 2018). Critical events or structural changes to the company are largely influencing the environment of the supply function, thus modifications to the function must be made in response (Tchokogué et al., 2011). Literature points out that organizations have experienced substantial external and internal changes

due to increased outsourcing, globalization, and e-businesses (Spina et al., 2013, Knight et al., 2014)

A major driver of external change is the rising industrialization of production markets like China, which facilitates outsourcing and offshoring (KPMG, 2016). Consequently, companies spend more money on procurement and customized services (Spina et al., 2013). The evolving global economy has arisen more complex unknowns than ever before, necessitating flexibility and resilience (Lund et al., 2019). Moreover, globalization reinforces the importance of companies considering global sourcing opportunities and determining how to compete in their network (Spina et al., 2013). Finally, the emergence of the Internet into all company operations has presented both challenges and opportunities for PSM practices (Spina et al., 2013). The increased usage of e-commerce has a great impact on network integration and collaboration (Zheng et al., 2007). On the other hand, the rapid growth of technologies faces a number of concerns, including server errors and security threats (Yalan & Wei, 2021).

2.2.3 Standards and Frameworks for Sustainable PSM

Yee et al. (2021) states that the practice of sustainability is mandatory and no longer optional. Because supply chain decisions have a direct impact on a company's environmental footprint, purchasing departments are subjected to comprehensive sustainability calculations and evaluations (KPMG, 2016). TBL is a well-known framework for assessing the sustainable performance of a system in which environmental, social, and economic aspects are considered (Alegoz & Yapicioglu, 2022). Sönnichsen & Clement (2020) propose that circular purchasing practices is the answer to facilitate TBL production and consumption. Other companies have adopted a TBL approach by implementing social and environmental PSM programs (Gimenez et al., 2012). Examples of such programs include life cycle analysis, design to recycle, and programs to improve employees working conditions. (Gimenez et al., 2012). Life cycle analysis is a method for assessing environmental impacts associated with all phases of a product's life, from raw materials to the acquisition of an end-user (Muralikrishna & Manickam, 2017). Design to recycle concerns choosing environmentally friendly raw materials and reducing waste and emission in the production process (Verma, 2014). To improve working conditions, companies pledge to set high standards with regard to wages, working hours, and overall labor practices (Perry & Wood, 2019).

The existing findings on the impact of sustainable practices on TBL performance are somewhat inconsistent. Gimenez et al. (2012) argue that internal environmental programs have a positive impact on the three components of the TBL, whereas internal social initiatives only have a positive impact on social and environmental performance. Similarly, Alegoz & Yapicioglu (2022) found that all three pillars of TBL sustainability are in conflict with each other and highlights that being both environmentally and socially responsible is much more costly than being solely environmentally or socially responsible. Finally, Shou et al. (2019) conclude that sustainable supply management practices bring no economic performance. It is clear that different practices have different influences on TBL performance. Ultimately, efforts on TBL sustainability are driven by the relative position of the company within the supply chain (Fayezi et al., 2018). Therefore, due to the increasing costs of environmental options, and compliance with regulatory and public pressures, selecting efficient tools for measuring sustainable performance is important (Montabon et al., 2007). Environmental regulations, government pressures and international certification standards assist companies in this multidimensional issue (Sroufe & Joseph, 2017).

The International Organization for Standardization (ISO) is a worldwide federation of national standard bodies that develop standards to support innovation and provide solutions to global challenges (International Organization for Standardization, 2017). In 2017, “ISO 204000:2017 Sustainable procurement - guidance” was published to provide direction to organizations on integrating sustainability within procurement (International Organization for Standardization, n.d.). The document provides an understanding of what sustainable procurement is, what the sustainable impacts and considerations are across the different aspects of procurement activities, and how to implement sustainable procurement (International Organization for Standardization, 2017). The implementation of the document considers the particular context and characteristics of each organization, scaling the applications of the concepts to suit the size of the organization. To maximize an organization's contribution to sustainable development, ISO guides companies through core social responsibility subjects; *human rights, labor practices, the environment, fair operating practices, consumer issues, and community involvement and development* (International Organization for

Standardization, 2017). An explanation of related actions and expectations are provided in the document, as well as a list of potential related issues.

2.2.4 Challenges with sustainable PSM

Among the main challenges that hinder firms' effort to adopt sustainable PSM practices, Giunipero et al., (2012) identify lack of consensus in the definition of sustainability, lack of resources and lack of appropriate standards and regulations. Despite the fact that businesses have recognized the strategic benefits of implementing sustainable practices, there are numerous definitions and focuses, resulting in a lack of clarity regarding sustainability and what it means to a business (Giunipero et al., 2012). Thus, many organizations do not know how to embrace the trend of responsible purchasing or how to include such issues concretely and systematically into operational decisions (Cooper et al., 2000; Maignan et al., 2002). Furthermore, some companies lack top management engagement towards embracing the environmental aspects and allocating sufficient resources (Giunipero et al., 2012; Mont & Leire, 2009).

Lack of resources serves as a general challenge of sustainable PSM since environmental and social initiatives are costly undertakings (Carter & Rogers, 2008). Implementing sustainable practices often requires significant investments in personnel and time in order to ensure compliance with desired criteria (Shou et al., 2019). According to Mont & Leire (2009), organizations struggle to impose changes and monitor supplier performance since they lack resources to address possible issues. Because manufacturing and production processes are increasingly outsourced, purchasing organizations are not in direct control of working conditions or how products and services are produced (Dabhilkar et al., 2016). Nevertheless, the firms are still accountable for the economic, social, and environmental impact, highlighting the significance of transparency, collaboration and trust between buyers and suppliers (Huq et al., 2014).

Literature indicates that simple environmental issues have largely been resolved - the remaining problematic challenges are becoming increasingly costly and difficult to manage (Carter & Rogers, 2008). Even though environmental standards assist companies in such issues (Sroufe & Joseph, 2017), it is acknowledged that even international standards and guidelines do not provide clear answers to all matters and perhaps only give rise to more uncertainties (Mont & Leire, 2009). As a result,

researchers have identified lack of laws and legislation as a barrier to sustainable PSM, stating that the existence of laws can promote innovation by mandating the best available techniques and imposing deadlines (Walker et al., 2008).

2.3 Fashion Industry

Fashion industry is defined as a branch of the global economy that produces clothing, textiles, footwear, and accessories with a use of raw materials (Steele, 2005). Carciani & Bagnaschino (2016) define fashion industry as an industrial sector that meets the demand for apparel. Due to the extensive growth, the sector became the 7th largest global economy over the past few years (CNTAC, 2021). It is also a sector that provides employment for over 430 million people around the globe, from designing to producing and retailing the final garment (Ellen MacArthur Foundation, 2017).

2.3.1 Impact and the Importance of Change

The fashion industry is responsible for 10% of global carbon emission, making it, right after the fuel sector, the second largest industry responsible for pollution of the environment (United Nations, n.d.-a). This is a negative result of production of apparel, as well as its transport which grows respectively every year (United Nations, n.d.-a). The manufacturing process of clothing also consumes enormous amounts of water. To illustrate this volume, Hoekstra (2013) comes up with an example that indicates that a production of one pair of jeans consumes several thousand liters of water, an equivalent of approximately 10 years of drinking resources for 2 adults. Such high usage leads to desertification of many areas that destroys natural ecosystems and forested regions. Forests are also highly influenced by artificial material production, including silk and viscose that come from endangered trees (Niinimäki et al., 2020).

Over and above that, the sector adversely affects water resources and is responsible for 1/3 of industrial water pollution (UNEP, 2019). This is mostly due to the technological processes connected to manufacturing of materials, including dyeing and finishing. As these processes require larger amounts of water, it often returns to the rivers and oceans polluted (United Nations, n.d.). Furthermore, Ellen MacArthur Foundation (2017) points out that washing of artificial fabrics (such as polyester) that releases microfibers into the water poses threat to overall well-being. Additionally, microplastics indirectly end up in food, leading not only to the

devastation of the environment, but also human health (Ellen MacArthur Foundation, 2017). Another factor that significantly influences human welfare are inert chemicals found in fabric dyes that contain toxins and carcinogenic substances negatively affecting hormonal balance (CNTAC, 2021).

Elven (2018) highlights garment dumps as another significant factor that makes the fashion industry one of the greatest polluters in the world. The increasing rotation of clothing models and fashion collections stimulates customers to replace the recently purchased clothes with new ones (Mukherjee, 2015). As less than 1% of used clothing becomes recycled, the discarded artificial garments fill up landfills where they can decompose for up to 200 years (Beall, 2020). On the other hand, natural fibers which are better at decomposing produce way more greenhouse emissions (Elven, 2018). Last but not least, according to Lundblad & Davies (2015), the world is not able to consume and recycle the amounts that are being produced, which results in a wave of unnecessary textiles flooding the world with a destructive effect on the climate.

Hobson (2013) points out another factor that is not directly related to the environment, but is crucial while evaluating the sector's impact that revolves around the working conditions of those employed in the fashion industry. The vast majority of companies take advantage of the difficult situation and poverty in less developed countries, paying employees low wages and forcing them to work even 100 hours a week (Bick et al., 2018). In addition, Hobson (2013) highlights that it is very common for minors and young children to work with garment production. All of this emerges as an image of human exploitation and suffering, indicating an immediate need for change.

2.3.2 Fashion and Sustainable Development Goals

As the SDGs call for an urgent action in order to save the planet, climate, biodiversity, and humanity while reducing inequalities, the fashion industry has a huge part to play (Cherel-Bonnemaison et al., 2021). Literature states that even though the industry can help advance all SDGs, the SDG 5 (Gender Equality), SDG 8 (Decent Work and Economic Growth), SDG 12 (Responsible Consumption and Production), and SDG 17 (Partnerships for the Goals) are the ones with the biggest impact (Legrand, 2019). Moreover, the sector plays a key role in achieving SDG 6 (Clean Water and Sanitation), SDG 13 (Climate Action), and SDG 15 (Life on

Land). However, according to the Global Fashion Agenda (GFA) (2021) the industry should meet all 17 goals in order to improve innovation and do “good, and only good” economically, socially and climate wise.

SDG’s 1, 2 and 3 are related to reduction of poverty and striving for no hunger, as well as increased good health and well-being (United Nations, 2015a). GFA (2021) highlights that although the industry does create jobs and lift people out of economic poverty, it still has a long way to go in ensuring that the jobs provided are safe and provide fair wages in every part of the SC. Moreover, as manufacturing of textiles takes up land and consumes vast amounts of water, it cannot be used for food production, farming, and consumption (Global Fashion Agenda, 2021). Hence, these SDG’s need to be addressed in order to lessen industry’s overall environmental impact (Bick et al., 2018)

SDG’s 4 and 5 are connected to the quality of education and gender equality (United Nations, 2015). The sector should therefore strive for a better education level across the entire supply chain that includes not only the increased knowledge of rights, but also the insights into sustainable and innovative ways of producing, procuring, and selling (Legrand, 2019). In addition, Long (2019) acknowledges that all genders should be offered the same growth opportunities without any discrimination or unfair working conditions.

SDG’s 6 and 7 touch upon aspects of clean water and sanitation, as well as affordable and clean energy (United Nations, 2015). Ellen Macarthur Foundation (2017) states that this is a clear signal for the fashion industry to implement sustainable garment and manufacturing innovations, as well as using green energy including solar and wind that could contribute to the reduction of the carbon emissions that sector generates.

SDG’s 8, 9, 10 and 11 revolve around decent work and economic growth, industry, innovation and infrastructure, reduced inequalities and sustainable cities and communities (United Nations, 2015). According to Bick et al. (2018) the industry must strive for transparent supply chains with innovative solutions that will contribute to more equal, inclusive, safe, and resilient communities. This will respectively contribute to the sustained economic growth that offers work and social protection to all parties involved (Global Fashion Agenda, 2021).

SDG 12 is the most crucial goal for the sector as it touches upon responsible consumption and production (United Nations, 2015). GFA (2021) underlines that industry cannot be fully sustainable without environmentally friendly production patterns and intelligent design strategies. Moreover, Radhakrishnan (2020) believes that striving for achievement of this goal will support equitable sustainable production and ethical consumption resulting in a lifelong transformation.

SDG's 13, 14 and 15 are all tightly related to a climate action that preserves life on land and below water (United Nations, 2015). Fashion on Climate report (n.d.) states that for fashion brands, these goals do not only mean setting standards for responsible use of natural resources but also committing themselves and their suppliers to truly adhere to sustainability across the entire chain.

Finally, SDG 16 and 17 are about promoting peaceful, lawful, and inclusive societies, as well as partnerships for the goals (United Nations, 2015). According to Farra (2021), only strong partnerships based on shared, prosperous, and sustainable values can ensure overall growth. Moreover, Deeley (2021) states that these kinds of partnerships increase consciousness among consumers that stimulates the growth of a sustainable market for all.

2.3.3 Purchasing and Supply Management Trends in the Sector

According to Niu et al. (2017), the fashion industry is a competitive and fast-paced sector characterized by short product life cycles, high consumer demand and unsustainable PSM practices. However, over the past few years, actors in the field levered toward more sustainable operations and PSM (McKinsey, 2019). Among the greatest priorities and trends for fashion products literature does not only mention sustainability and transparency, but also digitization of sourcing processes and end-to-end process efficiency (Gardetti & Torres, 2017).

In the fashion industry, PSM strategies revolve mainly around the cost reduction that aligns with the choice of the suppliers who are capable of fast, flexible delivery and raw materials that are innovative (Luzzini & Ronchi, 2010). As modernization, quality and product complexity are among the critical success factors for the slow fashion brands, the sector still generates enormous volumes without environmental consideration (Brewer, 2019). Delivering a true transformation in the complex field of sustainability in fashion is challenging, as the industry lacks a common set of PSM standards (McKinsey, 2019). McKinsey's Apparel CPO Survey (2019)

highlights that apparel companies need to implement certain technologies, processes, communication, and criteria that will contribute to the creation of a robust sustainability agenda addressing both environmental and social issues. They define sustainable sourcing at scale as a “must” in order to keep pace with a volatile, fast-changing environment (McKinsey, 2019). Improving the efficiency and flexibility of sourcing processes could successfully contribute to the creation of demand driven PSM strategies. Therefore, the biggest sourcing trends in fashion involve the use of ecological materials, sustainable supplier selection connected with strategic partnerships, creation of transparency within the whole SC and reinvention of purchasing practices (Accenture, 2019).

Professionals in the fashion industry also define emerging technologies as the biggest PSM trend that can contribute to the resilience and efficiency of the businesses (Mitev, 2019). According to them, digitalization will lead to automatization of the most complex purchasing functions and be a foundation for long-term sustainable prosperity (Maersk, n.d.). In order to stay competitive, the fashion industry should invest in digital tools such as Artificial Intelligence, Data Analytics and Augmented Reality that, among others, enable production of customized clothing and contribute to the sustainable supplier selection (Mitev, 2019). Such improvements will help to mitigate sustainable risks and increase the trust between buyers and suppliers (Brewer, 2019). Circularity in terms of extension of material’s life cycle and improvement of quality and durability, should also be broadly considered in the way fashion businesses design, produce, and sell (Srivastava, 2020).

2.3.4 Enablers to Achieve Sustainability Goals

Literature defines sustainability enablers as external and internal factors that contribute to the implementation and achievement of sustainability goals (Moldavska, 2016). Such enablers do not only promote successful introduction, but also regulation and adoption of ethical and environmentally friendly strategies within organizations (Jamwal et al., 2021). Diabat et al. (2014) highlight several enablers that are relevant for the fashion industry in order to adapt to sustainability. Among these, authors identify adoption of green purchasing and supply management, investment in infrastructural development and improvement of product design (Diabat et al., 2014). Moreover, Diabat et al. (2014) underline the importance of the involvement and stability of employees’ in paving the road

towards the green shift and achieving sustainability goals in the industry. Key enablers therefore include employment stability, health and safety issues, community economic welfare, adoption of safety standards and introduction of green practices (Diabat et al., 2014). On the other hand, (Soni et al., 2020) analyze the overall drivers of sustainable development and put emphasis on the increased involvement of stakeholders in reducing pollution, as well as more applicable laws and regulations as crucial to enable sustainability.

As the fashion industry aims to create balance between environmental, social, and economic dimensions, a truly sustainable PSM needs to start with a set of standards for the responsible use of natural resources and commitment to ethical suppliers (Henninger et al., 2016). (Eisenberg & Balchandani, 2021) point out strategy and technology innovation as the enablers that play a significant role in achieving sustainability in terms of materials, garment repair, recycling and meeting the expectations of modern consumers. In their opinion, technology may resolve some of the main bottlenecks in the fashion industry and automate manual, wasteful, and inefficient manufacturing processes (Eisenberg & Balchandani, 2021). Literature underlines that the implementation level of innovation in the sector is still relatively low and therefore, fashion brands should consider purchasing of biomaterials and eco-fabrics, as well as embrace parts of new business models such as resale or rental that not only reduce the environmental footprint but also attract new segments of stakeholders (Bielefeldt Bruun & Langkjær, 2016; Pedersen et al., 2018; Thorisdottir & Johannsdottir, 2019).

In addition to technology, Hur & Cassidy (2019) identifies the product development process as an important enabler to achieve sustainability goals. First and foremost, fashion businesses need to integrate sustainable fashion principles into the design process to create durable, practical products that minimize environmental and social impacts (Hur & Cassidy, 2019). Production of these garments needs to include sourcing of ecological or reused raw materials, dyes and finishing elements (Claxton & Kent, 2020). Moreover, Fernandes et al., (2019) emphasize the use of new manufacturing technologies to reduce water and energy consumptions, as well as eliminate overall waste.

Among other sustainability enablers in fashion, literature points out the process of obtaining specialized certifications that give credibility to sustainable practices in

the business (Oelze et al., 2020). These apply to different aspects, such as product certifications, factory certifications, multistakeholder initiatives and initiatives awarding product code (Joy & Peña, 2017; Oelze et al., 2020). Such certifications not only measure a company's overall social and ecological performance, but also assess how operations and business models impact employees, community, environment, and economy (del Mar Alonso-Almeida et al., 2014; Fashion United, 2021). Alonso-Almeida (2014) highlights that the textile certifications are not only attribute-based, but often improve internal processes, setting standards and motivating all actors across the supply chain to commit to responsible, efficient, and sustainable initiatives that bring competitive advantage.

Finally, Brun et al. (2020) emphasize collaboration as a crucial enabler to achieve sustainability goals in the sector. This includes bringing together companies, social organizations and trade unions that adhere to common codes of conduct or criteria that relieve the environmental impact (Bauck, 2021; Colville, 2022). However, Golinska & Romano (2012) underline that a full potential of collaboration will only be embraced with a top management involvement and governmental support. Shared policies, regulations and subsidies need to be in place in order to embrace sustainability across the sector and establish a clear path of growth (Choi & Li, 2015). These can also contribute to the creation of a shared framework on how to approach the UN's SDGs and measure their achievement under the process (Halonen, 2021).

2.3.5 Sustainable Tendencies in the Scandinavian Market

The Scandinavian fashion and textile industry generates around 50 billion dollars in annual revenue (Fashion United, 2021; Norwegian Fashion Hub, 2021). According to the Nordic Fashion Association (2021), the export of textiles, clothes and leather goods have increased by nearly 22% since 2016 and the popularity of Scandinavian fashion grew rapidly throughout the last few years (Tandsæther-Andersen, n.d.). This led to the creation and transformation of several fashion brands who are basing their products on high-quality, natural materials and subtle design, so-called “slow fashion” (Nordic Fashion Association, 2021).

According to Freeman (2019), modern Scandinavian brands are leaders in the worldwide market in terms of use of the innovative technologies in clothing manufacturing and distribution. An increased focus on ethical and green approach

generates greater initiatives towards reduction of the consumption of raw materials, development of new production technologies and working on closed product cycles (Barret, 2020). Moreover, Scandinavian brands put greater emphasis on the durability and versatility of garment pieces (Maguire, 2022). The transition towards more sustainable purchasing and supply management enhances smarter design and use of organic, recycled materials in the sector (Freeman, 2019). Moreover, NFA (2021) claims that the focus on simple aesthetic and functionality, together with a socially responsible concept makes the Scandinavian market the most competitive and promising one in regard to sustainable development.

2.4 Conceptual framework

Since previous research and literature on our research topic is limited, the literature review explored multiple research areas in order to create a solid background for further analysis. Therefore, different components presented by academia on sustainability, PSM and the fashion industry were covered. Emerging from presented theories and concepts, we have created a conceptual framework, portrayed in Figure 4.

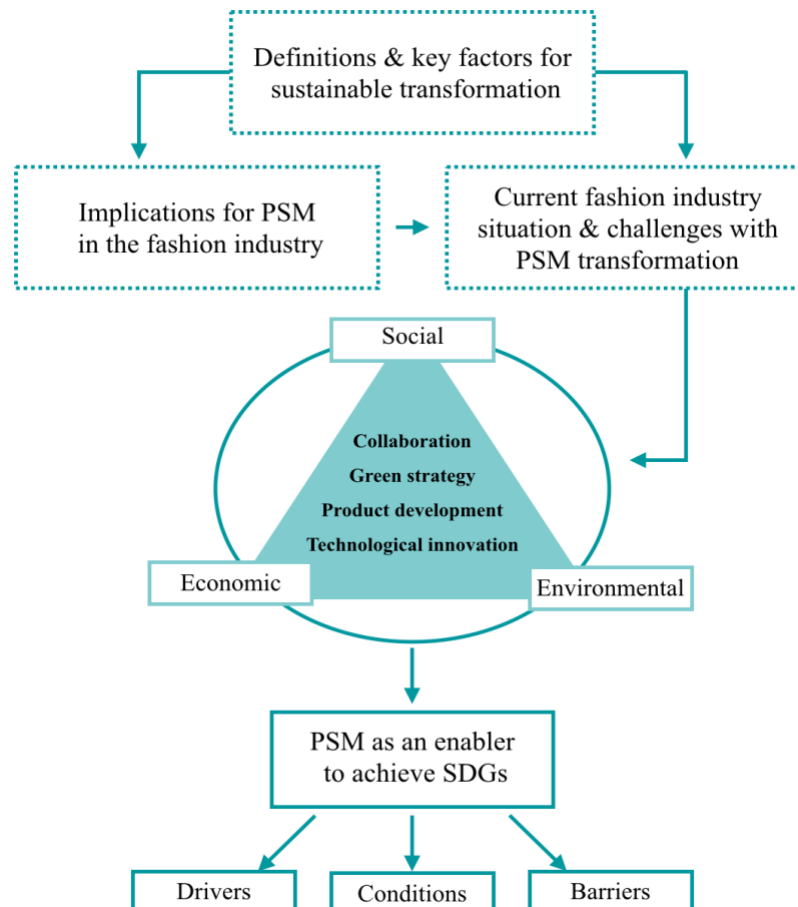


Figure 4. Conceptual framework

The framework comprises key elements that we believe are essential to address the research question; *“How can purchasing and supply chain management practices enable the achievement of sustainability goals in the fashion industry?”*. Assisted by the sub questions, our research focuses on studying current PSM practices in the Scandinavian fashion industry to identify the greatest drivers, conditions, and barriers for PSM as an enabler to achieve the SDGs. Based on findings from previous research, collaboration, green strategy, product development and technological innovation were identified as key enablers for a sustainable PSM transformation. Inspired by Reefke & Sundaram (2017) the triangle suggests that these are critical PSM dimensions that can enable sustainable TBL performance and thereby help achieve the SDGs (Figure 4). By providing a visual depiction of the expected relationships between the key concepts, the framework will further assist researchers through collection and analysis of data to answer the research question.

3. RESEARCH METHODOLOGY

This chapter will provide a detailed description and justification of the methodological choices that were made to answer our research question; “How can purchasing and supply chain management practices enable the achievement of sustainability goals in the fashion industry?”. Our thesis is based on a qualitative research strategy with a systematic combining approach. We will elaborate on the chosen strategy and design, as well as describe the process of data collection and analysis. Lastly, we will assess the quality of our research and present some limitations related to our choice of methodology.

3.1 Research strategy

A critical requisite to achieve research objectives lies in the proper selection of research methodology (Ragab & Arisha, 2018). A research strategy can be defined as “a plan of how a researcher will go about answering his or her research question” (Saunders et al., 2015, p. 177). Business research generally distinguishes between a qualitative and quantitative research approach. A quantitative strategy is based on the collection of numerical data and quantification, while a qualitative strategy emphasizes words in the collection and analysis of data (Bell et al., 2019).

In order to provide relevant answers to the research question, we found that a qualitative strategy is the most suitable for our aim. With a qualitative approach, we are able to focus on local perceptions and experiences to gain insights and comprehension of PSM in the fashion sector (Bartunek, 2012). Due to the lack of collective rules for measuring and reporting sustainable efforts, finding adequate quantifiable data would be problematic. Thus, considering the nature and scope of the study, as well as a lack of numerical data, a mixed method approach combining qualitative and quantitative strategies was not feasible. Qualitative research methods adopt a holistic view, focusing on discovery through actual experiences (Ragab & Arisha, 2018). Through interviews and in-depth study of industry players we will therefore be able to examine PSM practices and uncover drivers, conditions, and barriers to the SDGs approach. Additionally, a qualitative approach enables a flexible data collection where adjustments can be made as the research progresses (Bell et al., 2019). A disadvantage with this strategy is that the scope of the findings is restricted, which makes generalization difficult (Bell et al., 2019). However, our

aim is to provide insights about the current state and future potential of PSM in the fashion industry, not to facilitate empirical generalization.

3.1.1 Research approach

Bell et al. (2019) highlights two main theoretical approaches to the relationship between theory and research; deductive and inductive. A deductive approach is applied to test hypotheses obtained from existing theory, whereas an inductive stance allows theory to emerge through research (Bell et al., 2019). Recent literature has defined systematic combining, also referred to as abductive reasoning, as a third approach. Systematic combining is a non-linear approach which enables researchers “to constantly go back and forth from one type of research activity to another and between empirical observations and theory” (Dubois & Gadde, 2002, p. 555). Our approach has evolved in response to findings during the process, thus neither theory nor observations on their own served as the starting point for our thesis. Moreover, a systematic combining approach was chosen to enable a flexible exploration of theories and concepts through the research process. Figure 5 portrays our process of systematic combining through the research phase, inspired by (Kovács & Spens, 2005) framework for investigating the abductive approach.

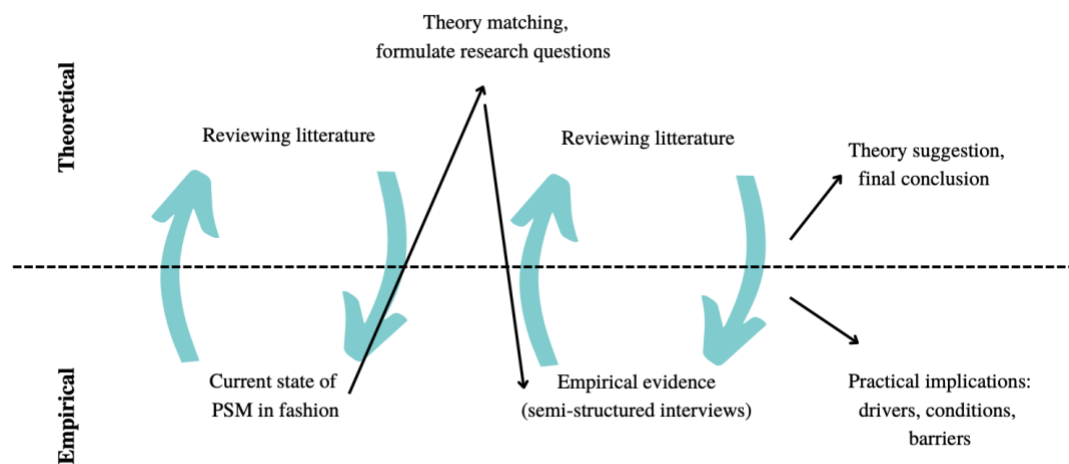


Figure 5. The systematic combining process

3.2 Research design

A research design provides a framework for the collection and analysis of data (Bell et al., 2019). Despite several studies regarding sustainable solutions and PSM excellence, empirical research that could guide companies towards supply chain sustainability is lacking (Macchion et al., 2018). We therefore found it difficult to

identify a suitable research design for our thesis. Initial research steps uncovered that the awareness of ensuring sustainability through the transformation of business operations in the fashion sector is significant. Thus, we considered applying a case study design to analyze how a single company in the sector approaches sustainability in its PSM functions. However, we discovered that Scandinavian brands have different perspectives on sustainability and emphasize different aspects of PSM in a green transformation. Considering the external validity and generalizability aspect, the case study findings would not be representative for the sector. Therefore, we desired a research design which allowed us to investigate a variety of companies. A cross sectional research design appeared suitable for our objective. This design entails the collection of data on more than one case at a single point in time (Bell et al., 2019). However, a prerequisite for this design is to collect data at a single point in time, and furthermore to detect patterns of association between two or more variables (Bell et al., 2019). Due to limited time frame and lack of company's willingness to participate, we did not perceive it as possible to conduct enough interviews to reveal significant patterns between the research participants.

Finally, we found that a grounded theory design provided the opportunity to investigate different actors and thus include multiple perspectives on the topic. Grounded theory is defined as “theory that was derived from data, systematically gathered and analyzed through the research process” (Strauss & Corbin, 1998, p. 12). This design is flexible and therefore a good fit for the systematic combining approach since data collection, analysis and theory stand in close relationship to each other (Bell et al., 2019). One of the strengths of grounded theory is that it explains what is actually happening in practical life (McCallin, 2003). This serves as one of the main arguments of our choice since we can identify the current state and actions of the Scandinavian brands. Interviews with fashion brands and sustainability experts will help to identify drivers, conditions, and barriers for the sustainable transition in the sector. Furthermore, the design allows us to go back and forth between collecting data and analyzing empirical findings to identify how PSM can enable the achievement of SDGs.

3.3 Data collection

Bell et. al (2019) states that data collection is the key point of any research project. Our data collection consists of three parts: literature review, primary data and

secondary data. Since we adopted a systematic combining approach, the data collection was based on the model suggested by Dubois & Gadde (2002):

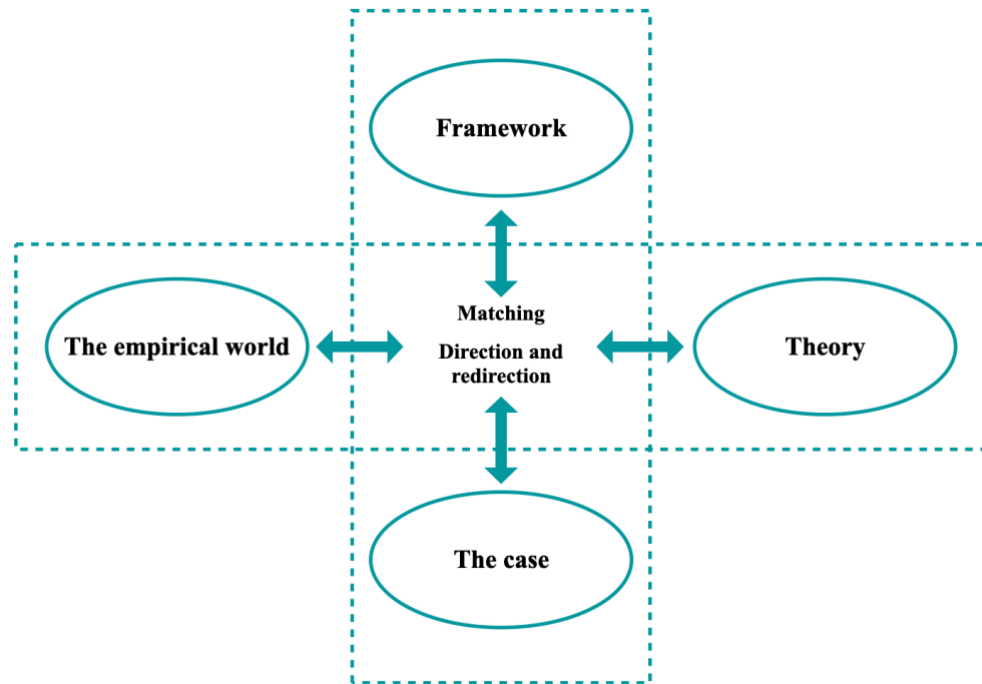


Figure 6. Systematic combining (Dubois & Gadde, 2002, p. 555)

In order to gain an understanding of relevant concepts and theory linked to our topic, we initiated the data collection process by conducting a literature review. Google Scholar and Oria were especially useful tools. To identify articles and scientific papers related to our area of research, assorted variations of the following keywords were applied to our search:

- Fashion industry, PSM, sustainability, sustainable development goals, sourcing, purchasing, procurement, supplier selection, manufacturing, triple bottom line, ISO, green, supply chains of the future, trends, network, innovation, collaboration, enablers, challenges, barriers, implications.

The literature review provided us with an understanding of the key concepts of sustainable PSM in the fashion industry and established how our research objective fits within a larger field of study (Fink, 2003). To achieve a theoretical understanding of the key concepts of sustainable practices and PSM of the future, we also investigated the literature that discusses different sectors. To ensure quality, the majority of chosen literature was retrieved from well ranked journals and reliable sources, as well as industry reports from different consulting companies. We primarily searched in the time frame 2017-2022 because the request for

sustainability is relatively new and the sector is dynamic. Nevertheless, older sources were included to state the facts about the industry and emphasize needs for changes.

Following our systematic combining approach, we were able to move back and forth between empirical evidence, published literature and analysis. The literature review inspired the fabrication of the conceptual framework and questions for future qualitative interviews. Likewise, empirical findings helped us strengthen our research question and revise the theoretical background. This was a constant evolving process. We will further describe how we collected primary data through semi structured interviews and provide a description of the other data sources.

3.3.2 Sampling

Sampling is the process by which researchers identify the selection of research participants. In qualitative research, the importance of the research question in guiding the sample selection is emphasized (Bell et al., 2019). Thus, our research is based on purposive sampling of participants to acquire the information needed to answer our research question. The chosen sample is therefore limited to Scandinavian fashion brands that already participate in the sustainable transition. In order to identify the relevant brands, we searched the Sustainable Brand Index 2022 rankings in Denmark, Norway and Sweden under the category “Clothes & fashion - Brands” (SB Index, n.d.). Our aim was to get in touch with employees who had experience with the brand's sustainability efforts and PSM functions. We found contact information on the brands respective websites and LinkedIn, and contacted nearly 50 representatives with a request to take part in our study. In addition to firsthand knowledge of the sustainable PSM tendencies in the sector, availability and willingness to participate served as the main criterion for selecting our sample.

When we realized that just a few brands were willing to take part in our research, we expanded our sample to include sustainability experts. This was done in order to obtain a balanced and unrestricted view of sustainable PSM. One of the researchers has a sustainability expert in her professional network. Luckily, the expert agreed to take part in our research and named another object of interest for this study. Although there are no defined rules concerning sample size, qualitative research usually relies on small numbers to examine in depth (Tuckett, 2004). In total, our sample consists of 6 interviews. Four objects work closely with PSM and

sustainability for a Scandinavian fashion brand and the last two are sustainability experts. The objects have various backgrounds and can portray different perspectives on the topic of interest. We therefore argue that our sample size is suitable for the thesis' aim. Table 1 shows an overview of the sample and the data collection timeline.

Identification code	Area of expertise	Position	Nationality	Interview date	Interview length
X1	Industry professional	CEO	Norwegian	15.03.22	45 min
X2	Industry professional	Head of sustainability	Danish	18.03.22	45 min
X3	Industry professional	Head of Production	Norwegian	25.03.22	45 min
X4	Sustainability expert	Sustainability director	Swedish	04.05.22	30 min
X5	Sustainability expert	Head of sustainability	Swedish	12.05.22	30 min
X6	Industry professional	Head of design	Danish	Archival interview	N/A

Table 1. Overview of sample

3.2.3 Semi-structured interviews

Bell et. al (2019) states that data collection is the key point of any research project. Primary data refers to data that is collected by the researcher. In our research, qualitative data was collected through semi-structured interviews with representatives from different Scandinavian fashion brands and sustainability experts. Semi-structured interviews were chosen because they allow for an open discussion with the respondents (Bell et al., 2019). We based our interview guide on our conceptual framework identified in 2.4, which served as a basis for areas that we aimed to cover. (Appendix 1). The interview guide was divided into two 3 parts. First, we wanted to map how the different objects interpret sustainable PSM and their motivation to have sustainability on the agenda. The SDGs, TBL and ISO 20400 were discussed in the following section. We wanted to learn more about the current state of the sector in terms of objectives and measurable outcomes, as well as the companies' involvement with TBL efforts and ISO 20400 in their sustainability initiatives. Finally, we wanted to explore how PSM functions can aid in the achievement of the SDGs by addressing the drivers, conditions, and barriers for a sustainable transformation. For the interviews with sustainability experts, we adopted the same interview guide, but targeted the industry as a whole (Appendix 2).

We reckon that ethical issues may arise during the data collection. To ensure the integrity of our study and furthermore guarantee that the thesis complies with Norwegian laws, several ethical concerns have been deliberated. Considering our choice to conduct interviews, protection of the privacy of our research participants is important. The study has been approved by the Norwegian Centre for Research Data (NSD) and data relating to our participants has been collected and stored accordingly. Moreover, the interview guide and explanatory information concerning our aim was shared with the respondents before the interviews were conducted. That way, the participants could choose whether or not they wished to participate in the study.

While conducting the interviews, we focused on reflective questions to motivate discussion and generate rich and detailed output. We believe that applying a flexible interview style provides us with valuable insights from the object's point of view, since the sequence of questions can be varied depending on the interviewee's reflections and answers (Bell et al., 2019). Furthermore, the interview guide's level of structure enables comparison of the objects. Since we have focused our thesis on the Scandinavian sector, it was natural to interview objects from Denmark and Sweden. Consequently, we had to conduct the interviews on an online platform. We chose to conduct all 5 interviews through the use of Zoom due to time constraints and to provide a consistent interview environment. All of the interviewees agreed to be recorded during the interview. The recordings ensured that the data was expressed in the respondents' own words and that no significant comments were overlooked (Bell et al., 2019). Thus, researchers did not need to take notes along the way and could instead engage in the conversation to maintain a flowing dialogue. Both students were present during all interviews to ensure equivalence in interview style. Bell et al. (2019) points out some of the drawbacks of synchronous online interviewing, including potential technological issues and difficulties picking up visual cues. Luckily, all interviews were conducted without any noticeable problems. Moreover, because we were able to see the objects' facial expressions, we believe that the lack of other visual clues is not particularly limiting for the data collection given the topic at hand.

3.2.4 Additional collection

Secondary data is the data that has already been collected through primary sources and made readily available for researchers to use for their own research (Formplus,

n.d.). Due to limited time and resources, we find use of secondary data necessary to validate findings from our semi-structured interviews and furthermore, to provide a greater perspective of the researched topic (Johnston, 2017). Several brands were kind enough to send us their sustainability reports when we contacted them during the initial research phase. The reports provided detailed insights into the brands' PSM efforts and sustainable performance. We mostly utilized reports and archival data from sample X6, however, all reports were read in order to get a holistic view of the industry. Overall, secondary data helped to provide a greater understanding of the current state of the Scandinavian fashion sector and highlighted future green opportunities.

3.3 Data analysis

Data analysis is a stage that incorporates several elements, including organization, reduction and interpretation of data (Bell et al., 2019). One of the main difficulties with qualitative research is that it rapidly generates a large, complex dataset because of its reliance on unstructured language (Bell et al., 2019, p. 518). Data analysis is a central part of the systematic combining approach, as it evolves simultaneously with the conceptual framework and empirical fieldwork (Dubois & Gadde, 2002). Researchers have chosen a grounded theory strategy for the data analysis. As previously mentioned, grounded theory is flexible and therefore a good fit for the systematic combining approach since data collection, analysis and theory are all closely related (Bell et al., 2019).

We started our analysis by reviewing literature on sustainability, PSM and the fashion sector. This enabled us to develop a conceptual framework and gain an understanding of the key concepts. The literature study further inspired the fabrication of our interview guide. Researchers continuously revised the theoretical background as the semi-structured interviews and reports presented new viewpoints. Our thesis was originally meant to examine if fashion brands could optimize their PSM functions to achieve the SDGs. When analyzing literature on the current state of PSM in the sector and during conversations with industry professionals, we realized that it was necessary to change our aim. As a result, the conceptual framework and research question were reviewed and updated.

To organize the raw data derived from the semi-structured interviews, we decided to transcribe the recordings. Transcribing helps to correct the natural limitations of

our memories and allows more thorough examination of what respondents say (Bell et al., 2019, p. 445). Coding was applied for further processing of the data. Bell et al. (2019) states that coding is one of the most central processes in grounded theory. The data is treated as potential indicators of concepts and the indicators are constantly compared (Bell et al., 2019, p. 523). It was simple to draw indicators of interest in relation to the research question because we utilized the same interview guide for all the semi-structured interviews. For example, when analyzing drivers, conditions and barriers for PSM as an enabler, we started by breaking down the answers into different themes. Answers that were particularly relevant were highlighted and compared to the other comments to see whether there was any recurrence or variance. The coded data was then grouped into categories. This process was repeated for all themes, providing a foundation for further analysis of relationships between categories and a clear picture of the central themes.

3.4 Quality assessment

When assessing the quality of qualitative research, there are no dominant criteria and various measures may be used (Bell et al., 2019). By exploring the criteria proposed by Guba & Lincoln (1994), we will in this section evaluate and ensure the trustworthiness and authenticity of our research (Bell et al., 2019).

3.4.1 Trustworthiness

The credibility criteria refer to the truth of the data and participant perspectives, as well as the researcher's representation of them (Cope, 2013). Supervision, approval from NSD and careful planning safeguarded that the research was conducted in good practice. To capture accuracy, the collection of primary data was recorded and transcribed. Moreover, by utilizing several sources of data to confirm the findings, our systematic combining approach facilitated triangulation of data. Researchers employed a combination of existing research, semi-structured interviews, and public reports. Considering our pressing topic, we acknowledge a probability that the research participants communicate in a way that promotes their brand and efforts, and that the public reports may exclude unfavorable aspects. We therefore examined the reports closely with objectivity. To enhance credibility of the interviews, we applied prolonged engagement and persistent observation. The strategies involve building the interviewees' trust by getting to know them and allow sufficient time for interviews, as well as paying attention to their emotions (Cope,

2013). We emphasized that we wish to understand the brand's situation and guide them, not to point out mistakes or criticize them. Moreover, the sample included sustainability experts and representatives who work closely with PSM to acquire a valid perspective of the topic.

Transferability refers to whether the findings hold in some other context or period of time (Bell et al., 2019, p. 365; Lincoln & Guba, 1985). Researchers aim was to provide insights about the current state of sustainable PSM in the Scandinavian fashion industry, not to facilitate empirical generalization. However, a grounded theory design was preferred to meet the transferability criteria since it allowed us to research a broader scope than a case study would enable. Moreover, interviews with experts and a variety of brands, supported by a thorough literature study, resulted in data which may be adapted and adjusted to the Scandinavian fashion industry as a whole. Additionally, we argue that some of the findings can be applied to other organizations that are working to integrate sustainability into their PSM functions. The significance of a sustainable transformation is becoming clearer, and the body of research on the field is likely to grow over time. It is therefore reasonable to expect that our findings will become obsolete over time as new discoveries emerge. However, the research findings serve as a basis for future studies and expanded coverage.

Dependability concerns measures for reliability in order to ensure that the study is trustworthy and consistent (Bell et al., 2019). The criteria involve that complete records of all phases of the research process are kept in an accessible manner (Bell et al., 2019; Guba & Lincoln, 1985). Our research has been approved by NSD, and the data has been collected, utilized, and stored in accordance with Norwegian GDPR regulations. Before the primary data was analyzed, personal names were substituted with identification codes to safeguard the anonymity of our interviewees. Moreover, the interviews were recorded and transcribed to verify that the facts were expressed precisely in the respondents' own words. We recognize that two of the interviews were held in Norwegian, and that translation may cause imprecise wording. Nevertheless, enough time was set aside for translating and quality assurance of the transcribing.

Confirmability is the final criterion for ensuring trustworthiness, which refers to the extent to which researchers' subjective values shape the research (Bell et al., 2019,

p. 365). We have acted in good faith to ensure neutrality and a high degree of confirmability through the entire research phase. To counteract bias, researchers have recorded and transcribed all interviews. Moreover, prior to starting the discussion, the data collection and analysis were written so that conclusions, recommendations, and interpretations could be traced back to their sources (Halldórsson & Jesper Aastrup, 2003).

3.4.2 Authenticity

Lincoln and Guba establish a fifth criterion of authenticity, which raises concerns about the research's broader social and political implications (Bell et al., 2019, p. 365). The criterion requires the researchers to fairly represent various points of view within the focal situation (Bell et al., 2019, p. 365). We felt it was vital to seek out various perspectives on our crucial and complex topic. Therefore, a diverse sample of actors, including industry professionals and experts, were interviewed, providing us with multiple viewpoints on sustainable PSM in the sector. The same interview guide was utilized on all objects to make the interview situation fair. Moreover, the criterion emphasizes the necessity of empowering study participants to have a better understanding of their situation and empower them to engage in action to change their circumstances (Bell et al., 2019, p. 365). Through discussion with the objects, we have introduced them to the ISO 20400 standard and helped them reflect on the drivers, conditions, and barriers for a sustainable PSM transformation. Furthermore, we hope that this thesis will help put sustainable PSM on the agenda for a broader set of actors in the sector by mapping the current state and potential of the fashion industry.

4. EMPIRICAL FINDINGS

The following section presents the findings from our research. The structure of our findings is in line with the interview guides (Appendix 1, Appendix 2) and consists of interviews with different Scandinavian fashion brands and sustainability experts. Our thesis aims to explore how PSM functions can contribute to the achievement of sustainability goals in the industry. As this is a flexible and proactive research, we focused on exploring the views regarding sustainability and SDGs, standards and PSM practices, as well as the importance of sectoral transformation among the fashion brands and sustainability experts. In addition, we put a big emphasis on enhancing the views regarding drivers, conditions, and barriers for transformation of PSM to enable the achievement of sustainability goals. This will allow us to, in the first section, identify the current state of the industry, and further, in the second section, analyze in depth the interplay between PSM and sustainability. Based on the interviews and documents received from the collaborating companies, we will present the findings and present the quotes related to different themes.

4.1 Current Industry Situation

Sustainable PSM practices and working towards the achievement of SDGs in fashion become increasingly important, but there is still a lack of certain knowledge and standards for shared initiatives across the entire sector. Therefore, it is important to look at how the fashion industry and sustainability experts view sustainability and SDGs, standards and PSM practices and the importance of change in the sector. As the study is looking at PSM as an enabler to achieve sustainability, the findings in this part will revolve around an in-depth analysis with regards to regulations, incentives, and potential benefits.

4.1.1 Views Regarding Sustainability and SDGs

Our findings revealed that the fashion sector is moving towards more sustainable practices. However, both interviews and the analysis of organizational documents revealed that companies define sustainability differently, putting emphasis on different incentives related to their sustainable efforts. To our interest, industry actors and experts also have different indications of which SDGs are the most crucial for fashion, as well as overall views on sustainability goals and their achievement.

	X1	X2	X3	X4	X5	X6
Type	Fashion brand (women's clothing)	Fashion brand (unisex trousers and jeans)	Fashion brand (women's clothing)	Sustainability expert	Sustainability expert	Fashion brand (unisex clothing)
Year founded	2012	2008	2008	-	-	2000
Location	Oslo, Norway	Copenhagen, Denmark	Oslo, Norway	Stockholm, Sweden	Stockholm, Sweden	Copenhagen, Denmark
Organizational members	22	44	14	-	-	162
Biggest incentive for sustainability	Reducing urge to consume	Having holistic approach to TBL	Focusing on poverty	Taking care of climate	Driving innovations to relieve society	Holding each other accountable
Importance of SDGs (1-5)	4	4	3	5	5	5
The most crucial SDG	SDG 12	SDG 12	SDG 1	SDG 7	SDG 15	SDG 12
Do you measure the achievement of SDGs?	No	No	No	-	-	Yes

Table 2. Compilation of interview objects and their approach to SDGs

4.1.1.1 Definition and Incentives

Prior to delving into the main topics and objectives of our research question, we decided to ask interviewees about how they as individuals or businesses define sustainability. As one of the interviewees explained; *“Sustainability is a buzzword in modern culture and has different meanings to everyone.”* - X2. This statement intrigued us and turned out to be correct. Although all objects touched upon similar dimensions, it turned out that sustainability and its incentives mean something different to all of them.

Two of the respondents explained the concept as the responsibility to reduce the urge to consume; *“Sustainability to us as a business and individuals means responsibility. It is a sort of stimulus that challenges our creativity in an accountable manner. For us, a sustainable fashion brand is one that grows healthy and designs with an incentive to reduce the urgency to consume.”* - X1

“For me and our team, the word “sustainable” means driven by the purpose of supporting, inspiring and encouraging people to make better choices. It is a constant expansion of the company’s vision towards a better, holistic approach to Triple Bottom Line.” – X2

Further, another respondent focused on people and animals, as well as overall transformation of the supply chain; *“Sustainability to us means acting responsibly towards people and animals. Moreover, using available resources and*

opportunities to address worldwide challenges across the supply chains and influence markets.” – X3

Interestingly, one of interviewees also addressed the “people” aspect of sustainability but pointed out the opportunities and attractiveness related to it; “(...) *It is about being attractive now and in the future, emphasizing having the possibility to even be in the future – not only as a business, but also as a working space. For us sustainability means taking care of our people and employees and making our company an attractive place to shop from and to work with, no matter the role in the supply chain.*” – X1

Nevertheless, sustainability experts from the field seemed to have a more holistic approach to the concept, focusing primarily on climate and innovation; “*Sustainability to me restricts primarily to taking care of climate and environment, because there won’t be any planet to live on if we don’t address these spheres immediately. It is having values and goals that overcome profit and put the planet into the spotlight.*” – X4

“*Sustainability to me is mainly about driving innovations that relieve the planet and society. It means reusing resources and creating renewable alternatives to replace the old, “bad”, with the new, “good” (or better).*” – X5

4.1.1.2 Importance of SDGs for fashion

Honing on our discussion about sustainability, we decided to ask our interviewees about the importance of SDGs in the fashion industry. We aimed to get an insight into how UNs list impacts sustainable efforts across the sector and most importantly, which goals and why are the most important for fashion. The majority of objects had similar opinions regarding the urgency of achieving SDGs and setting internal standards/goals that align with UNs mission. In order to drive change, the entire sector needs to play part in rethinking and redesigning supply chain patterns. Moreover, SDGs are indivisible and must be pursued together. Only collaboration and consecutive progress in one area will enable progress and affect areas of other goals; “*Considering the environmental footprint of the industry, further development has a significant impact on the achievement of SDGs, and there is no longer time to wonder, but to act - together.*” – X5

“SDGs are essential for our industry that pollutes and consumes on a huge scale. We also find it crucial to collaborate with others, because this way - we can learn from each other and increase the impact/awareness in the society. This also maximizes the effort and truly helps to achieve overall sustainability across the chain.” – X2

“We can’t just divide SDGs into more and less important ones. The entire industry needs to take shared responsibility and prioritize all of the goals equally. Of course, we have to be realistic and consider the differences in sizes and resources across the businesses. However, sustainability does not mean “all or nothing” and setting even the smallest goals based on the UNs agenda is a big step towards a more ethical, environmentally-friendly business and future.” – X4

Moving forward, we asked the interviewees about which specific goals do they consider as the most crucial for the fashion industry and why. Responsible consumption and production were the most common pattern, most likely due to the shortage of natural resources and the characteristics of the industry that contributes to unethical and non-ecological overproduction and overconsumption.

“Responsible consumption and production are a priority for us, and should be for the industry, because that is where the biggest impact is. If fashion will continue to consume on this scale, we will soon run out of available resources on the planet. Companies should produce responsibly but also look for ways to reuse resources to change their mindset regarding the consumption.” – X2

“Overall, SDG 12 with sustainable production is the easiest to relate to and which we have the most in mind while conducting our daily operations. The most important thing for us is to make products that last over time, so it’s mainly about design and materials. The garments must be practical and manufactured under ethical conditions.” – X1

As the respondents focused primarily on the sector's contribution to reduced consumption, we decided to delve deeper into this statement since it did not correspond with the previously stated essence of the fashion industry. Literature review revealed that the sector is under constant pressure of trends that change every season. However, our respondents argued that they neglect the fast-changing trends as the key to achieving SDG 12 is to combine practicality, high functionality, and

timelessness with recycled and organic garments; *“Our aim is not to be trendy, but relevant over time. As properly designed and produced garments are of good quality, they remain relevant over time.” – X1.*

Further expert interviews provided us again with a more holistic approach to SDGs, where, aligning with the literature review, an increased number of goals was considered crucial for the sector. Interviewees expressed intersectoral concerns, focusing on the importance of perseverance of biodiversity and the social aspects; *“At the end of the day, the fashion industry is not just consumption - it’s also production and production means so many things - it is energy, industry, innovation, biodiversity, chemicals, resources - it’s everything and because of that all sustainability goals are more or less relevant.” - X4*

“For me, it ties into all of SDGs, but obviously there are certain ones that suit more. I agree that SDG 12; responsible consumption and production, is important. However, SDG 7 and SDG 9 that consider clean energy and industry, innovation, and infrastructure are very high on the priority list. With a constant increase in demand, the production becomes increasingly resource intensive. Hence, we need more clean energy and innovations towards efficient supply chains.” - X5

“On a brand level, this is very individual as it is tightly related to the brand's definition of sustainability. However, on the industry level, we cannot forget about SDG 1, SDG 14, and SDG 15. First one relates to no poverty. No industry can become truly sustainable without ensuring that the working conditions across the supply chain are ethical. The last two goals relate to life below water and on land – if these won’t be properly addressed in the manufacturing processes, our sector will continue to escalate the climate crisis with fatal consequences for biodiversity.” – X3.

4.1.1.3 Measurements and Regulations for Goal Achievement

To structure the views regarding sustainability and the importance of SDGs in the sector, we decided to discover the industry's actors’ point of view on measuring the degree of goal achievement. The majority agreed that these kinds of measurements are crucial and that they are a good indicator of sustainability efforts within the company. However, businesses that put effort into eco-friendly supply chain practices in the sector often don’t have enough tools or resources to do that; *“As a business and an industry, we underline that it’s very important to track the internal*

goals that align with UN's SDGs. However, in most cases while being a little organization we sometimes lack resources and prioritization – but it is something we are working on, constantly finding the right measurement parameters.” – X1

“It is a huge bag of goals, so it is challenging to know where to start, where to end and how to measure it during the process.” – X3

“Measuring progress enables companies to hold themselves accountable for achieving agreed/chosen goals. Despite the size, this process needs to be prioritized because without measurements of goal achievement, it is impossible to progress and tailor key business objectives appropriately.” - X5

Interestingly, one of the objects argued that measuring the achievement of chosen, specific goals should not be prioritized, as these must be seen in a bigger picture; *“Fashion should have a holistic view on sustainability goals – not tab into one or two specific UNs goals but see them in a bigger picture as a full circle of taking responsibility across the entire chain.” – X2*

Building on that, we decided to determine why it is difficult to measure the achievement of goals in practice. According to the previously analyzed literature, there are certain enablers and barriers of sustainability that either contribute to or prevent the achievement of SDGs across the organizations. Interviewees had similar views on that topic, agreeing that there are no universal rules, protocols, or rules on achieving the SDGs within the industry. Moreover, the support of government was highlighted as crucial in the majority of answers, because without that, the industry does not have clear indications about the further SDG actions; *“It is difficult to measure the degree of goal achievement, I think for the whole industry and us including because there is no “force” that requires us to do so. We miss clearer guidelines and requirements. If this would have been in place, we would of course do it.” – X1*

“We know that as a fashion industry, we are responsible for an enormous waste of resources and generate a huge impact on the planet. Therefore, it is definitely an essential to establish strong corporate strategies and KPIs, but also have an external influence through policies and laws - this would definitely motivate/force a lot of players to measure the achievement of goals.” – X2

Some of the objects highlighted that even though these regulations are not in place, it is important for industry actors to gain a deeper understanding of the available practices and sources that can give businesses an advantage in paving the road towards the green shift in the sector. These include shared initiatives, unions, organizations, certifications, and protocols; *“There are certain unions and organizations that make it easier to track sustainable efforts by setting goals and following up. This includes, among others, due diligence annual assessments through Ethical Trade organizations.”* – X3

“Huge companies with unlimited resources have to do sustainability reports. I think that making them easier to do in detail and having specific criteria is the key to have not just large companies, but also smaller ones do it. But again, the involvement of the government here is crucial. Say you have a revenue of more than 1 mill NOK a year and then you have to fill out a report prepared by the government alongside your financial report - these kinds of initiatives. Because then it becomes a necessity and an actual function within the company.” – X5

Fashion brands need external support and tools to take on sustainable initiatives, and this support should be dependent on the size of the company. Requirements for actors without access to unlimited resources could include affordable labels and certifications from the government. Moreover, climate tools should gain greater attention in the sector; *“Complicated protocols make a real challenge – fashion brands could for instance use the GHG Protocol, but it is complicated, time consuming and there are still not too many available tools to identify consequences of each company’s operations. Therefore, we need more innovative tools that give estimations of CO2 emissions or measure other impacts of fashion. If there are already some ways to measure them, they should either be easier or enforced legally – ideally both to make impact easier to manage.”* – X4

4.1.2 Views Regarding Standards and PSM Practices in the Sector

After gaining a deeper understanding of the importance of sustainability and SDGs in the sector, we decided to pursue the topic of our research, namely sustainable PSM. The main interest included objects’ definition of the concept, influence of PSM standards on the fashion industry and the role of PSM in the achievement of SDGs across the sector. Interviews revealed a lot of shared opinions across these dimensions, highlighting that the current state of the industry is not ideal, and that

the transformation of the PSM processes across the supply chains can truly have an impact.

4.1.2.1 Sustainable PSM

Literature review revealed that sustainable PSM incorporates specifications, requirements, and criteria that are compatible with environmental and societal protection. We were interested in finding out whether this definition differs to a similar extent as the definition of sustainability across the fashion industry actors. However, the majority of respondents seemed to agree that environmentally friendly PSM revolves around transparent sourcing of sustainable materials, careful selection of suppliers and ethical labor practices; *“Sustainable PSM for us is the whole process from designing a product to choosing materials for its production and being involved in the whole process. It is a matter of choosing the right material, supplier, factories, energy sources in factories and transporting the product from factory to warehouse, all under ethical working conditions.” – X1*

“For us as a business, sustainable PSM in fashion means collaborating with factories that can supply materials that are organic and recycled and require certificates and verifications from them. It also means conducting audits of the factories to ensure that the people who work there have ethical conditions. Moreover, it is gaining greater control over the supply chain and the energy sources used in the factories.” – X3

4.1.2.2 Current Knowledge and the Influence of Sustainable Standards on the Industry

As previous research highlighted the relatively low level of implementation of environmentally friendly PSM practices in the sector, we decided to analyze opinions about standards such as ISO20400. To our surprise, only 1 out of 5 interviewees had knowledge about the standard. Nevertheless, further explanation and discussion revealed that the objects underline the importance of the existence of such guidance. In addition, the pattern here is similar as with the SDGs – there is a need for pressure and resources, mainly from the government's side. Without this, fashion businesses will never achieve the level of unity that could actually drive a change. Moreover, this kind of involvement will make standards easier, more accessible, and widely understood; *“These kinds of standards not only push actors to do better, but help to establish clear, measurable goals for the industry*

and track them. A lot of companies focus on different aspects of sustainability and take very different steps to achieve it which might be confusing to users/consumers. Having a unified standard on how to procure, manage supplies and produce will help to overcome knowledge gaps and make industry more unified.” - X2

“These standards are naturally good indicators of directions in which companies should proceed. However, the level of knowledge is still low, and the standards often remain unnoticed. Hence, the legislation needs to be in place. Government needs to make sure that each actor in the industry will gain a basic understanding of the concept and establish parts of these standards as regulations and laws.” - X5

In addition to legislation, there are also certain expectations regarding financial support from the government’s side. This will be a very important factor while undertaking efforts to unify the rules across the sector; *“New regulations from the EU regarding CO2 emissions that are yet to be set up will be a clear signal for all industry actors on how to do better. The requirements will force sustainable practices into the business and this shared measuring point will make it easier to compare actors in the industry – but we also need some financial support.” – X2*

“Without this action, there will not be enough incentives. This also includes the financial support in order to make transformation more feasible for the SMEs.” – X5.

4.1.2.3 The Role of PSM in the Achievement of Sustainability Goals

Lastly, the experts agreed that PSM can have a significant contribution to the overall achievement of sustainability goals across the industry. Careful assessments of supply chain practices and relevant design that lasts over time can successfully influence the sector's contributions to the UNs agenda. This needs to be mirrored in circular innovations driven by collaborations and clear systematic expectations towards stakeholders; *“With the use of PSM functions such as choice of suppliers, transparency, reuse of resources and proper CSR management in the company, the industry will work towards sustainability goals. This requires a big change of mindset for the majority of players and striving for equal and fair conditions across the chains.” – X2.*

4.1.3 Views Regarding Motivation and the Importance of Change

4.1.3.1 External influences and motivation to have sustainability on the PSM agenda

To summarize the overall industry situation in terms of sustainability, SDGs and PSM practices, we decided to explore objects' motivation to have sustainability on the PSM agenda. Experts argued once again that these actions are mostly motivated by the enormous impact the industry has, but also expressed personal opinions about chosen TBL dimensions. Again, the role of collaboration, engagement of top management and government was highlighted, implying the need for a holistic approach in the entire sector; *“We fear climate change and wonder how far the negative impact will go. Brands that use TBL in their PSM practices are already offsetting pollution to some degree. Therefore, we need to pull all the levers that we possibly can – from legislation, civil society, and companies – to get all these factors together and work towards the SDGs.”* – X4.

“We need to understand that transitioning the supply chains and business models towards the TBL approach is the only way to ensure long-term viability in fashion. Moreover, that a good design is a sustainable design, but it is also a collective responsibility – from the manufacturers and the brand to consumers. This is because we are all responsible for our actions towards keeping the planet clean.”- X2.

Interestingly, this part of the interview for the first time brought up the challenges that the industry is facing from the side of consumers. It turns out that their engagement is also crucial in those constant efforts towards the green shift, and the sector is motivated to influence this engagement: *“To a certain extent, a specific segment of customers' demands more sustainable products, but the majority still doesn't. This is one of our challenges in the sector that often goes over the motivation for sustainable PSM – customers are not willing to change their behavior patterns or willing to pay more for sustainable products.”* – X1

“However, sustainable demand from customers is not everything – this will not transform the industry. Therefore, we need to have legislation and industries enforcing all of this legislation and following up with consumer demand.” – X5.

4.2 The Interplay Between PSM and Sustainability

To explore the topic of sustainable PSM more in depth, we decided to map the current state of the industry. Investigating what industry players do in terms of sustainable efforts and how they approach TBL in their PSM functions, provided us with a realistic view on current practices and future potential. Moreover, this chapter presents the interviewees views on perceived drivers, conditions and barriers for PSM as an enabler to achieve sustainability goals.

4.2.1 Fashion Actors View on Triple Bottom Line and sustainable PSM

As stated by one of the experts; *“Fashion industry needs to understand that transitioning their business models towards the TBL approach is the only way to ensure long-term viability and achieve competitive advantage.”* - X5. Building on that, we wanted to explore how the fashion actors have embraced a TBL approach and through which PSM functions. The focus of the interviews was on supplier selection and choice of materials, both of which are critical concerns in the fashion industry. Nevertheless, respondents also highlighted other important sustainable initiatives.

	X1	X2	X3	X4	X5	X6
Type	Fashion brand (women's clothing)	Fashion brand (unisex trousers and jeans)	Fashion brand (women's clothing)	Sustainability expert	Sustainability expert	Fashion brand (unisex clothing)
Size of the company	Small	Medium	Small	-	-	Large
Company Code of Conduct	Yes	Yes	Yes	-	-	Yes
Main design goal	Timeless, long lifespan	Long lifespan, much use	Durability, high quality	-	-	Recyclability
Use of eco materials (1-5)	4	3	4	-	-	4
Focus on circularity (1-5)	4	4	4	-	-	5
Focus on supplier selection (1-5)	5	5	5	-	-	5

Table 3. Interviewees sustainable PSM priorities

4.2.1.1 Suppliers

The importance of supplier engagement and commitment to ethical suppliers appeared to be a point of agreement among researchers when discussing sustainable PSM efforts. We therefore wanted to investigate how the industry professionals perceive and select their suppliers, as well as how they collaborate to create mutually beneficial relationships. Since we are looking into companies that are already committed to sustainability, it was not surprising that the common

consensus was that they choose suppliers who shared similar beliefs; *“We expect our suppliers to follow our criteria for sustainable business practices in a thoughtful and systematic manner.”* - X3

“We only choose suppliers that have a similar set of values to ours. They don't have to practice them in the exact same way, but we find it important that the philosophy is the same and that they care about people, the craftsmanship and the society as a whole.” - X2

Interviewees revealed that they collaborate with suppliers from various countries, including Portugal, China, Turkey, Lithuania, and Hong Kong. When asked how they ensure that their suppliers are adhering to their values, one respondent mentioned yearly physical visits; *“We try to visit all suppliers at least once a year. This is necessary to check up on working conditions, employment contracts, and to make sure that those who deliver products to us are in good health. It also strengthens our bond and allows for a clear and open dialogue.”* - X1. Another respondent stated that even though they receive reports from suppliers, it is difficult to verify actual conditions; *“We can't guarantee that the reports truthfully cover all of the facts, other than those that occurred at the time the report was written.”* - X3.

According to the respondents, long-term collaboration is the key to fostering strong supplier relationships; *“We strive for long-term relationships with suppliers who show particular willingness and ability to work with positive development in the supply chain.”* - X3. Greater trust and transparency were mentioned as direct benefits of collaboration. Suppliers are clearly vital for continuity of supply, but they also play a key role to jointly facilitate sustainable practices; *“A company is only as sustainable as its suppliers. Their business is our business, and it is important that they see it likewise.”* - X2. Building on that, one of the respondents highlighted that they have a responsibility for sharing knowledge with their suppliers; *“When necessary, we will assist our suppliers with relevant skills training or resources to enable them to meet the desired standards.”* - X3.

4.2.1.2 Materials

There is a broad body of literature and research covering the negative impact of different artificial materials. Shockingly, chemicals that are commonly used in clothing production contain toxins and dangerous hormone disruptors (Green Peace, 2012). Moreover, the manufacturing process causes significant water

contamination and poses a serious environmental threat (United Nations, n.d.). The industry players seem to be aware of the negative effect materials can have on devastation of the environment and overall human health. However, the topic highlights difficulties related to, among others, availability, durability, price and technical expertise; *“Choice of materials sparks the most heated discussions at our office because there are so many factors to consider. In an ideal world, all designs would be made entirely of eco-materials. Unfortunately, that would be too costly, and we must also consider the attributes that the consumer requires, as well as the manufacturer's volume requirements. Aiming towards durability and extending the lifetime of a garment also uncovers a variety of issues.”* -X3

Both the literature and the respondents acknowledge that the level of innovation in the industry is still low, and that present technology is far from ideal; *“Currently, it is only possible to recycle 100% natural materials such as cotton and silk since we don't have technical solutions to break down combination materials. Therefore, we strive to manufacture 100% pure garments.”* -X1. For that reason, fashion brands should aim for eco-fabrics in all their designs. However, extension of material's life cycle and improvement of quality and durability, should also be taken into account (Srivastava, 2020), which interestingly raises another concern highlighted by the respondents; *“We have almost moved away completely from using polyester, but we've discovered that adding e.g., 10% polyester to a wool garment will increase the garments performance and lifespan. Consequently, the garment can withstand washing better and customers may enjoy them for longer. However, it cannot be recycled completely.”* -X1

“When it comes to material selection, there isn't always a right answer. You might believe that better solutions will develop over time, allowing you to break down materials in new ways and recycle materials of various compositions” -X3

“We design for recyclability and use long-lasting materials. Fortunately, our market position allows us to invest in fabric innovation. It's critical that we invest in these technologies because they can help us achieve circularity. On top of our priority list are alternatives to virgin leather” - X6

When discussing materials, finding an optimal balance between a garment's performance and level of sustainability is identified as a key challenge. Respondents

agree that the industry still has a long way to go in terms of sustainable materials and that the aim will be continuously shifting as new knowledge and technologies become available. However, one of the respondents pointed out that the issue is not finding the most optimal material, but rather altering one's mindset; *“We believe that it is important to focus on more than merely sustainable product fibers, as the greatest environmental benefit lies in how long the garments last and how much they are used. Ultimately, we try to think one step further and take responsibility for the entire life of the garments.”* -X2.

Animal welfare and specifically the fashion industry's use of animal fibers has sparked a debate in recent years. We therefore wanted to ask how the interviewees approach the topic. As we expected, all of the respondents expressed that animal welfare is fundamental. However, it was fascinating to learn more about how they evaluate and justify their choice of materials; *“We care deeply about animal welfare and are opposed to fur farming and other unethical actions against animals. When selecting manufacturers of animal fibers, great consideration is taken, and the suppliers are regularly monitored. Operating in our segment, we rely on materials such as wool, fur and down. Therefore, we only utilize fur from animals that have died of natural causes. Moreover, the majority of utilized waste comes from the waste originated by the food industry.”* -X3

“In terms of animal welfare, we have fully distanced ourselves from the use of leather and animal products. If we use it, that is always surplus materials from food production. That is very important. When we use lambskin, we make sure the animal is shaved rather than skinned.” -X1

An alternative to animal fibers is producing artificial materials with similar properties. Respondents argue that such materials are not necessarily more ethical; *“It is important for us to use the natural resources that are available. That way, one can create value from resources that would otherwise be wasted. Artificial materials contribute to the opposite.”* - X3. Sustainability experts highlight that this is one of many core issues in the sector; *“The best alternative for the environment would be elimination of the designs that require materials such as leather and fur. However, I believe that is not realistic in today's society. Targeting raw materials appears to be the most environmentally friendly option. However, that is if you can trace and confirm an ethical origin.”* -X5.

4.2.1.3 Other PSM Initiatives

As briefly touched upon in the above chapter, several of the industry professionals aim for a circular PSM practice to facilitate TBL production and responsible consumption. This was illustrated by the following statement: *“Our overall goal is to optimize the lifespan of each garment so that it can serve customers for a long time and, when it's time to let go, it can still be passed down to a friend or family member or sold on the secondhand market.”* - X1. Another interviewee argued that to achieve circularity, one must rethink current business models; *“Because substantial volumes of textiles wind up in landfills or are being incinerated every year, we must embrace circular business models such as resale, renting, recycling, and repair.”* - X6

To promote circularity and free up surplus stock, one of the respondents highlighted the use of secondhand platforms and sample sales; *“Despite always producing to order, it is nearly impossible to avoid leftovers. These surplus garments cannot be sold in stores, and is often a result of sample testing, returns, small production errors or damaged packaging. We seasonally host sample sales to free up the surplus stock. Additionally, we use platforms such as Tise and Fjong to give new life to such items.”* - X1

Furthermore, interviewees emphasized the necessity of the company Code of Conducts in enabling TBL in their PSM efforts; *“To consider the TBL in our PSM functions is clearly vital, and for that reason we have a Code of Conduct. (...) The document consists of guidelines and criteria that address ethical matters such as regulation of wages, safety requirements, animal welfare, among other important factors.”* - X1. Because firms set criteria for suppliers and manufacturers, compliance with a Code of Conduct potentially has a huge impact on a company's social and environmental performance, as well as positively influencing their entire supply chain. Another observation was that knowledge is always evolving; thus, transparency and collaboration are more crucial now than ever before; *“Our Code of Conduct is 2 years old, so we are trying to add extra details into it as the working environment is changing. As the sustainability department gains knowledge, we want to set the bar higher and pass it onto the rest of the team, as well as making it available for customers, suppliers, and other players in the market to learn and get inspiration from it.”* - X2

Given the changing nature of the industry, it is interesting to explore how the fashion brands should approach TBL in the future. One of the sustainability experts pointed out the importance of implementation guidelines and digitizing; *“I think, in the time to come, it's about becoming data driven but also having the tools for it. By utilizing resources that include time, money and tools, companies are able to track and measure TBL performance to map efforts and identify areas of improvement. (...) Also, implementation guidelines and methods are needed. The companies should do more lobbying to put more legislative pressure.”* -X4. This statement is supported by other empirical findings - there is a need for pressure and resources. It is vital that the existence of guidelines such as the ISO20400 standard is communicated to the sector to assist companies in the sustainable PSM transformation.

4.2.2 Drivers for Using PSM to achieve Sustainable Development Goals

The fashion sector, as emphasized in the literature, has a significant role to play in taking actions to achieve the SDGs. In recent years, Scandinavian industry players have increased the focus on ethical practices and sustainable PSM approaches by aiming to reduce the sector's negative impact. The common consensus during interviews was that transforming PSM functions can potentially contribute to the achievement of SDGs. Interviewees highlighted that the sector could reduce climate impact and endorse humanity by promoting circularity and setting higher standards with regards to production and working conditions. To comprehend the drivers for PSM as an enabler, we decided to ask interviewees what they believe are the most significant factors that direct the transition.

	X1	X2	X3	X4	X5	X6
Type	Fashion brand (women's clothing)	Fashion brand (unisex trousers and jeans)	Fashion brand (women's clothing)	Sustainability expert	Sustainability expert	Fashion brand (unisex clothing)
Size of the company	Small	Medium	Small	-	-	Large
Position	CEO	Head of Sustainability	Head of Production	Sustainability Director (procurement)	Head of Sustainability	Head of Design
Greatest driver	Environmental concerns	Ethical production philosophy and working conditions	Reshape the industry's harmful production patterns	Prepare for the future where something is required	Leading by example and competitive advantage	Minimize negative social and environmental impact

Table 4. Interviewees view on the greatest drivers for PSM as an enabler

4.2.2.1 Environmental Requirements

The necessity for the fashion sector to adjust to changing environmental requirements was, with slight variations, mentioned by all respondents as the most significant driver; *“If one is to continue living on this planet then one has no choice but to transform. You do not survive in this industry if you do not switch to sustainable production. It is something you "must have" rather than a competitive advantage.” -X1*

“Overall increased knowledge about sustainability, as well as expectations from society are important drivers for transforming PSM to reduce the sector's negative impact. We therefore consider sustainable PSM practices to be a prerequisite for further development.” - X3

Despite increased awareness of the environmental requirements, one expert pointed out the lack of drivers and pressure; *“There are not enough drivers and not too much pressure. Incorporating sustainable PSM into the fashion industry, in my opinion, ensures the fashion business’ survival. The only driver is to prepare for the future where something is required.” - X4.* The expert further argued that a sustainable transition will indeed enhance brand value and equity, but that the transition may cause negative ripple effects for the environment; *“Companies that go green and enhance sustainable practices may be recognized on a larger scale by customers, generating value in the form of improved profitability and reputation. However, this ultimately leads to more consumption.” -X4.* The expert concludes that the change is currently being driven by changing market requirements, but that there are still not enough regulations and incentives in place to extract the desired benefits.

4.2.2.2 Ethics

Interviewees furthermore highlighted the significance of delivering value for their business, workers, customers and society at large. Ethical actions by businesses will influence stakeholders and produce positive outcomes. The reason for this was explained by one of the interviewees.

“For me, it is a lot of reputation that you get out there, but also for all the staff that works with buying and design, that they actually have a strategy and a way of moving forward. This is tightly related to the perception of safety while making these choices on the behalf of the company. Incorporating sustainable PSM

practices would mean a new way of navigating and driving sustainability across the entire supply chain.” -X2

Another view was that the pursuit of competitive advantage drives companies towards sustainable PSM practices; *“Among the greatest benefits, I identify leading by example and greater competitive advantage in the eyes of consumers and competitors. Incorporating sustainable PSM would also boost workforce morale and drive innovation. Moreover, companies can count on tax incentives and attract new types of customers.” -X5.*

4.2.3 Benefits with PSM Towards Sustainable Development

4.2.3.1 Reshaping Production Patterns

When questioned about the most significant benefits of incorporating sustainable PSM in the fashion industry, interviewees stressed the functions' impact on reducing pollution in production; *“I believe that adopting green PSM practices will reshape the industry’s harmful production patterns. That means, reducing overall resource use, environmental damage, and climate emissions.” -X3.* Both interviewees and academics agree that current practices are characterized by excessive resource usage, emphasizing the significance of better utilizing the available resources.

“I believe that sustainable PSM in fashion can be a solution to increase efficiency and by that contribute to smarter resource usage and minimal waste. (...) In fashion, one would believe that utilizing resources merely entails choosing eco-materials, to produce only the “necessary” amount of each garment or to repurpose scrap materials. And don't get me wrong, those are important factors. But it is vital to see the production pattern as a whole. PSM, for example, also has the ability to minimize water use in production and encourage smarter energy use, both of which have huge contributions towards sustainable development.” -X5.

The notion of doing more with less resources continued through other interviews. Further elaborating on this, one of the industry professionals argued that PSM can contribute to less over-consumption; *“I think adopting a TBL approach can improve sustainable efforts in several ways. For us, that firstly implies extending the life of the produced garments. By choosing durable materials and encouraging reuse and repurposing, I believe we can cut back on over-consumption by doing more with less resources.” -X1.*

4.2.3.2 Influencing Collective Efforts

Another benefit mentioned by one of the interviewees included influencing the entire supply chain and the business surroundings. Although the relationship with the upstream supply network is the primary emphasis of PSM, literature and interviewees agree that the function may yield strategic contributions for internal operations, the downstream network and society as a whole.

“Shifting towards sustainable PSM does make customers and the whole supply chain more aware. By embracing sustainable practices, we send out an important signal to customers and aim to reduce their need to consume. Moreover, our environmental standards and requirements require suppliers and manufacturers that work with us to make responsible choices.” -X1.

The interviewee touched upon an important finding connected to the benefits of sustainable PSM, namely, that shared initiatives lay the foundation for successful collaboration. Although lack of collective rules and regulations was mentioned throughout interviews, interviewees agreed that shared views on sustainability and collective PSM efforts will yield benefits. As pointed out by one of the experts; *“Potential benefits also include better relations with suppliers and governments. (...) These strategic partnerships are important to make quality investments in the sector, such as technological investments. I think that especially smaller companies are dependent on collaboration with big industry players to extract the benefits PSM can yield.” - X5.*

In addition to incentivizing customers, the government, and competitors, one interviewee pointed out another aspect that had not been reflected on as a benefit by the other objects; *“Adopting a TBL approach is moreover advantageous for working actively with due diligence assessments. This will respect and take care of people, society, and the environment in our own business and in the entire supply chain.” - X3.* This statement is important as it highlights the importance of also acknowledging the working conditions and well-being of those employed in the industry. Due diligence assessments and reporting will help uncover human exploitation and ensure the safety of the people in the industry.

4.2.4 Conditions for PSM as an Enabler for Sustainability

To identify prerequisites for PSM as an enabler for sustainability, we asked the sample what they believe are essential conditions for transforming PSM, as well as what other changes across fashion supply chains that must be implemented to achieve the benefits PSM can extract. The empirical findings were split in terms of external conditions and industry-specific conditions. Both literature and interviewees recognize the need for governmental involvement and collaboration. Moreover, the need for shorter lead-times, and investments in knowledge and innovative technologies was highlighted.

	X1	X2	X3	X4	X5	X6
Type	Fashion brand (women's clothing)	Fashion brand (unisex trousers and jeans)	Fashion brand (women's clothing)	Sustainability expert	Sustainability expert	Fashion brand (unisex clothing)
Size of the company	Small	Medium	Small	-	-	Large
Position	CEO	Head of Sustainability	Head of Production	Sustainability Director (procurement)	Head of Sustainability	Head of Design
Greatest conditions	Innovative technology	Legislation and collaborative initiatives	More sustainable production strategies	Legislation and incentive structures	Governmental involvement and collective initiatives	Technological innovation and responsible strategies

Table 5. Interviewees view on the greatest conditions for PSM as an enabler

4.2.4.1 External Conditions

During our interview with sustainability experts, it became evident that the sector requires incentives for transforming current practices; *“The first and foremost condition is the involvement of governments. Without the legislative initiatives, it will be difficult to make the change tangible. There must exist incentive structures for responsibility and accountability.”* - X5

“Legislation and incentive structures are essential conditions for the sector to make sure that there is something that needs to be fulfilled by the companies.” - X4. The expert further argued that in addition to legislation, governments must facilitate better access to help in terms of sustainable transformation, such as implementation of recycling practices or specialized certifications that promote sustainable practices.

Industry professionals commonly held the view that laws and legislation are crucial. One of the most honest notions was stated as such; *“If there is no legislation, nor “mental push” in place, it will take 100 years to make a real change because there*

will always be players in the industry who don't want to change ways of working." - X2. This was further elaborated on as interviewees argued that in order for PSM to be an enabler for achieving sustainability goals, a collaborative mindset and cross-sectoral collaboration need to be in place; *"Only collective initiatives can drive change on a broader scale."* - X5. Literature supports this view, and highlights bringing together companies, social organizations and trade unions that adhere to common criteria to relieve the environmental impact (Bauck, 2021; Colville, 2022). Expected outcomes of collaboration and cross sectoral collaboration was further elaborated on by one of the industry professionals;

"The industry needs to come together and have a solid starting point. Driving collaborative initiatives, educating the society and striving for the achievement of SDGs is essential to extract the benefits of green PSM. Having e.g. scientists and researchers looking from the outside at industry practices and comparing current status within organizations will boost learning and offer significant value. Moreover, collaboration will enable testing of different practices in daily work, as it can be difficult to change patterns of working overnight or reflect on whether things could be done in a different, improved way." -X2.

Further elaborating on educating society, one of the experts argued that changes in consumer behavior needs to be considered as a condition; *"Changes in consumer behavior is naturally going to drive a company towards sustainability."* - X5.

4.2.4.2 Industry-specific Conditions

When asked what industry professionals believe are essential conditions for transforming PSM to enable the green shift in the fashion sector, a new topic derived from the interview. Decisions regarding PSM and especially production are actually decided at least 6 months ahead of time. This implies that the stores place their orders, and the manufacturers begin the production several months before the garments are available in stores, which, as one respondent pointed out, poses a critical concern; *"PSM cannot be an enabler for sustainability with the current norms and long lead-times in the industry because no one can predict the future. Trends come and go and therefore we need to rethink the way we operate."* -X6. The respondent further argued that existing approaches either lead to customer overconsumption or that brands overproduce and bind up capital in unsold inventory. Indeed, this was reflected by another respondent.

“Seasonal buying and being prepared well in advance of each season have become such a natural part of how we work as fashion actors that I find it difficult to envision a new way of working. However, we acknowledge that the industry lacks sustainable prerequisites for combating overproduction and overconsumption. (...) I think the industry could cut down on lead times and waste by producing product designs that are more universal and adaptable, as well as moving the production closer to the country of origin.” -X3.

Even though interviewees argued that improving product designs and cutting back on lead times are important enablers, driving technological innovation in the sector was argued to be an essential condition. As touched upon when discussing fashion actors' views on TBL and sustainable PSM, the present technology in the industry is not promoting sustainability. This is illustrated by the following statement: *“It's frustrating to watch how far other industries' technologies have progressed while feeling like the fashion industry is lagging behind the rest of the digital world. We desperately need technology that can enable the recycling of combination materials, create innovative and sustainable materials, or contribute to a more efficient production process that reduces waste.” -X1.*

Findings in the literature supports the claim that technological innovation has the potential to solve some of the industry's major difficulties and enable sustainability in terms of material innovation, garment repair, and recycling, among other factors. Another condition that emerged from empirical findings was the significance of recognizing sustainable strategies; *“Investing in knowledge is a necessity. Without proper knowledge among the industry actors, there is no chance of embracing PSM's full potential in terms of sustainability goal achievement.” - X5*

“Knowledge of green PSM and adoption of sustainable strategies and standards would mean a unified way of working. Also, the involvement of all our workers in sustainability discussions is essential for facilitating the green shift in our organization.” - X2

4.2.5 Barriers and Reflections on PSM as an Enabler for Sustainability

The final topic of our interviews regarded potential barriers for implementation of sustainable PSM to enable the achievement of SDGs in the fashion sector. We decided to explore interviewees' perspectives on the most eminent barriers and their views on struggles with the achievement of sustainability goals. The majority of

answers touched upon the economic factors, unparalleled access to innovation, legislation, and lack of appropriate initiatives from big players. Furthermore, interviewees elaborated on challenges and trade-offs related to making sustainability concepts operational, as well as generating profit without promoting consumerism. Nevertheless, according to experts, drivers and benefits outweigh barriers, and with the right mindset, guidelines and overall external support – PSM transformation can truly enable the achievement of SDGs.

	X1	X2	X3	X4	X5	X6
Type	Fashion brand (women's clothing)	Fashion brand (unisex trousers and jeans)	Fashion brand (women's clothing)	Sustainability expert	Sustainability expert	Fashion brand (unisex clothing)
Size of the company	Small	Medium	Small	-	-	Large
Position	CEO	Head of Sustainability	Head of Production	Sustainability Director (procurement)	Head of Sustainability	Head of Design
Greatest barrier	Lack of external support	Lack of knowledge	Lack of resources	Lack of regulations and governmental subsidies	Lack of support and commitment from top management	Lack of strategic partnerships

Table 6. Interviewees view on the greatest barriers for PSM as an enabler

4.2.5.1 Greatest Barriers

One of the most common barriers that was mentioned by several interviewees was regarding resources. The fashion industry is a sector with a wide range of differently sized companies, characterized by individual business models that undertake different financial and environmental requirements. The majority of industry players that want to pave the road towards the green shift often lack resources to do so. On the other hand, companies with very complex supply chains also struggle with transforming their structures in order to lead by example. Moreover, the top management often prioritizes the economic results, rather than environmental ones; *“For us as a small brand, and most likely to the majority of smaller sustainable brands, the resources serve as the biggest barrier. Financial goals and environmental requirements cannot always be achieved simultaneously – you have to transform the entire structure of the company in order to be realistic about your sustainability goals. Bigger brands on the other hand - I think they are not willing to sacrifice the economic part. They are usually fast fashion and neither them nor their customers are willing to pay more for better quality either.” – X1*

“Costs and prices are the biggest barriers. It costs extra to produce with the “right” materials. As a company, we operate with a limited volume, which means that at some factories we do not achieve the minimum volume for what can be produced. This means that we may not get the materials we want but have to compromise in order to get produced at all. If we produce low volume, this costs us significantly more. So, this is definitely a huge barrier that prevents the majority of players from acting responsibly and reaching their sustainability goals.” – X3

Another barrier mentioned by one of our interviewees included traceability. Transparency of supply chain processes determines the profitability of a company, especially in time-critical manufacturing supply and distribution, in a global environment with multiple partners and in intermodal transport. Process transparency is the basis for effective logistics control, and in terms of sustainable PSM – evaluation of sustainability efforts. For fashion companies, the ability to identify and trace the history, distribution and application of products and material in order to verify the credibility in terms of human rights, labor, anti-corruption, and environment is crucial; *“Traceability is a big issue. When you for example buy cotton, jute, or silk – you want to know where those materials actually come from. You can have guidelines regarding production and choice of sustainable suppliers, but to constantly trace the results across the chain and not miss any undesired processes – that’s a real challenge.” – X2*

Interestingly, one of interviewees touched upon the issue that was widely discussed by the majority of objects in other parts of the interview – generalization and misuse of the word “sustainable”; *“I think that the biggest barriers for unlocking the full potential of sustainable PSM are the negative habits of organizations and misuse of the word “sustainability” that is not commonly understood. This word is often adjusted to the company’s agenda of generating profits and creating the illusion of caring about the environment.” – X4*

This statement was especially important to us, as it potentially indicated why the fashion industry struggles to this extent with a green transformation. In addition, we managed to gather insights on the topic from an object that is currently one of the leading fashion brands on the Scandinavian market and also takes a wide range of environmental efforts. Despite comprehensive actions towards the achievement of UNs agenda, the brand doesn’t consider itself sustainable because it

acknowledges the inherent conflict between the contemporary fashion business, which survives on novelty and consumerism, and the concept of sustainability; *“We are not sustainable because we don’t know if achieving this full state is even possible while being a fashion brand. Therefore, we choose to focus on becoming the most responsible version of ourselves and leave the industry better than we found it.”* – X6.

Intrigued by this statement, we decided to further identify the biggest barriers on the path to achieving these goals. It turns out that without strong, strategic collaborations it is not possible to pursue full benefits of PSM. This does not only include suppliers, but all stakeholders; *“Realizing and pursuing the full benefits of sustainable PSM towards the achievement of SDGs is a collective effort – meaning dependent on all the parties in the supply chain. A brand cannot do it alone, so if garment suppliers or innovation suppliers aren’t working towards the same goals – it is a huge barrier. Strategic partnerships help to reach SDGs, but they have to be well established, coordinated and continuously examined.”* – X6.

“A big problem in my eyes is also that fashion brands cannot know if they are overproducing when basing the production on what the stores want and not what the customer wants. Even if the clothing brand is not left with much in its stock, the stores are often left with overstock which leads to the stores selling items on sale or items ending up on garment dumps. So, we have to collaborate with stores and customers in order to forecast this demand.” - X6.

Finally, while discussing the topic with our sustainability experts that are not tightly related to any of the interviewed businesses but the overall industry, we could take a more holistic approach on barriers. It turns out that the existing business models are a significant barrier to implementing sustainable PSM. As companies driven by customer demand aim to grow and consequently increase their revenue, they will struggle with the achievement of sustainability goals; *“If constant growth is an incentive, it’s not in sync with sustainable values.”* – X5

“Fashion brands have this external pressure of participating in every season. This means producing new collections every single season and creating unnecessary pressure that results in overproduction.” - X6

“In general, it’s so difficult to change the system because the only way to change the system is to play by the rules of the system - especially in fashion because it’s so demand driven. To survive and compete against others - you have to grow, but then you’re just like everybody else. Therefore, it’s hard to find a fair business model based on demand.”- X4

Last but not least, in accordance with the previously conducted literature review, the lack of knowledge, education, legislation and external support were mentioned several times in barriers evaluation. It is important to be aware of the existence and influence of external barriers and implement conscious efforts to reduce them. Only this path will create a unified way of acting in the industry and generate a true sustainable value; *“We have to differentiate between the internal and external barriers. But overall, there are not enough guidelines in place, hence there is a lack of transparency among the sector players. There is also lack of commitment from top management, lack of knowledge and training and resistance to adoption of advanced technology.” – X5*

“Knowledge and education. And of course, the lack of legislation - if there’s no unified way of working, the companies will never realize the value of implementing a sustainable PSM.” – X3.

4.2.5.2 Trade-offs

While discussing the barriers of PSM as an enabler to achieve sustainability goals, the majority of objects pointed out several challenges and trade-offs related to the sustainable efforts. If the whole sector will commit to making green PSM concepts operational, the companies will have to carry an enormous economic trade-off. However, although it is a huge organizational change, it will be beneficial in the long run; *“We need to sacrifice some of our choices - but I don’t think it’s a real sacrifice, it’s more of a learning process on what choices to make, what alternatives to look for. To lose some and to win some – for the planet.” – X2*

“Sometimes we have to sacrifice a certain percentage of the profit in order to enhance social and environmental conditions.” - X1

As the fashion sector struggles with generating honest profit without promoting consumerism, one of the objects stated a significant trade-off related to the nature of the industry. As the thrill of new designs and new collections every season

reaches modern consumers, it results in overproduction and not sustainable, low-cost practices. A lot of brands need therefore to take this difficult decision on the mission they want to commit to; *“You can’t have cake and eat it – you either sacrifice your revenue to a certain degree or you can forget about being sustainable.” – X4*

“If we want to be relevant – we should follow the trends. If we want to be sustainable – we should focus on timelessness and ignore trends. We know that this has a huge influence on financial constraints and is often a reason why brands act the way they act.” – X2

In addition, the case of used materials has been widely discussed as a major trade-off in the industry. Sustainable materials are expensive and often result in a lower revenue. Moreover, an ongoing ethical discussion regarding the origin of used materials makes it challenging for brands to move towards more sustainable PSM; *“People don’t want us to use animal fur, but at least it’s a natural, renewable resource. Faux fur is synthetic and non-recyclable but does not require any involvement of animals. So, making decisions about which materials to use in order to satisfy two opposite groups of customers is a huge trade-off.” – X3*

“Using natural leather seems wrong and although a lot of brands use surplus materials from food production, this is not a universal case. Consumers relate natural leather to something that is durable and of high quality, but unethical. On the other hand, creating vegan leather is just like creating plastic, it is a synthetic material that will never decompose.” - X1

One of the interviewees also highlighted the challenges related to transportation of sustainable materials from the origin countries. As these processes should also consider the environment in order to ensure the continuity of TBL efforts, they sometimes require certain sacrifices; *“We use ships as much as possible to transport our goods to Norway. However, due to the shipping situation in the world, we sometimes have to compromise with other transportation methods. The current shipping situation is characterized by a lot of uncertainty, and we risk getting the goods too late. This will negatively affect revenue and the reputation we have among our B2B customers.” – X3*

As all discussed challenges and trade-offs illustrate why the fashion industry struggles so much with the achievement of SDGs, it is important to look for and emphasize the ways to overcome these barriers. PSM can truly enable the achievement of SDGs, but the sector needs to carefully analyze all the dimensions of change, be motivated, and have external support; *“The opportunity cost of incorporating many environmental practices may seem too great and the reality is that survival takes priority in some cases. But we emphasize that sustainability is not “all or nothing” and if we will get external support, guidelines, and regulations, we will do everything to embrace the benefits of PSM.”* - X2.

5. DISCUSSION

The following section provides an analysis of collected empirical material in relation to the presented literature and conceptual framework. Combining the findings and results from both chapters, we aim to review similarities and disparities between theory and empiricism. This will enable us to answer the research question “How can purchasing and supply chain management practices enable the achievement of sustainability goals in the fashion industry?”. Firstly, we will evaluate the role of TBL approaches and standards such as ISO in enabling sustainable PSM in the sector. Secondly, we will present and discuss in-depth a model based on the conceptual framework that covers drivers, conditions, barriers, and trade-offs of PSM as an enabler to achieve sustainability goals. While empirical findings add an interesting perspective to the analyzed literature, we will formulate recommendations for a PSM transformation in the sector. As described earlier, we aim to increase the understanding of the research topic for the industry. Based on this discussion, we believe that it is possible to answer how PSM can enable the achievement of sustainability goals in the industry.

5.1 The Role of Triple Bottom Line and ISO in Enabling Sustainable PSM

This section discusses the role of TBL and ISO standards in enabling sustainable PSM and goal achievement in fashion. Following this discussion, we will elaborate on how important it is to establish clear sustainability goals and internal standards, as well as why external help and measurements are crucial for succeeding. Furthermore, we will evaluate the importance of transformation of PSM processes in the sector and the influence of trends, standards, and regulations on this topic.

5.1.1 The Importance of Clear Sustainability Goals and Standards

Empirical findings confirm theoretical implications of sustainability being a central issue in the fashion sector (Ellen MacArthur Foundation, 2017; Cherele-Bonnemaison et al., 2021; Legrand, 2019) and show that actors from the industry strive for increased PSM efforts in that area. Moreover, a lot of aspects point out that establishing clear, internal goals and operational standards that align with UNs agenda should be a part of industry’s DNA. Fashion sector needs to support the introduction of effective design and comply with applicable environmental, social, and economic norms. Moreover, from both our findings and previous literature it

was discovered that the sector needs to put a bigger emphasis on managing human rights across the supply chains, as well as promote and enhance diversity.

	Theoretical Findings	Empirical finding
Sustainability as a central issue in the fashion sector	✓	✓
Clearly defined sustainability	✓	—
Triple Bottom Line	✓	✓
All SDGs are equally important	✓	—
Measuring the degree of goal achievement	—	✓
Environmental sustainability as a priority	✓	—
Economic incentives	—	✓
Need for legislation	✓	✓
PSM as an enabler	✓	✓
Difficult to implement PSM trends	—	✓
ISO 20400 as a main indicator	✓	—

Table 7. Sustainability in the sector - Differences between theoretical and empirical findings.

The review of literature regarding sustainability in fashion states that all 17 SDGs should be met by the sector in order to improve innovation and enhance environmental development (Global Fashion Agenda, 2021). However, our empirical findings highlighted a gap in this area, in which different actors and experts expressed their various priorities in terms of SDGs. Although all the goals are described to be of great importance, the one about responsible consumption and production (SDG 12) is what fashion brands primarily focus on. This reveals that in reality, every fashion business is unique, basing its operations on different values and business models. Therefore, it is difficult to generalize the importance of goals for the industry. Nevertheless, we as authors take a holistic approach, emphasizing that all sustainability goals are equally important while trying to comply with TBL in fashion.

Another interesting discovery revolves around measuring the degree of goal achievement in the sector. Even though literature does not widely address this issue, the industry actors and experts commonly expressed their concerns regarding this topic. They imply that it is very important to measure these levels, both to motivate and remind each other to continuously work towards the goals, but also to enable comparison in the sector. Nevertheless, despite the clear importance and willingness in the industry, there are no universal rules or requirements for that, meaning that the majority of players do not prioritize this process. In effect, SDGs are often being relegated to the side. A similar issue was highlighted in regard to applying the TBL

approach into PSM efforts. According to both literature and empirical findings, TBL is present in the strategies of a wide range of businesses, and it becomes increasingly important in fashion. However, experts highlight that among many brands, economic incentives weigh out environmental and societal ones - mostly due to the lack of resources and alignment of economic and environmental goals. This is contrary to a previously discussed concept of TBL that argues that in companies who apply this notion, all dimensions are equally prioritized.

With regards to the previous argument about lack of universal rules and requirements for goal achievement, the research findings and previous literature comply with the fact that establishing common standards and laws is very important. Fashion actors know that it is crucial to establish and invest in clear goals, but they have an issue with prioritizing them on their business agenda. Moreover, our literature review provided us with specific definitions of the words “sustainability” and “sustainable PSM”, while the fashion actors turned out to define those terms very differently. This is another crucial claim for stimulating the sector with more enablers and external involvement, in order to fast-track the green transition. The industry needs to be aligned and willing to change, but the empirical findings underline something that the literature did not highlight. Namely that without shared initiatives, the small, singular efforts across the sector will not pave the road and generate great results on a big scale. Therefore, there is a need for strong, strategic partnerships for change, technology innovation, easier obtainable certifications and commitment from the top management and governments towards the industry. This all can be contained in a strong PSM strategy that will enable a long-term achievement of sustainability goals.

5.1.2 The Importance of Transformation of PSM

Looking at the current practices as well as the scale of environmental impact of the fashion sector, it is possible to argue that transformation of PSM processes is of great importance. Previous research on PSM highlights how important it is to lever towards more sustainable and transparent operations in order to enhance end-to-end process efficiency. Our empirical findings confirm that, emphasizing several ways of PSM’s contribution to the achievement of sustainability goals. These include, among others, more efficient and flexible sourcing processes, use of ecological materials, choice of suppliers and a proper CSR management; all aligning with UNs sustainable agenda. As both the analyzed literature and data indicate that it is

important to address and transform PSM processes across the sector to not only lessen the negative impact but also positively influence CSR, this change needs to be immediate. The lack of universal rules for PSM transformation is still an issue, and therefore it is crucial to strengthen fashion's efforts for creating a shared sectoral agenda.

Literature widely addresses the current PSM trends in the sector but does not consider the difficulty of their implementation. Interviewees agree that trends such as emerging technologies and circularity are boosting the competitiveness across the businesses in the sector. However, they also emphasize how difficult it is to actually adapt to these trends without access to appropriate resources and external support. In addition, the current lack of transparency and knowledge can slow down the scale of progress. These aspects were addressed in the literature as main challenges with implementing sustainability. This again highlights how important it is to address the current liabilities and acknowledge the existence of internal and external barriers in order to introduce PSM trends in the sector. Moreover, this also shows that strong, strategic partnerships and innovation will enable the improvement of sustainability efforts. Without the right knowledge, motivation and guidance, extracting all benefits that PSM can bring could be very challenging.

Furthermore, the review of literature regarding PSM practices revealed the existence and importance of ISO 20400 - a standard for sustainable procurement that provides guidance to organizations on how to integrate TBL within procurement. As this standard seemed very appealing in terms of a PSM transformation in the sector, it was surprising to discover that none of the interviewees knew about its existence. This once again shows the disparities between theory and practice and proves that something that is just a voluntary standard in terms of sustainability has no or little power. Empirical findings also emphasized that only stricter regulations can force brands and their suppliers to comply with the TBL concept. Based on this, we argue that these standards are important, but if they are not regulated by law, there are not enough incentives to actually drive fully sustainable initiatives across the supply chain.

Summarily, it is crucial that the industry emphasizes the importance of good design, strategic partnerships, and codes of conduct, and establishes strong KPIs towards tracking and measuring the environmental performance of the PSM practices.

However, both previous research and our findings state that this could be challenging mostly due to the limited external support and lack of initiatives. In addition, the knowledge levels on concepts like TBL, SDGs and standards for fashion are still relatively low. On the other hand, a lot of companies already realize the potential the sector has in terms of reducing its impact, trying to navigate initiatives towards the green shift. Hence, there are multiple reasons why PSM could enable the achievement of sustainability goals, but there are also conditions and barriers that are crucial to overcome in this transformation. These drivers, conditions and barriers will be further evaluated.

5.2 PSM to Enable the Achievement of Sustainability Goals

Based on insights from theory and empiricism, this section will address the most significant drivers, conditions, and barriers for PSM as an enabler. Ethics and environmental requirements stand out as the most important drivers for transforming PSM functions to achieve the SDGs. However, legislation and incentive structures, as well as collaboration serve as important conditions to materialize the benefits of sustainable PSM. The most difficult barriers to overcome include lack of resources and support from top management.

5.2.1 Drivers for PSM as an Enabler

This subsection will present the identified drivers for transforming PSM functions to enable the achievement of sustainability goals. The literature revealed that the fashion industry is the second largest polluter in the world (United Nations, n.d.). Moreover, there exists a broad body of research emphasizing the need to mitigate the negative environmental impacts associated with the sector (United Nations, n.d.; Hoekstra, 2013; UNEP, 2019; CNTAC; 2021). Empirical findings confirm that environmental requirements are the most important driver for transitioning towards a focus on sustainable PSM practices. Industry professionals are aware of the negative impacts of the sector and express the need for a transformation of PSM functions in order to ensure sustainable development.

Overproduction, excessive water usage, and artificial material production are cited as significant harmful factors related to the production process. Our empirical findings portray that adopting a TBL approach through PSM functions can be beneficial in combating these issues. In previous literature, it was stated that less than 1% of used clothing becomes recycled and that the discarded garments can

decompose for up to 200 years (Beall, 2020). Both researchers and interviewees described that producing only with eco-materials is desired to mitigate environmental damage and promote circularity. However, interviewees pointed out a concern that was not widely addressed in literature. Industry professionals explained that choosing to produce with artificial materials or a combination of natural and artificial materials is not first and foremost a matter of cost savings. They argue that the artificial materials can increase durability or add other significant attributes to a garment and thereby extend its lifetime. Currently, the industry lacks technologies that enable recycling of combination materials and several of the industry professionals stress the importance of investing in fabric innovation. Nevertheless, literature points out that production of the artificial fabrics requires excessive amounts of water and is directly related to the release of harmful microplastics (UNEP, 2019, Ellen MacArthur Foundation, 2017). It can thus be argued that shifting production to natural materials will resolve some of the industry's biggest bottlenecks while also facilitating recycling of materials. Based on findings, we can argue that it is possible through PSM to lessen the negative impact of production. However, adopting more responsible production practices will not completely eliminate the negative repercussions related to the functions.

Together with more sustainable production, literature also highlights that better utilization of resources and minimizing waste are important drivers for the PSM function to enable achievement of sustainability goals. Transforming the function will generate greater initiatives towards reduction of raw material consumption, development of new product technologies and working on closed product cycles (Barret, 2020). To enable the shift, interviewees highlighted the importance of better utilizing resources to enhance smarter designs. One of the interviewees argued that adopting a TBL approach first and foremost will extend product lifetime. Firstly, this implies that the industry needs to produce garments with functional and desirable designs so that the customers want to wear them over and over again. Secondly, the garments need to be durable so that they can withstand washing and a lot of use. Ultimately, our findings emphasize the need to rethink current business models in order to embrace resale, renting, recycling and repair. To ensure circularity, researchers argue that both governments and the fashion brands need to take the responsibility of encouraging and facilitating such systems.

Literature and empirical research also identified the significance of solving social and ethical matters as an important driver. As a result of outsourcing production to less developed countries, exploitation of workers is a well-known problem in the industry (Bick et al., 2018). Literature highlight child labor, disproportionate wages and unsafe working environments as critical factors that require immediate change (Hobson 2013, Bick et al., 2018). Interviewees argue that this is however rapidly evolving due to increased awareness as well as the introduction of company code of conducts and ethical standards, signaling the positive benefits of implementing social internal PSM programs. Interviewees pointed out that in order to ensure compliance with code of conducts and other company standards, they aim to visit suppliers and manufacturers to verify the actual conditions. It is thus reasonable to assume that the level of social performance and control is tightly related to the business' available resources.

Another advantage of adopting sustainable PSM that evolved from empirical findings was the ability to influence collective efforts. Henninger et al. (2016) argue that in order for the fashion industry to balance the three components of TBL, a truly sustainable PSM needs to start with a set of guidelines for the responsible use of natural resources and commitment to ethical suppliers. Aligning with literature, the importance of code of conduct was again mentioned as respondents argued that shared initiatives lay the foundation for valuable collaboration with suppliers. Furthermore, industry professionals argued that long-term collaboration is the key to fostering strong relationships. Findings suggest that greater transparency and trust serve as direct benefits of collaboration. Therefore, sustainable PSM together with close collaboration will incentivize suppliers to align with sustainable values and thus have a significant impact on the final product as described by Weele & Raaij (2013). We further claim, based on empirical results, that adopting sustainable practices will raise awareness among customers, governments, and the entire SC, impacting collective actions.

5.2.2 Conditions for PSM as an Enabler

Because this thesis aims to address how PSM practices can enable the achievement of sustainability in the fashion sector, we found it crucial to outline essential prerequisites to achieve the benefits PSM may extract. In line with the literature, empirical findings point to the existence of external conditions that are factors

beyond the direct control of businesses, as well as internal, industry specific, conditions that can be implemented within the fashion sector.

	Theoretical Findings	Empirical finding
Governmental involvement: laws and incentive structures	✓	✓
Collaborative mindset	✓	✓
Changes in consumer behavior	✓	✓
Move away from seasonal buyings	—	✓
Demand-driven PSM strategy	✓	✓
Facilitation of sustainable sourcing at scale	✓	✓
Technological innovation	✓	✓

Table 8. Conditions for PSM as an enabler. Differences between theoretical and empirical findings.

Literature establishes that legislation and incentive structures are essential for enabling sustainability (Soni et al., 2020). Despite the existence of general, universal guidelines for sustainable purchasing, there are no binding rules, directions, or national laws that encourage an environmental-friendly SC and PSM transformation in the sector. The authors and interviewees believe that governmental engagement is required in order to establish laws and sustainable guidelines for the industry. The findings furthermore indicate that without incentive mechanisms and legislation, the sustainable transformation of PSM is not tangible for most fashion businesses due to lack of knowledge and resources, among other factors. Consequently, we argue that the government needs to take responsibility to help companies in the transition by setting limits to constrain the negative impact of certain PSM functions and embrace application of sustainability measures.

Legislations will naturally contribute to the achievement of sustainability goals in the sector, as it forces all industry players to adhere to certain criteria. This is consistent with the current research on the subject, which states that bringing together companies that adopt common standards will reduce environmental impact (Colville, 2022; Bauck, 2021). Interviewees argue that adopting a collaborative mindset and facilitating cross-sectoral collaboration will boost knowledge of undertaken actions and ultimately provide a solid starting point for future sustainable development. According to Brun et al. (2020), collaboration serves as a crucial facilitator to achieve sustainability goals in the sector. Furthermore, because consumers' purchasing patterns and demands heavily influence a company's strategy, the findings highlight the necessity of educating and including customers

in the sustainable mentality. Hence, it is reasonable to consider changes in consumer behavior as an external condition.

As discussed in the above sub-sectors, researchers have recognized outdated practices and norms in the sector, emphasizing a need for new, sustainable PSM strategies. The empirical findings revealed a feature that has been overlooked in the literature - fashion firms decide on order quantities and design at least 6 months before a garment is distributed in stores. Because no one can anticipate the future, this practice is arguably contributing to overconsumption and waste. This is supported by literature, stating that the sector generates enormous volume without environmental considerations (Brewer, 2019). Furthermore, we can argue that present practices are costly for businesses because they either overproduce and bind up capital in unsold inventory, or produce too little, putting revenue at risk. Consequently, findings highlight a need to shift from existing norms and strategies by producing smarter designs that are adaptable to sudden changes in demands or that can be repurposed. Moreover, the interviewees expressed a need for shorter lead times in order to make key decisions closer to the point of sale. McKinsey (2019) supports this view and argues that sustainable sourcing at scale is a prerequisite in order to keep pace with a volatile, fast-changing environment. We therefore argue that demand driven PSM strategies need to be implemented in order to combat overproduction and overconsumption. These initiatives will increase efficiency and flexibility, allowing companies to enforce more environmentally friendly decisions through the entire SC.

Even though sustainable tendencies are increasingly visible in the Scandinavian fashion industry (Nordic Fashion Association, 2021; Freeman, 2019; Barret, 2020), empirical findings point out that present technologies in the industry are insufficient to promote sustainability. Interviewees argue that technological innovation is an essential condition for PSM to enable sustainability goals. This is also confirmed by McKinsey's Apparel CPO Survey (2019) that highlights the need to introduce technologies that will contribute to the green shift. Both theoretical background and research findings reckon that technological innovation has the potential to solve some of the industry's fundamental challenges by for example enabling recycling of combination materials, making garment repair easier, and boosting fabric innovation. We therefore argue that technological investments in the sector is a prerequisite for PSM as an enabler.

5.2.3 Barriers for PSM as an Enabler

This subsection delves deeper into intrinsic challenges that PSM faces in being an enabler for achieving sustainability goals. As both literature and empirical findings align on this subject, barriers and challenges were clear to identify. PSM’s main difficulty in the fashion industry today stems from the lack of appropriate resources (Stewart et al., 2016). Aligning with the previous research, interviewees underlined that applying a full TBL approach in PSM practices that considers environmental, social, and economic dimensions equally is extremely challenging. This is mostly due to material prices, manufacturing costs and staff shortages. A major component of UNs agenda includes means of implementation, and mobilizing the financial resources needed to achieve sustainable development in fashion is not easy, especially for smaller businesses. Moreover, lack of external support and governmental subsidies towards the industry is perceptible and contributes to lower efforts in this area. This absence of support could reduce overall chances of applicability of sustainable PSM in the sector and, respectively, lower the achievement of sustainability goals.

	Theoretical Findings	Empirical finding
Applying a full TBL approach in PSM is difficult	✓	✓
Lack of external support	✓	✓
Lack of legislation	✓	✓
Low level of support from the top management	✓	✓
Lack of external costs metrics	✓	✓
Lack of knowledge	✓	✓
Size of the business	—	✓
Transparency	✓	✓
Overproduction caused by unknown demand	—	✓
Lack of collaboration between brands, stores, and customers	—	✓
Factories and shipping storages abroad	—	✓

Table 9. Barriers for PSM as an enabler. Differences between theoretical and empirical findings.

Another aspect which is considered a difficult barrier to overcome includes a low level of support from the top management. Literature argues that this contributes to the wrongful allocation of sustainability efforts in capital decisions, lower motivation, and lower expertise across the businesses (Gupta et al., 2020). Furthermore, it often leads to unethical actions and lack of responsibility in both social and environmental areas, which cause a decrease in credibility (Connel, 2010). The interviewees shared that view, underlining that this also challenges

creation of new positions within the businesses that could lead the sustainable initiatives. Moreover, both research and empirical findings underline that when the overall revenue is prioritized more than the achievement of SDGs, it results in the lack of external costs metrics. This, in terms of fashion, creates wrongful business models driven purely by the customer demand. As those statements added an interesting point of view to the findings, we can argue that business models and overall long-term business strategies can also become a barrier for PSM as an enabler.

Basing on the discussion about the lack of management's involvement, research and interviews brought up attention to other barriers, namely lack of knowledge and misuse of the word "sustainable". These barriers are often related to the greatest challenge of implementing a sustainable PSM and enabling the achievement of sustainability goals – the lack of government's involvement. Without laws or reinforcement of current laws towards sustainability, it will be very difficult for the fashion industry to prioritize ecological efforts on an equal scale. Moreover, absence of legislative pressures contributes to the low levels of knowledge and motivation. These on the other hand, lower the efforts related to the implementation of technical innovation and strategic partnerships that could increase overall efficiency and reduce environmental impact. Interestingly, as interviewed companies were of different sizes, they highlighted an aspect that was not deeply discussed in the literature, namely, how the size of the business influences the barriers it's facing. Smaller businesses struggle the most with allocation of resources - both human and financial ones. The bigger businesses on the other hand, are usually too tangled into fast fashion practices, and their customers are not ready to pay a higher price for a more sustainably produced garment. Although the barriers are significantly different, they all boil down to the same aspect - a need for external stimulation and reinforcement of laws.

Furthermore, the interviews brought attention to a barrier that is widely discussed in the literature and tightly related to low levels of knowledge and collaboration – transparency. The issue of transparency and traceability for fashion actors is very well known and touches upon information sharing, standardization procedures, decision synchronization and incentive alignment. When a deficient level of knowledge and transparency comes into the picture, it lowers the overall collaborative performance drastically. In effect, traceability of whether actions

undertaken by a company are actually sustainable becomes a challenge. This results in a loss of efficiency, vulnerability, and higher costs, making it impossible to extract all the benefits sustainable PSM could have towards the achievement of SDGs. Moreover, interviews highlighted something that the literature does not delve deeply into - an issue of overproduction caused by the unknown demand and lack of collaboration between brands, stores, and customers. This, together with factories and shipping storages located far from the consumers, makes it difficult to produce less and more environmentally friendly garments.

In brief, there are several barriers that the industry must overcome in order to utilize PSM as an enabler for sustainability. The thoughtful literature review and findings revealed that these challenges affect the supply chains, business models and industry as a whole. They include the lack of resources, lack of support from the top management, lack of knowledge, lack of comprehension of the concept of sustainability, lack of legislation, and issues with transparency and collaboration. Even though the industry actors acknowledge these barriers, without the external stimulation of the management and government, they are not prepared for a full PSM transformation that can enable the achievement of SDGs across the sector.

5.2.4 Trade-offs

The findings implicate that there are several trade-offs related to the implementation of PSM as an enabler to achieve sustainability goals. As the fashion sector contends with generating honest profit without promoting consumerism, there is a huge economic trade-off related to the implementation of sustainable strategies across the SCs. Moreover, there is no universal approach on the direction for the PSM transformation to extract the most benefits – this is mostly due to the fact that actors in the sector are characterized by different business models. The findings also reveal a major trade-off between the cost efficiency and quality in the sector. The figure below shows the various dimensions that need to be balanced in order to navigate a successful PSM transformation that can enable the achievement of sustainability goals (Figure 7).

The fashion industry is becoming more competitive, with consumers characterized by different needs and expectations. A wide range of companies struggle with the choice of materials, wondering whether they should use the natural resources that the planet is already short on, or produce synthetic resources that never decompose.

Moreover, considering the financial performance, a vast majority of businesses have to decide on whether to produce ethically or cheaper, considering that not all modern customers are willing to pay more for the products or value sustainability to the same extent. However, the environment and UNs agenda puts pressure on the sector, demanding more incentives and regulations in the fashion industry that could balance social, environmental, and economic sustainability.

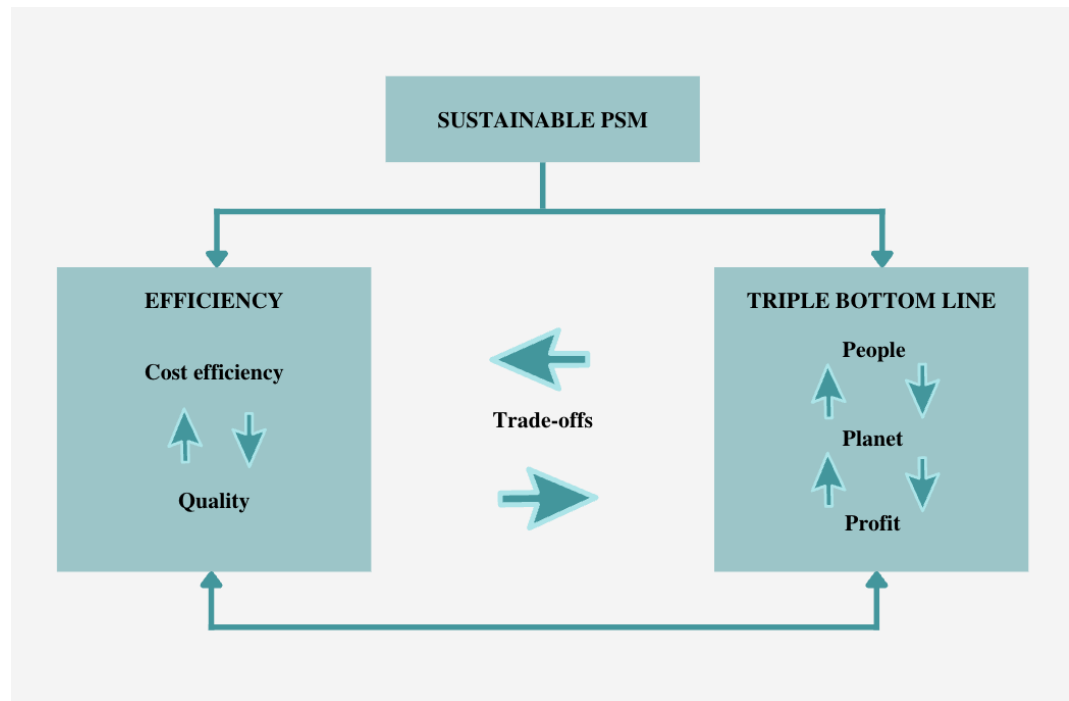


Figure 7. Illustration of trade-offs of implementing sustainable PSM to enable the achievement of sustainability goals made by authors

5.2.5 Reflections on PSM as an Enabler for the Achievement of Sustainability Goals

Emerging from the above discussion, researchers have revised the conceptual framework (Figure 4) and derived a new figure depicting the identified PSM enablers for achievement of SDGs (Figure 8). Through active consideration and management of the identified factors, companies will increase environmental, social, and economic performance, which aligns with the SDGs.

Circular production implies reshaping the negative production patterns by choosing eco-materials that are fully degradable, as well as reuse of second hand and deadstock materials. Furthermore, the designs should be timeless, smart, and durable to increase the lifespan and ensure its ability to be redesigned. Moreover, companies must produce to order, for example by initiating pre-sales to establish

that the number of produced garments reflects the actual demand. These initiatives will not only contribute to lessen the environmental impact by reducing emissions related to production, but also cut down on overproduction and communicate an important message to consumers and competitors. Network collaboration is identified as vital to generate sustainable results on a broad scale. Strategic partnerships between companies can help drive technological innovation in the industry and contribute to knowledge transfers. Moreover, an open and honest dialogue with governments will lower the barrier for implementation of certifications and increase governmental engagement within the sector. Collaboration with consumers is also important in order to anticipate demand and influence buying habits.

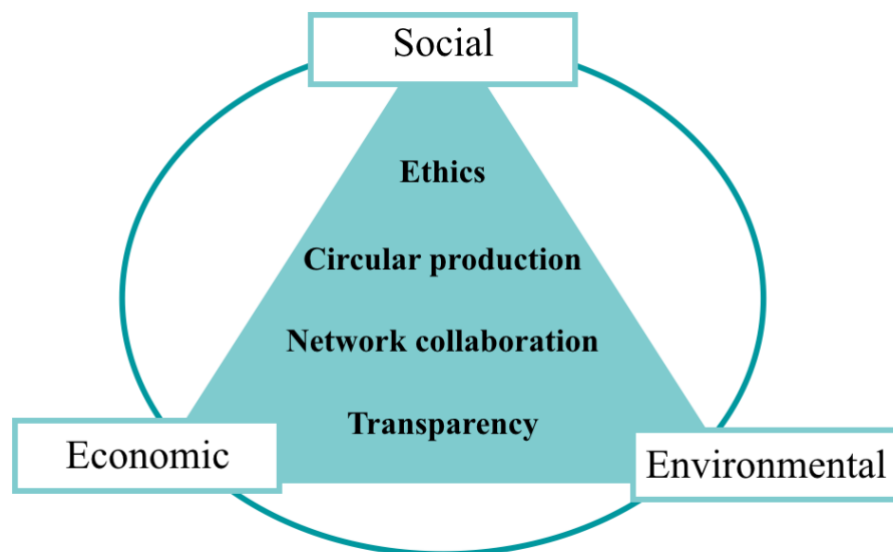


Figure 8. PSM enablers for achievement of SDGs

Ethical PSM considerations will promote human rights and combat harmful behavior. Companies have to review their internal strategies and policies often, and correct unwanted findings. The Supplier Code of Conducts, at the bare minimum, will support basic human rights. These contracts ensure fair wages, working conditions and working hours, and serve as a guarantee for workers' welfare. To ensure suppliers compliance with the ethical standards, companies need to allocate resources for monitoring and engaging in open communication with their suppliers. Transparency and traceability is crucial for assessing the true impact of a fashion business' operations. Companies need to seek information about all tier suppliers and strive for complete traceability from finished garment and all the way down to the raw materials. The companies moreover have to be transparent about the

environmental and social impact of their produced garments. This will contribute to increased awareness among customers and employees, and potentially inspire competitors or other stakeholders to consider their own impacts.

To answer the related sub questions, researchers have derived a figure depicting the identified drivers, conditions, and barriers for PSM as an enabler to achieve sustainability goals (Figure 9). The figure emerged from the above discussion on empirical findings and previous literature on the topic and serves as an extension of the conceptual framework presented in chapter 2.4. The arrows indicate that there is a direct relation between sustainable PSM and achieving sustainability objectives. However, as indicated by the stippled arrows, there are certain challenges associated with the transition. (Figure 9).

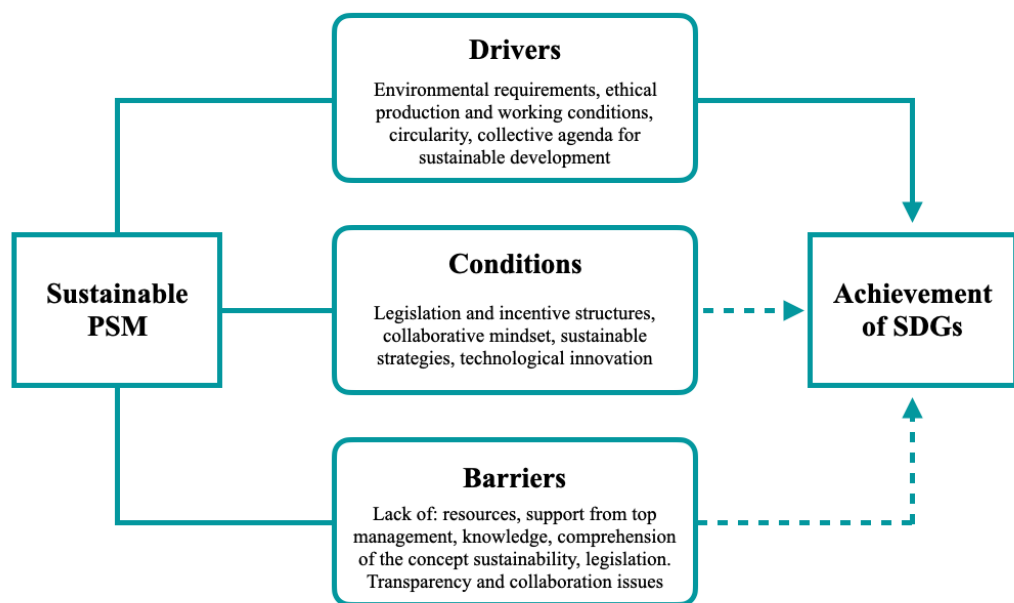


Figure 9. Depiction of drivers, conditions, and barriers for sustainable PSM to enable achievement of SDGs

Combining the findings and results from the literature review and empirical findings, we are certain that sustainable PSM practices potentially can enable the achievement of SDGs (Figure 9). The discussion of drivers revealed that environmental and social programs encourage circularity and healthy production practices in the sector, which positively contribute to the industry's overall sustainable performance. Moreover, adoption of sustainable practices was argued to be of great importance for aiding a collective agenda for sustainable incentives and collaborative PSM efforts at scale. However, the findings suggest that specific conditions and barriers must be addressed in order for the fashion industry to realize

the benefits of sustainable PSM. Firstly, governmental involvement in the form of legislation and incentive systems are required to drive sustainable transformation and increase knowledge. Secondly, for fashion brands to enhance sustainability through PSM functions, the shift towards sustainable strategies and investments in technological innovation is crucial. Lastly, lack of resources and support from top management serve as vital barriers that the industry must overcome. Findings also indicate that knowledge and comprehension of sustainability need to be recognized as a challenge. In conclusion, we argue that sustainable PSM in fashion has a strong impact on achieving the SDGs. However, the current state of the industry is categorized by conditions and barriers that hinder PSM practices from fully accelerating the green transformation.

6. CONCLUSION

This concluding chapter provides a presentation of the main findings and their theoretical and practical implications. Moreover, authors will present recommendations for the fashion industry on how to accomplish a successful transformation of PSM that will enable the achievement of SDGs. Lastly, perceived limitations and possibilities for further research are elaborated.

6.1 Theoretical implications

The objective of this research was to investigate PSM practices in the Scandinavian fashion sector in order to answer our research question; “*How can purchasing and supply chain management practices enable the achievement of sustainability goals in the fashion industry?*”. To fully comprehend the research topic and implications, the authors developed two sub-questions; 1. “*How is the current industry situation regarding sustainability and PSM practices?*” 2. “*What are the greatest drivers, conditions, and barriers for implementation of sustainable PSM in order to achieve sustainability goals?*”. The qualitative thesis adopts a systematic combining approach to enable a flexible exploration of concepts through the research process. Moreover, authors found that collecting primary data through semi-structured interviews was beneficial since it provided a holistic view of the topic. We acquired 6 different perspectives from different Scandinavian fashion brands and sustainability experts. Combining previous research on the topic with empirical findings from interviews provided a solid understanding of how fashion actors should transform their PSM functions, and how these functions could enable the achievement of SDGs.

The topic of sustainable PSM transformation has received increasing attention in research and academics. Thus, a broad body of research put emphasis on competences, tensions, as well as drivers and barriers related to the topic (e.g., Bals et al., 2019; Fayezi et al., 2018; Guinipero et al., 2012). Adoption of sustainable PSM functions in the fashion industry has been recognized in literature as vital due to the negative impacts of the industry's operations and potential benefits of a sustainable transformation. However, there is a lack of research considering this topic in a SDG context. This thesis has addressed the connections between sustainable PSM efforts in fashion and achievement of sustainability goals, thus, contributing to filling the literature gap. Consequently, authors believe that this

thesis offers a unique perspective on the pressing research topic by providing empirical findings derived from differently sized fashion brands, sustainability experts and previous research. Diverse viewpoints on the subject were beneficial in gaining a comprehensive view of the current industry situation, as well as drivers, conditions, and barriers. Furthermore, the study is valuable in that it covers the research topic in the context of the Scandinavian market, which is one of the most competitive and promising in terms of sustainable development (NFA, 2021).

Through study of previous literature, authors discovered the most commonly reported challenges with sustainable PSM. These were related to lack of consensus in the definition of sustainability, lack of resources and lack of appropriate standards and regulations. Authors argue that previous research aligns with empirical findings on a theoretical level, however, literature misses a practical approach. The thesis moreover highlights the significance of challenges related to support from top management, governmental involvement and aid, knowledge, transparency, and collaboration. Findings suggest that challenges degenerate differently depending on the size of the company, maturity, business objectives, among other factors. Researchers' recon that these barriers are perceived differently, and that they always arise with the same effect, namely preventing PSM from achieving SDGs. Hence, researchers emphasize the importance of a holistic view when aiming to define and overcome PSM barriers.

Moreover, the conceptual framework based on previous literature (Figure 4) can be supplemented with extension of the framework based on empirical findings (Figure 8, Figure 9). The framework serves as a contribution to theory by depicting the link between sustainable PSM and achievement of SDGs, including associated drivers, conditions, and barriers for PSM as an enabler. Authors identified that active consideration and management of circular production, network collaboration, ethical concerns and transparency issues are key PSM enablers. Drivers include the importance of environmental and ethical programs and requirements, as well as promoting circularity and collective efforts for a joint agenda towards sustainable development. Based on findings from discussion of conditions, authors argue that legislation is crucial. Moreover, collaborative mindset, sustainable strategies and technological innovations also serve as important prerequisites. Lastly, identified barriers include lack of resources, support from top management, knowledge, comprehension of the concept of sustainability and legislation, as well as issues

related to transparency and collaboration. Although this framework was created to investigate PSM as an enabler in the Scandinavian fashion market, authors believe that it can be applicable to other markets to increase understanding of the concepts and inspire the transition.

Furthermore, this thesis has uncovered certain aspects that were not addressed by previous research and literature. Firstly, empirical findings revealed that none of the industry professionals in the sample actually measure the degree of goal achievement. Researchers emphasize that this is a serious issue in the industry that slows down the progress and shared initiatives. The reasoning for the low level of goal monitoring was lack of resources and confusion as to which parameters to measure, indicating that without external guidance and support, there is a lack of incentives. Moreover, researchers propose that another explanation for this can be that, in reality, economic incentives weigh out environmental and societal ones. Secondly, both literature and empirical findings indicate a need to move away from current fashion industry norms and practices. However, academia does not seem to have made clear proposals for shifting the fashion philosophy. Based on empirical findings, researchers highlight the need to reshape the entire model of the fashion industry by flipping the SC around to create a customer/demand-driven industry. Moreover, the implementation of a pre-order culture, together with moving productions closer to the countries in which the garments will be sold, can solve some of the industry's most pressing concerns. To not risk losing revenue, companies can pre-produce basic goods or bestsellers. In this manner, there is minimal to no risk of tying up capital in inventories or that certain styles go out of fashion.

6.2 Practical implications

Our study provides a number of practical implications that are important to consider for actors in the fashion sector. These implications complement the identified theoretical implications when aiming to transform PSM functions to enable the achievement of sustainability goals. Findings were clear toward the notion that all SDGs are relevant for the fashion industry and somehow related to PSM functions, which calls for an immediate need for change of current PSM patterns. Moreover, PSM is a critical management activity because a significant part of a company's spending and value creation take place within its functions. Nevertheless, findings indicate that establishing clear sustainability goals for the adoption of a TBL

approach through PSM functions can yield strategic and environmental contributions to the organization and its surroundings.

PSM practices can enable the achievement of sustainability goals in the fashion industry if actors adopt circular production, promote network collaboration, and facilitate ethical and transparent practices. Nevertheless, our findings imply that several conditions need to be in place. First and foremost, governmental involvement is needed to establish legislation and incentive structures for the industry. This will not only incentivize companies and enhance knowledge, but also help companies in the transition by constraining negative impact and defining sustainability measures. Universal legislations empower companies to adopt a collaborative sustainable mindset on equal terms, while still enabling them to pursue their own business objectives. Aligning initiatives serve as a crucial facilitator as the combined efforts can motivate the surrounding environment to adopt sustainable practices. Organizations can thus inspire customers, suppliers, competitors, and other stakeholders, facilitating valuable cross-sectoral collaboration at scale. Another action for change is adjusting business strategies to promote circularity, which has the potential to minimize waste and combat overconsumption. Transforming the norms in the fashion industry by shifting production patterns can reduce environmental impact and naturally drive technological innovation. Focusing on innovative production could also motivate technological investments that will contribute to the green shift.

Moreover, our research indicates that the industry must overcome some barriers in order to utilize PSM as an enabler for sustainability. Since environmental and social PSM initiatives are both costly and time consuming for companies, mobilizing the required resources for a successful transformation is challenging, especially for smaller companies. As our empirical findings reveal, a lack of external support and subsidies may diminish the sector's overall chances of adopting sustainable PSM. Authors believe that lack of the comprehension of sustainability and knowledge of actions are important barriers to overcome since it is important to adopt a holistic view on current practices to enable a green shift. Finally, without the external stimulation of the management and government that can steer and prioritize the shift, the industry actors are not equipped for a full PSM transformation across the sector.

After a cautious analysis, discussion, and conclusion of theoretical and empirical findings, it was possible to create several recommendations for the industry actors. Authors believe that these, watchfully applied, will enable the achievement of SDGs through tailored PSM functions across the fashion sector.

1. Investment in knowledge and technology innovation

As literature and practice emphasize, fashion companies must invest in knowledge and technology innovation, and strive for TBL balance in all PSM practices. This includes initiatives supporting fair labor, strong relationships with green suppliers, carefully monitored CSR management and sourcing transparency. In addition, quality of materials and awareness of economic and national impact on the environment must be ensured. All of the above could be achieved with the help of strategic partnerships and collaborations for change. These shared initiatives could not only contribute to work towards shared goals, but also affect petitions to stimulate the governments for an immediate change of laws and rules.

2. Try to understand the concepts of TBL and ISO 20400 Sustainable Procurement

Since there is a clear lack of recognition of international standards and frameworks, fashion actors should familiarize themselves with the concepts of TBL and ISO 20400 Sustainable Procurement, prior to planning any environmental initiatives. As these incentives will not only help with measuring the impact, but also establishing clear sustainability goals, they need to be used in modification of long-term business strategies. Until the legislation comes in place, the companies need to track the internal degree of goal achievement throughout the initiation of OKRs and KPIs, and ISO can help to prioritize and structure this process.

3. Identify consumer personas

Fashion brands should focus on identifying consumer personas and their individual needs. As the majority of modern consumers are still not ready to pay more for sustainable, long-lasting products, it is important to take that into business model-consideration. This issue is a part of transition and will remain until all other fashion businesses decide to transform their operations with legislation in place. Therefore, fashion brands need to be willing to

face trade-offs that include cost efficiency and quality and sacrifice certain economic gain in order to extract environmental benefits of PSM.

4. Adjust business philosophy

The last recommendations include moving away from a standard fashion industry philosophy that includes producing new collections every season. Fashion brands should instead focus on producing timeless, capsule, and versatile pieces of good quality. In addition, authors recommend consideration of reversing the supply chain and moving factories closer to countries of origin as a potential solution to overproduction and waste. Not producing garments until exactly knowing what the customers or stores want is time consuming, but results in lower environmental footprint and cost in the long run.

Authors believe that these recommendations combined, will serve as a good supplement to existing frameworks and standards, and both smaller, medium, and large businesses should apply them in their way of thinking about sustainable PSM. Single initiatives are not sufficient to extract PSMs benefits in terms of SDGs achievement, and therefore increased efforts are needed in all business spheres.

6.3 Limitations

Prior to starting the work on this thesis, the authors were aware of certain limitations regarding the area of research, and as it progressed, the more challenges and limitations occurred. Firstly, there is a general lack of research on how PSM functions could enable the achievement of sustainability goals in the fashion industry. Wide, separate research on PSM and SDGs has been conducted, but there are limited studies that connect the two dimensions within the empirical background of the fashion sector. Nevertheless, authors decided to connect the existing international research and consider it sufficient for the purpose of the thesis. In addition, the literature does not go in depth on different challenges and barriers that differently sized fashion companies face in terms of sustainability. The authors recognized that challenges and barriers occur regardless of the size of the company and although they are slightly different, they are characterized by a corresponding effect – they prevent efforts towards a sustainable PSM that could enable the achievement of SDGs. Furthermore, authors emphasize that calibrating the exact

impact of green PSM on the achievement of SDGs is difficult, but also underline the significant, certain contribution.

Another limitation revolves around the fact that research interviews were conducted on actors and experts from the Scandinavian fashion industry. As emphasized prior to the interviews, authors were aware of the fact that ecological awareness and numbers of sustainable actions are in general way higher in Scandinavia in comparison to other markets and countries. This was also further highlighted in the literature and several interviews. However, Scandinavian models could be an inspiration for paving the road towards the green PSM shift, and therefore authors believe that their recommendations for the industry are generalizable and applicable to the majority of fashion markets.

Further, aspects related to the research strategy challenge the final results, as qualitative interviews were conducted with the help of individuals from different companies. Authors are aware of the fact that answers from the participants could to some extent be affected by not only their subjective opinions, but also size, financial situation, or internal sustainability goals of the company. However, the actors represent the industry, and more interviews with sustainability experts were conducted, which provided authors with a holistic approach to the research.

Last but not least, authors emphasize that recommendations do not stimulate adequate incentives without a support of legislation, and that further research and legal actions are crucial for establishment of clear green PSM. However, based on the extensive research the authors believe that findings and recommendations can be generalized and applied for all the fashion actors in order to accelerate the green transition.

6.4 Recommendations for future research

Honing on this study and its discussed limitations, we believe that our thesis might serve as a basis of interesting research in the future. We recommend researchers to delve deeper into how PSM could enable the achievement of SDGs in fashion and other industries. Further research could consider the potential impact more carefully and analyze whether sustainable PSM has a greater chance to succeed in the fashion industry rather than other sectors. In addition, the researchers' focus should lay on quantifying the explicit benefits and costs of such transformation in differently sized businesses across the sector.

Furthermore, extending the scope and focusing on gathering data from more actors and companies would also be interesting. Researchers could conduct a long-term real case study consisting of measuring the degree of goal achievement across the fashion businesses prior and after the PSM transformation. Although it would be a time-consuming project, the results could illustrate and quantify the actual influence, which could be useful not only for the industry actors, but also the governments.

This thesis dived into the drivers, conditions, and barriers for applying PSM to enable the achievement of SDGs in fashion. As due to time and resource constraints we could only cover the most urgent dimensions, it would be compelling for researchers to analyze each one more in depth. Additionally, future research should be focused towards investigating whether there is a positive or negative correlation between PSM transformation, SDG goals and reduction in costs. We believe that such studies and observations could strengthen the thesis's findings and recommendations.

During the research phase, it came to our knowledge that the Norwegian Parliament approved a new law called The Transparency Act, which enters into force on July 1. 2022. The Transparency Act will ensure companies respect for human rights and decent working conditions, as well as provide the public with access to related information (Forbrukertilsynet, n.d.). The law applies to larger enterprises, Norwegian and foreign, that offer goods and services in Norway (NHO, n.d.). We reckon that the legislation represents a significant step towards more sustainable practices and is crucial for incentivizing and promoting ethical behavior in larger corporations. However, many fashion brands do not meet the size requirements and will therefore not be subject to the law. Thus, we emphasize the need for universal, industry-specific, laws and regulations that are adaptable for the industry as a whole.

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8. APPENDICES

8.1 Appendix 1: Interview guide - Fashion industry actors

Theme	Questions
Setting the scene	Consent to film or record audio of the interview?
	How do you/your company interpret sustainable purchasing and supply management (PSM)?
	What's your motivation to have sustainability on the agenda?
SDGs/TBL/ISO	Which specific SDG goals do you target and why?
	Which SDGs do you think are crucial for the fashion industry? <ul style="list-style-type: none"> - How, in your opinion, could those be achieved? And with the use of which PSM functions?
	Do you think it is important to measure the degree of goal achievement? Do you do that? If so, how? <ul style="list-style-type: none"> - If yes, how do you determine what and how to measure? - If not, why do you not measure/report?
	Do you consider the Triple Bottom Line (TBL) in your sustainability efforts?
	How do you work with environmental, social, and economic sustainability? <ul style="list-style-type: none"> - What trade-offs do you see between social conditions, the economy and the environment?
	Do you know about "ISO 20400: Sustainable procurement"? <ul style="list-style-type: none"> - If no, explain the standard: ISO 20400:2017 provides guidance to organizations, independent of their activity or size, on integrating sustainability within procurement. It is intended for stakeholders involved in, or impacted by, procurement decisions and processes.
	<i>ISO highlights 6 core areas of corporate social responsibility:</i> <ol style="list-style-type: none"> 1. <i>Human rights</i> 2. <i>Fair work practices</i> 3. <i>Environmental conditions</i>

	<p>4. <i>Fair operating practice</i> 5. <i>Consumer considerations</i> 6. <i>Community involvement and development</i></p> <p>Which ones are most relevant to you?</p> <ul style="list-style-type: none"> - Which area has the greatest potential for improvement in the industry and where can sustainable PSM contribute to the biggest difference?
	<p>Do you think such standards have a visible / active role in today's fashion industry?</p> <ul style="list-style-type: none"> - Do you use other standards / code of conducts / verification? Why/why not? - Do you miss universal laws and regulations in the industry or is the code of conduct / standards sufficient?
Drivers	<p>What do you think would be the greatest benefits of incorporating sustainable PSM in the fashion industry?</p>
	<p>How can a TBL approach improve sustainable efforts in the sector?</p> <ul style="list-style-type: none"> - How can PSM contribute to the achievement of SDGs?
Conditions	<p>What do you see as the essential conditions for transforming PSM to enable the green shift in the fashion industry?</p>
	<p>What other changes across fashion supply chains must be implemented to achieve benefits PSM can bring?</p>
Barriers	<p>What are the greatest barriers for implementation of sustainable PSM in the fashion industry today?</p>
	<p>What kind of trade-offs are related to sustainability in the sector?</p>

8.2 Appendix 2: Interview guide - Sustainability experts

Theme	Questions
Setting the scene	Consent to film or record audio of the interview?
	What in your opinion should be the biggest motivation for the fashion industry to have sustainability on their agenda?
SDGs/TBL/ISO	Which SDGs do you think are the most important for the fashion industry and why?
	Do you think it is important to track/measure the degree of goal achievement in the sector/across companies? If so, why?
	How do you think the industry should approach the Triple Bottom Line?
	How do you think standards such as ISO could affect the fashion industry? - Do you think they should remain standards or become a part of laws and regulations?
Drivers	What do you think would be the greatest benefits of incorporating sustainable PSM in the fashion industry?
Conditions	What do you see as the essential conditions for transforming PSM to enable the green shift in the fashion industry?
Barriers	What are the greatest barriers for implementation of sustainable PSM in the fashion industry today?
	What kind of trade-offs do you identify with implementing sustainability in the sector?