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LEVELS OF CO-CREATION

How sustainable fashion companies create value with their customers

Master's Thesis
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Abstract

The fashion industry creates a large amount of sustainability issues, which has generated novel business ideas promoting fashion sustainability in different forms. Also, the consumers are aware of the social and environmental challenges in the fashion industry. The literature around business models and sustainable business models have expressed the importance of the customer involvement in business model operations, leading to a need for customer co-creation practices within sustainable companies and sustainable fashion companies. Although the customer co-creation literature is extensive and has been researched within fashion companies and sustainability, the literature connecting sustainable fashion companies and their co-creation practices seems nonexistent at the moment.

The purpose of this study is to examine the co-creation practices through which sustainable fashion companies are creating value in collaboration with their customers. Additionally, the benefits and positive outcomes as well as the barriers of co-creation are analyzed and interpreted. This research uses qualitative research methods, including interviews of five Finnish SME fashion companies aiming for sustainability in their business model decisions.

The data analysis utilizes thematic analysis, including coding, categorization, and thematization of the transcribed interview data. The thematic analysis reveals the co-creation of sustainable fashion companies to be executed at three levels depending on the required customer involvement: high, medium, and low involvement co-creations. Each level of co-creation includes various concrete co-creation practices identified in the case company interviews. These co-creation practices at each co-creation level are used for different objectives including customer relationships, brand value, revenues, and innovations. The identified barriers contain obstacles from customers' side (e.g., effort, fear of commitment, lack of knowledge), company's limits (resources and company size), and fashion industry-wide difficulties (e.g., seasonality, variety in customer needs, conflict of interest between the company and the customers).

The study shows that sustainable fashion companies implement and utilize co-creation practices with the customers at various stages of the economic, environmental, and social levels of their business models. The sustainable fashion companies are concluded to use co-creation mostly for traditional business objectives, but the co-creation practices result also in most of the actions to sustainability, either as an additional objective or an outcome of the co-creation practice. Thus, sustainable fashion companies are combining co-creation of fashion businesses and co-creation of sustainability in their co-creation operations together with the customers. This research offers a basis for further research to build on sustainable fashion companies and their customer co-creation practices.

Keywords customer co-creation, fashion sustainability, sustainable business models

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Muotiteollisuuden valtavat vastuullisuusongelmat ovat poikineet uusia liiketoimintamalleja, jotka edistävät muodin vastuullisuutta eri muodoissa. Lisäksi kuluttajat ovat tietoisia muotiteollisuuden sosiaalisista ja ympäristöhaasteista. Liiketoimintamalleihin ja vastuullisiin liiketoimintamalleihin liittyvä kirjallisuus on painottanut asiakkaan osallistamisen merkitystä liiketoimintaoperaatioissa, mikä on johtanut arvon yhteisluomisen tarpeeseen asiakkaan kanssa vastuullisten yritysten ja muotiyritysten kohdalla. Vaikka kirjallisuus arvon yhteisluomisesta asiakkaan kanssa on laajaa, ja sitä on tutkittu sekä muotiyritysten että vastuullisuuden näkökulmasta, vastuullisten muotiyritysten asiakkaan kanssa yhteisluoman arvon tutkimus vaikuttaa olemattomalta tällä hetkellä.

Tämän tutkimuksen tarkoituksena on tutkia arvon yhteisluomisen toimia, joiden välityksellä vastuulliset muotiyritykset luovat arvoa yhdessä asiakkaidensa kanssa. Lisäksi arvon yhteisluomisen hyötyjä ja positiivisia tuloksia sekä esteitä ja haittoja analysoidaan ja tulkitaan. Tämä tutkimus käyttää laadullisia tutkimusmetodeja haastattelemalla viittä PK-muotiyritystä, jotka tavoittelevat vastuullisuutta eri liiketoiminnan päätöksissään.

Tutkimuksen data-analyysi hyödyntää temaattista analyysiä, mukaan lukien litteroitujen haastattelujen koodauksen, kategorisoinnin ja tematisoinnin. Temaattisesta analyysistä selviää, että vastuulliset muotiyritykset toteuttavat arvon yhteisluomista kolmella eri tasolla riippuen vaadittavasta asiakkaan osallistumisen määrästä: nämä tasot ovat korkean, keskiluokan ja matalan osallistumisen arvon yhteisluomistasot. Jokainen arvon yhteisluomistaso käsittää lukuisia konkreettisia arvon yhteisluomistoimia, jotka havaittiin muotiyritysten haastatteluissa. Näillä toimilla kullakin arvon yhteisluomistasolla tavoitellaan eri asioita, kuten asiakassuhteiden, brändin, liikevaihdon ja innovaatioiden kehittämistä. Analyysissä identifioidut haasteet sisältävät esteitä asiakkaiden puolelta (esim. vaiva, sitoutumiskammo ja tiedon puute), yrityksen puolelta (resurssit ja yrityksen koko) sekä muotiteollisuuden puolelta (esim. sesongin tuomat haasteet, eriävät asiakastoiveet, sekä eturistiriidat yrityksen ja asiakkaiden tavoitteissa).

Tutkimuksesta selviää, että vastuulliset muotiyritykset hyödyntävät arvon yhteisluomistoimia asiakkaiden kanssa liiketoimintamalliensa taloudellisten, sosiaalisten sekä ekologisten tasojen kehittämisessä. Vastuulliset muotiyritykset käyttävät arvon yhteisluomista pääosin perinteisten liiketoiminnan kanssa, mutta arvon yhteisluomismetodit johtavat usein myös vastuullisuuden luontiin joko lisätavoitteena yhteisluomistoimessa tai sen tuloksena. Siispä, vastuulliset muotiyritykset yhdistävät muotiyritysten arvon yhteisluomista vastuullisuuden yhteisluomiseen yhdessä asiakkaiden kanssa. Tämä tutkimus tarjoaa pohjan tulevalle arvon yhteisluomisen tutkimukselle, joka käsittelee yhteisluontia vastuullisten muotiyritysten ja niiden asiakkaiden välillä.

Avainsanat arvon yhteisluonti asiakkaan kanssa, muodin vastuullisuus, vastuulliset liiketoimintamallit

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1. Introduction

Fashion industry is one of the most polluting industries in the world (Boström & Micheletti, 2016). As the industry expands, questions and demands facing sustainability actions arise as well (Fung et al., 2020). The State of Fashion Report 2022 (McKinsey, 2021) concludes that sustainability is seen as one of the top-three opportunities as well as challenges for the fashion industry in 2022.

The complexity of the modern fashion industry and fashion supply chains challenge the identification and scrutiny of the industry as a whole (Boström & Micheletti, 2016). Fashion companies and their supply chains are convoluted and multinational, and the trackability of all the parties is often challenging. Therefore, the number of issues that the industry rouses is also vast; fashion industry creates challenges e.g., with climate change, human and animal rights, and environmental pollution (Boström & Micheletti, 2016; Winge, 2008).

Fashion industry's two sides of the same coin, production and consumption, both create complexities (Boström & Micheletti, 2016), increasing the pace of the fashion cycle, which compels producers to adopt even more unsustainable production methods (McNeill & Moore, 2015). The so-called 'fast fashion' is an apparent embodiment of this fast-paced and unsustainable rotation, and it has changed the whole industry during the beginning of the millennium (McNeill & Moore, 2015).

The world does not stand for this consumption and production pace – actions need to be taken, and they are needed yesterday. Fashion and sustainability as concepts seem like a disparity at first (Lundblad & Davies, 2016), but with a deeper observation, the combination can create novel and promising opportunities.

Companies have seen this urge for sustainability, and many fashion brands are taking initiatives, including e.g., investments in sustainability actions by dominant fashion retailers, business model innovations reacting to sustainability trends such as circular and sharing economies, or cutting-edge technological innovations in materials and processes (Todeschini et al., 2017). Finland is one of the forerunner countries in fashion sustainability innovations (Finix, 2020), and many Finnish companies (including both new business models and innovations for the existing ones) are approaching sustainability in the field of fashion e.g., through raw material and fabric innovations, textile waste reusing and recycling, and offering end-of-use (secondhand) or garment life extension (mending) business concepts, to name a few (Business Finland, 2022; Niinimäki, 2018).

The above-mentioned are examples of sustainable business models and business model innovations implemented in fashion businesses (Hvass, 2015; Pal & Gander, 2018; Todeschini et al., 2017). A sustainable business model extends the conventional business model concept of creating value between the company and its customers (Pedersen et al., 2018) to furthermore promoting social and environmental aspects of sustainability (Bocken et al., 2018; Evans et al., 2017; Joyce & Paquin, 2016).

Additionally, the traditional view of value in the business has been seen as creating and delivering value *for* the customer (Chesbrough & Rosenbloom, 2002; Teece, 2010) – however, scholars have noticed that value-creation is not a linear model from the company to the passive value receivers i.e., customers (Zott et al., 2011), but value creation needs to be approached from a different angle within business models and sustainable business models. Business model execution has thus shifted to customer centricity, and customer are seen as active participators of value creation rather than passive value receivers (Prahalad & Ramaswamy, 2000, 2004; Vargo & Lusch, 2004). The concept of co-creation with the customer, where the value delivered through business actions is created in collaboration between the company and its customers to fulfil customer needs and to deliver also benefits for the company (Bharti & Agrawal, 2018; Payne et al., 2008), has received vast attention in the literature (Bharti et al., 2015; Bharti

& Agrawal, 2018). Co-creation actions acknowledging sustainability are additionally benefiting the environmental and social aspects of business sustainability (Yang et al., 2017).

1.1. Research gap

As mentioned, the literature around co-creation between the company and its customers is broad – research has also examined co-creation of fashion businesses, and concrete co-creation methods and examples can be identified in the literature around fashion companies. These are executed in platforms led by companies or customers themselves, including activities e.g., customer-generated content posts, experience and knowledge shares, community building, and feedback and suggestions for the company (Choi et al., 2016; Millspaugh & Kent, 2016; Thomas et al., 2020).

Additionally, the concept of co-creation linked to sustainability development has been examined, but the focus is often in co-creation between multiple company stakeholders (e.g., Arnold, 2017; Ramos et al., 2021; Watson et al., 2018), where the emphasis of concrete co-creation activities of sustainability with the customer are overshadowed by other stakeholder co-creation activities.

With a limited focus on sustainability co-creation with the customer and the novelty of literature of co-creation linking fashion companies to customers, there appears to be almost no literature around co-creation practices with sustainably driven fashion companies and their customers. Consumers are, however, acknowledged to have a vital role in sustainable fashion business operations (Kim & Hall, 2015; Niinimäki, 2010; Todeschini et al., 2017), and as discussed before, co-creation with the customer is emphasized in the existing literature regarding co-creation not directed in any specific industry (e.g., Bharti et al., 2015; Bharti & Agrawal, 2018). Thus, these customer involvement practices related to fashion and sustainability have been researched in

previous literature. However, they could have been misplaced from the concept of co-creation, giving the widespread and sometimes disorganized combination of different practices that can relate to co-creation but are described with various different concept names (Gebauer et al., 2010; Witell et al., 2011), creating confusion and uncertainty around the topic and terminology of co-creation in general (Voorberg et al., 2015).

Thus, this thesis aims to shed light to the practices through which fashion companies aiming for sustainability are implementing co-creation with their customers and with what outcomes, contributing to the stated research gap.

1.2. Research question and objectives

Based on the identified research gap introduced before, this thesis studies and interprets the actions of sustainably driven fashion companies towards co-creation with their customers through the following research question:

> *How are sustainability-oriented fashion companies incorporating co-creation practices in their work?*

Additionally, this research aims to identify why customer co-creation should be implemented in business operations, that is, what benefits co-creation could create for the sustainable fashion companies. Also, it is noteworthy to identify the possible barriers in implementing co-creation process that could hinder the co-creation and its positive outcomes. Thus, the research aims to shed light on the following sub questions:

> *What are the perceived benefits and outcomes of customer co-creation?*
> *What are the possible barriers for co-creation execution and implementation?*

The objective of this research is academically to narrow down the research gap between customer co-creation practices and fashion companies implementing sustainable business models, for gaining a better understanding of the possibilities and interconnections of the two. Practically, this research aims to observe concrete examples of how sustainable fashion companies utilize the potential of co-creation together with the customer to achieve value and benefits in different forms (e.g., customer loyalty, brand value, innovations, and profitability). Furthermore, the practical aim is to comprehend the customer co-creation from the business perspective, analyzing its benefits and limitations identified by sustainable fashion companies. The thesis uses Finnish fashion companies aiming for sustainability as the case companies; thus, the research aims to shed light on co-creation practices used by the Finnish sustainable fashion companies in particular.

1.3. Thesis structure

The thesis structure goes as follows. First, a literature review is offered, covering the academic literature relevant to the research question and the sub questions. The literature review will start by examining sustainable fashion businesses and business model literature, followed by the literature around the concept of co-creation with the customer.

In the Methodology chapter, the data gathering, structuring, and analysis are introduced. The chapter covers the case company selection process, leading to the interview procedure presentation and saturation point identification. Data analysis is covered through step-by-step introduction of data analysis process. The last part of the Methodology chapter discusses the ethics and trustworthiness of the study.

In the Findings chapter, identified findings from the interviews and data analysis are presented and interpreted. The chapter will begin by analyzing the interview results of the case companies' approach to sustainable fashion business, followed by a brief discussion of the case companies' interpretations of the concept of co-creation and how

it differs from the existing literature. A short elaboration of co-creation with other company stakeholders is presented, before immersing in identified co-creation practices together with the customer, answering the research question of this thesis. Customer co-creation practices are analyzed based on three co-creation levels: low, medium, and high customer involvement. Concrete examples, targeted value, and direct quotations from the interviews are offered. Next, the thesis moves to analyzing the additional sub questions, covering the identified benefits and positive outcomes of as well as the barriers in co-creation between sustainable fashion companies and their customers. The Findings chapter will finish with concluding the findings.

In the Discussion chapter, the meaning of the identified co-creation levels is elaborated, and co-creation with the customer is connected to the existing business model and sustainable business model literature, utilizing the Business Model Canvas (Osterwalder & Pigneur, 2010) and Triple Layer Business Model Canvas (Joyce & Paquin, 2016). The thesis will end with the Conclusions chapter, gathering the main findings, theoretical contribution, managerial implications and recommendations, as well as the identified limitations and demanded future research themes.

2. Literature review

In the following section, the relevant literature around central themes of this thesis will be introduced. The review will start with discussing business model research, first investigating the general business model literature, including traditional and sustainable business models, and then focusing on business models used in the fashion industry, focusing on the linear and sustainable logics of business operations. The concept of sustainable fashion is rather contradictory, and the two concepts, 'fashion' and 'sustainability', are traditionally extremely far from each other (Wiederhold & Martinez, 2018). This literature review, however, will show the interconnection between fashion and sustainability in the business model literature.

After, literature around the concept of co-creation together with the customers will be examined. The concept of co-creation and its definitions will be introduced. The thesis also discusses operations and elements of co-creation as well as offers specific examples and introduces benefits and challenges. Finally, this research searches for connections of co-creation to fashion, business sustainability, and sustainable fashion. At the end, a clear demand for further research around the topics is identified.

2.1. Business models in sustainable fashion

2.1.1. Introduction to business models

The concept of the business model is a topical yet relatively novel issue – it started gaining relevance in the 1990s with the rise of the Internet and NASDAQ stock market of technology companies as well as the increasing momentum of e-business, and its importance has increased exponentially ever since (Osterwalder et al., 2005; Teece, 2010; Zott et al., 2011). Especially important factors have been the novel ways of creating

monetary and customer value by companies who have had adapted to the Information age (Teece, 2010).

Business models consist of large amount of practical value for businesses and are used universally, but they still lack a homogeneous definition (Chesbrough & Rosenbloom, 2002; Evans et al., 2017; Magretta, 2002; Pedersen et al., 2018). Osterwalder et al. (2005) recognized a grand discrepancy of understanding the business model concept among their technology-oriented and business-oriented interviewees – they concluded 54 different definitions for business model out of 62 responses in total.

Osterwalder et al. (2005, p. 17) give the following, thorough definition for the business model concept: "A business model… is a description of the value a company offers to one or several segments of customers and of the architecture of the firm and its network of partners for creating, marketing, and delivering this value and relationship capital, to generate profitable and sustainable revenue streams." In general, "a business model describes the rationale of how an organization creates, delivers, and captures value" (Osterwalder & Pigneur, 2010, p. 14). An effective business model answers the questions regarding profits and economics as well as customers and customer value (Magretta, 2002; Teece, 2010), approaching value traditionally from the company and customer viewpoints (Pedersen et al., 2018).

As there are different definitions for the concept of business model, there are also different viewpoints of the elements that a business model consists of. The length of the business model element list can vary significantly – e.g., Chesbrough & Rosenbloom (2002) identify seven business model's functions, while Casadesus-Masanell & Ricart (2010) narrow the list down to two functions.

One of the most widely used business model tool is the Business Model Canvas by Osterwalder & Pigneur (2010). The canvas functions as a shared language for describing and analyzing business models of the organization and its competitors from various

critical perspectives. The Business Model Canvas of Osterwalder and Pigneur consists of nine building blocks covering main business areas: customers, offer, infrastructure, and finance. These building blocks of the Business Model Canvas are illustrated below in **Figure 1**.

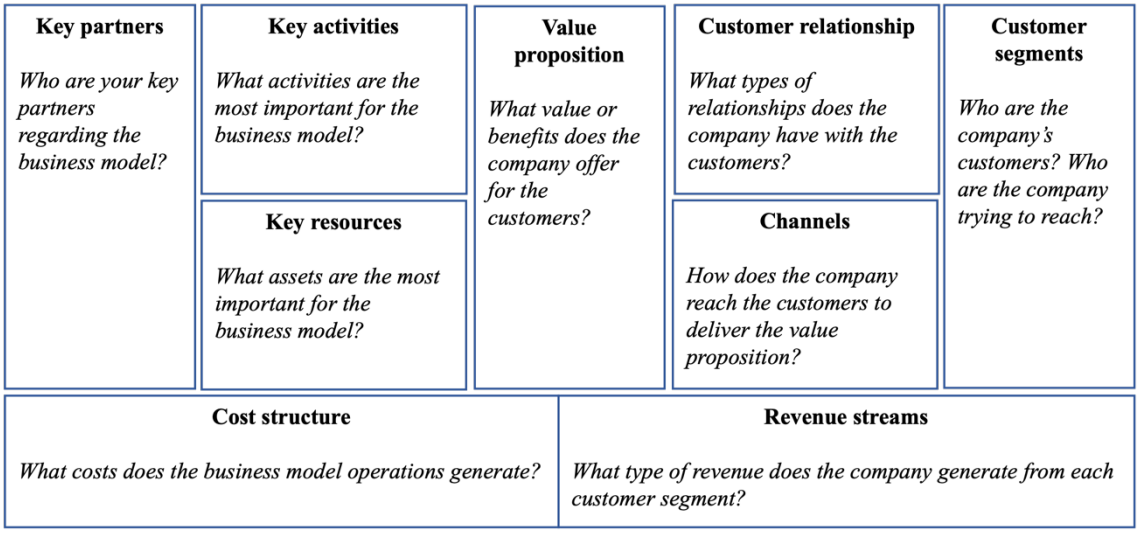

Figure 1 *Business Model Canvas – created based on Osterwalder & Pigneur (2010).*

Although the literature and research around business models have generated various definitions and approaches, similarities can be identified. This leads to a conclusion that the main attributes of a business model are: value created for the customer (e.g., Boons & Lüdeke-Freund, 2013; Chesbrough & Rosenbloom, 2002; Osterwalder et al., 2005; Osterwalder & Pigneur, 2010), company's stakeholders (e.g., Casadesus-Masanell & Ricart, 2010; Chesbrough & Rosenbloom, 2002) – customer being often in the center of the focus (e.g., Magretta, 2002; Osterwalder & Pigneur, 2010; Teece, 2010) – and the financial outcomes (cost and profitability) of the company's operations (e.g., Boons & Lüdeke-Freund, 2013; Chesbrough & Rosenbloom, 2002; Osterwalder & Pigneur, 2010; Teece, 2010).

Value for the customer in the context of business model can be viewed from various angles: value proposition, capture, creation, and delivery (Bocken & Short, 2016;

Osterwalder & Pigneur, 2010), and literature around business models has been regularly concentrated on the significance of value (Evans et al., 2017; Pedersen et al., 2018; Zott et al., 2011). This value is sometimes argued to be created *for* the customer (Chesbrough & Rosenbloom, 2002; Mansfield & Fourie, 2004; Teece, 2010) e.g., through value proposition (Osterwalder, 2010). However, business model is not representing a linear value creation model from suppliers to customers through the company (Zott et al., 2011), and many scholars do not see customers as passive receivers of the offering and value – customer relationships can be nurtured with different participatory actions including (online) communities and co-creation (Osterwalder, 2010). This leads to a necessity of evaluating other value creation possibilities, containing the customer co-creation, which will be discussed later in the literature review.

2.1.1.1. Sustainable business models

Before discussing sustainable business models, a terminology around the concept requires definition. Sustainability is a multilevel concept, and it is discussed with many sub-concepts such as ethical (Bocken et al., 2018; Carrigan & Attalla, 2001; Joergens, 2006; McNeill & Moore, 2015; Uusitalo & Oksanen, 2004; Wiederhold & Martinez, 2018), green (Kim & Hall, 2015; Sheth et al., 2011), or eco (Niinimäki, 2010; Winge, 2008), and it can be confused e.g., with corporate social responsibility (CSR) (Savitz, 2013). The different terms are occasionally used to describe distinct activities or factors, but often also used synonymously (Carey & Cervellon, 2014).

Perhaps the most traditional definition regarding sustainability development is stated by United Nations Brundtland Commission in 1987: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (p. 41). In the business context, sustainability can broadly be defined as operating business profitably while taking into account all the stakeholders and their economic and non-economic needs (Savitz, 2013).

The literature around business models has hardly focused on the sustainability aspect traditionally (Pedersen et al., 2018), but there has been a recent shift with both research and companies to more sustainably-oriented business model thinking (Pedersen et al., 2018; Schaltegger et al., 2016). As important elements of companies' operational decisions, business models can affect the environment both positively and negatively through, e.g., production techniques or waste disposal (Pal & Gander, 2018). The decisions made about efficiency and production as well as the supply chain sustainability are seen as crucial first steps in the way to business sustainability (Bocken & Short, 2016).

As can be seen with the general concept of business models, sustainable business models too lack a clear and coherent definition (Lüdeke-Freund, 2010; Schaltegger et al., 2016). Nevertheless, uniformities in definitions and identified functions can be identified in the existing literature around sustainable business models.

A sustainable business model is based on the concept of the traditional business model, and thus its functions are similar to the ones identified with the literature of traditional business models (e.g., approach to customer value through value proposition, value creation and delivery, and capturing economic value while reinforcing sustainability (Schaltegger et al., 2016)). However, while traditional business model research has focused on the value creation between the company and its customers (Pedersen et al., 2018), research around sustainability and sustainable value considers economic, environmental, and social aspects (Bocken et al., 2018; Evans et al., 2017; Joyce & Paquin, 2016). Business model elements of value proposition, supply chain, customers, and financial aspects emphasize the environmental and social levels of sustainability e.g., through shared supplier responsibility, motivation of sustainable customer behavior, and accounting the environmental and social impacts of the company (Boons & Lüdeke-Freund, 2013). Implementing the environmental and social layers of sustainability to business model literature can be seen e.g., in the Triple Layer Business Model Canvas (Joyce & Paquin, 2016), discussed later in the thesis.

Business model sustainability goes deep into the organizational structures and systems; it coordinates the technological and sustainable innovations of system-level sustainability (Bocken et al., 2014). The level of ambition is required as high as possible when it comes to business model sustainability, and a company's sustainable actions need to be based on the deep organizational level and values (Bocken et al., 2014; Pedersen et al., 2018). Thus, sustainable business models are an efficient tool for investigating the company's core values (Schaltegger et al., 2016).

The discussion between sustainability and business models repeatedly inspects sustainability through business model innovations; such innovations change the value perceptions and value creation processes of the company (Bocken et al., 2014). The literature regarding general business models often addresses the concept of business innovation as well (Boons & Lüdeke-Freund, 2013), focusing on customer value and value proposition for the customer (Bocken et al., 2014), as was noted earlier with the traditional business model literature in general. However, business model innovations in the context of sustainability add environmental and social layers to the economic aspects and can be defined as "innovations that create significant positive and/or significantly reduced negative impacts for the environment and/or society, through changes in the way the organization and its value-network create, deliver value, and capture value (i.e. create economic value), or change their value propositions" (Bocken et al., 2014, p. 44).

Researchers have developed various conceptual frameworks and tools for sustainable business models and sustainable business mode innovations, and some of them will be introduced next.

Joyce & Paquin (2016) present the Triple Layer Business Model Canvas (TLBMC) which extends the economic Business Model Canvas (BMC) of Osterwalder & Pigneur (2010) by adding social and environmental values and their layers to the BMC. The TLBMC is an efficient tool for companies seeking for more sustainable innovations and ways of operating business, allowing its users to represent their business models, innovate new

business model ideas, and corroborate these innovations (Joyce & Paquin, 2016). The TLBMC and its connection to the BMC (Osterwalder & Pigneur, 2010) are illustrated in **Figure 2**, where the economic layer represents the original BMC building block, and the environmental and social layers are the sustainability addition to the BMC. The TLBMC will be discussed more thoroughly when linking to the case companies' business models and co-creation practices.

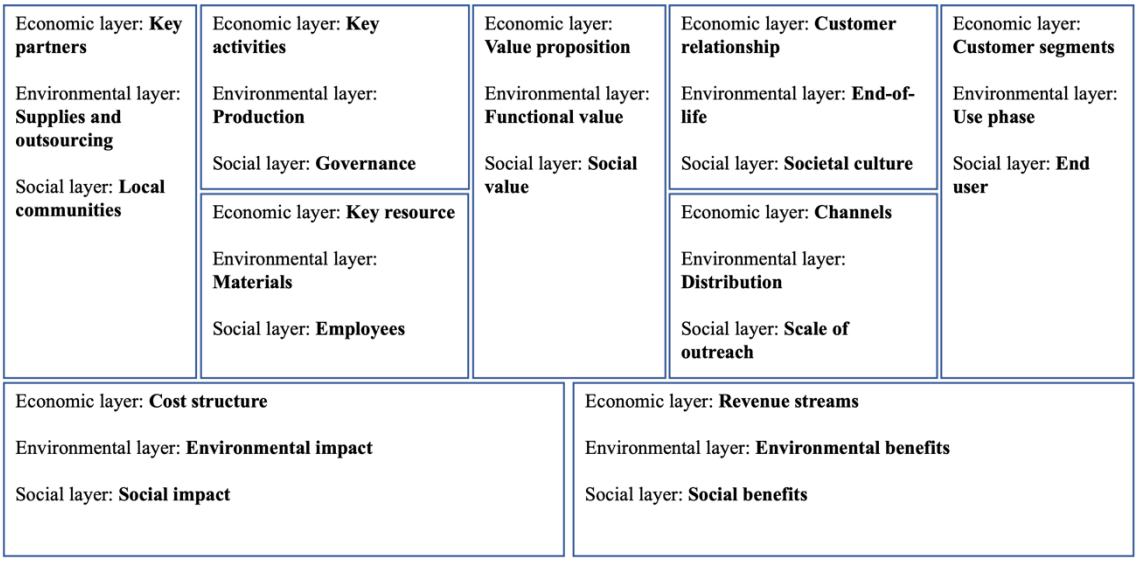

Figure 2 *Visualization of Triple Layer Business Model Canvas (TLMBC) based on Joyce and Paquin (2016).*

In their paper, Bocken et al. (2014) generate eight archetypes for sustainable business model innovations under three main categories: organizational, social, and technological. These archetypes relate to e.g., material and production decisions, consumer education and sustainable concept delivery, or societal and organizational initiatives. The intention for creating the sustainable business model archetypes, according to Bocken et al. (2014), is to offer a tool for business model innovation categorization, articulation, and assisting, with concrete business action examples, narrowing the gap between research and practice. These archetypes can be used and examined individually or by combining with another, and their purpose is to aid in innovating novel ways of creating sustainable value (Bocken et al., 2014). Due to the generality and an encompassing approach, the sustainable

business model archetypes of Bocken et al. (2014) are applicable for business model across industries, including fashion – this will be discussed more thoroughly later in the thesis.

Bocken & Short (2016) emphasize the need for sustainability development outside supply chain efficiency and production changes, introducing sufficiency-based business models. Building on one of the sustainable business model archetypes of Bocken et al. (2014), "Encouraging sufficiency", sufficiency-driven business models are designed to enhance sustainability by purposefully aiming to reduce and restrain consumption (Bocken & Short, 2016), being traditionally a unique and counterintuitive way for a business operation. Companies with sufficiency-based business models are aiming to reduce consumption through consumer education and engagement, production for long-lasting items, conscious-based marketing, innovative technologies, and novel revenue models (Bocken & Short, 2016). Consumer education and engagement is executed through communication and services; companies encourage consumers for mindful and reasoned consumption rather than over-consumption, and services for re-use, e.g., second hand and mending services, or sharing over ownership services are provided by companies for easiness of consumer involvement in sufficiency-based business (Bocken & Short, 2016). From their five case companies in total, Bocken and Short use two fashion companies that aim for sufficiency in their business model innovations. They also discuss the issues of fast fashion – thus, the sufficiency-based business model is applicable for the fashion industry as well.

The relevance and timeliness of sustainability in the context of business model is inevitable and has increased the research and application of the sustainable business models, as can be seen. However, there is still limited amount of research on the topic, making it challenging for companies to innovate and implement business model sustainability (Bocken et al., 2014; Boons & Lüdeke-Freund, 2013; Evans et al., 2017). This challenges the understanding of the impact of sustainability on the whole businesses

and their network (Evans et al., 2017) – this can lead to lacking utilization of sustainability in many industries and societies.

2.1.2. Characteristics of business in fashion

Fashion industry contributes to the global economy due to its extensive size (Ellen McArthur Foundation, 2017), and fashion supply chain and other stakeholders as well as production phases extend to a global, multilevel network (Fontell & Heikkilä, 2017; Fung et al., 2020). The large scale connected to fast pace, dominant in today's fashion industry, lead to unsustainable production and business model operations (McNeill & Moore, 2015): fashion industry generates large material loss of e.g., through post-consumption waste disposal and usage of non-renewable resources (Ellen McArthur Foundation, 2017).

From the consumer's perspective, different characteristics for the concept of fashion can be identified. Clothing is a part of our everyday life and considered as necessity (Ellen McArthur Foundation, 2017; Fontell & Heikkilä, 2017). Moreover, fashion consumption is highly related to emotions, being utilized as a tool for self-expression, and aesthetics and individual preferences of the design and style are highly relevant and affecting consumer decisions (Ellen McArthur Foundation, 2017; Fletcher & Grose, 2012; Fontell & Heikkilä, 2017; Kim & Hall, 2015). Today, fashion pieces are used for a short period of time (Ellen McArthur Foundation, 2017) – seasonality and fast-paced trends are some of the overriding characteristics for fashion (Millspaugh & Kent, 2016; Pal & Gander, 2018), explaining the short usage period and quick turnover in consumers' closets.

In this chapter, the business models and business operations distinctive for fashion companies will be examined. The chapter will start with the linear model of fashion business operation, which is more traditional in the field of fashion. Then, the discussion moves to the sustainable business models and operations in the fashion industry, tying the literature to the research of sustainable business models, discussed earlier.

2.1.2.1. Linear logic of fashion business

The prevalent business model for fashion industry is currently following the linear operational logic (Bocken et al., 2018; Ellen McArthur Foundation, 2017), or the design-manufacturing-sale-dispose system (Niinimäki, 2018). The simplified description of linear logic of business design follows, as the name indicates, a one-way line with the following interphases identified by Fontell & Heikkilä (2017): fiber production, leading to fabrics, used for producing the final products (garments and accessorize), being consumed and finally disposed. The linear model of fashion business is presented in **Figure 3**.

Figure 3 *Linear logic of fashion business. Simplified illustration of Fontell & Heikkilä (2017).*

As said, the linear model is the dominant business logic in the fashion industry, and it is used by fashion brands with various business strategies (Aaltonen, 2020). The profitability of the linear model revolves around the design aiming for continuous high consumption as well as rapid pace in design and production phases and effortless disposal by the consumer (Niinimäki, 2018).

One form of operating business models following linear logic that is highly apparent in today's fashion culture is the fast fashion; it has increased its momentum during the past decade with an increasing production pace (Fontell & Heikkilä, 2017), changing the flow and direction of the whole fashion industry (Caro & Martínez-de-Albéniz, 2015). Fast fashion characteristics include frequent collection renewal and quick response time to

market, as well as style changes with affordable and up-to-date fashion offerings (Caro & Martínez-de-Albéniz, 2015; Guercini & Runfola, 2021). Some of the fast fashion brands, including Zara and H&M, are aiming for nearly on-demand offering with extremely rapid design and manufacturing pace (Caro & Martínez-de-Albéniz, 2015) – in some cases, it can take only days after designs and new trends from fashion weeks will appear in the leading fast fashion brands' stores.

The characteristic idea of fast fashion model is to provide fashion on-demand and at the item level, which can be identified with fast fashion giants such as Zara and H&M (Caro & Martínez-de-Albéniz, 2015). This enables fast fashion companies to generate value in forms of cost reduction and response time acceleration (Caro & Martínez-de-Albéniz, 2015). However, fast fashion business operations generate issues related to their fast operation pace e.g., with suppliers whose business model cannot be modified to be responsive to such fast turnover and market response time (Guercini & Runfola, 2021) – this could e.g., lead to a poorer product quality, typical for the fast fashion industry.

Additionally, fast fashion, along with other linear logic for business models in fashion, creates an immense number of issues in the context of sustainability. These issues include both environmental and social aspects (Aaltonen, 2020; Ellen McArthur Foundation, 2017; Todeschini et al., 2017). E.g., the unsustainable usage of materials and other resources including water and energy, as well as the negative effect of pollution and usage of nature, are examples of environmental cost of linear logic of fashion businesses (Ellen McArthur Foundation, 2017; Niinimäki, 2018). Additionally, the issues generated from the end-product disposal are severe, when massive amounts of used garments are transported to, e.g., Africa (Fontell & Heikkilä, 2017), where the infrastructure for handling waste is less advanced than in the developed countries. The social issues, on the other hand, are related to labor conditions (e.g., forced and child labor, poor salaries, and unhealthy working hours) (Fontell & Heikkilä, 2017). Social impacts have an effect not only locally, but also on a global scale (Ellen McArthur Foundation, 2017).

The linear business model in fashion lacks the ability to utilize different resources the best possible way (Ellen McArthur Foundation, 2017; Niinimäki, 2018). As noted earlier, this way of operating business is harmful for the environment and people, and changes need to be made. Luckily, a right direction of change can be seen, as fashion industry has adopted sustainable and circular business models to tackle the issues created by the linear models (Aaltonen, 2020). These sustainably driven business models in the fashion industry will be discussed in the next chapter.

2.1.2.2. Sustainable oriented fashion

In order to achieve sustainability, business models require radical innovations (Bocken et al., 2018; Chesbrough, 2010), and fashion industry is one where these innovations and sustainable business models are most necessary (Pal & Gander, 2018).

As is the terminology around sustainability, the concept of sustainable fashion is challenging and convoluted (Joergens, 2006; Lundblad & Davies, 2016). The concept of sustainable fashion is subjective and depends on the nature and context (Henninger et al., 2016). Nonetheless, similar elements arise between fashion sustainability and general business sustainability: the purpose is to produce fashion sustainably with a sustainable business model incorporated in different stages of the fashion supply chain (Joergens, 2006).

The environmental aspect of sustainable fashion elements includes e.g., product detail level components (materials, production processes), carbon footprint reduction, product durability, better supply chain management, and sustainable additions to existing linear fashion business models (e.g., recycling, reusing, reselling) (Fletcher & Grose, 2012; Henninger et al., 2016; Pedersen et al., 2018). Social aspects, on the other hand, relate to e.g., working conditions and standards (Henninger et al., 2016; Joergens, 2006), while traditional economic levels of business model literature include changes in e.g., company goals and values (Fletcher & Grose, 2012)). Additionally, Pedersen et al. (2018) identify

business models of online resell platforms and whole new business model innovation (e.g., upcycling with sustainable materials, leasing, or sharing) as novel business model concepts used in sustainable fashion.

Sustainable fashion is often described as an opposite to fast fashion, which is a misleading assumption (Henninger et al., 2016). Instead, various fast fashion companies have adopted sustainable business model activities (Kim & Hall, 2015; Todeschini et al., 2017), tackling the issues at each phase of the linear logic of fashion business that the fast fashion companies conventionally follow. This indicates that there is no clear separation between sustainable fashion companies and unsustainable ones, or for that matter, linear or circular approaches to business models (Aaltonen, 2020). Also, many existing brands have implemented sustainable business models for their affiliate brands (Kim & Hall, 2015) while maintaining the previous business model of their main brand.

Certain requirements that will aid a successful business model innovation for sustainable fashion have been identified in the existing literature. First, planning and testing have crucial roles in the succession of business model innovation; a holistic sustainable planning strategy is required for achieving a sustainable supply chain in fashion, according to Fung et al. (2020), and experimenting sustainable business models within fashion can help to impact both sustainability and economic challenges simultaneously (Bocken et al., 2018). Additionally, identifying the most influential and meaningful elements of a sustainable business model in the fashion context helps companies to understand the difference between only marginal and superficial elements and those elements which have a larger impact, aiding companies for scalability in sustainable innovations (Pal & Gander, 2018).

Finally, in sustainable business models design in fashion industry, companies must keep the customer value and importance of the style in mind throughout the process (Pal & Gander, 2018). In their paper, Joergens (2006) introduces sustainable fashion by using the words “fashionable clothes” (p. 361). The adjective ‘fashionable’ is notable here,

since sustainable fashion has been seen as a form of anti-fashion in the past, when the fashion elements were mainly used for emphasizing one's sociopolitical ideals instead of representing style or fashion trends (Winge, 2008). Also McNeill & Moore (2015) emphasize the self-expressive part of sustainable fashion; they conclude that sustainable fashion offers the style-conscious consumer a more sustainable option without neglecting the requirements of expressing the self and identity through a style choice. After all, it is the customers with their purchase decisions who make the sustainable fashion business models to be relevant, and thus customer value needs to be kept in mind throughout the innovation processes. Pal & Gander (2018) conclude that a sustainable business model in fashion industry requires "innovative ways that resources can be used, production and distribution organized, and value exchanged and perceived" (p. 253).

2.1.2.2.1. Examples of sustainable business operations in the fashion industry

With the rise of sustainable fashion as a global phenomenon (Winge, 2008), fashion companies have started to implement sustainability within their supply chains and business models by taking different actions individually and through industry collaborations (Ellen McArthur Foundation, 2017; McNeill & Moore, 2015; Pedersen et al., 2018). However, Ellen McArthur Foundation (2017) notes that many of these identified actions are made to reduce the impact of existing linear operations of business models in fashion instead of to innovate better, sustainable business models. Sustainable business model innovation is indeed challenging giving the nature of the fashion industry; fast trend cycles push for shorter product life cycles and rapid turnover and production pace (Pal & Gander, 2018), which was discussed earlier regarding unsustainability of fashion business in general. Despite the extensive criticism, Pedersen et al. (2018) note, fashion companies have also been active in implementing sustainability, and among first ones across industries to e.g., formulate codes of conduct for suppliers in the beginning of 1990s. Thus, there is desire to make a change from the side of fashion companies as well.

There are various reasons for and drivers of sustainable business model alternatives in the fashion industry, and in their paper, Todeschini et al. (2017) identify five key macro-trends: 1) consumer awareness; 2) circular economy; 3) corporate social responsibility (CSR); 4) sharing economy and collaborative consumption, and 5) technological innovation. Based on these macrotrends, Todeschini et al. (2017) conclude altogether fifteen drivers for sustainable business model innovations in fashion industry – similarities to these can be identified in the sustainable business model archetypes of Bocken et al. (2014) introduced earlier in this thesis. **Figure 4** presents drivers for sustainable fashion innovations and the macro-trends behind them (from Todeschini et al., 2017) connected to the sustainable business model archetypes (Bocken et al., 2014).

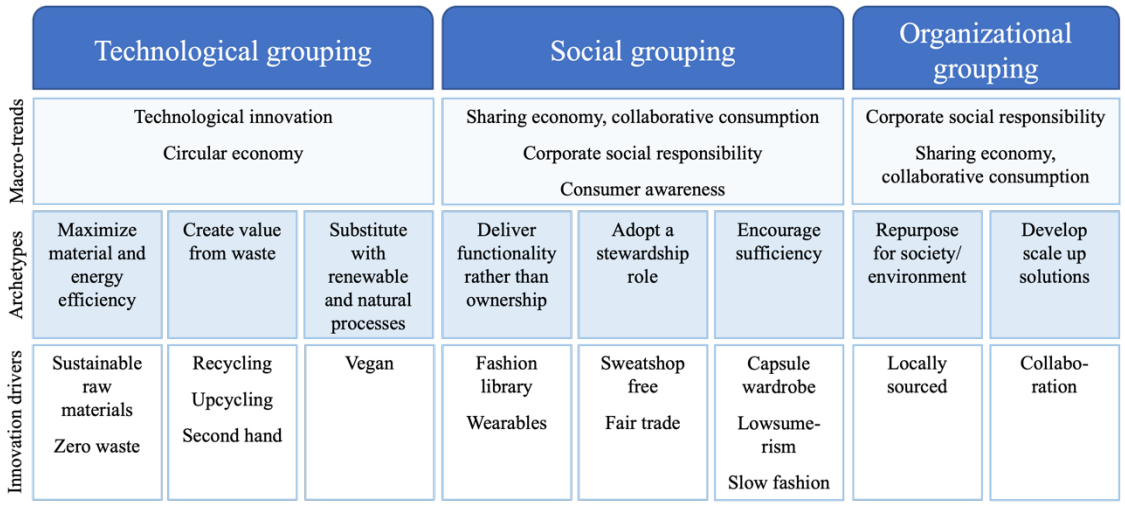

Figure 4 *Drivers and macro-trends for sustainable fashion innovations (from Todeschini et al. 2017) in the context of sustainable business model archetypes and their groupings (from Bocken et al. 2014).*

The macro-trends and business model initiatives related to fashion sustainability (Todeschini et al., 2017) as well as sustainable business model archetypes (Bocken et al., 2014) will be discussed further in this thesis.

Other scholars have utilized the sustainable business model archetypes of Bocken et al. (2014) as well (see e.g. Hvass, 2015; Pal & Gander, 2018). It is noteworthy that these archetypes give a helpful apportionment of different possible business model actions, but as Hvass (2015) notes, real life business models in sustainability and fashion industry usually connect various archetypes.

Sustainable business initiatives in fashion companies are well aligned with the concepts of general sustainable business model innovations discussed earlier (e.g., sustainable business model archetypes (Bocken et al., 2014)). Also, many of the examples used for driving fashion sustainability, including e.g., second hand, sharing services, and design for durability, associate with the sufficiency-based business model initiatives of Bocken & Short (2016) discussed with the general sustainable business models.

Additionally, many of the previously introduced sustainable business model actions in the fashion industry relate to circular business models. Circular business models are seen as potential ways of tackling the underlying problems of the conventional linear fashion business models (Bocken et al., 2018). The fundamental idea behind circularity is executing "purposeful restoration and regeneration" through production (Todeschini et al., 2017, p. 761). The circular business model in fashion aims to reduce unsustainability through narrowing, slowing, and closing the resources through production efficiency, extending product longevity, and recovering materials and other resources (see Pal & Gander, 2018). Many of the sustainable business activities in the fashion industry discussed before affiliate with circular business models, e.g., second-hand, encouraging sufficiency, upcycling, and rental services of fashion libraries (Neuman, 2021). In the research of this thesis, various case companies are using circularity in different ways when co-creating with their customers.

2.2. Customer co-creation

Being seen conventionally as passive receivers of an offering (Witell et al., 2011), in the turn of the millennium consumers were shifting toward the center of the focus and being more active partners in value creation (Prahalad & Ramaswamy, 2000, 2004; Vargo & Lusch, 2004). Consumers have more information, choices and opportunities now than ever, increasingly pushing companies to customer-centric business approach (Teece, 2010).

The concept of co-creation is seen to be introduced by Kambil et al. in 1999 and it gained popularity with the publication of Prahalad & Ramaswamy (2004) (Bharti & Agrawal, 2018) as well as with the introduction of the service-dominant logic (S-D logic) presented by Vargo & Lusch (2004) (Bharti et al., 2015; Merz et al., 2018).

In this chapter the concept of co-creation together with the customer will be discussed. The chapter will start by introducing the fundamentals of co-creation and its background, including relevant theories behind the concept generation. Later, the elements and functions of co-creation as well as some concrete examples will be analyzed. Finally, the literature connecting previously discussed themes of this thesis – fashion, sustainability, and sustainable fashion – will be observed. The chapter will end with a validation of an existing research gap.

2.2.1. Introduction of customer co-creation

The concept of co-creation has gained extensive attention from scholars during the past years (Bharti et al., 2015; Bharti & Agrawal, 2018), and co-creation with customers can be linked to the business model literature – co-creation activities are described as possible customer relationship actions in the Business Model Canvas (Osterwalder & Pigneur, 2010) introduced previously in this thesis (see **Figure 1**). Customer co-creation has been

researched to be executed explicitly between the company and its customers (e.g., Bharti & Agrawal, 2018; Choi et al., 2016; Kambil et al., 1999; Payne et al., 2009; Payne et al., 2008; Prahalad & Ramaswamy, 2004; Witell et al., 2011), or within multiple stakeholders, including customers (Arnold, 2017; Millspaugh & Kent, 2016; Ramos et al., 2021; Yang et al., 2017).

The terms developed around the customer co-creation phenomenon are numerous, containing, e.g., user and consumer involvement and interaction, co-development (see e.g., Witell et al., 2011), and prosumption, servuction, and co-production (Gebauer et al., 2010). The underlying connection between these concepts is that the customer always has a crucial role in the value creation process (Gebauer et al., 2010), and that a high level of customer involvement is required, which is argued to be a vital element of co-creation (Bharti & Agrawal, 2018). Thus, the concepts can be used interchangeably, although Voorberg et al. (2015) note this to possibly create further confusion.

Additionally, with the word 'co-creation', some scholars have used prefixes of 'customer' (Witell et al., 2011) and 'value' (Bharti et al., 2015; Gebauer et al., 2010), while others simply use 'co-creation' as itself (Bharti & Agrawal, 2018; Kambil et al., 1999; Prahalad & Ramaswamy, 2004; Randall et al., 2011) or alternate between options (Merz et al., 2018), to mean commonly the concept of co-creation with the customer or consumer. Hence, for avoiding complexity, I will use the term 'co-creation' in this thesis to cover all of the previously mentioned concepts.

Bharti & Agrawal (2018) give the following definition for the concept of co-creation: "a collaborative engagement process facilitated through physical or virtual interaction in formal or informal network between two or more than two entities through participation for joint value creation or solution building for self or others" (p. 436). In general, co-creation is perceived as an activity or a philosophy where an organization collaborates with its customers to meet the customers' needs and acquire a long-term relationship while working toward a shared goal and creating value (Bharti et al., 2015; Gebauer et

al., 2010; Witell et al., 2011). Co-creation has certain requirements separating it from general communication with the customer, e.g., transparency and openness (Bharti et al., 2015; Prahalad & Ramaswamy, 2000, 2004) – these will be discussed further in the thesis.

The abovementioned value as the outcome of co-creation practices can be perceived from various perspectives, as value depends on the experiences that the co-creators receive, which are in turn dependent on the specific location, time, and co-creation actions (Merz et al., 2018; Prahalad & Ramaswamy, 2004). Research has focused on the co-creation of e.g., brand and brand value (Choi et al., 2016; Hughes et al., 2016; Merz et al., 2018; Millspaugh & Kent, 2016; Payne et al., 2009; Thomas et al., 2020), innovations (Voorberg et al., 2015; Watson et al., 2018), positive economic outcomes (see Voorberg et al., 2015), or customer value (Kambil et al., 1999; Payne et al., 2008; Witell et al., 2011).

Customer value is defined by extending the traditional assessment of the difference between benefits and cost to the three-dimensional level introduced by Kambil et al. (1999): with co-creation, value covers customer's individual needs, features of the offering, and the overall cost combining price with perceived effort and risk. Value creation has been increasingly shifted toward the customers, being the elemental part in the co-creation of value (Prahalad & Ramaswamy, 2004), and as Witell et al. (2011) argue, "the true value of a market offering can only be evaluated through the lens of the customer" (p. 140). The emphasizing of customer in value (co-)creation connects with the notion that business model literature has shifted the focus point from value capture to value creation (Zott et al., 2011) – from this, one can elaborate that the demand for and importance of co-creation is indeed reasoned and topical.

2.2.2. Implementation of co-creation practices

Despite the extensive literature around co-creation concept and related concepts, scholars and practitioners seem to lack a coherent understanding of the phenomenon as a whole, and critical analysis is required (Bharti et al., 2015).

Research identifies multiple requisites for co-creation process to succeed. First, the succession of co-creation process is dependent on the amount of value created for customers and producers, i.e., fulfilling the customer needs with provided offering while balancing perceived risk and effort (Kambil et al., 1999) – thus, the co-creation must be executed in the way that maximizes the creation of value.

Second, the role of the customer is emphasized in the literature; according to Bharti & Agrawal (2018), co-creation requires a. high level of customer involvement and an ability to create trustworthiness between parties and fulfill customers' both expressed and hidden needs. Co-creation is based on collaboration, acknowledging and utilizing the valuable resources generated by customers' experience and knowledge (Bharti et al., 2015). Experiences are seen to be in critical role of co-creation of value (Gebauer et al., 2010; Payne et al., 2009; Prahalad & Ramaswamy, 2000), and are identified and discussed further in the thesis.

Other requirements for co-creation succession in company's context include e.g., open dialogue and transparency (Bharti et al., 2015; Prahalad & Ramaswamy, 2000, 2004), customer motivation and participation monitoring (Kambil et al., 1999), and relevant customer communities with mobility and diversity (Bharti & Agrawal, 2018; Prahalad & Ramaswamy, 2000).

Co-creation together with the customers can be implemented in numerous parts of the value chain (Kambil et al., 1999). Customers can execute co-creation at different depths; in their systematic literature review of co-creation with the citizens, Voorberg et al.

(2015) conclude three types of co-creation approaches from the citizens' angle: co-implementing (value co-created through participation), co-designing (value co-created through consumer designing the implementation of the offering), and co-creation initiating (value co-created from the consumer's initiative). Though Voorberg et al. discuss the co-creating role of citizens, these approaches are relevant to literature around co-creation between companies and their customers.

Examples of actual co-creation practices are presented next, based on Voorberg et al.'s (2015) categorization of co-creation approaches. As the co-implementing role of the customer, researchers identify business models that are "highly dependent on customers' co-creation activities" (Payne et al., 2009, p. 383), and which execute co-creation through customers being co-implementers. When e.g., the transportation and assemblance of the purchased product is transferred for the customers, the company is able to reduce their cost structure and customer prices (Kambil et al., 1999), creating monetary value for both parties.

Other co-creation activities with customers' role as co-implementers include e.g., self-services, enabling reduced effort and better time management for both the consumer and the company (Gebauer et al., 2010; Payne et al., 2009); open online marketplaces, through which customers sell and buy items from each other, creating value through collaborative interactions and fulfilled needs (Kambil et al., 1999); and online community behavior in a brand's website or social media channels, where users provide content and reviews for each other through the company's managed online platform (Kambil et al., 1999; Merz et al., 2018; Osterwalder, 2010; Prahalad & Ramaswamy, 2000), generating not only valuable content for each other, but additionally fostering and fortifying the company's identity and brand (Prahalad & Ramaswamy, 2000).

Furthermore, experiences are strongly linked to co-creation through offering usage, and scholars have identified co-creation of experiences to promote e.g., customer engagement (Payne et al., 2009). Prahalad & Ramaswamy (2000) address this topic with their own

arguments: “The product… is no more than an artifact around which customers have experiences. … What’s more, customers are not prepared to accept experiences fabricated by companies. Increasingly, they want to shape those experiences themselves, both individually and with experts or other customers” (p. 83).

Witell et al. (2011) argue that literature mainly focuses on co-creation during the consumption, leading to value-in-use and neglecting the innovation and development of the company’s offering. Co-creation should be implemented in the innovation processes to gain more profound creation of value, where customers can generate more novel ideas that create value for others, or enhance co-creation for others (Witell et al., 2011). Witell et al. define co-creation for others as follows: “activities in which customers actively participate in the early phases of the development process by contributing information about their own needs and/or suggesting ideas for future services that they would value being able to use” (2011, p. 143-144).

Co-creation through co-designing answers to Witell et al. (2011) appeal for co-creation for others and can be implemented in various levels. E.g., Bharti & Agrawal (2018) discuss the co-designing campaign of specific products through customers’ active engagement with the company’s designers, offering ideas and opinions through website interaction. Other designing activities within co-creation include co-designing an entire new concept or offering (Gebauer et al., 2010) instead of a specific, pre-defined product category; and co-creating the offering and re-designing its elements incrementally after the offering has launched (e.g., continuous developing of a computer software by its users) (Kambil et al., 1999). Furthermore, co-designing can be maintained through online platforms, where customers can select from pre-defined features of a product in development (Kambil et al., 1999), generating easy and low-effort interactions with valuable information.

The continuous customer development could also be categorized within co-creation through co-implementation. Additionally, customer reviews of a company’s offering

(e.g., used by Amazon.com (Osterwalder & Pigneur, 2010)) can be seen as co-creation through co-implementing and co-designing simultaneously – leading to a conclusion that these practices can overlap in the perspective of the form through which co-creation is executed.

Co-creation through co-designing is also linked with concepts of customization and personalization of products; companies can co-create value with their customers by letting them personalize the product they are buying (Bharti & Agrawal, 2018; Kambil et al., 1999).

Co-creation practices initiated by the customer are not as evident in existing literature, but Prahalad & Ramaswamy (2000) discuss an example, where a customer of a technology company built a website in which hackers can test and develop the company's products. This enables the company to improve their products (Prahalad & Ramaswamy, 2000), while offering the users a platform for leisure. The previous case is also a valid example for risk management through co-creation, examined as one co-creation process by Gebauer et al. (2010). Additionally, content creators in various social media channels (such as YouTube (Osterwalder & Pigneur, 2010)) can be seen as co-creation initiated by the customer.

The co-creation examples reviewed before denote that co-creation activities take place in different environments, depending on the co-creation practice at hand. Co-creation of customers is executed either with managers, front-line employees, or other customers (Randall et al., 2011) in these different environments. Payne et al. (2008) identify three forms of encounters for co-creation activities: communication encounters, usage encounters, and service encounters. Communication encounters are platforms for active communication and dialogue between the company and the customer via e.g., the company's website; usage encounters include the consumption environment; whereas service encounters include engagement with customer service or personnel (Payne et al., 2008).

While the usage and service encounters from Payne et al. (2008) may traditionally refer to face-to-face encounters, co-creation environments are being reshaped due to digitalization and technological development (Kambil et al., 1999; Payne et al., 2008), and many of the previously introduced co-creation practices are executed online (e.g., online communities, online market places, and development of a company's offering through online channels). Furthermore, co-creation through social media has received interest among researchers (e.g., Thomas et al., 2020) – utilizing social media and other online channels in co-creation will be discussed more thoroughly later in this thesis.

Thus, co-creation as a process is iterative and requires effort and maintenance. Co-creation can be executed through various channels, online or face-to-face, with various co-creation activities, varying with the context and purpose of each co-creation actions. The main ideology of co-creation and collaboration between parties, however, must remain throughout the process – co-creation cannot be executed by simply transferring responsibility fully to the consumer or with marginal customization (Prahalad & Ramaswamy, 2004).

2.2.3. Benefits and barriers of co-creation

Co-creation should not be applied only due to the dynamics changed in market and demand to customer-centric approaches. It has become clear that effective co-creation delivers value (Bharti et al., 2015; Witell et al., 2011), and when discussing the perceived benefits of co-creation, some scholars use the words benefit and value as synonyms (e.g. Payne et al., 2008).

According to Bharti et al. (2015), what creates value in the co-creation process is decided by the customers – thus, customers' perceptions of the benefits of co-creation are critical. In past literature, co-creation together with the customer has been recognized to enhance

satisfaction, willingness to help and provide further feedback, as well as to positively affect the future purchase intention (Choi et al., 2016; Merz et al., 2018; Randall et al., 2011). Moreover, benefits of co-creation are noted to include perceived experiences and customer learning and problem solving (Bharti et al., 2015).

Although Bharti et al. (2015) emphasize the importance of customer benefits, the positive outcomes for the company cannot be dismissed. This has been noted among other researchers, and Gebauer et al. (2010) argue the following: "… most discussions of … value co-creation have concentrated on the customer's perspective" (p. 514). Benefits and positive outcomes for the companies in successful co-creation are discussed next.

Co-creation generates business opportunities by widening the perspectives, creating dynamical relationships, and enhancing competitive advantage (Kambil et al., 1999; Lusch et al., 2007). Co-creation is noted to increase trustworthiness between the customer and the company as well as commitment and customer loyalty (Kambil et al., 1999; Merz et al., 2018; Randall et al., 2011). These are received through e.g., relationship building and listening and reacting to customers' needs and wants (Bharti & Agrawal, 2018). Furthermore, co-creation can be utilized in brand value generation (Choi et al., 2016; Merz et al., 2018), further fostering the customer relationship and loyalty.

Co-creation also enables companies to enhance their innovation processes (Witell et al., 2011), which were earlier identified to be an important element in sustainable business model literature (e.g., Bocken et al., 2014). Positive economic outcomes are perceived through enhancement of these successful co-created innovations as well as increased purchase intention and acceptance of higher prices from customers (Merz et al., 2018; Randall et al., 2011; Witell et al., 2011), leading to increased revenues and profit (Payne et al., 2008). Research around co-creation is often aiming for identifying economic outcomes such as increased effectiveness and efficiency (Voorberg et al., 2015).

Finally, co-creation touches humane and cultural layers of the company; as Prahalad & Ramaswamy (2004) note, many managers forget the consumer-side of offering and focus too much on managerial aspects – co-creation might narrow this gap with creation of togetherness and meeting the customers' needs (Bharti et al., 2015).

Co-creation is a complicated process and seldom comes without challenges (Kambil et al., 1999; Prahalad & Ramaswamy, 2000). However, it appears that existing literature is not comprehensively addressing the potential risks or barriers for co-creation with the customer as much as the benefits, introduced above – e.g., in their concept 'pillars of value co-creation', Bharti et al. (2015) identified perceived benefits as one main function of co-creation, but mention risks or threats only briefly when discussing management structure.

Some risks related to co-creation have, however, been identified, and according to Kambil et al. (1999), they are related to privacy, brand, goals, and effort. In the world dominated by the Internet, customers' privacy and companies' legal aspects (e.g., copyrights and Intellectual Property) can become endangered; brand value is fragile, and can be diminished by customer actions in co-creation; parties' different objectives with profit minimization or maximization can lead to conflicts, stressing the importance of setting shared goals; and required effort needs to meet the benefitted outcome for the customer (Kambil et al., 1999). Literature around challenges in co-creation in certain industry business models can be identified, and e.g., fashion industry and fashion business models create their own obstacles for effective co-creation (Millspaugh & Kent, 2016). These will be more thoroughly discussed in the next chapter.

Companies need to maintain risk management and strong customer relationships through transparency and open dialogue (Kambil et al., 1999; Prahalad & Ramaswamy, 2004; Voorberg et al., 2015). Kambil et al. (1999) have listed options with which to enhance the co-creation process and increase trustworthiness – this list includes, e.g., defining and

articulating objectives and expectations, selecting right customers to co-create with, controlling the channels and providing capabilities, as well as managing incentives.

2.2.4. Co-creation with fashion and sustainability

Co-creation with fashion has gained increasing interest among fashion companies and researchers during the past decades, and the demand for co-creation and other forms of interaction is noted in the research of fashion business operations (Choi et al., 2016; Millspaugh & Kent, 2016).

Co-creation with fashion is viewed e.g., from the perspective of luxury fashion (Choi et al., 2016; Hughes et al., 2016), small and medium size fashion designers (Millspaugh & Kent, 2016) or online-only fashion brands (Thomas et al., 2020). Online business models, digital marketing, and virtuality appear to be in particular focus within research of co-creation with fashion (see e.g., Choi et al., 2016; Hughes et al., 2016; Kang, 2017; Suryana et al., 2017; Thomas et al., 2020). This was also evident in the data findings of this research and will be discussed further in the thesis.

Literature around co-creation between fashion companies and their customers predominantly examines co-creation of brand value (e.g, Choi et al., 2016; Hughes et al., 2016; Millspaugh & Kent, 2016; Thomas et al., 2020) or product design and development (Kang, 2017; Suryana et al., 2017; Zhang & Ma, 2021). Presentation of concrete co-creation examples within fashion industry literature is to some extent neglected (Thomas et al., 2020). Nevertheless, scholars have been able to identify a portion of examples, which will be scrutinized next.

Most scholars identify and introduce effortless consumer co-creation actions that are simple to manage by fashion companies and which differ from the requirements of high customer involvement present in general co-creation literature (e.g., Bharti & Agrawal,

2018). The co-creation actions are executed mostly online, and their platforms are either fully managed by the company or by customers themselves. Choi et al. (2016) present the categorization of these platforms as brand-driven platforms (company home pages, official social media channels, official blogs) and customer-led online communities and customers' blogs. In these platforms, customers can e.g., post customer-generated content, share experiences and knowledge, build communality and customer-to-customer relationships, give feedback for the fashion companies, or provide suggestions regarding the fashion brand or its collections (Choi et al., 2016; Millspaugh & Kent, 2016; Thomas et al., 2020). However, the value of maintaining active dialogue and responding and reacting to e.g., customer feedback and presenting the results is stressed (e.g., Millspaugh & Kent, 2016) to keep the communication activities in form of bidirectional co-creation.

Benefits of effective co-creation in the field of fashion align with those of traditional co-creation; e.g., commitment to brand and communities around a fashion brand as well as increased purchase intention were identified as positive end results of co-creation practices between fashion companies and their customers (Choi et al., 2016).

Co-creation does not come without certain challenges to the fashion business model. For example, due to the extensive and complex supply chains, it is sometimes hard to get customers involved in the earliest stages of product development or innovation (Millspaugh & Kent, 2016). Additionally, co-creating brand value is not simple in fashion, since the fashion brand is often rooted in the characteristics of the designer and the aesthetics of the brand, creating complications in collaborative brand value creation (Millspaugh & Kent, 2016).

Scholars researching sustainability in business-context are recognizing the importance of the customer (e.g., Hill & Lee, 2012; Kim & Hall, 2015; Sheth et al., 2011) and the value created in interaction of stakeholders (Biggemann et al., 2014). Certain sustainability goals demand for high customer focus and involvement (Sheth et al. (2011). Uusitalo & Oksanen (2004) emphasize that companies should pay attention to consumers' confusion

and uncertainty related to sustainability, and Carrigan & Attalla (2001, p. 563) ask a relevant question: “are today's consumers fully informed about the ethical behavior of marketers, and does it translate into efficient ethical purchasing?”, giving further push toward collaboration and co-creation between companies and consumers in the context of sustainability as well.

Sheth et al. (2011) take the discussion even further by introducing the concept of Customer-Centric Sustainability (CCS), which they define as marketing actions concerning consumption impacting environmental, social, and economic aspects of sustainability and wellbeing of the consumer. CSS can, according to Sheth et al. (2011), enhance the business sustainability and is a form of marketing that considers the interests and goals of both the company and the customer. In addition, they propose that CSS can positively affect consumer behavior. CSS by Sheth et al. (2011) has similar elements and outcomes as does the concept of co-creation, but CSS actions are still direct and one-way marketing actions instead of iterative and fully collaborative actions that the co-creation acquires.

Overall, research combining customer co-creation and business sustainability is quite a novel concept and thus not as evident in the existing literature – co-creation is either not a primary target of research but rather an outcome (e.g., Biggemann et al., 2014; Watson et al., 2018) or the focus point is not in sustainable business models or business in general, but e.g., public sector (e.g., Ramos et al., 2021) or academic field (e.g., Mauser et al., 2013).

However, some research connecting sustainable business and co-creation does exist, although the two tend to be separated from each other (Arnold, 2017). Arnold (2017) defines sustainability related co-creation as follows: “combining resources, knowledge and (cap-)abilities… to improve products and services and even the value chain by means of sustainability criteria” (p. 181), enabling co-creation to ignite sustainable innovations and initiatives.

A limited amount of literature around co-creation *with the customer* exists – co-creation literature concentrates generally in co-creation with multiple stakeholders across the supply chain (e.g., Arnold, 2017; Ramos et al., 2021; Watson et al., 2018). In their article, Yang et al. (2017) introduce the model of value co-creation, connecting producers and customers through co-creation, resulting to a product or service that contributes to sustainability. In this model, customers, producers (i.e. companies), and the social and environmental aspects are not detached from each other, but connect through co-creation processes (Yang et al., 2017). In such sustainability co-creation, value is generated through e.g., active and open dialogue as well as transparency, while co-creating company's products or services together (Yang et al., 2017).

Perhaps predictably, giving the scarcity of literature connecting co-creation with fashion businesses and sustainability, there seems to be almost no research regarding co-creation with sustainable fashion companies. The identified literature discussing the co-creation of fashion companies' sustainable value presents limitations regarding this study; first, the existing literature focuses on luxury fashion brands (Yang et al., 2017), which represent only a minor part of different fashion business strategies and models. Second, previous research is purposefully extending their perspective of co-creation to include all supply chain members (Yang et al., 2017), leaving consumers a negligible significance in their co-creation mechanisms.

Despite of lack of research of co-creation between sustainable fashion companies and their customers, scholars have noted the importance of knowing customers' needs and values in the sustainable fashion industry (e.g., Niinimäki, 2010), and customer involvement in and their knowledge of e.g., product development is noted to have positive outcomes in the industry (e.g., Kim & Hall, 2015). Additionally, in the literature of sustainable business models and their applications in fashion companies, consumers have a significant role – these include e.g., sufficiency-based business models (Bocken & Short, 2016) that appear in the fashion industries, and dominant macrotrends in fashion

sustainability: consumer awareness and sharing economy and collaborative consumption (Todeschini et al., 2017).

The literature regarding business model sustainability in the context of fashion businesses is identified to be extensive and diverse, as was seen in previous chapter of the literature review. The second chapter of the literature review, discussing co-creation between the company and its customers, identifies widespread knowledge and research around the topic in the context of definitions, requirements and elements, concrete examples, as well as benefits and barriers. However, the research connecting fashion businesses aiming for sustainability in their business model decisions and co-creation practices with the customer is scarce, even nonexistent, as the literature review shows. This emphasizes the need to fill the identified research gap, leading to the thesis' research question: "How are sustainability-oriented fashion companies incorporating co-creation practices in their work?" In the rest of the thesis, the contribution for this significant research gap will be offered.

3. Methodology

The objective of this study is to answer the three-fold questions: the research question *'How are sustainability-oriented fashion companies incorporating co-creation practices in their work?'*, as well as the sub questions *'What are the perceived benefits and outcomes of customer co-creation?'* and *'What are the possible barriers for co-creation execution and implementation?'.* A qualitative methodology informs this work (Eriksson & Kovalainen, 2008). The data was collected via interviews and analyzed by recourse to interpretive data analytic techniques (Eriksson & Kovalainen, 2008). All interviews were guided by an interview protocol (see **Appendix 1**). Open and informal interviews enable to produce deeper, unanticipated information about the research topic, while the guided interviews are beneficial in achieving systematic and expansive insights of the topic (Eriksson & Kovalainen, 2008). Thus, combining open, interpretive interviews that were guided by the interview protocol enabled for a comprehensive and structured, yet insightful interview.

3.1. Data collection

3.1.1. Case company selection

The data of this research was collected through interviews, which were selected based on specific criteria: potential interviewees were searched through #durableclothingcampaign (Finix, 2020), which lists Finnish fashion companies that meet the campaign's requirements of sustainable business operations at production, services, and corporate levels. From the listing of 112 companies (status in February 2022), 33 companies were examined: their websites and social media channels were searched and references to customer involvement actions and co-creation practices were scanned. These actions and practices that were searched for and which are present in the existing co-creation literature included e.g., customer reviews published at company website (Osterwalder & Pigneur,

2010), encouraging for discussion and activities in social media platforms for brand community (Choi et al., 2016; Thomas et al., 2020), providing open (online) marketplaces where customers can sell and buy each other's products (with company's administration (Kambil et al., 1999)), option for customization or personalization of the product (Bharti & Agrawal, 2018; Kambil et al., 1999), utilizing co-creation in product and innovation development (Bharti & Agrawal, 2018; Gebauer et al., 2010), or promoting open dialogue and communication in general (Bharti et al., 2015; Prahalad & Ramaswamy, 2000, 2004).

From the examined companies in Finix' (2020) listing and adding one external company that matched the requirements of interviewees both in co-creation and sustainability practices, eleven were found to have appropriate amount of co-creation and customer involvement practices, based on their websites and social media channels. These companies were then approached through email, requesting for an online interview planned for duration of one hour, and the theme and purpose of the interviews were articulated. In total, nine companies responded, out of which three declined directly due to tight schedule, and one did not respond after receiving further information about the interview. Two of the companies did not respond though a reminder email was sent to them.

In total, five companies were interviewed in one-on-one sessions, all of which represent fashion sustainability in different ways; their approaches to sustainability and their offerings and product lines as well as target markets have variations. These variations create diversity for the collected data and were implicitly pursued for a wider market applicability of the results and conclusions. However, the combining factor for each interviewee was that they offer fashion for end consumers and operate (only or partially) in B2C market, considering sustainability at multiple levels. The companies' approach to sustainability in their business model decisions will be discussed more thoroughly in the Findings. In the selected companies, people who had a thorough understanding of the company's operations, plans, sustainability, and customer relationships were interviewed. The interviews were conducted in Finnish to keep the discussion as easy as possible for

both parties. All interviews were anonymized with a consent. A summarizing table of the interviewees and the interviews is presented below in **Table 1**.

Table 1 *Summary of the interviewed case companies.*

Company	Interview date	Job title	Primary offering	Revenue (2021)	Employees (2021)	Interview duration	Transcript length
1	Feb 23, 2022	CEO	Women's fashion	€ 2,3M	23	Approx. 55min	10p
2	March 1, 2022	Founder	Unisex fashion	€ 2,9M	17	Approx. 55min	7p
3	March 15, 2022	CEO, Co-owner	Bags & accessories	€ 322,000	3	Approx. 60min	7p
4	March 29, 2022	Founder	Women's fashion	€ 1,1M	6-8	Approx. 45min	7p
5	April 8, 2022	Sustainability manager, customer service	Knitwear for women and men	€ 2,3M	10	Approx. 70min	13p

3.1.2. Interview procedure

The data gathering based on the research question uses two dimensions of primary data. First, after selecting the interviewees, information was gathered online about the possible methods and tools of co-creation in the selected companies. Companies' websites and social media channels were investigated, and related media content was checked. The concluded data collection of online resources is presented in **Appendix 2**.

After gathering information online, the basis for the main primary data, i.e., interviews, was formed. A good interview structure has a set of pre-defined interview questions and focuses on the particular issues processing the research question(s) (Eriksson & Kovalainen, 2008). The interviews were in form of interpretive interviews, guided by the interview protocol, where preliminary questions and themes were formed based on the

online findings and the research question and the sub questions of this study. The purpose of this structuring was to gain further information and perspective of the identified co-creation methods, and to reveal more co-creation practices that had not been discovered in the preliminary online research.

The interview protocol was followed throughout the interviews and can be found in **Appendix 1**. All interviews were conducted online due to the COVID-19 pandemic – four of them via Zoom meeting and one via phone call due to the interviewee's preferences. All interviews were recorded with the interviewees' verbal consents.

The interviews followed the same thematical structures, but the individual questions varied based on the prior online research for each company and the answers and elaborations of each interviewee. The interviews started by briefly introducing the researcher and the research area of the thesis. Next, each interviewee was asked to introduce themselves and the company. Here, the clarifications of the company's background and core business idea were formed. After introductions, the company's approach to sustainability was discussed, followed by discussion of the company's customer relationships in general.

This led to the most important section of the interview in the thesis' point of view. A short introduction of the concept of customer co-creation (if not discussed earlier already) was presented: the concept of co-creation was described for the interviewees simply as creating value together with the customer, benefiting the company, customer, and in some cases other customers. Next, the interviewees were asked to elaborate from the top of their minds, what co-creation methods their company uses. Then, each co-creation tool and method identified in the online research prior to the interviews as well as the additional, emerged co-creation tools and methods that were appearing as the interviews proceeded were tackled individually. Also, the value created in these co-creation practices and their benefits were considered. Finally, possible future co-creation methods and the possible barriers in co-creation process were discussed.

3.1.3. Saturation point

A typical feature for the qualitative research is that the required number of the interviewees is not predetermined, but depends on the context and the quality of the interviews – compared to quantitative research, the purpose of the qualitative study is to reveal cultural characteristics and perceptions related to the research questions instead of discovering numerical data (McCracken, 1988).

After five interviews, the themes and concepts began to repeat themselves, reaching to data saturation. Saturation is a point where new interviewees do not provide additional or new information that would be relevant regarding the research question (Tuomi & Sarajärvi, 2018, p. 99). Given the clearly outlined research question as well as the formation of interview questions guided by the interview protocol, interviews were following the same pattern, and similar topics and themes were discussed in each interview, leading to mostly coherent conclusions and co-creation activity identifications.

3.2. Data analysis

This research approaches data analysis based on thematic qualitative analysis method. Thematic analysis can be defined as "a method for systematically identifying, organizing, and offering insight into patterns of meaning (themes) across a data set" (Braun & Clarke, 2012, p. 57). The research focuses on a specified theme, co-creation together with the customer, and on how it is executed and with what outcomes and barriers. Thus, clear patterns between interviews have been formed, given the clarified research question.

According to Braun & Clarke (2012), thematic analysis phases include data familiarization, initial coding, theme searching, reviewing, definition and naming, and finally producing the report. The data analysis of this thesis followed Braun & Clarke's

phases through an iterative approach including revisiting the data after first analysis and refining the approach to thematization of interview data for achieving better interpretation and application of findings.

The first phase of Braun & Clarke (2012) thematic analysis, familiarization with the data, took place in the early stages of data analysis, when the interview recordings were transformed to written transcripts. The interview recordings of approximately 285 minutes in total were transcribed to 44 pages of transcript. The transcripts were not translated to English or any other language – this was done to keep the important nuances and dictions explicitly as they were said. Transcripts were read through to check that they fully represented the recorded interview data.

After the transcripts, the second phase of Braun & Clarke's (2012) listing, coding, was executed. Coding is also in a critical role in the grounded theory research methodology (Eriksson & Kovalainen, 2008), and grounded theory's three levels of coding – open coding, axial coding, and selective coding – are utilized in this research's thematic analysis as well. From the three rounds of coding, and after reforming and reorganizing the axial and selective coding processes, a data structure figure was formed for clarification of the coding process and thematization of the data. The visualization of the data and forming the data structure figure took inspiration from data structure presentation of Hultberg & Pal (2021, p. 690-691). The data structure of the companies' sustainability and co-creation practices can be found in **Figure 5** and **Appendix 3**.

The coding of the analysis begins with open coding, where keywords and phrases are identified in the data, and these keywords are organized and categorized into codes (Eriksson & Kovalainen, 2008; Williams & Moser, 2019). In the open coding, a hybrid combination of both deductive and inductive coding was used – this approach enables the researcher to retrieve more thorough insights from the written data while building the data findings around the presented research question through both internal analysis of

deductive coding as well as emerging analysis of inductive coding (Fereday & Muir-Cochrane, 2006).

The preliminary codes in deductive coding are defined and listed prior to the deeper analysis and can be based on introductory scanning trough data transcripts as well as on the research question and related literature (Fereday & Muir-Cochrane, 2006). The deductive codes for the data analysis of this research were identified using both approaches; the codes were selected based on the research question, theoretical framework, and preliminary information about the interviewed companies formed in the execution of the interviews and the online research prior to the interviews. In total, 15 codes in the deductive coding part were listed. These deductive codes and their incidence in the interview transcripts are presented in italics in the data structure figures in **Figure 5** and **Appendix 3**.

After defining and listing deductive codes, a line-by-line coding of each interview transcripts was performed, which is a typical and useful approach to open coding (Eriksson & Kovalainen, 2008). While coding based on the deductive codes, also repeatedly emerging patterns and concept were identified, based on which inductive codes were added. In the coding phase of qualitative analysis, it is crucial to consistently apply the coding process to the entire qualitative data without exceptions to consolidate the integrity of the data analysis and findings (Williams & Moser, 2019). Thus, since some of the inductive coding emerged in the later parts of the transcripts, it was necessary to do the line-by-line coding twice in order to capture the emerging codes also in the early phases of the text. The inductive codes and their incidences are presented in the data structure figures in classic font in **Figure 5** and **Appendix 3**. After two rounds of hybrid coding, in total 67 codes from the 44-page long transcripts had been identified and documented.

The difference between the codes identified in the deductive and inductive processes is noteworthy; altogether 52 codes were identified in the inductive process, compared to the

15 pre-defined codes. Although not all of the codes resulted being relative for the findings, it can be noted that the approach of open, interpretive interviews do reveal novel information about the theme at hand, as the literature discusses (Eriksson & Kovalainen, 2008).

After the thorough coding, theme searching, reviewing, definition, and naming takes place (Braun & Clarke, 2012). This was executed using axial and selective coding of the grounded theory research tools. With axial coding, the data analysis moves to a deeper level with aligning and sorting the identified and listed codes into categories that show relationships and commonalities between lower-level open codes (Eriksson & Kovalainen, 2008; Williams & Moser, 2019). Results of hybrid open coding were revisited, and categorization based on them was formed. At this point, the data was categorized twice, since the first categorization was rejected after deeper data interpretation, and new categories were formed from a different angle. Additionally, codes that were not relevant to the research question or applicable to any of the identified categories were rejected, leading to in total of 57 codes, of which 13 were deductive and 44 inductive codes. The categories combine the lower-level open codes in different groupings – as many of the open codes related to co-creation practices were related to multiple co-creation practices, they are present within various open coding categories. In addition to categorizing the codes of open coding, the naming of the categories of axial coding is also mirroring the research question – categories represent different identified co-creation activities, outcomes, and barriers (presented in **Appendix 3**), as well as different layers of business model sustainability (in **Figure 5**). An additional category of possible co-creation channels, leading to the final theme of "Other customer involvement action", was included, and will be briefly discussed in the Findings and Conclusions chapters.

Selective coding is the last phase of the coding process, where previously organized categories are integrated into greater-level themes and concepts, which are analyzed in the context of the relevant theory (Eriksson & Kovalainen, 2008). With selective coding,

six themes relevant to the research question and the sub questions (co-creation with high, medium, and low customer involvement, co-creation benefits, co-creation challenges, and other forms of customer involvement) and one theme related to business sustainability were identified. These themes will be discussed in the Findings chapter.

3.2.1. Ethics and trustworthiness of the study

Research ethics must be complied with throughout the whole research process (Eriksson & Kovalainen, 2008). Research ethics is highly linked to research trustworthiness, which is based on objectivity and truthfulness (Tuomi & Sarajärvi, 2018). This research has aimed for maximum ethics and trustworthiness in each step of the research process.

The target of this research is to increase knowledge and awareness around customer co-creation practices that sustainable fashion companies are incorporating and can incorporate, as well as to shed light on positive outcomes and benefits of these practices, not forgetting the possible barriers. As the fashion industry has had extensive issues during the past decades (Boström & Micheletti, 2016) regarding environmental, social, and economical responsibilities, improving sustainable fashion business is important. This research discusses possibilities for improving operations of sustainable fashion companies, analyzing and possibly contributing to the issue at hand.

The credibility of a qualitative study can be examined through presented familiarity with the data and the sufficiency of the data analysis (Eriksson & Kovalainen, 2008). This research' purpose is to build logical connections between fashion companies, sustainable business models, and customer co-creation through literature review, data analysis and interpretation, and managerial recommendations, targeting for credibility of the qualitative research.

Validity and reliability are classic qualitative research evaluation criteria; while validity describes the accuracy of data analysis conclusion and explanation coherence, reliability analyzes the replicability of one's research (Eriksson & Kovalainen, 2008). In this research, validity through accurate and thorough data analysis, reporting, and documentation was carefully executed. The study can also be described as reliable through replicability of other researchers, following the thorough data analysis description presented above.

Generalizability is another form of research evaluation criteria, referring to the extent which the findings of the research can be used in a wider context (Eriksson & Kovalainen, 2008). The data saturation was perceived to be filled, as discussed before, and the findings show similarities across the case companies, and the literature around the topic of the research question mainly supports the findings of this research, as will be concluded later in the thesis. However, the number of the interviewed companies is relatively low, and the generalizability of the thesis results might be hampered due to the limited number of interviewees and thus, data results.

This thesis includes a literature review section, in which existing literature relevant to the research question is referred to and concluded. In the literature review, as well as throughout the whole thesis, plagiarism has been conscientiously avoided. According to Eriksson & Kovalainen (2008, p. 75), plagiarism takes place when the researcher fails to "give acknowledgement to other researchers' ideas, inventions, research work, written texts and publications, but uses them and present them as (their) own and produces work of another person without expressly crediting that person". It is important to give the rightful acknowledgement to those who have contributed to research, as has been done in the literature review as well as in other parts of this thesis where referencing was required.

The methodological choices made in data gathering, analysis, and interpretation represent the general qualitative research methods: qualitative interview is a typical qualitative research and data gathering method, enabling for thorough examination of the research

question, and utilizing open interviews enable for valuable insights and expanding the results, while grounding interviews in protocols helps in finding relevant and coherent results (Eriksson & Kovalainen, 2008). Applying a thematic approach in data analysis allows to clarify important topics related to the research question (Braun & Clarke, 2012). This was also perceived in this research, as identified codes were rejected when forming the final, relevant themes of the data analysis.

This research is based on deep one-on-one interviews. Thus, trustworthiness of collecting and handling interview data is vital for this study. There are multiple levels that need to be taken into consideration in a researcher-participant relationship (Eriksson & Kovalainen, 2008). First, all interviews were held based on voluntary participation, and scheduling the interviews was selected depending on the participants' preferences. Furthermore, in the beginning of each interview, the participants were asked for a verbal consent for recording the interviews. When requesting for the interviews, it was explicitly argued that the interview data will be only used for this specific research. The data was also fully anonymized, and no names are shown in the transcribed interview data and analysis. As Eriksson & Kovalainen (2008) indicate, anonymity is the most crucial factor in qualitative research. Additionally, text that can lead to interviewee identification needs to be removed from all qualitative research data (Eriksson & Kovalainen, 2008) – this was carefully executed while transcribing the interview recordings.

The transcript material from the interview recordings was not translated to English during the thematic analysis process. Only direct quotes presented in the Findings chapter are translated. When keeping the original interview language (Finnish) when conducting the data analysis process, no subtle meanings or tones are lost in translation, which helped the researcher to reach more accurate data analysis and amplified trustworthiness.

According to Tuomi & Sarajärvi (2018), the researcher is responsible for clearly articulating the data gathering and analysis process in detail to enable the readers of the study to evaluate the research results. This research has focused on ethicalness and

trustworthiness throughout the entire research process, and each step of the research and data analysis have been clearly articulated. Thus, it can be concluded, that this research follows ethical guidelines throughout the research process.

4. Findings

In the following chapter, the results from the qualitative data analysis will be interpreted and presented. First, the case companies' approach to sustainability in their fashion businesses is discussed. Next, the overall evaluation of the case companies' perceptions of co-creation as a concept is interpreted, followed by a brief introduction of co-creation practices with other stakeholders. The rest of the findings covers co-creation with the customer, identifying different customer involvement levels and the concrete co-creation practices at each involvement level. The Findings also discuss identified benefits and barriers in co-creation with the customer. Finally, a summary of the findings is provided, with discussion of identified co-creation platforms and sustainability.

4.1. Sustainable business operations of the case companies

This research is focusing on fashion companies that are aiming for sustainability in their business model operations. Thus, the interviews covered the case companies' approach to sustainable business actions to validate the companies' role as fashion businesses targeting for sustainability. The qualitative data analysis of the interviews analyzed the companies' business model sustainability, discovering actions related to the environmental and social levels of sustainability (see e.g., Joyce & Paquin, 2016) as well as other sustainability actions, discussed previously in this thesis. The findings of the thematic data analysis, resulting to data structure figure found in **Figure 5**, are presented next, based on the environmental and social layers of the Triple Layer Business Model Canvas (TLBMC) (Joyce & Paquin, 2016), discussed earlier in the literature (see **Figure 2**).

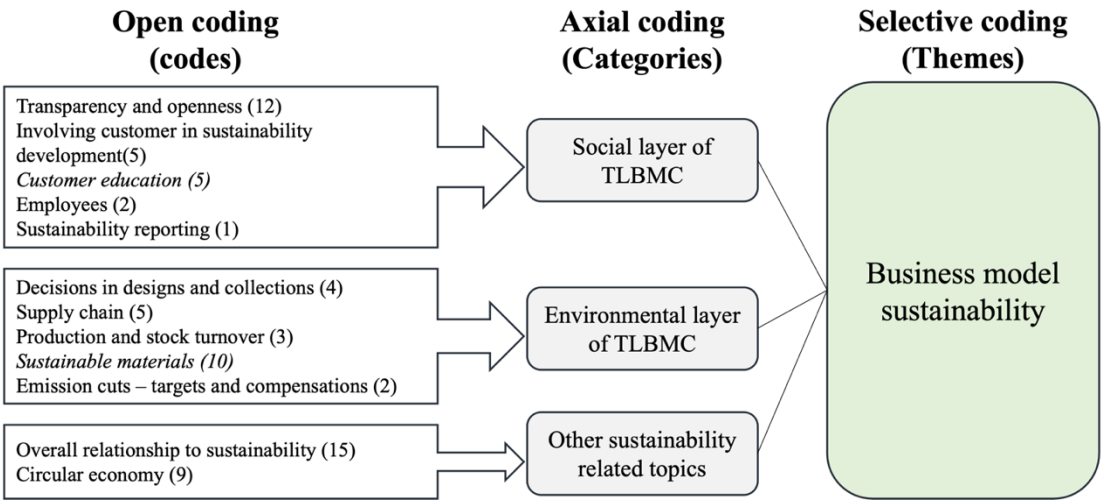

Figure 5 *Data structure figure of the case companies' approach to sustainability. Visual inspiration from Hultberg & Pal (2021).*

The environmental layer of the TLBMC encompasses e.g., production, material, end-of-life actions, and distribution (Joyce & Paquin, 2016). The material choices of the case companies vary from using 100% recycled material (Company 2) to emphasizing material and fabric longevity and environmental-friendly raw material choices (Companies 3, 4, and 5), and taking into account the re-use possibilities in material selections (Company 1). Production is sustained through monitoring and minimizing inventory size (Company 4), design and production choices at product-level (Company 3's products can be fully dismantled, maintained, and reassembled; products are designed to be timeless and multifunction (Companies 3 and 4)), and setting targets for emission cuts and compensations (Companies 2 and 5). With distribution and suppliers, companies are emphasizing good supplier relationships, minimizing the number of intermediates, and understanding the supply process (Companies 2 and 5). End-of-life actions include e.g., offering alternatives for clothing disposal such as secondhand and take back services (Companies 1, 2, 3, and 5) and utilizing the disposed fabric in future production (Companies 2 and 5).

The social layer of TLBMC (Joyce & Paquin, 2016) includes e.g., employees, societal culture, depth of different stakeholder channels and activities with them, and societal benefits. Case companies 2 and 5 have set minimum wages for supply chain employees. Stakeholder channels, or scale of reach (Joyce & Paquin, 2016) is maintained through communication and risk management with stakeholders, especially in the supply chain, as well as limiting the channel depth with selected partners (Company 5). Additionally, especially Company 2 explained to be actively involved in various sustainability projects and innovative collaborations with other parties, promoting societal culture of TLBMC. Finally, social benefits of the case companies' sustainability actions include overall transparency and openness for the public about the companies' sustainability, and customer education e.g., through events, social media channels, and the companies' websites.

It is noteworthy that Company 2 base their business model highly on circular economy, creating material from waste and participating in post-consumption waste further processing for new products. Also, other case companies promote circularity in their business model action and sustainability with e.g., post-consumption services (secondhand, take back), which will be scrutinized more thoroughly later in the Findings chapter.

As said earlier, the interviewed companies vary in their approaches to sustainability and weigh different actions at the environmental and social levels of the TLBMC. The sustainability actions spread across the different TLBMC layers – this was noted to be typical and even recommended in the literature (Bocken et al., 2014; Hvass, 2015), as discussed earlier. The common factor, however, lies in the all-encompassing relationship with and approach to company sustainability. All interviewees emphasized how the sustainability is in the core of their business, created from the environmental and social actions introduced above, and how nearly all company decisions are made based on their sustainable goals and ambitions. Thus, it can be concluded that the interviewed case companies do approach to fashion business with sustainability as an important target.

4.2. How co-creation was interpreted by the companies

According to existing literature, co-creation between a company and its customers can be defined as collective activities of creating value through meeting customers' needs and generating customer relationships (Bharti et al., 2015; Bharti & Agrawal, 2018; Gebauer et al., 2010; Witell et al., 2011). Research has focused on the co-creation of value with e.g., brand (Choi et al., 2016; Merz et al., 2018), innovations and products (Voorberg et al., 2015; Watson et al., 2018), or customer value (Kambil et al., 1999) through various shared co-creation activities introduced earlier in this thesis.

Before discussing the case companies' co-creation, a brief introduction of the concept of co-creation was offered. The introduction was deliberately simplified to get a wider perspective and approach for the whole concept on behalf of the interviewees. The concept of co-creation was introduced simply as creating value together with the customer, the value which can benefit the company, the customer, and in some cases other customers.

The academic approach to and definition of co-creation and the interpretation of the interviewees of the concepts showed both similarities and differences. The high customer focus and collaboration were seen as important elements of co-creation according to the case companies. Then again, as the identified literature partially emphasizes the need for high customer involvement and effort (e.g., Bharti & Agrawal, 2018), the data analysis reveals that the co-creation does not necessarily require high involvement and large effort from the customer nor the company. Interview analysis identifies numerous co-creation practices that require remarkably different amount of customer involvement to succeed. This will be elaborated further in the thesis.

4.3. Co-creation with other stakeholders

Although a definition of co-creation was given that emphasized the co-creation with the end customer, numerous co-creation activities with various other stakeholders were identified within the interview analysis. These will be discussed briefly next, as co-creation with multiple stakeholders has been stressed in literature of co-creation of sustainability with fashion businesses (Yang et al., 2017).

Case companies were found to have various collaboration with other companies to drive co-creation practices. These partner companies were part of different operations enhancing sustainability, such as second hand and rental services, or other pilots and projects aiming to redefine operations and sustainability in the fashion and textile industry (such as Rester Oy or the Telaketju project), in which customers and post-consumption waste have an important role as well. Additionally, some case companies had launched collaboration collections where cooperation was executed within design or e.g., material production.

Other organizations and associations were also identified to be part of some case companies' co-creation activities. These partnership co-creations were executed in a larger scale, e.g., enhancing (international) sustainability projects (Company 2), or with lower-scale activities such as collaboration collections with organizations or being a guest speaker in each other's events (e.g., Companies 2 and 4). The value created in the aforesaid co-creations can be seen to support e.g., the sustainability image or the mission meaningful for both parties. Also, co-creating with academic partners was identified in the interview analysis (Company 2). Universities and other academic directions were co-creating value with case companies through collaborative research and projects that were supporting different business operations as well as expanding the academic understanding of the research topics.

Some of the case companies have reseller operations, and the potential of reseller co-creation was also brought up in the interviews. One case company had launched "Design your own collection" service for the resellers (Company 4), where the resellers could select the fashion elements of the company's collection that suited the resellers' own product line the best. This creates value for the reseller who can complement their product collection "to best serve their needs, clientele, and brand" (Company 4), and for the case company who can get the right products for the reseller's customers. Open communication and education between the company and its resellers was also discussed and considered to be important element of efficient co-creation.

Finally, influencers and B2B clients were identified as parties for co-creation. The co-creation with influencers focuses on delivering communication and inspiration of style ideas or company's sustainability activities through e.g., social media or events, advantaging their extensive audience reach. B2B clients also use one company's take back services, providing a large scale of production material for future circular economy projects. This enhances the B2B client's sustainability practices while the company offering the take back service receives larger amounts of textile for reuse faster than what only B2C customers could provide.

While these co-creation parties were identified and discussed, the main focus in the interviews was the end customer or B2C customer co-creation. Therefore, the rest of the findings addresses co-creation activities with the end customer.

4.4. Customer co-creation of sustainable fashion companies

When analyzing the interview data in the perspective of the research question '*How are sustainability-oriented fashion companies incorporating co-creation practices in their work?*', various important elements and activities appeared from the data. When

interpreting the co-creation practices identified in the data analysis, a relevant question emerged: what is the level of customer involvement in the identified co-creation pratices?

Table 2 illustrates co-creation practices of sustainable fashion businesses and end customers, showing different levels of co-creation in the context of the abovementioned question. The co-creation practices identified in the data analysis will be investigated in the context of levels of co-creation, which are based on the amount of customer involvement. The identified co-creation practices are utilized for generating different types of value for customers and the company, as will be discussed. The following section will discuss the key findings and interpretations of the levels of co-creation, starting from low involvement co-creation, then moving to medium involvement and finally to high customer involvement practices. Typical features of each level and concrete co-creation practices and their outcomes are explored.

Table 2 *Levels of co-creation between sustainable fashion companies and customers.*

Level of co-creation	Description	Co-creation examples
Co-creation with low customer involvement	Rapid actions requiring little effort or commitment. Helping companies to gain insight on customer preferences.	- Co-creation actions supporting product development - Customer feedback - Sustainability feedback
Co-creation with medium customer involvement	Increased demand of time and occasionally monetary contribution. Used for customer relationships, brand image and value, customer loyalty, communality, and increased revenue.	- Educational events - Mending and tailoring - Secondhand - Take back - Rental - Online brand communities
Co-creation with high customer involvement	High level of dialogue and commitment. Co-creation of brand value, customer relationship and loyalty, communality, product development and innovation, and consumer experiences.	- Workshops - Courses - Joint product development

4.4.1. Co-creation with low customer involvement

Co-creation practices with low customer involvement include rapid actions which take very to fairly limited time, effort, or commitment from the customers' side. These low-effort actions were also discussed in the literature (e.g., Kambil et al., 1999; Millspaugh & Kent, 2016; Zhang & Ma, 2021). Co-creation with low involvement helps companies gain better insight on customers' preferences and opinions and their decision-making processes. As a result, these co-creation actions might reveal something that was not thought of before about company's operations. Company 1 describes how they are aiming for mapping customers' way of thinking about the company's services and what matters

to the customers. Also, customer relationships and mutual openness are gained through low involvement co-creation activities.

The first co-creation action in the low customer involvement category includes customers' opinions and selections of pre-defined design options to support the company's product or concept development processes. Usually, customers are able to select from the company's pre-defined options in e.g., color, pattern, cutting, and fitting. This sort of co-creation takes place mostly in social media through "this or that" posts, sneak peek posts of future designs encouraging for followers' comments and opinions, or longer questionnaire (but still short to maintain low effort) posted in social media. These questionnaires can also take place in the context of the company's other events (e.g., courses (Company 3)). The co-creation is effortless and demands little from the customer (Company 1), and companies can affirm their decisions or change their directions accordingly in product or service design (Company 2).

"A good example was our rental pilot; an Instagram post related to it activated people nicely. There were direct questions to which you could answer, and there was also a link to a more thorough questionnaire that got quite a lot of responds." – Company 2

After opinion gathering, case companies are able to change their designs accordingly if they choose to. A direct contact or co-creation is rarely continued after the quick co-creation action. Such co-creation supporting product or service development using pre-defined opinion selections was noted in the literature in co-design processes (Kambil et al., 1999). However, the concrete actions taken after such co-creation activities were not discussed in the interviews, leaving one wondering how companies actually react to and present the outcome of such opinion influencing and co-creation – the important follow-up actions discussed in the literature (Millspaugh & Kent, 2016).

Other low involvement co-creation activities are presented in form of customer feedback. First, interviews covered customer experience feedback, which takes place after the

purchase. Usual feedback channels, according to the case companies, include email, phone, face-to-face, social media, and feedback forms sent by the company. Feedback, according to the interviews, addresses product or service design, or other factors related to customer experiences (e.g., human models sizes present in company's website (Company 5)). Feedback is often responded to, and some companies have customer reviews related to the products available in their online store (Companies 1, 2, and 5). Customer experience feedback generates co-creation for others (Witell et al., 2011), and customer reviews have been noted to be an effective co-creation form in the existing literature (Osterwalder & Pigneur, 2010).

Case companies receive feedback also about sustainability. This sort of feedback, however, is not as common, but when received, companies claim to take it seriously. Overall, companies stress the importance of customer feedback and involvement in development of sustainable actions (e.g., Company 2, Company 5), but for now, these actions remain minor compared to sustainability co-creation with other stakeholders, as discussed earlier.

4.4.2. Co-creation with medium customer involvement

It is noteworthy that the transition from low to medium customer involvement is not straightforward, but co-creation practices can be seen to require low or medium amount of effort from the customer side depending on the context and situation. Co-creation with medium involvement requires in some cases face-to-face interaction (increasing the effort and required involvement), more time and occasionally more monetary contribution, both from the company and the customer.

Interview analysis shows that co-creation practices with medium level customer involvement are used for improving customer relationship, brand image and value (also as a sustainable brand), customer loyalty, and communality. Additionally, several co-

creation practices introduced next generate increased revenues for the company (e.g., secondhand and rental services).

Most of the interviewed companies arrange events for their current and/or potential customers. The events that require only medium involvement are usually described as educational events or trainings, where the theme and the goal of the event varies – what is noteworthy, however, is that these events are not used for promotional purposes. These events last for a short period of time, and their target is to increase awareness and education of the issue at hand, with most of the case companies related to sustainability. Consumer educational events are e.g., promoting the sufficiency-based business models and initiatives discussed earlier in the literature review (Bocken & Short, 2016). Open dialogue and two-way conversations are a crucial part of these events, generating transparency and openness – all of these are also an important part of successful co-creation (Bharti et al., 2015; Prahalad & Ramaswamy, 2000, 2004). These educational events offer a way to show the company's approach to sustainability, while consumers receive education and knowledge.

"... people appreciate when you arrange especially free events and trainings, or in general conversations related to your own sustainability work... These events foster brand identity – it doesn't always have to be a promotional event until you "land" to the same level with the customers, but you need to find the mutual interests with consumers in the common playground." – Company 2

Furthermore, various sustainable add-on services were discussed with each case company. The sustainable add-on services are used for sustainability co-creation and include secondhand, take back, rental, and mending and tailoring. These services also require participation and involvement from the customers' side, as the service is provided, and value is co-created during customer interaction (mending and tailoring, take back) or after their involvement, when value will be also created for other customers (secondhand, rental).

In take back service, customers are able to return their own worn-out clothes to the brand, who takes care of the appropriate disposal of the garment. With such arrangement, companies gather material for sustainability production initiatives ("Create value from waste" archetype in Bocken et al. (2014) – see **Figure 4**), while customers do not need to worry about recycling the product. Mending services on the other hand extend the product's life, and tailoring enables a better customer experience and more desirable end product, leading to increased value (Bharti & Agrawal, 2018; Kambil et al., 1999). Companies 1, 3, and 5 offer mending services for their products. Company 5 describes the idea behind the mending service: "It does not bring monetary value but builds customer loyalty and is a smart part of our business and philosophy". Company 5 offers take back services online, where customers can send their clothes through mail for free. Also, customization or tailoring of the product can be done in some online stores (e.g., Company 3).

Secondhand and rental services are used in more collaborative nature, with the company and other customers, as well as sometimes resellers (Company 4 uses reseller rental services, and Company 1 reseller secondhand platform). These services can be also described as co-creation for others, the demanded form of co-creation by Witell et al. (2011) discussed earlier in the literature. In a secondhand concept identified from the case companies, the customer returns their old fashion piece from the brand, receiving a reward (usually a coupon for the next purchase), after which the company repairs and cleans the product and puts it up for sale with discounted price. Rental services are fashion libraries, where customers rent the fashion pieces for a certain period, after which they return the product for the company. In particular secondhand services are very popular, according to the case companies. These services keep customers attached and involved with the brand after the purchase decision, when the clothing is returned (as secondhand or after the rental period). Especially secondhand services are maintained partially online, which allows the customers to see also new collections in the webstore (Company 5).

Secondhand and rental services directly create revenue for the company and sustainable fashion consumption options for the consumers.

Of the above-mentioned co-creation tools, secondhand, mending, and take back support sustainable business actions and are identified in the sustainable fashion literature earlier (Bocken & Short, 2016; Neuman, 2021; Todeschini et al., 2017) (see **Figure 4**). Also, customization – a crucial part in the tailoring service – is noted to be an effective tool for co-creation (Bharti & Agrawal, 2018; Kambil et al., 1999). In these case companies, the services are not in the core of the business model, but many fashion companies build their whole business around these services (e.g., the resellers the case companies use). However, these services support the companies' sustainability image and offer customers sustainable consumption options. Also, the limited company resources were discussed, which prevent the companies from offering these sustainable services in some cases. Furthermore, being a noteworthy element in co-creation (Kambil et al., 1999), the role of incentives was discussed, as well as their challenges for the sustainability; offering discounts encourages for further consumption, which is seen as unsustainable and harmful (Company 2, Company 5).

Finally, online brand communities were identified as important source of co-creation, supporting the findings from existing literature of general co-creation (e.g., Kambil et al., 1999; Merz et al., 2018; Osterwalder, 2010) and of co-creation with fashion companies (Choi et al., 2016; Thomas et al., 2020). Companies co-create value with active followers and customers in different online platforms, mainly social media. Concrete examples of such co-creation activities include posting consumers' outfit inspiration posts in Instagram highlights, encouraging for outfit inspiration posts with a certain community hashtag (e.g., Company 4), private Facebook groups for existing clients (e.g., Company 5), and incentives including online raffles and competitions, encouraging customers for co-creation (Kambil et al., 1999). These co-creation action increase communality among customers (Company 5) and are an example of co-creation for others (from Witell et al., 2011); customer create each other value by helping and inspiring each other in the online

communities. Usually before the company gets to react to a social media group member's question, other members are already offering solutions for their problems (Company 5). Companies on other hand are able to receive valuable customer information and increase customer loyalty and satisfaction, while avoiding too much maintenance and time.

4.4.3. Co-creation with high customer involvement

The last level of co-creation between sustainable fashion companies and their customers includes co-creation practices with high customer involvement. These demand for high commitment, and value is created for the company and the customer, but often not for other customers or stakeholders. Co-creation actions in this category include intensive activities that involve high level of communication, dialogue, and mostly face-to-face participation. Such co-creation is time and money consuming, especially for the company. With these co-creation practices, value is created in form of brand value, customer relationship and loyalty, communality, product development and innovation, and consumer experiences. The concrete examples identified in the data analysis are discussed next.

Workshops are events organized by the company where certain projects are made with the company's lead. Concrete examples of such co-creation include open DIY workshops (Company 3 organized free and easy workshops for making seasonal small objects), and a mending workshop for the brand's clothing, enabling company to be able to offer professional support and educate customers simultaneously about mending clothes (this was not yet executed but was an idea of Company 5). Such events are an effective tool for experiencing co-creation, and they are a way of co-creating and promoting sustainability e.g., through mending workshops. Also, they offer a platform for open discussion and keeping up with the customers' preferences (Company 3).

Another co-creation action demanding high customer involvement is joint product development, or co-development of a product or innovation, which is one of the main types of co-creation roles concluded by Voorberg et al. (2015). Joint product development takes more time than events, and the customers are highly involved and active in development of usually a new product or concept. Joint product development can be performed through product test groups in the early development phases that affect the company's decisions of the final collection (Company 2). Another form of this type of co-creation is a project, or a workshop connected to a customer event, where the company designs the product together with the customers (Company 1, Company 5). As a result, a product designed highly based on consumers' opinions is launched. As this requires high effort, it is not as commonly utilized in product development within the case companies as other, mostly lower effort co-creation practices. However, with new concepts, joint product development has been seen useful and it has led to new product launches (e.g., Company 2 with their new B2C product line, Company 3 with their DIY product). Companies get real information about what the customers think about the products in general and their details (Company 2), and customers might get more involved and committed to the product. Some of the case companies addressed the need for increasing such co-creation:

"We obviously want to produce products that customers are happy to wear, and for finding the mutual understanding of it not being fast fashion or quick trends but something more durable, we need to discuss these things in the consumers' perspective." – Company 2

Finally, high involvement co-creation can be executed through courses; in this concept, customer purchases a course, in which a product from company's product line is made by the customer with the instructions of the company, with a possibility for minor customizations (color, bag strap design). From the case companies, Company 3 emphasizes the role of courses in its business model. Courses deliver customer experiences, being in crucial role in effective co-creation (Gebauer et al., 2010; Payne et

al., 2009; Prahalad & Ramaswamy, 2000). The courses generate customer loyalty and commitment, and work as a platform for open dialogue and transparency (Company 3).

"It is clear that course customers are among our most satisfied customers, since it is such a holistic experience." – Company 3

4.5. Benefits of co-creation

The benefits of the co-creation practices for the company vary depending on the level at which the co-creation is executed, and which of the previously introduced co-creation practices are utilized. This could be seen in the analysis of co-creation at low, medium, and high customer involvement – depending on the co-creation tools used and the value targeted, the outcomes and benefits can be noted to vary. Each level of customer involvement and their co-creation practices, however, show similar general themes in benefits of co-creation with the customer. These drivers and benefits align with the identified benefits in the literature review.

Customer loyalty in various forms was discussed earlier in the findings, and it has also been identified in literature as an outcome of successful co-creation (Kambil et al., 1999). Many other factors are resulting to customer loyalty and improved customer relationship, including trustworthiness, open dialogue, and commitment (Merz et al., 2018; Randall et al., 2011). These were also evident in analysis of the data. The analysis reveals customer loyalty to be pursued especially with co-creation requiring medium to high customer involvement, where commitment, trustworthiness and openness are more present, whereas co-creation with low customer involvement serves as a tool for mostly gaining insights on customers' needs and preferences and for supporting the product and business development.

The power of the online brand communities can be viewed through their individual members who are actively co-creating value for themselves and simultaneously generating valuable knowledge and other resources for other users. Companies are aiming for maintaining and supporting communications of online community members without intruding (Hughes et al., 2016). Thus, value in online brand communities is mainly created from one consumer to another, through inspiration or consumption tips (Company 4, Company 5). However, the brand communities are crucial for today's companies, and companies do gain value from maintaining these social media community channels e.g., by being able to better serve customers (Osterwalder & Pigneur, 2010) and further promote their brand through customers.

Finally, co-creation practices also create benefits that are focused on business activities, and as literature review argues, positive economic outcomes do appear as a result of successful co-creation (e.g., Payne et al., 2008). Open dialogue and transparency used in co-creation result in easier business operations in general and reacting to customer feedback can lead to increased revenue (Company 5). Importantly, as seen before, co-creation is an effective tool for staying updated with the customers' needs and preferences e.g., through joint product development, feedback, or online brand communities – customers' opinions highly affect the decisions that companies need to make in their business and product lines.

4.6. Challenges and barriers of co-creation

Co-creation does not come without challenges. These challenges and barriers for effective and fluent co-creation will be discussed from three viewpoints next; first, the barriers coming from the customers' side are affecting co-creation possibilities and effectiveness. Second, the company's own obstacles challenge fluent co-creation implementation. Finally, the industry-wide challenges and barriers bring their own difficulties.

The burden and inconvenience were one of the main findings as barriers from the customer's side in co-creation. For co-creation to be effective, customers need to be involved and motivated (Bharti & Agrawal, 2018; Kambil et al., 1999), which naturally requires effort from their side. Interviews reveal that the inconvenience experienced by customers might hamper their participation in e.g., joint product development, feedback, and sustainable add-on services.

"... Even though people might have thoughts and ideas, if they need to think or make an effort, they might not be willing to do so. If we ask for feedback, it is an inconvenience to give. It might be just too much to ask for." – Company 3

This fear of inconvenience is highly related to fear of commitment, and companies note that customers can easily change to another brand instead of e.g., giving feedback (Company 3). Today's world is fast-paced, and consumers have endless number of options available. Committing to one brand and its co-creation might seem overwhelming for many consumers. Also, the digitalization and moving businesses online creates new dimensions for co-creation, when "it is hard to get consumers involved when everything needs to be so fast-paced" (Company 2). Nevertheless, this fear of commitment should not be a reason for companies to stop using co-creation, since the other benefits arising overrun the barriers, according to one of the interviewees:

"Of course (it doesn't mean that we don't want to use co-creation with the customers). It also creates customer relationships and strengthens them. I believe that the customer loyalty remains and improves even if it doesn't correlate straight to sales." – Company 5

Another factor negatively influencing the co-creation fluency is related to the customers' lack of knowledge. Consumers and clients often do not know what they want before they get it – in joint product development, customers seldom seem to trust their own opinions regarding design, color, or pattern, according to the case companies. It is easier for them,

therefore, to select from pre-defined options offered by the company – "When they clearly see how the product will look in a certain color, it is easy and comfortable to make the decision" (Company 3). Also, interviews show that, with new sustainable services or business models, most consumers do not know what to ask for, and the companies are the ones making initiatives and creating ideas.

From the companies' point of view, limited resources were a clear barrier for co-creation, as discussed earlier. Most of the interviewed companies are still quite small in business, which creates a need to prioritize resources to other operations before co-creation. Resources are affecting creating and maintaining sustainable services such as secondhand and rental, organizing events, or answering to customers' needs e.g., in product development. Also, with a smaller size of business or a younger brand, the company's ability to utilize co-creation at the maximum level might diminish with a smaller customer base with which to execute co-creation.

"... the number of our customers and our reach is still so small, that we cannot say for certain, how the right people find us. Of course, we cannot know all the potential." – Company 3

Finally, the barriers and challenges that are apparent across the fashion industry create obstacles for effective co-creation. Consumers have individual fashion preferences, and it is "impossible to hear everyone's opinion, and … please everyone" (Company 4). It is seen as a challenge, that "when you start to listen to everyone, you will lose your vision at the same time" (Company 4). Also, enabling too much of customization in joint product development leads to a situation where there are not enough buyers for a product designed according to customer's needs. Additionally, conflict of interest between the company and the customers can hinder co-creation effectiveness. Companies are in the end existing for profit in general, and they need to be sure that they produce what is wanted in the market at a larger scale. Companies also need to consider their limited resources; they

cannot produce single fashion units according to customers every need, but they need to produce bigger batches. This creates further conflict of interest.

"We also need to think about the commercial realities of what we can do. That's why we have to let the customers down in a way." – Company 5

Also, the seasonality that is typical for fashion companies creates challenges in joint product development, when customers cannot know in advance what they will prefer in the next season (Company 1). This is related to the lack of knowledge of one's needs, discussed earlier.

Finally, the recent situation created by the COVID-19 pandemic has affected fashion industry and companies significantly (Finix, 2020). It has also hindered co-creation practices, e.g., courses, events, and new concept pilots, according to the interviewees. During the pandemic, companies and their customers have moved even more online, and new ways of operating also co-creation online need to be found and implemented. Digitalization is an unstoppable phenomenon also affecting the fashion industry, creating its own challenges and demands that the companies need to react and respond to as soon as possible.

4.7. Concluding the findings

In this chapter, the findings from the data analysis conducted for five interviews of sustainable fashion companies and their co-creation practices were presented. The findings were examined in the context of levels of co-creation, based on required customer involvement. Customer involvement was divided in three categories: low, medium, and high. However, as noted before, the transition between these categories overlaps on some occasions, and the level of customer involvement might vary depending on the customer as co-creator and the execution of each co-creation activities.

Co-creation activities with each customer involvement level that were identified in the interviews were presented. It is noteworthy that there are various other forms of co-creation between sustainable fashion companies and their customers, that were not identified in the interviews of this research. With higher customer involvement, co-creation practices generate higher customer loyalty and commitment, whereas lower involvement co-creation serves as an open, bidirectional communication channel of customers' needs and preferences, supporting companies' innovations and developments.

The co-creation environment in the discussed co-creation activities varies between levels of co-creation. The activities that require the highest level of customer involvement are also usually executed in face-to-face environments (e.g., courses and workshops). Additionally, the discussed sustainable services (take back, mending and tailoring, secondhand, rental services) are executed face-to-face within some of the case companies, while some companies are executing these services also online, through mail delivery or online store. With lower customer involvement co-creation activities, nearly all co-creation was executed online. Also online brand communities utilize the company's social media platforms, which are increasingly important co-creation channels (e.g., Thomas et al., 2020). The main online platforms were identified to be the company's social media channels (used in e.g., online brand communities, this or that votes, feedback) and websites (e.g., product evaluation feedback, add-on services such as second hand).

Other platforms such as newsletters and customer loyalty programs were discussed. All case companies have a newsletter which they send out to their subscribers more or less regularly, but the communication used in the newsletter is, according to the interviews, mostly one-way. Additionally, most of the companies did not have a customer loyalty program yet (mainly due to the limited resources) but were addressing its importance and opportunity as a mechanism for co-creation.

In general, digitalization shows an evident dominance in the identified co-creation practices of the case companies, although the co-creation practices generating perhaps most value within customer relationships were mainly utilizing face-to-face interactions, i.e., the co-creation practices with high customer involvement. This supports the existing literature, which addresses the importance of digitalization and the potential it generates for co-creation (e.g., Kambil et al., 1999; Payne et al., 2008). Also, digital platforms and co-creation environments were particularly identified within literature of co-creation of fashion companies (e.g., Choi et al., 2016; Hughes et al., 2016; Kang, 2017; Suryana et al., 2017; Thomas et al., 2020).

The level of sustainability in these identified co-creation actions varies. Some actions, such as feedback on sustainability or the sustainable add-on services (secondhand, rental, mending), are self-evidently fostering the company's sustainability. When analyzing more, sustainability can be identified at some level in each of the discussed co-creation practices.

The courses are fostering sustainability with transparency and opening their end-product production phases. The events with the themes related to sustainability can be educational events for the customers; training events open the companies' view and approach to sustainability, and the workshops with topics such as mending educate customers to take better care of their clothes. Within online brand communities, participants share mending tips or resell or swap their old fashion pieces from the brand (Company 5). Even joint product development and co-creation actions supporting product development, customization, as well as customer feedback can be interpreted to foster sustainability at some level: when customers get to affect the product offering, they will be more likely to be attached and committed to the brand that is aiming for a better fashion business. The sustainability of co-creation actions and their linking to business models will be addressed more thoroughly in the Discussion chapter.

5. Discussion

The objective of this research was to identify and examine the actions through which sustainable fashion companies execute co-creation with their customers. Additionally, the benefits and targeted outcomes, as well as the hindering barriers were investigated. The findings of the qualitative research bring out various insights, of which some are supporting while others are challenging the relevant literature introduced in the literature review earlier. These points will be discussed next.

5.1. Levels of co-creation

Co-creation between the interviewed sustainable fashion companies and their customers is a complex, multilevel concept, as can be concluded based on the interpretation of this research's analysis. This research identifies three levels of co-creation as well as concrete co-creation actions implemented by sustainable fashion companies based on the required customer involvement.

Co-creation at high customer involvement is utilized for enhancing brand image and value, customer relationships, development and innovations, as well as consumer experiences. These all were identified in the literature review regarding co-creation to be either important objectives (experiences (Gebauer et al., 2010; Payne et al., 2009; Prahalad & Ramaswamy, 2000)), methods (joint product development (Bharti & Agrawal, 2018; Voorberg et al., 2015; Witell et al., 2011)), or positive outcomes (brand value (Choi et al., 2016; Merz et al., 2018) and customer relationships and loyalty (Kambil et al., 1999; Merz et al., 2018; Randall et al., 2011)). Especially, the importance of experiences and the benefits in form of e.g., brand value and customer satisfaction and loyalty they generate, speak for the importance of including high involvement co-creation practices in one's business. As noticed, the high involvement co-creation practices identified in this research are well supported by the existing literature, from which one

could conclude that co-creation demanding high customer involvement is well established and researched by scholars in general. However, high involvement co-creation presents only a limited number of possible co-creation actions, as identified in this research.

The co-creation demanding for medium involvement covers various actions identified in this research. Medium involvement co-creation fosters brand value and customer relationships, as the high involvement co-creation, but additionally medium involvement co-creation increases communality and generates direct revenues, which were also discussed in the literature. The identified literature examined earlier discusses less of the co-creation practices with medium customer involvement than those practices in other co-creation levels. E.g., secondhand, take back, and rental services were not identified as co-creation practices in the literature review. These co-creation actions are very present, however, in the sustainable fashion business literature (Bocken & Short, 2016; Bocken et al., 2014; Neuman, 2021; Todeschini et al., 2017), and should be investigated more thoroughly in co-creation research as well.

The existing literature does support the importance of the (online) brand communities (Bharti & Agrawal, 2018; Choi et al., 2016; Prahalad & Ramaswamy, 2000), that extend the co-creation process and its beneficiaries: when the company shares in their social media channels e.g., customers' inspirational outfit posts of the products or services they have bought from the company, the other customers and followers are the receivers of the co-created social media content and are, therefore, also the beneficiaries of the co-creation action. Furthermore, when the company allows customers for open conversation in social media customer groups, the customers can offer each other valuable insights and inspiration, fostering communality around the brand. Thus, the online communities around the brand are a strong group of often loyal and active customers, who are a vital source of value for the company and who should therefore be nurtured and motivated to continue this type of co-creation.

Customer involvement is an important factor in co-creation, but unlike e.g., Bharti & Agrawal (2018) argue, the results from this thesis' data analysis show that companies identify and utilize many co-creation activities that are not dependent on high customer involvement. This research identifies various practices that require low customer involvement and that are supported and identified in previous literature: these include, e.g., customer feedback (Millspaugh & Kent, 2016), product reviews (Osterwalder & Pigneur, 2010), or involving customers in product development with questions of pre-defined product attribute options (Kambil et al., 1999).

The identified co-creation practices within low customer involvement are useful and effective, allowing for mapping customer needs and validating product quality and attributes. Additionally, the low involvement co-creation practices offer solutions for many of the identified barriers in co-creation: from the customers' side, the fear of commitment and effort are tackled with the minimal involvement demanded e.g., in "this or that" posts or feedback forms sent to customers' emails. The lack of knowing one's needs and preferences is addressed by offering only limited number of options in product development. This answers also the fashion industry wide barriers, such as different customer preferences and conflict of interests, discussed earlier in the Findings chapter – when companies are using co-creation within pre-defined options, the confusion and the fear of losing the brand vision (as discussed by Company 4) can be eliminated. This could also be tackling the issues identified within previous literature about the aesthetics characterizing the brand to have tight connection with the designer, that was argued to prevent co-creation (Millspaugh & Kent, 2016). Finally, the low involvement co-creation practices require also fewer resources from the company's side, tackling the discussed challenge of limited resources available for co-creation enhancement.

However, the transparency and two-way dialogue needs to be maintained and stressed within these low-effort co-creation activities, as the literature shows (Bharti et al., 2015; Prahalad & Ramaswamy, 2000, 2004). To be able to call the action co-creation, companies are required to react and demonstrate the activities followed by co-creation

(Millspaugh & Kent, 2016), e.g., presenting the final product created based on consumer influence (e.g., "this or that" votes, sneak peek post opinion comments), or publishing the customer feedback and reviews on the company website for other consumers to see. The same can be said with the co-creation of sustainability through e.g., sustainability feedback; for the activity to be called sustainability co-creation instead of one-way communication (e.g., CSS discussed in the literature review (Sheth et al., 2011)), companies need to be able to continue and foster the relationship and collaboration with the customers. This demonstrates that not all events of the actions requiring low customer involvement identified in this research can be called co-creation, and that either the presentation of the concept of co-creation was left inadequate by the interviewer or the case companies or some of them do not fully comprehend the phenomenon despite the leading interview questions.

5.2. Sustainable fashion business and co-creation

The fashion companies interviewed in this research are listed in the #durableclothing-campaign (Finix, 2020), gathering companies that fulfil certain sustainability requirements in their business model operations. Most of the interviewed companies could be argued to follow the conventional linear logic of business operations (see **Figure 3**), typical for fashion companies (Fontell & Heikkilä, 2017; Niinimäki, 2018), with one exception using 100% recycled material in their clothing production (Company 2). Nevertheless, the interview analysis shows that each case company of this research actively considers and develops sustainability at different levels of their business model – this was discussed earlier in the Findings chapter, linking case companies' business model to Triple Layer Business Model Canvas or TLBMC (Joyce & Paquin, 2016). This supports the argumentation of existing literature that there is no clear separation between traditional, linear logic of fashion and sustainable fashion, but companies can and are implementing many sustainability actions in their existing business models that can mainly be described to follow linear logic (Aaltonen, 2020; Todeschini et al., 2017).

The aim of this research was, then, to investigate the co-creation methods used with these sustainable fashion companies – these co-creation methods, as can be seen in the description of the concept of 'co-creation' the researcher offered for the interviewees as well as in the identified co-creation activities, were not, however, aimed to be targeting only sustainability co-creation. Rather, co-creation activities identified in this research were targeted for co-creation of value typical for fashion companies, e.g., brand value (Choi et al., 2016; Hughes et al., 2016; Millspaugh & Kent, 2016; Thomas et al., 2020) and product development (Kang, 2017; Suryana et al., 2017; Zhang & Ma, 2021), as well as customer relationships, that showed importance in the literature of co-creation in general (e.g., Kambil et al., 1999).

It is noteworthy to mention, that even if the co-creation in the identified cases in this research were targeting other forms of value, most of them additionally contribute to sustainability one way or another, as discussed in the Findings. Through e.g., secondhand, take back, and rental services, companies foster sustainable business initiatives and circular economy discussed in the literature of sustainable business models in fashion (see **Figure 4**) (e.g., Bocken et al., 2014; Neuman, 2021; Todeschini et al., 2017) while creating customer relationships and increased revenues. Consumer education and awareness of sustainability issues and in general, promoting sufficiency in consumption, foster companies' sustainability as discussed in the literature (Bocken & Short, 2016; Bocken et al., 2014; Neuman, 2021; Todeschini et al., 2017) through customer events and courses, whereas the findings show that companies are generating customer loyalty and improving their brand image with these co-creation actions.

Thus, it can be concluded that this research shows that the case companies in the field of sustainable fashion execute co-creation mostly targeting "general" co-creation objectives (e.g., brand value, product innovation, customer relationships), and sustainability can be an outcome of this "general" co-creation targeting for creating other value and benefits. Additionally, the co-creation can be concluded not to only foster customer relationships, as shown in the Business Model Canvas (BMC) (Osterwalder & Pigneur, 2010), but

rather contribute to various layers of the BMC (see **Figure 1**); value proposition is delivered *with* the customer instead of *for* the customer (as was underlined by existing literature (Zott et al., 2011)) and is dependent on the co-creation process and their outcomes (Randall et al., 2011); key activities and resources are dependent on the co-creation and customer participation; and channels are expanded for two-way, interactive dialogue. Adding co-creation with the customer to be an essential part of the business expands the business model from viewing customers to be outside of the company to be viewed as an important element of the business execution and value creation (Payne et al., 2008).

Adding the sustainable aspect to BMC with the use of TLBMC (Joyce & Paquin, 2016) (see **Figure 2**), co-creation can be identified to impact additionally the environmental and social levels of business models. With the environmental level of TLBCM, end-of-life and use phase sections are affected by co-creation within e.g., sustainable add-on services, and environmental benefits, production, and material are affected through co-creation decisions included in product development. The social level of TLBCM, on the other hand can be influenced through co-creation at e.g., delivering value for the end-user (enhanced customer value creation through the ability to influence and e.g., experiences), societal cultures fostered by online brand communities, and social benefits (i.e., value) for the co-creating consumer as well as other customers.

Co-creation between the case companies and their customers included also in some cases other stakeholders. E.g., some case companies utilize resellers in secondhand or rental services, and customer are involved in larger sustainability co-innovations between multiple organizations. This further opposes the idea of co-creation with the customer to be included only in the customer relationship section of BMC (Osterwalder & Pigneur, 2010).

Therefore, co-creation between the fashion companies and its customers is affecting multiple levels of the business model and the company's value chain, expanding the

perception outside customer relationships to include production, channels, communities, and sustainability issues. The value created for the customer – an important element of business model literature (Boons & Lüdeke-Freund, 2013; Chesbrough & Rosenbloom, 2002; Osterwalder et al., 2005; Osterwalder & Pigneur, 2010) – added to the sustainable aspects delivered in sustainable business models (Bocken et al., 2018; Evans et al., 2017; Joyce & Paquin, 2016) can be and are generated in successful co-creation together with the customer, at different customer involvement levels throughout the business model.

6. Conclusions

6.1. Main findings and theoretical contributions

This research aimed for answering the identified research question: "*How are sustainability-oriented fashion companies incorporating co-creation practices in their work?"*, as well as the additional sub-questions: "*What are the perceived benefits and outcomes of customer co-creation?"* and "*What are the possible barriers for co-creation execution and implementation?"*

The main finding of this thesis is that sustainable fashion companies are using co-creation as a form of value creation together with their customers, through three identified levels of co-creation. These levels depend on the required customer involvement within each co-creation action, and are categorized as high, medium, and low involvement co-creations. Each of these co-creation levels include different co-creation actions and generate different value for the company and the customers at different stages of business models and the companies' value chains and are thus equally important to implement in business operations.

The value generated in these co-creation processes are mostly related to customer relationships, product and service development, and brand image and value. Additionally, sustainability is well apparent as an outcome of these co-creation practices, although sustainability is not always the primary objective of co-creation. Thus, the research shows that the co-creation of sustainable fashion companies targets objectives similar to general co-creation practices and fashion companies' co-creation practices identified in the literature, but they also often include sustainability as either one objective of co-creation (e.g., sustainable add-on services) or the secondary outcome of the co-creation action (e.g., online brand communities and feedback).

The co-creation practices with the customers are affecting throughout the business model, expanding the conventional idea of co-creation promoting only customer relationships, to understanding the possibility of co-creation with other business model elements (e.g., value proposition, and key activities and resources). Additionally, co-creation is a way of enhancing sustainable business model operations as well as sustainable fashion operations (e.g., secondhand, take back, and rental services). Thus, co-creation is an effective tool in business model enhancement in general and in sustainability.

This research gives theoretical contributions by shedding light to the neglected research area of customer co-creation within sustainable fashion companies. The thesis combines the theory of sustainable fashion businesses and their business model operations to the theory of co-creation together with the customers. The thesis concludes that co-creation with the fashion companies aiming for sustainability combines elements of traditional fashion companies' co-creation practices and sustainability co-creation, where both are complementing each other. The research and the findings are offering a base for the future scholars to expand the research around this topic that is timely and relevant for the prevailing challenges in the fashion industry.

This research opposes the argumentation of Bharti & Agrawal (2018) of high customer involvement to be required in co-creation, but offers co-creation practices implemented by the case companies at also medium and low customer involvement levels. Additionally, this research contributes to the literature of business models and sustainable business models by discussing the co-creation practices in the light of BMC (Osterwalder & Pigneur, 2010, see **Figure 1**) and TLBMC (Joyce & Paquin, 2016, see **Figure 2**). It examines all the layers of TLBMC and the sections of the BMC which the identified co-creation practices affect, extending the conventional idea of co-creation related mainly or only to customer relationship practices.

Finally, as introduced in the literature review, Witell et al. (2011) conclude co-creation for being categorized as co-creation for use and co-creation for others, isolating the

receiver of created value for being either the co-creating customer themselves or other customers. This research argues that co-creation is not executed in a void where no benefit can be turned to other customers, but e.g., feedback and reviews, online brand communities, and joint product development do generate value for the company, the co-creating customer, as well as the brand community and other customers. Additionally, Witell et al. (2011) argue co-creation for others being executed in the early phases of the product or service development. Co-creation generating external value and benefits for other customers, according to the findings of this research, can be executed throughout the customer relationship phases and the product's life cycle e.g., through social media community actions (customers posting outfit inspiration or offering each other mending tips), customer reviews (also supported by literature (e.g., Osterwalder & Pigneur, 2010)), or services such as secondhand and rental, where consumers are actively participating in selling, buying, and renting the fashion that will be or has been used by other customers.

6.2. Managerial implications

The level of approach in this research is relatively practical, giving a possibility for companies operating with sustainable fashion to gain practical implication recommendations. As the thesis interviewed Finnish sustainable fashion brands, the recommendations can be especially implemented in the Finnish sustainable fashion industry. First, every sustainable fashion company should implement co-creation. Customers, being valuable source of information, should be listened to and activated in co-creation with different objectives, be it customer loyalty and relationships, brand value, product innovation, or sustainability. Co-creation, as can be seen from this research, can be executed through numerous ways and it does not necessarily require long-term and high involvement from the customer's side.

Thus, companies need to be able to find innovative ways to involve customers at different levels in co-creation practices. Harnessing various existing environments and actions

(e.g., online brand communities and social media, events and courses, or even newsletters and customer loyalty programs) to be a source of co-creation implementation would enable companies to deliver increased value in various field of operations while promoting customer relationships and experiences.

Additionally, as can be seen in the results of this thesis, the co-creation practices of sustainable fashion businesses are simultaneously co-creating sustainability while targeting traditional business model operations. Customers should be increasingly included in co-creation of sustainability also through activities primarily targeted for sustainability co-creation. Innovative ways of finding out customers' opinions and ideas would be beneficial for the B2C fashion companies aiming for sustainability.

Finally, the results of this thesis support the existing perceptions in the literature of co-creation to be executed increasingly through online channels. Social media, online brand communities, and websites and online stores are already utilized in co-creation, and co-creation online should be advanced even further through better dialogue and customer motivation in these channels. Digitalization has been a prevailing megatrend during the whole 21st century, and the recent COVID-19 pandemic that shook the world, including fashion industry, has increased the need for digital environments for active dialogue and collaboration with customers.

6.3. Limitations and future research

This research faces limitations and demands for future research, which are discussed next. First, the case companies selected for this thesis present a limited sample of companies aiming for sustainable fashion. The case companies represent small to medium size fashion industry, which leads to limited resources. This, according to the research, limits the possibility of maximizing co-creation practices with the customer, through limited company resources and the clientele. Additionally, this research includes interviews from

five companies – a better generalization of data results would be able to be conducted with a larger number of case companies. Finally, this research identifies mainly activities operated in the customer interface, usually being activities during or after the consumption. Thus, it is possible that the research was not fully able to identify all the actions included in the early phases of innovations or product development.

The future research of co-creation between the fashion companies aiming for sustainability and their customers should consider the customers' side of co-creation, revealing what are the benefits that the customers value and what barriers are the most insuperable for them. As the literature review shows, scholars emphasize the value and benefits perceived by customer to be in the center of focus (Bharti et al., 2015). Being a vital part of the co-creation, customers' perspectives need to be considered and analyzed in the field of sustainable fashion.

Additionally, the findings of this research do not cover the management structure of co-creation practices with sustainable fashion companies: how is co-creation monitored, planned, reported, and maintained? These elements, and the organizational structures required for them, are vital elements of co-creation succession and implementation and should be focused on and researched in the future.

Finally, the role of other stakeholders should be scrutinized at a deeper level. As can be seen in the literature review, fashion companies have multiple stakeholders in various supply chain and value chain parts, and as e.g., Yang et al. (2017) emphasize, co-creation of sustainability between companies and consumers should also include other stakeholders. The other stakeholders identified as co-creation parties in this research were briefly discussed in the Findings chapter, but the focus was deliberately put on the customer as a co-creator. However, as the fashion industry covers multiple stakeholders that are not separate parties from each other, the co-creation between the company, customers, and other stakeholders should be taken in consideration when co-creating fashion businesses and their sustainability.

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Appendix

Appendix 1 Interview protocol.

Interview structure

- Open, interpretive interview guided by protocol
- Target duration: max 60 minutes
- Data collection
    - Interview language: Finnish
    - Interviews are recorded after the verbal consent
    - Interviews are conducted online

Topic areas covered in interviews

1. Sustainability in the company's perspective
2. Customer relationships, meaning of the customer
3. Concrete customer co-creation practices, benefits, obstacles

Starting with the introduction of the thesis and asking for a consent to record the interview.

"This is a master's thesis for Aalto University School of Business' marketing department, executed in collaboration with Aalto Finix project. The research area of this thesis is sustainability-oriented fashion companies and their relationship with their customers."

Background topics

- Company background
- Approach to sustainable fashion business
- Role of the customer
- Customer relationships activities

Subject matter topics

- Starting with a brief introduction of the concept of co-creation: creating value in collaboration with company's customers. Co-creation brings value for the company, the customer, and in some cases other customers.
- Company's co-creation activities
- Co-creation channels
- Covering co-creation activities identified in preliminary primary data gathering
- Feedback from the customers about co-creation activities
- Value and benefits created in co-creation
- Challenges and barriers of co-creation

Appendix 2 Primary data gathering of case companies from the online sources.

	Company 1	**Company 2**	**Company 3**	**Company 4**	**Company 5**
Date of data gathering	February 12, 2022	February 27, 2022	March 5, 2022	March 24, 2022	April 7, 2022
Primary data from company website	• "Product promise": 1year guarantee, mending, and tailoring service • Customer reviews • Customer loyalty program • Customer questionnaire ➢ Rental + pre-order concepts, vote of design factors	• Post waste products • Sustainability projects together with other organizations • Encouraging for contacting in sustainability matters/ideas • Take back service • "Become a pioneer" → newsletter subscription	• Tell to listen and involve customers in sustainability development • Courses • Product customization • Pre-owned page • Pre-order • DIY product	• Resellers • Fashion rental (through resellers) • Collections co-created with various organizations	• Tell to have a possibility to join in product development as a customer • Mending service • Take back service • Secondhand service • Customer reviews
Primary data from social media channels	• Instagram highlights: sharing followers' outfits • Instagram: "Question Friday" – Q&A sessions	• Instagram and Facebook: Consumer education in stories and posts	• Instagram: encouraging for follower inspiration posts	• Instagram: encourage followers to share outfit inspiration with company hashtag • Sharing follower content in Instagram highlights	• Instagram: consumer education – e.g., mending instructions • Promoting e.g., take back services • Sharing follower content in highlights

Appendix 3 Data structure figure of co-creation with the customer. Visual inspiration from Hultberg & Pal (2021). Italic text presents deductive codes of the thematic analysis, as explained in the Methodology chapter.