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**CREATING SOCIAL ADVANTAGES WITH CIRCULAR ECONOMY IN THE
TEXTILE INDUSTRY**

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ABSTRACT

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| Title: | Creating social advantages with circular economy in the textile industry |
| School: | School of Business and Management |
| Master's Programme: | International Business and Entrepreneurship (MIBE) |
| Year: | 2022 |
| Master's Thesis: | Lappeenranta-Lahti University of Technology 71 pages, 6 figures, 7 tables and 1 appendix |
| Examiners: | Associate Professor Laura Albareda, Junior Researcher Malahat Ghoreishi |
| Key words: | Circular economy, circular business models, textile industry, social advantages, stakeholder engagement, inductive research |

The textile industry is currently undergoing a transition period. The current prevailing linear economy model, which produces textiles using virgin materials, which then are processed into textiles, and later turns into waste, has slim to no chances of effectively developing sustainability in the industry. Circular economy (CE) has been proposed as one of the solutions for transforming the textile industry towards sustainability by slowing, narrowing, and closing resource loops. The Finnish textile industry is leading the way towards CE, aiming to be the most responsible and functional in the world by 2035. The current literature on CE has focused on CE's economic and environmental advantages, whereas the social advantages of CE have fallen short of research. According to prior research, only 20 percent of articles published about CE include the social aspect as one of CE's primary objects, and scholars focusing on CE have mostly discussed the topic through economic and environmental sustainability, leaving only a small portion of scholars discussing CE through all three aspects of sustainability. The empirical purpose of this study is to increase the knowledge of how CE creates social advantages in the textile industry. The methodology used in this research is a qualitative research method and the inductive interpretive theory-building approach. The data for this research was collected through seven semi-structured interviews of companies operating with circular textiles. With the inductive approach, this empirical study managed to identify six different social advantages created by circular textiles at the macro-level and micro-level: Finnish textile companies are leading the way towards circularity and setting an example also outside the industry, enhancing sustainability knowledge among employees, job creation, creating a healthy working environment, transforming consumer thinking towards circularity, and enhancing collaboration towards circularity. The research also showed the textile companies making efforts to enhance human rights in global value chains and the tension between circularity and corporate responsibility, as some companies admitted that internal sustainability had been neglected. The social aspect of internal sustainability in the company needs more attention in the future.

TIIVISTELMÄ

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| Tutkielman nimi: | Kiertotalouden luomat sosiaaliset hyödyt tekstiilialalla |
| School: | LUT-kauppakorkeakoulu |
| Pääaine: | International Business and Entrepreneurship (MIBE) |
| Vuosi: | 2022 |
| Pro-Gradu tutkielma: | Lappeenrannan–Lahden teknillinen yliopisto LUT 71 sivua, 6 kuviota, 7 taulukkoa ja 1 liite |
| Tarkastajat: | Apulaisprofessori Laura Albareda, Nuorempi tutkija Malahat Ghoreishi |
| Avainsanat: | Kiertotalous, kiertotalouden liiketoimintamallit, tekstiiliala, sosiaalinen hyöty, sidosryhmien osallistaminen, induktiivinen tutkimus |

Tekstiiliala on merkittävässä murroksessa. Nykyinen lineaarinen talousjärjestelmä, jossa tekstiilit tuotetaan neitseellisistä raaka-aineista, jotka sitten jalostetaan tekstiileiksi, ja jotka myöhemmin päätyvät jätteeksi, ei tue kestävästä kehitystä ja tekstiilialan vastuullisuutta. Kiertotaloutta on ehdotettu yhdeksi tekstiilialan ratkaisuksi kohti kestävämpää maailmaa: kiertotalous on uusi talousjärjestelmä, jossa materiaalit pyritään säilyttämään kierrossa mahdollisimman pitkään. Tekstiilialalla tulisi tähdätä kohti suljetun kierron arvoketjua, jossa tuotteiden sisältämät materiaalit kiertävät käytön jälkeen uusien tekstiilien raaka-aineiksi. Suomi on tekstiilien kiertotalouden edelläkävijä, ja alan tavoitteena on olla maailman vastuullisin ja toimivin tekstiiliala vuoteen 2035 mennessä. Nykyinen kiertotaloutta koskeva kirjallisuus on keskittynyt kiertotalouden taloudellisiin ja ympäristöllisiin hyötyihin, kun taas kiertotalouden sosiaaliset hyödyt ovat jääneet vähemmälle huomiolle. Aikaisempien tutkimusten mukaan vain 20 prosenttia kiertotaloutta käsittelevissä artikkeleissa sosiaalinen näkökulma on luettu mukaan kiertotalouden päätavoitteisiin, ja kiertotalouteen keskittyvät tutkijat ovat enimmäkseen tutkineet aihetta talouden ja ympäristön näkökulmasta. Tämän tutkimuksen painopiste on ymmärtää kiertotalouden luomat sosiaaliset hyödyt suomalaisella tekstiilialalla. Tutkimuksen menetelmänä käytetään laadullista tutkimusotetta, jossa hyödynnetään induktiivisen tulkinnallisen teorianrakennuksen näkökulmaa. Tutkittava data koostui seitsemästä semi-strukturoidusta haastattelusta, ja haastateltavat yritykset olivat tekstiilialan toimijoita, joilla kiertotalous on integroituna heidän liiketoimintamalliinsa. Induktiivisen tulkinnallisen näkökulman avulla tutkimus onnistui tunnistamaan kuusi erilaista kiertotalouden luomaa sosiaalista hyötyä sekä makro-, että mikrotasolla: Suomalaiset tekstiiliyritykset ovat kiertotalouden edelläkävijöitä ja toimivat esimerkkinä muille aloille, vastuullisuustiedon lisääminen työntekijöiden keskuudessa, työpaikkojen luominen, viihtyisän työympäristön luominen, kuluttajien ostokäyttäytymisen ohjaaminen vastuullisempaan suuntaan ja yhteistyön tehostaminen sidosryhmien keskuudessa kohti kestävästä kehitystä. Tutkimus osoitti myös, että tekstiiliyritykset pyrkivät parantamaan ihmisoikeuksia globaaleissa arvoketjuissa, ja että kiertotalouden ja yritys vastuun välillä on jännitettä, kun osa yrityksistä myönsi sisäisen vastuullisuuden laiminlyönnin. Yrityksen sisäiseen vastuullisuuteen tulisi siis kiinnittää enemmän huomiota tulevaisuudessa.

ACKNOWLEDGEMENTS

I want to thank my supervisors, Laura Albareda and Malahat Ghoreishi, for their support, guidance, and patience during this process.

I want to express my gratitude to those who participated in the interviews and shared their views about how their business is creating social advantages in the circular textiles economy. Thank you for sharing your time, and I hope these thesis results are helpful to you.

I want to thank my family, especially my mom Mirja, who has supported me throughout my studies (and life). I want to thank my friends for taking my thoughts away from my thesis, and special thanks to my friend Linda for sharing this journey at LUT with me.

Finally, I want to thank Satu and my dog Siku for believing in me and supporting me.

Cheers!

In Helsinki, 20.06.2022

Henni Savolainen

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1 Introduction

1.1 Background of the study

Textiles constitute a great part of human beings' everyday life – from the clothing they wear to the textiles that surround them in their homes, work- and public spaces, as well as in the cars they drive. The textile industry is one of the biggest industries of our modern times, and according to Statista (2022), the revenue of the global apparel market is expected to reach \$2 trillion by 2026. In addition to being one of the biggest industries measured by value, the textile industry is also one of the most polluting industries, contributing to 10 percent of global pollution, with substantial negative impacts on the environment and society (Niinimäki et al., 2020).

The textile industry has significantly evolved over the last 20 years. Until the late 1980s, textile retailers could forecast consumer demand in advance, long before the textiles went into use. However, in recent years, textile retailers have been forced to ensure their market position by offering clothing at a fast pace to answer the rapidly changing fashion trends set in fashion shows and by social media (Bhardwaj & Fairhurst, 2009). Since the early 2000s, textiles have been considered disposable, with a concise life span of roughly 1 to 3 years (Beton et al., 2014). The textile industry has become very globalized, with value chains covering the entire world: garments are designed in country A, manufactured in country B, and distributed and sold worldwide at fast pace. One of the factors behind this trend is the rising demand from the growing middle class with a higher income and the rise of the 'fast fashion phenomena', which relies on frequent consumption habits, short-lived textile use, and cheap manufacturing costs. (Ellen Mac Arthur Foundation, 2017; Niinimäki et al., 2020).

Since the current prevailing linear economy model of textiles has slim to no chances of effectively developing sustainability, the time has come to transform the textile industry into a system that delivers better societal, environmental, and economic outcomes. Circular

economy (CE) has been proposed as one of the solutions for transforming the textile industry towards sustainability: CE focuses on slowing, narrowing, and closing resource loops in the textile industry and can tackle the industry's key issues. (Niinimäki, 2018; Ellen Mac Arthur Foundation, 2017). CE for textiles can be defined as an economy where materials for textiles are safe, recycled, or renewable, the textile life cycle is prolonged and textile materials are recyclable and are recycled at the end-of-use (Pace, 2022).

The shift towards CE of textiles has the potential to achieve substantial societal, economic, and environmental benefits: the circularity of textiles has the opportunity to bring value to society via creating jobs with good working conditions and fair wages (European Environment Agency, 2019), to the environment via keeping the textile materials in a closed-loop value chain and reducing the generated textile waste, and to the economy via new circular business models across the value chain, which has the potential to unlock a \$560 billion economic opportunity (Ellen Mac Arthur Foundation, 2017).

1.2 Prior research and research gap

The concept of CE has gained increasing attraction among practitioners and scholars. Specific research areas in the field have been concentrating on circular business models (Bocken et al., 2016), closed loop-value chains (Govindan et al., 2015), and circular design (Sauerwein et al., 2017). In the context of circular textiles, the work of the Ellen Mac Arthur Foundation is critical. The foundation has published a report that proposes a new vision for textiles aligned with CE principles which aims to benefit society, the environment, and the economy (Ellen Mac Arthur Foundation, 2017). The foundation also collaborates with policymakers, businesses, and academia to promote CE principles.

According to research, some scholars see CE as an approach to sustainable development in all three aspects of social, economic, and environmental responsibility (Ghisellini, Cialani & Ulgiati, 2016; Kirchherr et al., 2017; Merli et al., 2018). According to Kirchherr et al. (2017), roughly 20 percent of CE publications concentrating on the definitions of the concept

include the social aspect as one of CE's primary objects. Scholars have discussed whether CE aims for social sustainability, or whether social advantages such as job creation are just positive by-products of the transition toward circularity (Geissdoerfer et al., 2017).

Scholars have widely researched the environmental and economic advantages of CE, and according to Sehnem et al. (2019), the most cited environmental advantages of CE include the reduction in use of raw materials, waste minimization and reductions in greenhouse gas emissions. Literature has claimed that the move from linear to circular will result in significant economic profits, for instance, due to value creation arising from the reduced costs of buying virgin materials (Nassir et al., 2017).

Although current literature has not given enough recognition to the social advantages of CE, some emergent research has been conducted to clarify the subject. Previous literature on the social aspect of CE has mainly focused on advantages at the micro-level: the job creation potential (Llorente-González & Vence, 2020; Mitchell & Morgan, 2015; Stahel, 2016), new acquired skills for circular textile related projects (Llorente-González & Vence, 2020; Stahel, 2016), transparency and the role of different stakeholders (Kirccherr et al., 2017), education (Burger et al., 2019), and partnership & collaboration (Stahel, 2016). Some preliminary research on the social advantages of CE has also been conducted by governments, non-profits, and research institutes such as Sitra, a Finnish fund accountable to the Finnish Parliament. Sitra has studied the link between CE job creation and the required skills for the jobs in Europe (Sitra, 2021a). The research indicated that the quality and quantity of jobs are likely to change when transferring to CE, and pioneering companies need to invest in the CE skills of their employees (Sitra, 2021a).

In the context of the textile industry, Filho, et al. (2019) conducted a review of the socio-economic advantages of the industry, focusing on textile reuse and recycling. According to the review, most of the social advantages in the textile industry are related to charity activities of textile reuse and recycling, and in the generation of new jobs. In addition to charity activities, fabric collection potentially creates jobs in sorting textiles (Bianchi and Britwistle, 2010). New emerging business models that have appeared in the reuse and

recycling of textiles have also proven to have social advantages such as customer and supplier empowerment and created value to local businesses and communities (Filho et al., 2019).

Padilla-Rivera, Russo-Garrido & Merveille (2020) has established four thematic areas for the social aspect within CE (Table 1): labor practices and decent work, human rights, society, and product responsibility. In this thesis, when referring to the social aspect of circular textiles, we refer to the labor practices and decent work, society, and product responsibility in the form of increased employment and stakeholder engagement towards circularity.

| Labor Practices and decent work | Human rights | Society | Product responsibility |
|--|-------------------------|-------------------|-------------------------------|
| Employment | Investment | Equity | Health |
| Labor relations | Non-discrimination | Social networks | Product labelling |
| Occupational health and safety | Freedom of association | Social cohesion | Marketing and communications |
| Training and education | Child labor | Participation | Consumer privacy |
| Diversity | Forced labor | Compliance | Compliance |
| Fair distribution of income | Security practices | Public policy | Anti-competitive behavior |
| Quality and well-being | Human rights mechanisms | Local communities | Safety |

Table 1 – Four thematic areas for the social aspect within CE (Padilla-Rivera, Russo-Garrido & Merveille (2020, p. 6).

The transition towards a circular textiles economy comes from economic, environmental, and social impacts. Since the current research and public discussion primarily focus on the environmental and economic advantages, more research is needed to identify the social advantages. This study aims to bridge this research gap and address the social advantages of CE in the textile industry.

1.3 The aim of the research and research questions

To bridge the research gap on the social advantages created by CE in the textile industry, a study needs to be conducted. This study aims to provide insight and to understand a set of main social advantages of circular textiles economy.

Based on the aim, the main research question is:

- *What are the main social advantages of circular textiles?*

The sub-questions that aim to provide support in finding the answer to the main research question are:

- *How are jobs created in circular textiles economy?*
- *How are textile companies creating social advantages by engaging their stakeholders towards textile circularity?*

1.4 Research methodology

The research is conducted as qualitative research. The data was collected via seven semi-structured interviews, using *inductive interpretive theory building approach*. Interviews as a form of collecting data was chosen, because the phenomena wanted to be examined through the interviewee's insights and understanding on how their company is creating social advantages. The seven interviews took place in the spring of 2022. All the interviews were conducted via Teams since the online interviews allowed flexibility for both the interviewer and the interviewee. The interview question set included six different themes, which were decided in advance. The questions were formed in a way that the interviewees could answer with full sentences to describe their thoughts on the researched topic. The language of all interviews was Finnish so that the research topic could be discussed in depth.

The companies selected for interviews were companies operating with circular textiles, and the selected companies were operating either in the field of retail or technology and innovation. The company representatives came from various backgrounds. The representatives were selected by random sampling, and the background or the interviewee's position in the company was not selected in advance. The different positions of the representatives allowed diversity in the responses to the interview questions.

The data was analysed using Gioia et al. method, which is a systematic approach to building grounded theory (Gioia et al., 2013). Grounded theory emphasizes on continual interplay between data collection and analysis to produce new theory in the research process (Bowen, 2006). The data was analysed by coding in NVivo. The codification in the Gioia et al. method has three different dimensions: first order categories, the second order themes and aggregated dimensions. The secondary data was collected from the case companies' websites, and the primary source of secondary data was the sustainability reports of the case companies, if they had one published. If not, the data was gathered from the sustainability section of their website. Four out of seven companies had published a sustainability report.

1.5 Theoretical framework

The key concepts combined form the theoretical framework of this study. In this thesis, the conceptual framework is built on three topics of the literature. The first one is the analysis of the literature on circular textile economy, the second is CE economy and social advantages literature and the third one stakeholder engagement. The theoretical framework is presented in Figure 1. This theoretical framework is applied to the analysis of social advantages in circular textiles economy in Finland.

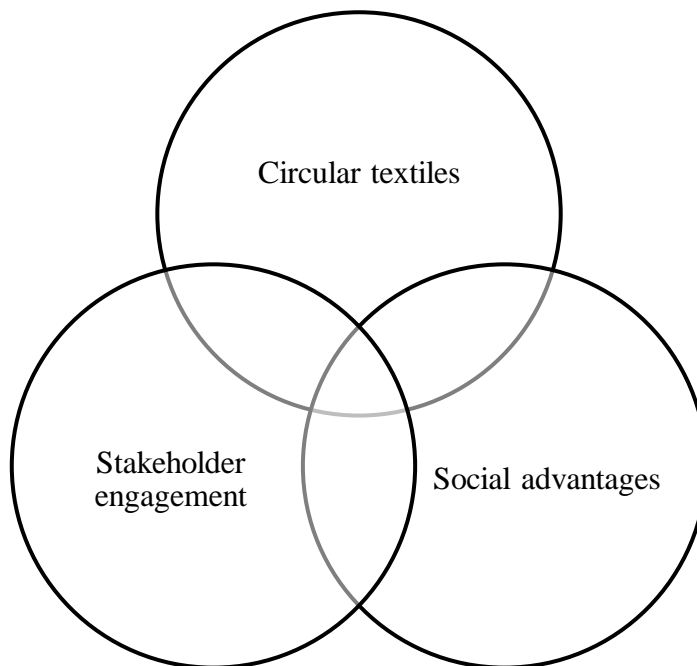


Figure 1 – Theoretical framework of the study

1.6 Thesis structure

The study consists of six chapters. The introduction presents the background of the study, followed by prior research and the research gap. This is followed by presenting the aim of the research, which leads to presenting the study's theoretical framework. Research questions are presented together with the aim of the research. The introduction also presents the research methodology.

The study's literature review is covered in the second chapter. Chapter 2 covers the phenomena of circular textiles economy. Circular textiles economy consists of three sub-chapters, which aim to explain the phenomena more in-depth. These sub-chapters are related to circular ecosystems in textile industry, system level approach for circular textiles, and circular business models in textile industry. Chapter 2 also explains the social aspect of circular textiles economy and stakeholder engagement towards circularity.

Chapter 4 presents the research methodology. First, the research design is presented, followed by data collection and analysis methods. Lastly, reliability and validity are discussed.

Chapter 5 presents and discusses the empirical findings of the research and answers the research questions based on the findings. Chapter 5 also presents the theoretical contributions, practical implications, further research suggestions and limitations of the study. Finally, chapter 6 presents the conclusions of the study. Figure 2 illustrates the structure of the study.

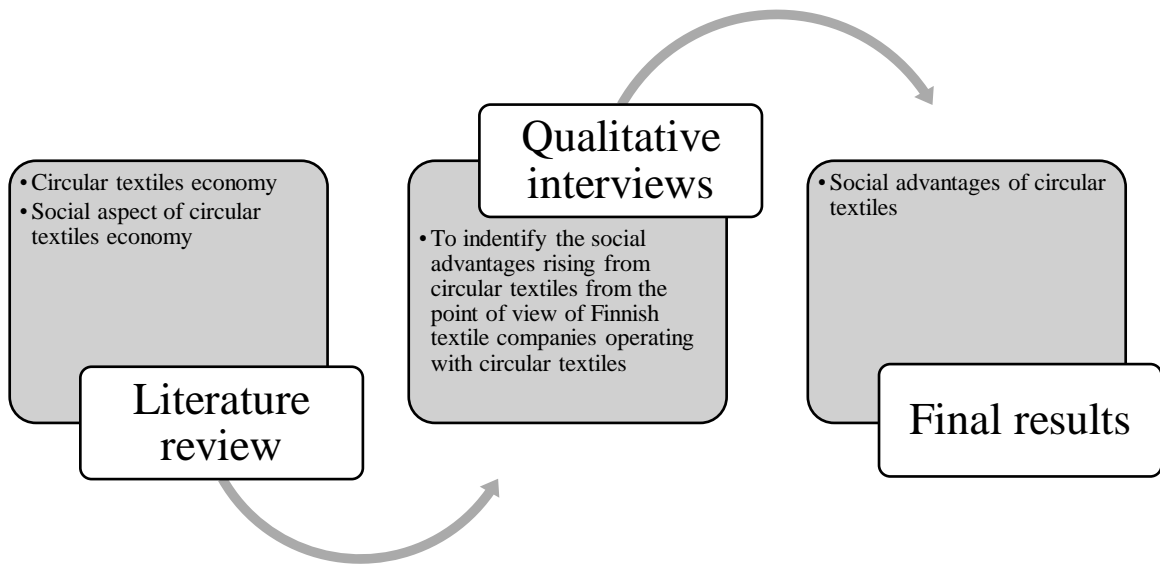


Figure 2 – Structure of the study

2 Literature review

This chapter aims to understand the previous literature on CE in the textile industry, the social advantages of circular textiles, and stakeholder engagement toward circularity. Regarding circular textiles economy, the focus is on three main aspects of circular textile economy: closed-loop value chain for textiles, system-level approach, and circular business models and textile industry. Regarding the social aspect of circular textiles, the focus is on the social advantages and stakeholder engagement toward circularity.

2.1 Circular textiles economy

Textiles and clothing are a fundamental part of people's lives worldwide, and the textile industry has emerged as a main sector to pioneer the changes towards CE (Ellen Mac Arthur Foundation, 2017). Textile industry, the second-largest polluter in the world, has been subject to heat for a long time due to the garments' short lifetime of roughly three years in contrast with the amount of waste it generates yearly (Sachidhanandham, 2020). The biggest concerns in CE for textiles are the discarded post-consumer textiles and other generated textile waste (Fontell & Heikkilä, 2017): In Finland, approximately 72 million kilograms of textiles every year are retired from use, from which only 20 percent is collected separately, and most of this textile waste is the discarded post-consumer textiles. Annually 12 million kilograms of clothes and home textiles in good condition go to re-use, 1,1 million kilograms are recycled mechanically, and 1,4 million kilograms are utilized for energy (Suomen Tekstiili ja Muoti Ry, 2021; Fontell & Heikkilä, 2017). CE for textiles is an economy where materials for textiles are safe, recycled, or renewable, the textile life cycle is prolonged and textile materials are recyclable and are recycled at the end of use (Pace, 2022).

CE of textiles has been proposed to replace the currently prevailing linear economy model, and the aim is to shift from take-make-waste towards the 3R principle, known as Reduce, Reuse and Recycle (Ellen Mac Arthur Foundation, 2017):

- Reduce, is based on the prevention of textile waste by changing consumption habits. When consumers are encouraged to question their purchasing decisions and only to purchase when is necessary, we are avoiding the accumulation of unnecessary textiles that would eventually end up as textile waste.
- Reuse, focuses on using a piece of clothing again, extending its life cycle by passing clothing on to new owners through secondhand shops or online platforms.
- Recycle, refers to the recovery of the valuable raw materials of post-consumer textile waste for use in new, similar products. The recycling of textiles includes the collection and handling as well as the processing of textiles. (Sandin et al., 2018; Thompson, 2017)

In addition to the 3R principle, Ellen Mac Arthur Foundation has established four main principles to create a circular textiles economy:

- Create safe material cycles where hazardous chemical use is limited and develop new materials and production processes that prevent the release of plastic microfibers. Safe material cycles can be supported by regulation targeting safety and quality requirements, creating a public demand for sustainable and re-used fibers, and supporting safe alternative chemicals and production processes.
- Transform the design and production of clothes from being disposable to durable. When the quality and durability are increased in the design and production processes, even an unwanted item is durable enough to be used again, enhancing the re-sale opportunities of used items. For consumers who wish to use their clothes long-term, appropriate information about care and modification should be facilitated and delivered.
- Improve recycling with new technologies. The improvement starts in the upstream decision-making, from choosing the materials to labeling, and ends with developing technologies that identify and recover materials in the recycling processes.

- Effective use of resources and the use of renewable inputs. Virgin materials will likely always be required in the production process, and when there is no recycled option available, it should come from renewable resources. These renewable resources can be regenerative agriculture for cotton and cellulose-based fibers. (Ellen Mac Arthur Foundation, 2017; European Environment Agency, 2019).

To achieve circularity in the textile industry, we need to scale up new and existing chemical and mechanical technologies (Mathews, 2015). Textile collecting and sorting points need to come up with new processes and material sorting technologies. Governments need to introduce legislative drivers, such as waste prevention targets. Brands and retailers need to create new business models, including circular strategies, collaborating with ‘closed-loop’ partners with different sorters, collectors, and recyclers. The European Commission has identified three key priorities in achieving a circular textiles economy:

1. Circular business models that focus on circular textile design, recycling, and re-use.
2. Policies that aim toward sustainable production in terms of fair working conditions, resource efficiency, and safe chemical use.
3. Education and behavioral change in the entire industry, starting from production to transport, consumption, and waste.

Figure 3 illustrates the complexity of the three levels mentioned above and the relationship of the different sectors involved in the transition toward a circular textiles economy (EEA/Eionet, 2019).

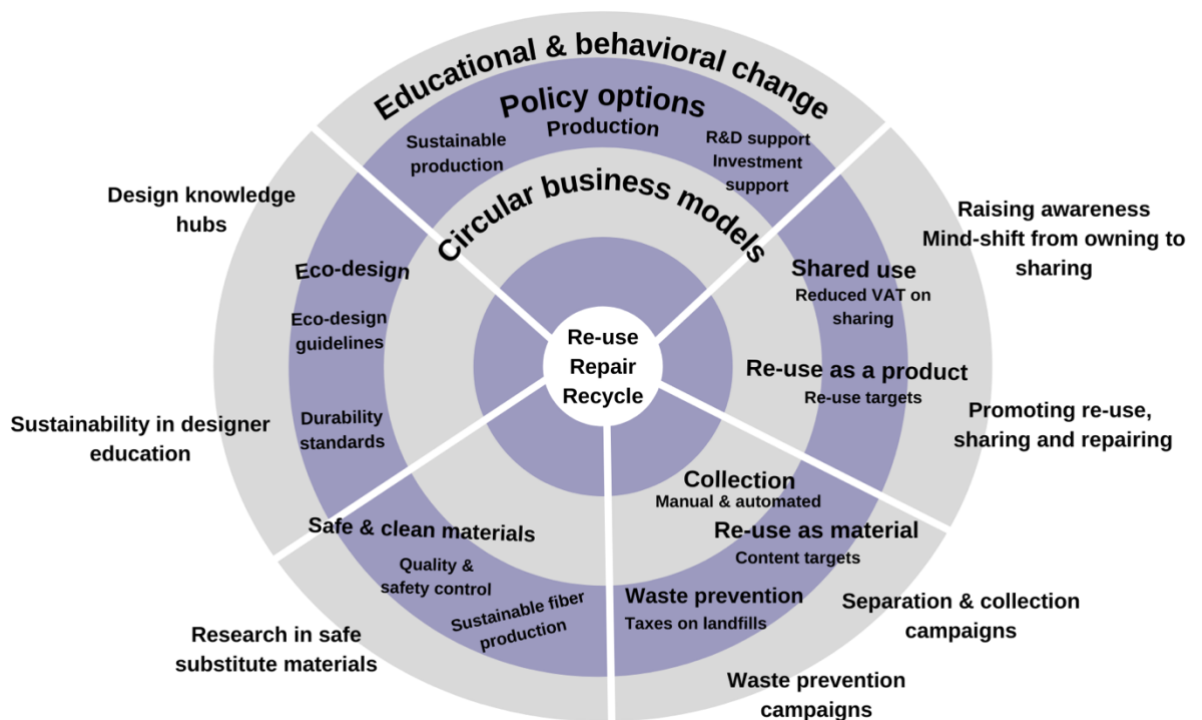


Figure 3 – Circular textiles economy: the role of circular business models, policy options & education and behavioral change (Simplified from EEA/Eionet 2019)

2.1.1 Closed-loop value chain for textiles

Currently, textiles are produced in multiple stages, and the production process can occur in more than just one country; a t-shirt, for instance, often travels up to 18,000 kilometers before ending at the store waiting to be sold to the end-user. The current model is short-lived, resource-intensive and has substantial impacts on society and the environment (Matthes et al., 2021, 5). When evaluating the use of textiles from the point of view of resource efficiency, it is essential that the manufactured products are used for their original purpose for as long as possible (Suomen Tekstiili ja Muoti Ry, 2021). Due to the current model being very unsustainable for society and for the environment, the establishment of a ‘closed-loop’ value chain is in order. With a closed value chain, a textile piece that is in a condition that it is not appropriate for use or reuse, is returned to the textile value chain as raw materials for new, similar products with material recycling and recovery (Matthes et al., 2021, 206). For example, an old t-shirt that ends up recycled after use is re-torn into a fiber, and recycled fiber is used as a raw material for new textile products. Recycled fiber can be used for either

yarn spinning or new textile fibers (Suomen Tekstiili ja Muoti Ry, 2021). Figure 4 presents the closed-loop value chain for textiles. According to Pal (2017), achieving the closed-loop value chain needs activities that aim to reduce the extraction of materials acquired from nature and reducing emission waste back to nature.

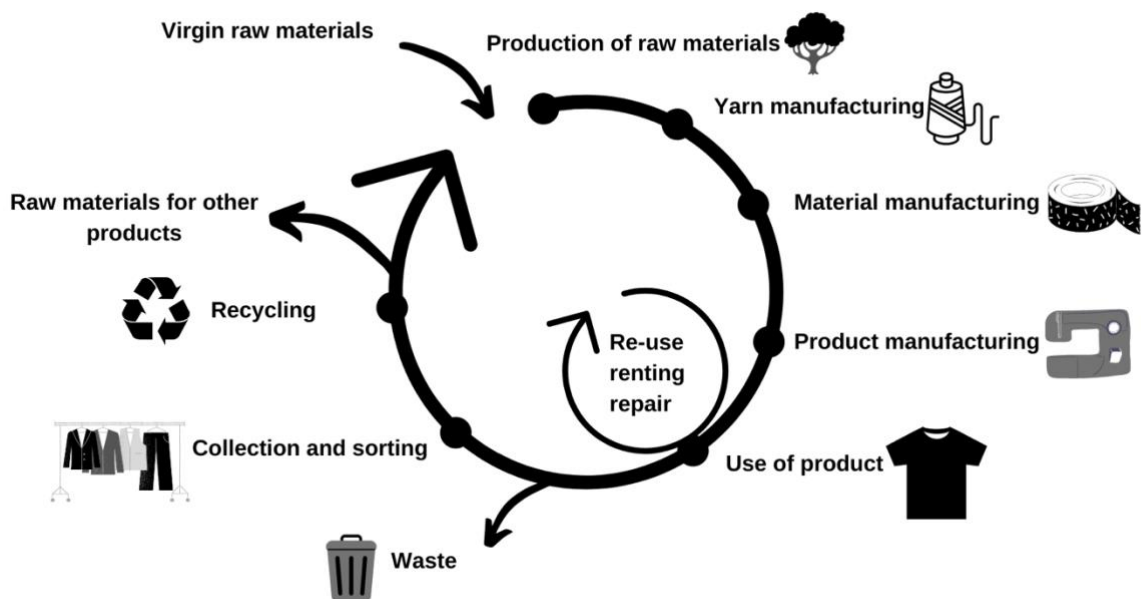


Figure 4 – Closed loop value chain for textiles (Suomen Tekstiili ja Muoti Ry 2021).

According to research by Kamppuri, Kallio, Mäkelä & Harlin (2021), Finland is one of the forerunners in sustainable textiles and fashion, aiming for the closed-loop value chain via the gained know-how, especially in cellulose-based fibers, yarn spinning, and dyeing of yarns and textiles. According to Technical Research Centre of Finland VTT (2021), with the global reorganization of production boosted by digitalization as well as new ecological textile fibers entering the market, Finland can create the world’s most functional as well as responsible textile production and cycle.

2.1.2 System level approach for circular textiles

The shift towards CE requires a system-level change and the engagement of all industries and stakeholders. A system to replace the ‘end-of-life’ thinking towards reusing, recycling, and recovering materials must operate at macro-, meso-, and micro-levels (Kirchherr et al., 2017). The macro-level efforts refer to, for example, regional and national level policy changes, the meso-level includes eco-industrial networks and collaborations between different organizations, and the micro-level focuses on companies, consumers, and products (Vanhamäki et al., 2019). Figure 5 represents these three levels and the actors within the levels.

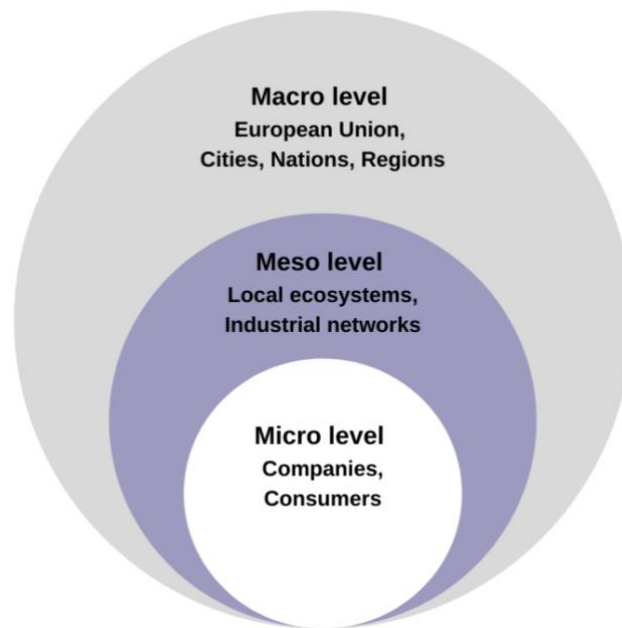


Figure 5 – The system level approach describing actors on macro- meso- and micro levels (Vanhamäki et al., 2019).

Macro-level. Since the aim of circular textiles economy is to reduce textile waste, the role of different authorities in pushing rules and regulations and setting up sustainability- and CE-driven frameworks, macro-level actions in nations, cities, and regions are in an essential role (Vanhamäki et al., 2019). Since the textile industry produces the fifth most greenhouse gasses in Europe and is the fourth-worst category for the use of raw materials and water after transportation, housing, and food. European Union has created an EU Textile Strategy in

2021 (European Environment Agency, 2019). As the textile industry is one of the high users of resources and it has a tremendous impact on the environment and society, the industry is a priority sector for the EU's shift towards sustainability in the New Industrial Strategy for Europe and the European Green Deal (European Commission, 2021). The Textile Strategy aims to create a new sustainable product framework to ensure that textile products fit for circulation, ensure secondary raw materials, and reduce the use of hazardous chemicals. The aim is also to motivate companies and consumers to reuse and repair their textiles before making a new purchase, and when it is essential to purchase, they would choose a sustainable product. According to the EU's Waste Directive, which was adopted in 2019, all EU member countries must organize a separate collection of textiles from 2025 onwards. However, Finland has a goal that is a little more ambitious: the Ministry of Finance proposes that the separate collection of textile waste generated in housing, such as clothes, footwear, and household textiles be started as early as 2023 (Suomen Tekstiili ja Muoti Ry, 2020b).

Meso-level. Actions on meso-level refer to collaboration between different companies, for example, via eco-industrial parks. Sitra (2020) defines an eco-industrial park as a geographical area where different companies can circulate materials, energy, and information for profitable yet sustainable business making. Eco-industrial park consists of pioneering companies that aim to respond to climate change challenges. Finland holds approximately 20 eco-industrial parks that aim to promote regional business incorporating sustainable development principles. Eco-industrial parks in Finland focus on waste management, including textile waste management (Sitra, 2020). In Finland, a project initially facilitated by Turku University of Applied Sciences and Lounais-Suomen Jätehuolto, called Telaketju, works at the meso-level to build business from the CE of textiles in Finland. Telaketju aims to develop the collection, sorting, and refining of textiles together with researchers, organizations, NGOs, and unions (Heikkilä et al., 2021). Heikkilä et al. (2021) created a Textile Circular Economy Vision 2035 that includes five main themes for textile economy:

1. Trends in consumption and legislation on global, EU, and national levels
2. Textile production includes used materials and design patterns
3. New business models regarding circular textiles economy
4. Technologies related to recycling and sorting of textiles

5. Value chain transparency, tracking of materials as well as information on material and product data

Micro level. Companies with their products and services, as well as consumers, operating on the micro-level, have a crucial role when aiming toward circular textiles economy. Companies working in the textiles sector need to integrate new and strategic approaches in all aspects of the company's operations, such as sourcing materials, growing market presence in secondhand markets as well as enhancing value creation from waste materials along the value chain (Lacy & Rutqvist, 2015). One example of operating on the micro-level towards a circular textiles economy is Lindström Group: a textile rental service company established in Finland, battling against the traditional linear operating model by providing companies with the textiles they need while looking after the entire life cycle of the products, starting from the designing process to the reuse of the products. After the products are used by their customer companies, the textiles are recycled into new workwear. Company aims to reduce overconsumption and save natural resources by manufacturing textiles only for their customers' needs while making them as durable as possible (Sitra ,2021b). Today's consumers of textile products expect full transparency across the value chains of textile companies, which puts pressure on the companies to develop sustainable supply chains, to treat workers fairly, and create value for the stakeholders (Amed & Berg, 2019). Companies also have a responsibility to influence and educate their different stakeholder groups, such as consumers towards sustainable consumption: an example from a jeans company Levi Strauss & Co, who took the initiative to educate consumers how to wash and maintain their products purchased from Levi's. They promoted less washing, washing in cold water, line drying, and donating when the product is no longer needed. The company also collaborated with I:CO, a global solutions provider for the collection, reuse, and recycling of textiles to create new products from old jeans and established recycling points in stores to collect no longer needed textiles (Muthu, 2019, 71).

2.1.3 Circular business models and textile industry

The concept of circular business models was introduced in an article by Schwager and Moser in 2006, where the topic was introduced through individual business model types for circular value creation. The concept re-emerged seven years later when Ellen MacArthur Foundation (Ellen MacArthur Foundation, 2017) brought the concept to the attention of a larger audience. Since 2015, the publications about circular business models have experienced exponential growth: 13 published articles in 2016, 38 published articles in 2017, and 88 published articles in 2018 (Geissdoerfer et al., 2020). As it can be witnessed, the topic's popularity grew rapidly after 2016, which can also be seen in the increasing availability of dedicated research funding, high citation counts in a small-time frame, and parallel reviews on the topic (Geissdoerfer et al., 2020). Circular business model can be described as how a company creates, captures, and delivers value to improve resource efficiency through extending the life of products and parts, for example, through long-life design, repair, and remanufacturing as well as closing material loops (Nußholz, 2017, 12). Another definition by Bocken et al (2016) for circular business model is that the approach is about capturing the value from what is considered in a linear business model as “waste” or by-products. Mentink (2014) defines circular business models: “*A circular business model is the rationale of how an organization creates, delivers and captures value with and within closed material loops*”. The shift towards circular business models is described by Bocken et al. (2016) to be a radical change, which requires a new way of doing business with radical technical- and product innovation.

A range of circular business model frameworks that aim towards slowing resource loops and encourages towards a long product life and reuse of products have emerged in academia throughout the years: such as Cradle-to-Cradle by McDonough and Braundgart (2002), Performance Economy by Stahel (2010) and Product-Service-Systems (PSS) (Tukker, 2004). Cradle-to-Cradle can be defined as a design method where the products can be upcycled at the end of their life, imitating nature's cycle. By closing technical and biological loops, products become sustainable as nothing becomes a waste (McDonough and Braundgart, 2002). McDonough and Braungart (2002) emphasized the importance of closing technical and biological loops in CE, and Stahel (2010) emphasized the separation between the recycling of materials and the reuse of goods for the technical loop. The concept of PSS

was proposed over two decades ago, describing integrated systems of products and services designed to satisfy the consumers' needs with a lifecycle focus (Matschewsky, 2019). Bocken et al. (2014) has identified eight different categories in circular business models, aiming for transformational innovations:

1. Energy efficiency and the maximization of materials
2. Waste as a way of creating value
3. Renewal of resources
4. Functionality rather than ownership
5. Adopting a stewardship role
6. The encouragement of sufficiency
7. Business repurposes for the society and environment
8. Developing scale-up solutions.

In the context of textile industry, to disrupt the current linear economy model, new, circular business models to producing, accessing, and maintaining textiles are essential. Extending the life expectancy of a garment is one key issue in the sustainability of the textile industry. According to Stahel (2017) if we succeed in doubling the use-time of a piece of clothing, the necessary resources for production, and the waste rates of consumption are halved. Service-based business models and circular strategies are widely recognized for delivering social and environmental sustainability (Sitra, 2015). Economic opportunities exist in many circular business models in the textile industry, which brands, and retailers could utilize through refocused marketing. Circular business models also lead to the design and manufacture of textiles that has a longer life cycle, which could be further supported by industry-specific policies drawn by governments. (Ellen Mac Arthur Foundation, 2017).

The circular textiles economy starts with the design and manufacturing of textiles. Therefore, new business models in designing and manufacturing clothes play a crucial role in the sustainability of the textile industry. Ecodesign is one approach to sustainable design which considers the product's environmental impact during its life cycle, from acquiring raw materials through production and use to the end of its life. The ecodesign-related practices aim to reduce the ecological footprint and improve the products' functional and aesthetic aspects (Cimatti & Campana, 2017; Niinimäki, 2006). It also considers the social and ethical

aspects (Niinimäki, 2006). To assess the environmental impact of ecodesign can be achieved using the life cycle assessment (LCA), which includes the evaluation of the environmental burden of the product throughout its life cycle (Niinimäki, 2006). In practice, designers need to design life cycles, not only clothes. They need to consider the environmental aspects and create products that aim to last. They also need to limit toxic chemicals, energy, and water use in the manufacturing process, and the product must be recyclable (Niinimäki, 2006).

Bakker et al. (2017) have introduced the following circular design strategies to enable circular product design that also applies in the textile industry:

1. Design for consumer's trust and attachment
2. Design for durability
3. Design for compatibility
4. Design for ease of repair and maintenance
5. Design for adaptability and upgradability
6. Design for reassembly

Circular business models in the textile industry may refer to resource recovery, product life extension, repair services, sharing platforms, rental services, circular suppliers, subscription models, made-to-measure garments, clothing-on-demand, or product as a service (Ellen Mac Arthur Foundation, 2017; Pal, 2017). Companies are already making important improvements in existing business models as well as creating new ones: examples of garment renting and leasing already exist, such as Vaatepuu in Finland and LENA the fashion library in the Netherlands, as well as companies that offer free repair or mending services to extend the garments use-time, companies that simultaneously strengthen brand value without the paying attention to customer satisfaction, an example being a Swedish jeans company Nudie Jeans that offers trade-in, re-use and repair services for jeans (Niinimäki, 2018). PSS models also offer fashion brands and retailers a new way of doing business, creating the possibility of new value propositions for customers: Anna Ruohonen, for example, is a Finnish Paris-based designer who offers individual and customized, made-to-measure design (Niinimäki, 2018; Anna Ruohonen, 2020).

2.2 Social aspect and advantages of circular textiles economy

The textile industry is known to hold great importance to economies worldwide in terms of employment, investment, revenue, and trade: for example, in Finland, the annual revenue of the textile industry in 2020 was 430 million euros (Filho et al., 2019; Statista, 2021). However, the linear economy model has severe environmental and social consequences, such as using large quantities of water and hazardous chemicals, waste generation, high greenhouse gas emissions, and child labor (Remy et al., 2016). Mitigating the sustainability impact of the industry, many circular business models can act as a route toward environmental, economic, and social benefits to the extent it is boosting a country's economy (Filho et al., 2019).

The current literature on CE points out CE's economic and environmental advantages, whereas the social aspects of CE have been neglected (Merli et al., 2018). According to Kirchherr et al. (2017), only 20 percent of articles published about CE include the social aspect as one of CE primary objects: scholars focusing on CE have mostly discussed the topic through economic and environmental sustainability, leaving only a small portion of scholars discussing CE through all three aspects of sustainability (Ghisellini, Cialani & Ulgiati, 2016; Kirchherr et al., 2017; Merli et al., 2018), which presents an explicit limitation to the concept. Kirchherr et al. (2017) analyzed 114 definitions of CE. Their study revealed that economic growth is highly prioritized, and the social aspect, such as future generations and social justice, are largely ignored. This is further recognized by Schröder et al. (2020), who identify that key social sustainability aspects such as human rights are scarcely referenced in CE literature. In the context of the textile industry, the social aspect is underdeveloped: there is a lack of research between social sustainability and CE, given the high social impacts of the fashion industry, where often worker rights are neglected, and low wages remain prevalent (Clube & Tennant, 2020).

Previous studies on the social advantages of CE have mainly focused on the job creation potential (Stahel, 2016, Scarpellini, 2021, Llorente-González & Vence, 2020, Mitchell & Morgan, 2015), new job profiles and skills (Llorente-González & Vence, 2020, Stahel, 2016), awareness, transparency, and the importance of stakeholders' dialogue (Kirchherr et al.,

2017, Scarpellini, 2021), collaboration and partnership (Azavedo et al., 2017, Rossi et al., 2020) and education (Kirchherr & Piscicelli, 2018, Burger et al., 2019).

According to scholars, there lie two perspectives about whether CE aims for socially sustainable development: some scholars argue that social advantages, such as job creation and skills, are seen as by-products of environmental and economic sustainability, and other scholars argue that social advantages are the core objectives of CE because social well-being is built-in sustainable development. (Repp, Hekkert & Kirchherr, 2020)

In the context of textile industry, relevant business models have emerged, especially in the reuse and recycling of textiles, that have proven to have social advantages, such as customer and supplier empowerment and job creation. Different circular business models in the textile industry have acted as a way of creating value to local businesses and communities (Filho et al., 2019).

Despite the lack of evidence of material impacts, the shift towards CE has a chance to build a socially more sustainable future. However, it is crucial to understand the social aspect and incorporate it into the current CE narrative and policies that promote CE. Incorporating the social aspect into the CE narrative allows for better decision-making processes and holistic planning that contribute to the circular transition (Sitra, 2021b).

2.2.1 Social advantages of circular textiles economy

Social advantages can be defined as positive impacts of processes, organizations, and activities on humans and society (Balaman, 2018). The topics integrated into social advantages can include labour practices and decent work, enhancing human rights, social cohesion, well-being, and community development (Balaman, 2018; Padilla-Rivera, Russo-Garrido & Merveille, 2020).

Job creation. Employment is a significant lever of social sustainability as it enhances an individual's overall social well-being. The link between job creation and CE in the textile industry has been recognized. According to existing literature, job creation is often witnessed as a positive externality of CE transition (for instance, Niinimäki, 2018, Llorente-González & Venze, 2020, Repp, Hekkert & Kirchherr, 2021, Sitra, 2020). A growing number of studies estimate the number of circular jobs created: the estimates are ambitious, which tells that transforming towards CE will be prosperous to economies especially in the EU: European Commission predicts that circular activities have the possibilities to generate up to 3 million new jobs by 2030 and be the innovative and inclusive solution to the environmental and social issues in the area (Llorente-González & Venze, 2020; European Commission, 2020). The OECD estimates that globally all sectors and industries combined, 18 million new, circular jobs will be created by 2040. Since some jobs will be lost in the transition toward CE, the net job creation estimate is 1.8 million (OECD, 2017).

Sitra (2020) has studied the social impacts of CE, and they, too, mention circular jobs being one of the most apparent social advantages of CE. They emphasize the quality and quantity of the circular jobs and argue that because of CE, some jobs will disappear, new ones will be created, and most will change in content. For instance, jobs in the production of secondary materials will emerge in the future. Research has indicated that the low to upper-middle-income countries will be the ones suffering from the job disappearance: it is estimated that up to 85,000 jobs are created in the EU by going circular, and at the same time, up to almost 800,000 jobs are lost in the low to upper-middle-income countries. This results from the western 'take-make-waste' way of living that keeps the textile factories still running in Bangladesh and Pakistan (Repp, Hekkert & Kirchherr, 2021; Kirchherr, 2021). From an ethical point of view, the advantages, and disadvantages of transitioning towards CE seem to be unevenly distributed since the stakeholders outside the EU will carry the main adverse effects (Repp, Hekkert & Kirchherr, 2021). On the other hand, over 95 percent of CE -related research is focused on developed countries, leaving only 5 percent on developing countries. Hence, the actual effects on the low to upper-middle-income countries remain scarce (Kirchherr & van Santen, 2019).

In the context of the textile industry, the jobs are likely to emerge in the circular apparel value chains, more specifically in the reuse and recycling activities in the downstream, but also in waste collection, material recovery, repair of textiles, retail trade of second-hand goods (Llorente-González & Vence, 2020; Niinimäki, 2018). Circular jobs also create possibilities for people with different skill levels: universities and startups coming up with new technologies and business models will offer high-tech jobs best suited to people with a higher-level degree, and service-sector jobs, such as garment manufacturing and second-hand jobs are accessible for people with a basic or secondary-degree background (Sitra, 2020). Mitchell & Morgan (2015) identified four CE activities with job creation opportunities: Reuse, closed-loop recycling, repair and remanufacturing, and service sector (Table 2). All these activities apply to the textile industry, and one CE activity has been added: the development of new circular business models and technologies in the industry.

| CE activity | Job creation opportunity |
|----------------------------|---|
| Reuse | Retail of secondhand goods |
| Closed loop recycling | Waste and recycling of textiles Wholesale of waste |
| Repair and remanufacturing | Repair of garments Raw-material recovery |
| Service sector | Textile renting and leasing Retail of goods |
| Development | New circular business models and technologies |

Table 2 – CE activities and the job creation opportunities they hold (modified from Mitchell & Morgan, 2015)

Recycling facilities create jobs specifically for people with lower levels of education and people who are unemployed long-term: Kontti, a chain of second-hand shops established by the Finnish Red Cross, employs people who have been unemployed for at least 500 days, and offer training and support for planning for their hire’s future (Sitra, 2020; Kontti, 2021). CE also offers an opportunity in the areas of maintenance and product repair: in northern

Europe, recycling cotton textiles into new fibers can create a local source of material for textiles, which could lead to an establishment of a local textile value chain and reviving jobs that once have been lost, such as spinning yarn, for example (Sitra, 2020).

Moving towards a closed-loop value chain in the textile industry is seen to intensify the labor opportunities in regional and local communities, where reusing, modification, and waste management of the textiles can be achieved with more flexibility rather than being transported long distances (Niinimäki, 2018). However, if the materials need to be transported to a recycling plant, they still should stay within the same economic area to preserve the value of material locally (Sitra, 2020). According to Dutch research, the reuse of textiles sector has the highest potential for job creation in local communities, with a 25 percent increase in clothing value chain in the Netherlands: reuse increases job opportunities in local collection and sorting of waste as well as in the second-hand retail market and repair and maintenance services (Circle Economy, 2021).

Employee training towards circularity. Since textile companies have a rising interest in sustainable corporate behavior, sustainability issues are increasingly integrated into actions, strategies, operations, and behavior. An essential aspect of any sustainability initiative is to train the company's employees and develop their sustainability-related competencies. Especially in the textile industry, the role of training can act as a critical enabler of change, and employee training can ensure the development of new skills and reshape a company's ethical culture and values. (Salvioni & Almici, 2020; Baumgartner & Winter, 2012).

According to the literature, companies can influence and measure their employee's sustainability-related attitudes, knowledge, behavior, and motivation. Hence, companies can implement sustainable policies into their training programs to effectively deliver socially, environmentally, and economically sustainable activities as a company. (Dumont, Shen & Deng, 2016). By including sustainability training in a company's human resources management, the company can equip the employees with core sustainability skills and increase the company's eco-literacy and environmental expertise (Renwick et al., 2013).

In the context of the textile industry, the role of sustainability training is beneficial for the individual, the company culture as well as the environment. From the social point of view, sustainability training can increase the employees' efficiency, increase their knowledge of different sustainability practices, increase the engagement between the employer and employee and gain a higher job commitment and satisfaction, which will lead to higher productivity and sustainability. From the environmental point of view, sustainability training can lead to energy efficiency, reduce the causes of health issues, and improve working conditions in garment factories and retail stores. (Saha, Sarker & Ahmed, 2020). According to a study conducted by Ünal, Urbinati, Chiaroni & Manzini (2019), employee learning and training are critical factors in the value creation of circular business models.

According to research conducted by Suomen Tekstiili ja Muoti Ry (2020a), Finnish textile companies rank sustainability and CE training as one of the most critical topics when providing in-service training for their employees, together with digital tools. However, according to the same research, 17 percent of the respondent companies see that within the next 5 years, sustainability expertise is one of the key expertise in the field. 57 Finnish companies operating in the textile industry took part in the research.

Changing consumer behavior towards circularity. Each purchase can potentially contribute to a sustainable pattern of consumption. The textile companies can be a part of changing consumer behavior by offering alternative ways to consume or offering education to the consumers to change their mindset towards sustainability (Harris, Roby & Dibb, 2015). As mentioned earlier, the biggest concern in CE for textiles is the discarded-post-consumer textiles. Businesses in the industry have created solutions for post-consumer textiles and have also extended the lifespan of clothing by manufacturing higher quality clothing, which increases product durability. (Dahlbo, Aalto, Eskelinen & Salmenperä, 2017). Consumer behavior is also crucial in acquiring and disposing of textiles, and textile companies can offer alternative ways to consume in the form of recycling activities, charities, and secondhand shops (Hvass, 2014).

Textile companies can practice post-retail responsibility by integrating new circular business models that concentrate on keeping the textiles in the value chain, offering take-back schemes, for instance. Taking back of old products is an effective way of ensuring recycling and preventing disposal. A take-back scheme organized by a textile retailer aims to collect used garments from consumers and reintroduce them to the original manufacturing cycle. A take-back scheme can be implemented in collaboration with companies operating with end-of-life logistics and material processing. Multiple benefits have been witnessed arising from the take-back scheme, such as reduced impacts on the environment as well as a stronger relationship with the customers. (WBCSD, 2018). According to Ellen MacArthur Foundation (2017), take-back schemes are one of the most powerful platforms for educating consumers about sustainability. However, take-back schemes have been criticized for leaving the responsibility of the garment's fate to the consumer: the consumers have the ownership of the garments, and the worn clothes' fate depends on the consumer's consumption, disposal, and donation habits (Hvass, 2014). Several retailers, including H&M and Patagonia, have devised solutions to engage consumers in take-back schemes. For example, H&M's Garment Collecting program engages consumers to bring their used textiles to the store by giving a discount voucher. In 2019, the program collected 29,005 tons of textiles, equivalent to 145 million t-shirts (Ellen MacArthur Foundation, 2017; H&M Group, 2021).

To guide customers towards sustainability when handling textiles, organizations can create campaigns to educate their consumers. The campaigns can teach, for example, how to take care of their garments and repair them to prolong their life span. Patagonia, for example, offers guides, videos, and tips on handling garments to prevent them from ending up in landfills. (Patagonia, 2022). As a part of WRAP's Sustainable Clothing Action Plan, the organization launched a campaign called 'Love your clothes', which aims to raise awareness of the value of clothes and encourage consumers to make the most of the clothing they already have in their closet (Wrap, 2021).

2.3 Stakeholder engagement towards circularity

Stakeholder engagement towards circularity. Collaboration can also be considered a social advantage of CE. Including stakeholders in dialogue related to CE actions and in the decision-making process and partnerships can act as a lever of CE (Scarpellini, 2021). Thus, stakeholder engagement can contribute to the implementation of circular business models, for instance. Stakeholder engagement can be defined as “*practices that the organization undertakes to involve stakeholders in a positive manner in organizational activities*” (Greenwood, 2007). According to Greenwood (2007), stakeholder engagement is tightly linked with sustainability: the more responsible a company is through practice and policy, the more responsible that company is towards its stakeholders.

Previous literature on stakeholder engagement has focused for instance on value creation (Harrison et al., 2010), learning and knowledge (Desai, 2018), and corporate social responsibility (Lindgreen & Swaen, 2010). The engagement of stakeholders creates social advantages in increasing skills and knowledge among different stakeholder groups, such as company employees, customers, and suppliers. According to research by Ki et al. (2020), companies operating in the field of circular textiles have different drivers for stakeholder engagement, such as environmental and social concerns. The environmental concerns may include the desire to protect the environment against direct or indirect damage caused by internal and external stakeholders. The social concerns may include the desire to remove toxic chemicals that causes health issues for different stakeholders or raising consumer awareness of circular fashion. In addition, enhancing the skills and knowledge of the organization’s employees as stakeholder engagement can act as a driver of CE in the industry. Different skills are already needed in the emerging job opportunities in different CE activities, such as clothing manufacturing, clothing resale, textile collection, and sorting. Most demanded skills are related to the new emerging technologies and manual or mechanical recycling activities. Soft skills are also needed, such as teamwork, communication, and sales skills (Circle Economy, 2021).

When stakeholders are provided with the relevant support and tools, the progress towards circular textiles economy is tangible. According to Ellen Mac Arthur Foundation (2017), organizations operating in the textile industry must:

- Forward the evolving best practices to different stakeholder groups along the global textiles value chain
- Communicate the nature of the current situation as well as the desired outcome of a circular textiles economy
- Involve the additional actors in commitment towards circularity of textiles
- Engage the policymakers and share the policy best practices.

3 Methodology

This chapter will thoroughly explain the chosen research design of the study, how the data is collected and analysed. This chapter also discusses the reliability and validity of the study.

3.1 Research design

As mentioned earlier, literature has highlighted that the circular textile economy holds social advantages, but there is a shortage of available evidence. To gain that missing evidence, the research will be conducted as qualitative research. A qualitative research method is best used to examine the presence of a novel phenomenon using research methods such as interviews, observations, content analysis, group discussions, and different textual resources (Hennink et al., 2010, p. 10). According to Hirvisjärvi, Remes & Sarjavaara (2009, p. 161), the qualitative research method allows a holistic examination of the researched phenomena and clarifies complex real-life situations; it seemed to be an excellent fit for gaining in-depth knowledge about the research subject. The empirical data was collected from several different actors, including companies and unions, to develop an in-depth understanding of the phenomena in a selected context (Harrison et al., 2017).

The research is conducted as qualitative research. The data was collected via seven semi-structured interviews, using *inductive interpretive theory building approach*. The researcher collects data based on their interests using inductive interpretive theory-building. After the data collection, the researcher looks for patterns in the data, working to develop a theory explaining those patterns (Dudovskiy, 2020). The data was analyzed using Gioia et al. method, a systematic approach to building grounded theory (Gioia et al., 2013). Grounded theory emphasizes the continual interplay between data collection and analysis to produce new theory in the research process (Bowen, 2006). In the Gioia et al. method, the data is analyzed by coding. The codification in the method has three dimensions: the first-order categories, the second-order themes, and aggregated dimensions. The First order categories are based on the transcription codes, and there is no limitation on the number of categories created. The second-order themes are formatted based on these first-order categories based

on their links and similarities. Finally, the second-order categories are grouped into aggregate dimensions (Gioia et al., 2013).

3.2 Research setting

The study examines the Finnish circular textiles industry. The textile industry was selected as the research setting of this study because of the industry's notable efforts in transferring towards CE: the Finnish textile innovations have the potential to significantly solve global climate challenges in the next upcoming years (Suomen Tekstiili ja Muoti Ry, 2020c). In the following sub-chapter, the companies participating in this study are presented.

3.2.1 Main characteristics of companies interviewed on the circular textiles setting

Company A was established in 1987 and operates in the second-hand retail and wholesale market, and their business operations focus mainly on textile collection, sorting, and sales. Company is characterized as a small and medium -sized company (SME). Company A's business is strongly guided by sustainable values, and the Company A's aim is to make the world socially, ecologically, and economically sustainable place. Company A also aims to advocate themes such as circular economy and textile recycling. Company A feels that they play a key role in the circular economy of textiles: Company A collects approximately 15 million kilos of textiles annually in Finland. The goal is to collect textiles, that are directly suitable for re-use, but approximately 10 % of the collected textiles are not suitable for re-use and end up as waste. The textile waste goes back to material recycling and the rest is incinerated, but the Company A's goal is to reduce the incinerated textiles. In recent years, nearly all the collected textiles were re-usable one way or another, and the generated textile waste amount was very minimal.

Company B manufactures and sells textile products that are primarily made from surplus and recycled materials, coming from Finnish businesses and their operating environment. Company B is a SME. Company B was established in the early 2000s, and at that time textile industry was at a turning point: fast fashion had entered the market and clothing was almost

disposable. Hence, the idea of establishing a company that gives a new life to these short-lived garments and extend their lifespan and do good for the environment. Company B is also guided by sustainable values, and these values form the basis of the everyday business. Company B feels that one of their main mission is to make an impact and spread the word of sustainable fashion to the society, including companies operating outside the textile industry.

Company C aims to create value by transforming waste into textile fibre and thereby save natural resources. Company C was established in 2016 as a start-up but can currently be considered as a SME. Company C's role in the circular textiles economy is to transform the linear economy model to circular economy using its technology and to act as an enabler to the closed loop value chain of textiles. According to Company C's representative, only 1 percent of textile waste is used to capture value by regenerating it as new textile fibre.

Company D was established in 2013 on the basis ecology and circular economy, with the aim of manufacturing products made 100 % from surplus textile material and Company D sees themselves as the pioneers of textile recycling. Company D is a SME. Company D has a key role in mitigating the environmental impacts in the textile industry: Company D has already saved nearly 4 million litres of waters and 3 million kilograms of Co2 emissions with their products. Company D has recycled nearly 500 000 kilograms of textile waste and given it a new life as clothes. Company D aims to reduce the flow of surplus materials and to find a high-quality solution for the surplus material in the form of a new textile product.

Company E was established in 2014 with an aim to transform the way textiles are manufactured with their technology that makes textile fibre out of waste, without harmful chemicals and close to zero water use. Company E is a SME. Sustainability is an important principle for Company E, and according to the company's representative, they are aiming higher in terms of sustainability than they are required to do for example, Company E is publishing their first sustainability report this year and has set clear targets for their sustainability work.

Company F was established in 2012 and is a SME. Company F sells and manufactures clothing made from wool. Company F's production is responsible and of high quality. Company F is a rather small company but strives to make sure that the company's operations and production processes are responsible throughout the entire product life cycle. According to Company F's representative, the basic philosophy of the brand is to produce clothing items that are as durable and timeless as possible. Company F has integrated two circular business models into their operations: a second-hand service, which resells the brand's used items, and a repair service for their products.

Company G was established in 1959 and is a SME. Company G is a workwear manufacturer, where sustainability is integrated into the company's core operations. Company G aims to develop environmentally sustainable solutions to their consumers and strive for carbon-neutral operations, as well as aim towards transparency when communicating towards their stakeholders. Company G has integrated different circular business models into their operations, such as rental service, repair service and recycling service.

3.3 Data collection

The primary data was collected via seven semi-structured interviews. Interviews as a form of collecting data were chosen, because the phenomena wanted to be examined through the interviewee's insights and understanding of how their organization is creating social advantages. In the Gioia et al. method, the most important way of collecting data is the semi-structured interviews, but using secondary data, such as organization archives, websites, and other material, is essential to gain a holistic view of the phenomena (Gioia et al., 2013). Due to this, secondary data for this study was collected from the case organization's websites. The primary source of secondary data was the sustainability reports of the case organizations if they had one published. If not, the data was gathered from the sustainability section of their website. Four out of seven companies had published a sustainability report.

The semi-structured interviews focused on six themes, which were decided in advance. Each theme included one to four sub-questions. The first theme of the interviews focused on circular business models and the state of sustainability in the interviewee organizations. The second theme focused on the organization's stakeholders and whether the organizations are engaging their different stakeholders towards sustainability. The third theme concentrated on the job creation potential. Themes four and five focused on employee training and consumer engagement. The last theme concentrates on legislation and regulation and its role in the social aspect of circular textiles. The questions were formed so that the interviewees could answer the questions with complete sentences to describe their thoughts on the researched topic. According to the Gioia et al. method, the questions should be open-ended to avoid leading the interviewee in a direction the researcher wants (Gioia et al., 2013). The interview questions were sent to the interviewees before the interviews took place so that the interviewees could familiarize the subject beforehand. The interview questions can be found in Appendix 1. In line with the Gioia et al. method, the interviewees were not promised confidentiality. However, they were promised anonymity (Gioia et al., 2013). Therefore, the interviewee companies or representatives are not named in the study.

All the interviews were held via Microsoft Teams during March and April of 2022. The interviews were held online due to the pandemic. However, the online interviews allowed flexibility for both the interviewer and the interviewee, and it was convenient for the smooth progress of the research. The interview duration varied from 41 minutes to over an hour. The language of all interviews was Finnish, so the research topic could be discussed in depth. During the interviewing process, the interviewer could ask clarifying questions and change the order of the questions. After the interviews, the transcripts were downloaded in .docx format from Microsoft Teams, from which they were transferred to Microsoft Word for the quality improvement of the transcripts. After the quality improvement, the transcripts were transferred to NVivo for coding. The list of companies, the interviewee's position in the company, the company's operating environment, and the date and duration of the interview are presented in Table 3 below.

| Organization | Interviewee's position in the organization | Organization's operating environment | Date and duration of the interview |
|---------------------|---|---|--|
| Company A | Partnership Manager | Retail | 16 th of March 2022 54 minutes |
| Company B | Chief Executive Officer | Retail | 17 th of March 2022 1 hour 1 minutes |
| Company C | Chief Marketing Officer | Technology and innovation | 24 th of March 2022 58 minutes |
| Company D | Founder | Retail | 24 th of March 2022 50 minutes |
| Company E | Business Development Director | Technology and innovation | 25 th of March 2022 59 minutes |
| Company F | Sustainability Manager | Retail | 31 st of March 2022 41 minutes |
| Company G | Area Manager & Innovations Manager | Retail | 1 st of April 2022 43 minutes |
| Total | | | 366 minutes |

Table 3 – Main characteristics of companies and interviewees

The companies selected for interviews were companies operating with circular textiles, and the companies were operating either in retail or technology and innovation. The company representatives came from various backgrounds. The representatives were selected by random sampling, and the background or the interviewee's position in the company was not selected in advance. The different positions of the representatives allowed diversity in the responses to the interview questions.

3.4 Data analysis

The data was analysed with coding, using the Gioia et al. (2013) qualitative codification methodology, enabling an inductive theory building through coding the gathered data on the semi-structured interviews and secondary materials. Gioia et al. (2013) codification enable the systematic processing of inductive data transparently and coherently. The methodology aims to set up a scientific and objective process of analysing qualitative data. Gioia et al. (2013) proposes a cycle of a third iterative codification process. Doing so shows how the data analysis has been constructed, starting from the first order categories, and ending with the aggregated dimensions. The methodology aims to prove that the reached conclusions of the study are not the researchers' assumptions but are based on systematic objective and validated analysis (Gioia et al., 2013).

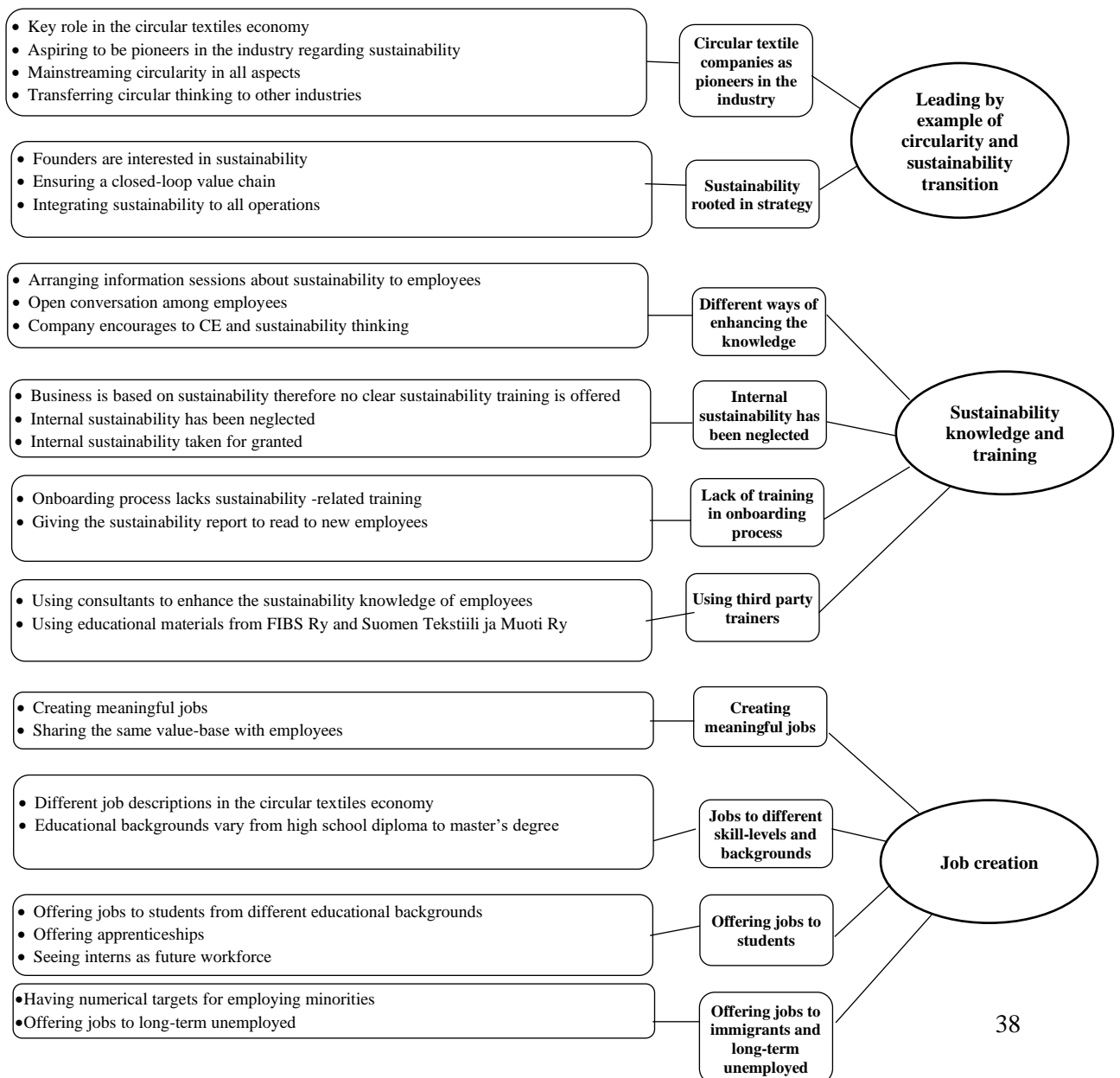
Analysing the data consists of three phases: (1) coding the data to first-order descriptive concepts that emerge from the first analysis of data, (2) iterating the analysis of first-order concepts organizing second-order themes seeking similarities and differences among the many concepts, and (3) working on the theoretical realm, testing whether the emerging second-order themes can be aggregated in a theoretical or conceptual-oriented construct that helps to explain the phenomenon of study that we are observing, we name the aggregate dimensions.

1. Descriptive concepts. First, the transcripts were automated from Microsoft Teams during the interviews. When transcripts are automatically made in Microsoft Teams, some sentences and wording are incorrect or hard to understand. Therefore, after the interviews, the transcripts were processed in Microsoft Word to improve the transcript quality: excess words were deleted, and some sentences were reformatted to allow better data processing later in NVivo. During the transcripts' improvement process, the researcher familiarized the data carefully to gain a better overall knowledge of the data. After familiarizing the data, the transcripts were sent to NVivo for the coding process. First, all the interviews were processed individually to achieve the first-order categories. In total, NVivo identified 70 first-order categories from all seven interviews. In those 70 first-order categories, depending on the category, one to six references were included in each category. According to Gioia et al. (2013), depending on the sample size, it is prevalent that 50 to 100 first-order categories emerge from the first phase of coding the interviews. In the first phase, it is usual that the researcher might feel a little lost, with no firm idea of how the data makes sense (Gioia et al., 2013). However, according to Gioia (2004), the researcher must get lost before they can get found. After familiarizing all the 70 first-order concepts, the categories were sorted from highest to lowest number of references. Categories with two or more references were considered when formatting the second-order themes. In total, 59 first-order concepts were selected to consider the second-order themes.

2. Second-order themes. The second-order themes were identified by looking for similarities and differences among the first-order concepts. The idea of creating the second-order themes is to eventually reduce the number of categories to a more manageable number: the first-order categories are to be at least halved in the formation of the second-order themes (Gioia et al., 2013). The second-order categories are given descriptions, preferably retaining the terms used by the interviewees. However, since the interviews were conducted in Finnish, but the coding was conducted in English, both first-order categories and second-order themes are not the exact words used by the interviewees. The second-order themes aim to create a larger narrative of the phenomena, guiding the researcher towards a

solution to what is happening in the data, and to observe whether the themes help to describe the researched phenomena. Theoretical saturation is achieved when the themes match existing knowledge of the researched phenomena (Gioia et al., 2013).

3. Aggregated dimensions. In the last phase, when the first-order categories and second-order themes are formatted, the second-order themes are further analysed to form aggregate dimensions. When the three phases of the data analysis are conducted, the research can proceed to build the data structure. The data structure helps visualize the data for the researcher but also provides a presentation of how the data was processed from raw data to concepts, themes, and dimensions (Gioia et al., 2013). The data structure for this study is presented in Table 4.



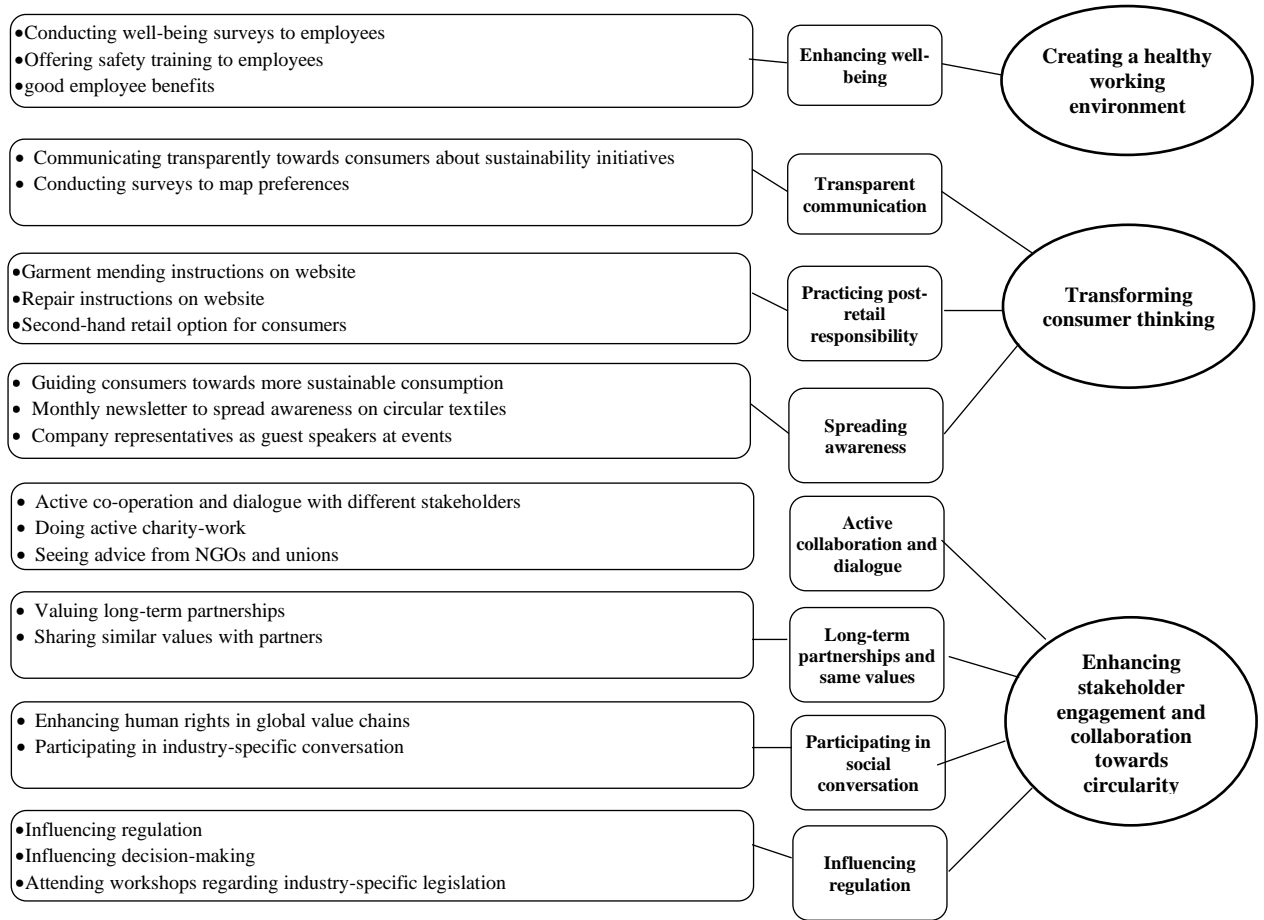


Table 4 – Data structure of the study

3.5 Reliability and validity

Reliability and validity should be considered to assess the quality of the research. According to Joppe (2000), reliability is used when measuring the consistency of research results over a certain period. In other words, reliability refers to the number of similar observations and results made by other researchers in the field. The research is reliable if other studies are conducted under a similar methodology and end up with similar results. Validity determines whether the research results align with the original research aim and how truthful the research results are (Joppe, 2000). Reliability and validity are more common in quantitative research, but they can also be used in qualitative research to an increasing extent. However, testing the reliability and validity of qualitative research can be challenging because it does not include numerical data like in a quantitative research method.

The current research can be described as reliable. The interviews were in Finnish, so both the interviewer and interviewee understood each other. It enabled a deeper conversation when discussing the researched phenomena. In addition, the reoccurring thoughts between different interviewees increase the reliability of this study. The validity of the research in qualitative research is more challenging to verify, but since all the interviews have been recorded and transcribed, examining the recordings afterward will make it possible to verify the accuracy and truthfulness of the research findings.

4 Findings

In this chapter, the empirical results of the research will be presented, that have been gathered using the proposed research framework. The findings are based on the data analysis conducted with the Gioia et al. (2013) method. The chapter is divided into six sub-chapters, which are the aggregated dimensions that emerged in the data analysis. The main dimensions emerged from the analysis were: (1) leading by example of circularity and sustainability transition (2) sustainability knowledge and training in textile companies, (3) job creation (4) creating a healthy working environment, (5) transforming consumer thinking, (6) Enhancing stakeholder engagement and collaboration towards circularity.

4.1 Leading by an example of circularity and sustainability transition

Textile industry is currently undergoing a global transformation, and some Finnish textile companies are leading the process. Finnish textile industry has a very ambitious aim: *“Finnish textile companies have the chance to lead the way towards circularity in the industry, leading to one of the most functional and sustainable textile industries in the world by 2035”* (VTT 2021). The participants in this research indicate that Finnish textile companies perceive their role in the circular textiles economy as significant. They revealed that the companies are sustainable and circularity-driven, and it was clear that environmental sustainability is one of the most significant initiatives among the companies. Some of the companies consider themselves as being ‘pioneers’ of textile circularity, who have been addressing the shortcomings of the industry long before it became mainstream:

“In the early 2000s [when garments were mainly made from virgin raw materials], we could have been considered as pioneers, because nobody else was manufacturing garments from recycled materials. (...) The first years from [the company’s] establishment were rough, because we had a hard time to gain credibility, and other companies in the industry considered us to be, so to speak, the ‘polluters of our own nest’ because we were addressing the underlying problems and challenges of the industry” – Company

“The first years were difficult, it felt like nobody really understood the importance of sustainability in the industry. It felt like we were being silenced [when addressing the issues in the industry]. (...) The industry has changed tremendously in 20 years: today, we are no longer silenced, we are invited to talk about our company and seen as experts regarding the challenges and how to solve them” – Company

The interviews revealed that some Finnish textile companies want to be a prominent part of the change in the global industry, and to set an example, with sustainability integrated into their operations and with their various integrated circular business models. These forerunning textile companies not only perceive to influence companies in the textile industry, but transfer the circular thinking to other industries as well:

“We have been working really hard to prove it [that you can make products from recycled materials], and it has been one of our goals, together with transferring this [circular] mindset beyond the textile industry as well” – Company

In conclusion, the companies in the scope want to change the industry and act as a forerunner with sustainability integrated into their operations. The companies in the scope are very sustainable and circularity -driven with environmental sustainability being one of their most significant initiatives.

4.2 Sustainability knowledge and training of Finnish textile companies

As the interviews witnessed, Finnish textile companies are sustainability-driven with various circular business models integrated into their business. When conducting the interviews, one of the themes of the interview questions concentrated on the sustainability training of the companies to find out whether they invest in the sustainability skills and knowledge of their

employees. The answers were insightful: some form of sustainability training is offered, but currently, the state of training cannot be characterized as systematic.

In this aggregate dimension, we discuss the state of sustainability training of the interviewee companies. The interview question related to this dimension was “*do you offer sustainability -related training to your employees?*” The answers to this question are summarized in Table 5.

| Question | Interview Quote |
|--|---|
| Do you offer sustainability -related training to your employees? | <ul style="list-style-type: none"> <li data-bbox="916 869 1431 1137">- “We have an internal communication channel in use [where we spread information]. We have discussed that we should invest more in internal sustainability training (...) We do have these info breakfasts [where different themes are discussed], and there have been lectures regarding sustainability” <li data-bbox="916 1160 1431 1429">- “Training and webinars provided by Suomen Tekstiili ja Muoti Ry and FIBS Ry are available for all our employees (...) I also offer information for our staff about how we have succeeded in our sustainability initiatives and what our future goals are [related to sustainability]” <li data-bbox="916 1451 1431 1653">- “We have a monthly staff newsletter, where we communicate the company’s sustainability initiatives to the employees. We have invested in sustainability communication towards our employees” <li data-bbox="916 1675 1431 1991">- “We don’t call it sustainability training, but we do have a staff training day reoccurring once a month, and sustainability has been a topic there. Sustainability comes up anyway because the business is based on circular economy. But it can’t be said, however, that we offer sustainability training to the staff. |

| | |
|--|---|
| | <ul style="list-style-type: none"> - “Sustainability is a cross-cutting theme in the company and is reflected in our marketing and communications” - “We have our own internal trainings. Last year, the whole staff received a training related to sustainability and circular economy, for which we used an external consulting company. We actively aim to increase the sustainability knowledge of our employees, for instance through internal information sessions. Then we have a sustainability section in the internal newsletter, and we are also members of Suomen Tekstiili ja Muoti Ry and FIBS Ry. (...) We really encourage our staff to circular thinking” - “To some extent, we distribute stakeholder publications [about sustainability] to our employees, and the workshops and webinars offered by Suomen Tekstiili ja Muoti Ry and FIBS Ry are in use of our employees. Of course, we have internal meetings where we discuss the sustainability state of the company” |
|--|---|

Table 5 – Interview quotes to question “Do you offer sustainability -related training to your employees?”

As it can be witnessed from Table 4, the state of sustainability training among employees lacks systematicity. According to the interviews, sustainability-related information is mostly distributed through staff information sessions and third-party workshops, and webinar providers, such as Suomen Tekstiili ja Muoti Ry and FIBS Ry. Many companies feel that since the business is based on circular economy, sustainability themes are constantly on the agenda in one context or another.

The interviews also aimed to determine whether sustainability is integrated into the onboarding processes of new employees. The interviews revealed that some of the companies do not include sustainability training in their onboarding processes:

“It [the onboarding process] did not include any sustainability -related training” – Union

“For example, you had a question about the onboarding process of new employees. We don’t have any sustainability -related training included in our onboarding processes” – Company

Some companies explained the lack of sustainability-related training in the onboarding processes by stating that the company’s business is based on sustainability and circular economy:

“Since the company is established on the basis of circular economy, these themes inevitably come up in the onboarding process” – Company

Some companies give their sustainability report to read during the onboarding process, but other training related to sustainability lacks to exist:

“But yes, sustainability will certainly come up in the onboarding process. All our new employees will receive our sustainability report to read” – Company

“New employees will read our sustainability report, because it gives a clear picture of us as a company and what we do in the field of sustainability” – Company

However, the discussions about the onboarding processes were worth having, as some companies realized that sustainability and circular economy should be embedded in the onboarding processes:

“It was very good that this came up: we definitely should have sustainability training integrated to our onboarding processes, and not just hand the new employees to read our sustainability report” – Company

In conclusion, sustainability is a theme discussed in the training and onboarding to some extent. However, there were quite clear differences between the interviewee companies on the state of sustainability training. In recent years, some companies have invested in the sustainability knowledge of their employees by organizing third-party workshops. Some companies feel that since the business is based on circular economy, the theme is constantly on the agenda in one context or another. Monthly information sessions and newsletters are a common way to distribute sustainability-related information to employees, but in many companies, enhancing the sustainability knowledge remains the employee’s responsibility: third party online training is offered, but the employee can decide for themselves whether to participate in the training, which appears as a lack of systematicity in the training.

4.3 Job creation

As literature has stated, job creation can be seen as one of the key social advantages of circular textiles. The interview companies are all different sizes, with the largest company offering jobs to about 350 people throughout Finland, and the smallest company offering jobs to approximately ten people. The third aggregate dimension discloses the job creation potential of circular textiles among the interviewee companies.

When discussing the number of jobs the interviewee companies have created so far, the interviews showed that companies aim to create jobs exponentially and aim to keep the work in Finland:

“We are aiming to open a factory in Finland, that will significantly support Finnish employment: the factory itself will create approximately 230 jobs” – Company

“Of course, we want the work to remain in Finland, that is one important aspect for us. We could send our products for sorting abroad, but we want the jobs to remain in Finland and we want to be able to employ people in Finland” – Union

When investigating the job creation potential of circular textiles, the interviewees were asked, whether they collaborate with for instance TE offices to create jobs for unemployed. The answers to this question are summarized in Table 6.

| Question | Interview Quote |
|--|--|
| Does your company actively collaborate with parties to create jobs? For example, TE offices to create jobs for long-term unemployed? | <ul style="list-style-type: none"> <li data-bbox="916 1149 1420 1388">- “Because we want to make a social impact, from time to time, we do employ long-term unemployed people and employ people for work trials, for example” <li data-bbox="916 1422 1420 1662">- “Yes, we do offer job opportunities for long-term unemployed, and we also collaborate with other parties besides TE offices, who helps people who have difficulties to find a job” <li data-bbox="916 1695 1420 1886">- “I remember being a part of conversations with TE offices about the possibility to offer a job for long-term unemployed people” <li data-bbox="916 1919 1420 2016">- “Our competitors offer plenty of work trials for long-term unemployed, but |

| | |
|--|--|
| | we don't, because we want to hire employees directly on our payroll" |
|--|--|

Table 6 – Interview quotes to question “Does your company actively collaborate with parties to create jobs? For example, TE offices to create jobs for long-term unemployed?”

As it can be witnessed from Table 6, companies operating with circular textiles are offering jobs to the long-term unemployed. However, it is not something that can be generalized to the whole industry of circular textiles: three out of seven companies did offer jobs to long-term unemployed, three did not mention whether they offered jobs to long-term unemployed, and one stated, that unlike their competitors, they do not offer work trials for long-term unemployed mainly because they want to hire employees directly on their payroll.

According to the interviews, offering jobs to students is one of the interviewee companies' key initiatives: interns are valued and seen as the future workforce. All the companies are offering internships and thesis opportunities, and some companies are also offering apprenticeships. Some of the companies also have numerical targets for employing immigrants and people through apprenticeships:

“We often visit schools to talk about our company because we want to attract new workforce. (...) We offer internships and thesis positions for many students studying textile engineering, for example” – Company

“We’ve had primary school students getting to know the working life, and then we have interns from different educational backgrounds. We have offered many thesis opportunities during the years” – Company

“Many of our employees have come to work for through internship. We see interns as valuable team members, and we often offer a job for the interns after the internship period”
– Company

“In our sustainability report, we have set numerical targets for employing immigrants and people through apprenticeships” – Company

In addition to offering jobs to interns, long-term unemployed, and immigrants, Finnish textile companies are offering jobs to many other backgrounds and skill levels. The interviewee companies offer jobs to professionals in marketing, customer service, sales, communications, sustainability, human resources, finance, and collecting and sorting textiles. The employees' educational backgrounds vary from a high school diploma to bachelor's and master's degrees.

One aspect stood up from the interviews: Finnish textile companies are offering meaningful jobs to people who share the same value base with the company. Many of the company representatives feel that a common interest in sustainability, for example creates meaning to the daily work of the employees:

“The people who are applying to work for us, are very sustainability -oriented and want to work for us because they share our values” – Company

“When I was looking at potential jobs, I wanted to work for a textile company that shares my values, and is not a fast-fashion company and does not harm the society and the environment with their operations” – Company

In addition to jobs in Finland, some companies have created employment opportunities abroad through suppliers and subcontractors, and some have established operations abroad. Products are manufactured in places such as Bangladesh, Peru, and India. According to the interviews, the interviewee companies are taking the social responsibility seriously in these manufacturing countries: they make sure that the working conditions are safe, and wages are adequately paid:

“We are actively investigating the living wages and working conditions of our manufacturers” – Company

“We want to make sure, that our manufacturers in Peru pays living wages to their employees, it [finding out the wages paid by the manufacturers] is not as easy as it sounds, but we are making a lot of efforts” – Company

“We are collaborating with Eetti Ry [an NGO specialized in fair trade and sustainable consumption] to get information and help related to living wages and working conditions abroad” – Company

In conclusion, circularity has a clear potential for creating jobs in the textile ecosystem: the companies in the scope continuously create jobs in Finland for people with different skill levels and educational backgrounds. Some companies emphasize offering jobs to long-term unemployed and immigrants, but it is not something that can be generalized throughout the whole industry. Offering jobs to students is one of the key initiatives for the companies in the scope, and interns are valued and seen as the future workforce. The companies in the scope are also offering meaningful jobs for people who share the same value base with the company. In addition to creating jobs in Finland, some companies have also created employment opportunities abroad through suppliers and subcontractors in places such as Bangladesh, Peru, and India.

4.4 Creating a healthy working environment

The interviews revealed that creating a healthy working environment for employees is essential to Finnish textile companies. For instance, many companies have invested in employee safety and their safety knowledge by offering security-themed lectures:

“The safety and security of our employees is a very important value for us, and we aim to be as safe employer as possible. We have standardized environment quality systems and occupational health and safety systems in use, we aim for 0 accidents at the workplace, and we aim to invest in our people: so that they can work for as long as possible, physically, and mentally (...) We constantly inform our employees about safety and have a lot of training related to occupational safety. We also organize safety walks on our premises for our employees” – Union

According to the interviews, special emphasis will be placed on employee satisfaction in the coming years. Some companies feel that the social dimension internally in the company has been neglected, but it has been noticed and first actions have already been taken:

“Even though we are making efforts to being socially responsible, social responsibility within the work community has been neglected (...) We have investigated the matter through a job satisfaction survey, on the basis of which we have set out to resolve this issue and do our best to ensure that our employees have the best possible working community” – Company

In conclusion, the companies in the scope want to create a healthy working environment for their employees. The safety and security of employees are essential aspects. The companies in the scope continuously try to ensure their employees have the best possible working community.

4.5 Transforming consumer thinking

The biggest issue in circular economy for textiles is the discarded post-consumer textiles. Businesses have created alternatives for post-consumer textiles, such as second-hand shops and initiatives emphasizing textile recycling and re-use. Companies operating in circular textiles have an excellent opportunity to influence the consumers towards more sustainable purchasing behaviour and recycling practices by integrating circular business models into their operations and raising awareness of circular textiles. Finnish companies operating with circular textiles want to be a part of transforming consumer thinking towards circularity:

“Even though we are a relatively small company, we have been able to influence a wide range of stakeholders. We have been able to change people’s minds and thus their actions and thoughts” – Company

The interviews showed that all companies had a mutual desire to influence the consumers towards sustainable consumption habits. For instance, the companies operating in retail were actively practicing post-retail responsibility, offering many different options instead of buying a new product. According to the interviews, post-retail responsibility is a critical way to engage consumers towards sustainable consumption by providing an alternative to buying a new product but also giving concrete advice on how to prolong the lifespan of a garment and make it last longer. Table 7 summarizes the interviewees' answers about their post-retail responsibility activities.

| Question | Interview Quote |
|--|---|
| Are you practicing post-retail responsibility? If your answer is yes, in which ways? | - “We offer repair services to our customers: they can bring broken textiles for us to fix, and we also offer maintenance instructions on our website. (...) We offer a second-hand |

| | |
|--|--|
| | <p>platform on our website, where our customers can sell their old products”</p> <ul style="list-style-type: none"> - “We have comprehensive maintenance instructions on our website, and a repair service, where you can bring an item for free if it breaks during the first year. (...) We also collaborate with a third-party with whom we organize our take-back scheme” - “We have an in-store repair service” - “We have maintenance instructions on our website, and we sell garment care products in our stores” |
|--|--|

Table 7 – Interview quotes to question “Do you practice post-retail responsibility? If your answer is yes, in which ways?”

The interviewee companies actively share their expertise and knowledge with their consumers. Consumer awareness, for instance, on the shortcomings of the textile industry and the benefits of circular textiles is most distributed via different social media channels and monthly newsletters:

“On our platforms, we share information about our clothing collection services and the environmental benefits generated from donating textiles instead of throwing them into waste (...) We also create content about the advantages of buying clothes second-hand to raise awareness on responsible purchasing habits” – Union

“We actively communicate information about circular textiles, such as what benefits does a sustainable purchase bring to the environment as well as society” – Company

“We want to ensure that more and more consumers have more and better information about the environmental impact of the textile industry” – Company

All the interviewees unanimously believe in transparency when communicating with consumers. The interviewee companies feel that transparency is a way to engage consumers towards circular textiles. Information is shared openly, even when in crisis:

“Sometimes we think, whether we are too transparent in our communication, but we have come to the conclusion that you can never be too transparent (...) Once we had a negative incident occurring with a supplier, but we decided to openly communicate the situation on our Facebook -page (...) we only received positive feedback about it, and the transparent communication deepened the trust between us and the consumer” – Company

“We are a transparent company throughout. Our entire business is based on sustainability and our communication and business-making is transparent: we communicate everything and strive to open as many of our business operations as possible, for instance on our website. That is the way we want to make business” – Company

According to the interviews, companies use surveys and interviews to analyse consumer preferences and attitudes. In the recent years, companies have increased their dialogue with consumers by conducting surveys:

“Every now and then, we conduct surveys to find information about consumer purchasing and recycling habits, for instance. We just had a survey about consumer recycling habits. The aim was to gather information about how our consumers recycle, and how can we enhance our communication towards our consumers about textile recycling” – Union

In conclusion, the companies in the scope want to be a part of transforming consumer thinking towards circularity: the companies operating in retail actively practice post-retail responsibility, and they see it as an important way to engage consumers towards sustainable consumption. The companies are also actively sharing their expertise and knowledge with their consumers about the industry's issues. When communicating with stakeholders, the companies in the scope aim to be as transparent as possible.

4.6 Enhancing stakeholder engagement and collaboration towards circularity

The sixth aggregate dimension discusses the Finnish textile companies' collaboration with different stakeholders toward circularity. According to the interviews, taking part in the social conversation and influencing the industry-specific decision-making is an essential aspect of their advocacy work:

“Influencing decision-making is a very important aspect for us (...) I have been involved in workshops where we brainstorm ideas and proposals to put forward for the EU about different legislation being enacted in the textile industry. I want to be aware of what is happening in the field of regulation, even if it doesn't directly concern us (...) It helps us to shape our business, because in the future, it will concern us and then we don't have to make big changes anymore” – Company

“Changing the atmosphere has been in our business plan from the beginning (...) We take a strong part in the social conversation and want to influence through legislation, as well as through different norms and standards” – Company

The research indicated that Finnish textile companies value long-term partnerships with suppliers and subcontractors, for instance, and it is essential for them to share the same values with their partners:

“We have had the same suppliers since the establishment of the company (...) The collaboration has continued for so long because the suppliers share the same values” – Company

“We have only one supplier, with whom we have worked over 10 years. One important aspect for us is that our partners share the same value base with us.” – Company

“Since we strive to be a sustainable company, we want our suppliers to act sustainably as well” – Company

Finnish textile companies strive for active collaboration and dialogue with different stakeholders:

“We are actively collaborating with different stakeholders yearly to enhance sustainability. We aim to collaborate with parties that are doing development working with issues related to social and environmental sustainability “– Company

“We want to keep an open dialogue with different stakeholders, especially ones that are making efforts towards textile circularity and bringing the issues of the industry into the daylight. (...) We want to maintain good relationships with NGOs, such as Eetti Ry, because they can help us develop our own business even further in terms of sustainability

In conclusion, the companies in the scope are actively enhancing collaboration with different stakeholders toward textile circularity. Some companies are participating in the social conversation to influence industry-specific decision-making. One key aspect for the companies in the scope is establishing long-term partnerships with suppliers and subcontractors that share their values. Some of the companies in the scope want to keep an

open dialogue with different stakeholders to enhance textile circularity and bring industry issues into the daylight.

5 Discussion

This chapter will provide answers to the research questions. The main question “*What are the main social advantages of circular textiles?*” is answered with the findings of the two sub-questions. Then, the main theoretical contributions and practical implications are explained, including a model of social advantages of circular textiles.

SQ1: How are jobs created in the circular textiles economy?

In previous research, the social value of CE is often connected with a high job creation potential, and job creation is often witnessed as a positive externality of CE transition (for example Niinimäki, 2018, Llorente-González & Vence, 2020, Repp, Hekkert & Kirchherr, 2021, Sitra, 2020). The findings of the study are in line with the previous research, as the study emphasized the job creation potential of circular textiles. The interviewee companies are exponentially creating jobs in the circular textiles ecosystem: The largest company is offers jobs to about 350 people throughout Finland, and the smallest company offers jobs to approximately ten people.

The companies in the scope aim to create jobs in Finland exponentially, and some even emphasize keeping the jobs in Finland. Companies operating with technology and innovation are opening factories in Finland to boost Finnish employment, and companies operating in retail would have the opportunity to send products abroad for sorting, for example, but want the jobs to remain in Finland and to be able to employ people in Finland in the future.

In addition to creating jobs in the Finnish ecosystem, the empirical findings reveal that employment opportunities are also created abroad through subcontractors and suppliers: the companies in the scope have their products manufactured in places such as Bangladesh, Peru, and India, and in these countries, the social responsibility is taken very seriously in the form

of making sure that the working conditions are safe, and the wages are adequately paid. The living wages and working conditions are actively investigated, and some companies have reached NGOs for help to get information related to living wages and working conditions abroad.

When investigating the job creation potential of circular textiles, the study wanted to determine whether the companies in the scope seek to create jobs for those with difficulties finding a job, such as long-term unemployed. The empirical findings revealed that companies operating with circular textiles offer jobs to the long-term unemployed. However, it cannot be generalized to the whole industry of circular textiles: the study revealed that three out of seven companies did offer jobs to long-term unemployed, three did not mention whether they offered jobs to long-term unemployed, and one stated that, unlike their competitors, they do not offer work trials for long-term unemployed mainly because they want to hire employees directly on their payroll. Some companies in the scope emphasized offering jobs to long-term unemployed because they wanted to make a social impact.

The empirical findings disclosed that offering jobs to students is a valued aspect of job creation: interns are valued and seen as the future workforce. All companies in the scope offer internships and thesis opportunities to students from various backgrounds, and some companies also offer apprenticeships. One important aspect that emerged from the interviews was that some companies aim to increase job opportunities for immigrants and have numerical targets for employing immigrants and people through apprenticeships integrated into their sustainability report.

In addition to offering jobs to interns, long-term unemployed, and immigrants, the companies in the scope are offering jobs to many other backgrounds and skill levels: the companies are offering jobs to professionals working in the fields of marketing, customer service, sales, communications, human resources, finance and in the field of collection and sorting of textiles. Educational backgrounds varied from a high school diploma to bachelor's and master's degrees. These findings support previous research, as circular jobs have created possibilities for people with different skill levels and educational backgrounds (Sitra 2020).

The empirical findings revealed that the companies in the scope are offering meaningful jobs to people who share the same value base with the company. Many representatives felt that a common interest in sustainability creates meaning for the employees' daily work.

In conclusion, circularity has a clear potential for creating jobs in the textile ecosystem: the companies in the scope continuously create jobs in Finland for people with different skill levels and educational backgrounds. Some companies emphasize offering jobs to long-term unemployed and immigrants, but it is not something that can be generalized throughout the whole industry. Offering jobs to students is one of the key initiatives for the companies in the scope, and interns are valued and seen as the future workforce. The companies in the scope are also offering meaningful jobs for people who share the same value base with the company. In addition to creating jobs in Finland, some companies have also created employment opportunities abroad through suppliers and subcontractors in places such as Bangladesh, Peru, and India.

SQ2: How are textile companies creating social advantages by engaging their stakeholders towards textile circularity?

The second sub-question was researched through themes related to how the companies in the scope engage their stakeholder groups, such as employees and consumers, towards textile circularity. The study aimed to determine whether these textile companies that consider sustainability as their key initiative invest in their employees' sustainability skills and knowledge. In previous research, including stakeholders in dialogue related to CE actions and in the decision-making process can act as a lever of CE (Scarpellini, 2021). Thus, stakeholder engagement can act as a contributor to circularity. The empirical findings revealed that some form of sustainability training is currently offered, but the state of the training is not systematic and varies from company to company. According to the empirical findings, the companies can be divided into two categories: companies that consider sustainability a cross-cutting theme and, therefore, no primary emphasis on the training is required, and companies that actively try to enhance the sustainability knowledge of employees. The most common way to distribute sustainability-related information to

employees is through staff information sessions, third-party workshops, and webinar providers.

The study also aimed to determine whether sustainability is integrated into the onboarding processes of new employees. The empirical findings revealed that most companies do not include sustainability training in their onboarding processes. The companies explained the lack of sustainability-related training by stating that the company's business is based on sustainability and circular economy. However, the need for the training was identified during the interviews. The companies realized that sustainability and circular economy should be embedded in the onboarding process, even though the business is based on these themes. The empirical findings revealed that the only form of introducing new employees to the company's sustainability work was to give the sustainability report to read during the onboarding process.

According to the literature, companies operating on the micro-level have a pivotal role when aiming toward the circular textiles economy. Companies in the textiles sector need to integrate new approaches to create value from circular textiles (Lacy & Rutqvist, 2015). In addition to employee training, textile companies have an excellent opportunity to influence consumers toward more sustainable purchasing behaviour and recycling practices at the micro-level by integrating circular business models into their operations and raising awareness of circular textiles. Changing consumer behaviour toward circularity is also crucial in acquiring and disposing of textiles (Dahlbo, Aalto, Eskelinen & Salmenperä, 2017). The empirical findings revealed that the companies want to be a part of transforming consumer thinking towards sustainability: they want to change people's minds and thus their actions and thoughts about textiles.

All companies in the scope had a mutual desire to influence the consumers towards sustainable consumption habits by practicing post-retail responsibility and offering alternative ways to consume. The companies are offering repair services and comprehensive maintenance instructions and are collaborating with third-party service providers who organize the company's take-back schemes. According to Ellen MacArthur Foundation

(2017), take-back schemes are one of the most effective platforms for educating consumers about sustainability. These post-responsibility actions aim to prolong the lifespan of the textiles. Some companies offer second-hand activities as an alternative to purchasing an entirely new product.

In addition to post-retail responsibility activities, the companies actively share their expertise and knowledge with their consumers. Consumer awareness, for example, on the shortcomings of the textile industry and the benefits of circular textiles is most distributed via social media platforms and monthly newsletters. According to research, companies operating in circular textiles have different drivers for sharing knowledge, such as environmental and social concerns (Ki et al., 2020). The companies in the scope aim to ensure that an increasing number of consumers have access to information about the environmental and social impact of the textile industry.

The companies in the scope unanimously agreed that transparency when communicating with consumers is essential and is a way to engage consumers towards circular textiles. The companies want to communicate everything transparently and strive to open as many business operations as possible.

Finally, to answer the main research question **“What are the main social advantages of circular textiles?”**

The study's empirical findings identified six main social advantages of circular textiles. According to the empirical findings, Finnish textile companies act as forerunners in the transition toward a circular economy: The participants in this study indicate that Finnish textile companies perceive their role in the circular textiles economy as significant. The companies in the scope are very sustainability-driven, and it was clear that environmental sustainability was one of the most significant initiatives among the companies. The Finnish textile companies can be characterized as pioneers of textile circularity, addressing the industry's shortcomings long before circular economy became mainstream. The empirical

findings revealed that Finnish textile companies aim to be a prominent part of the change in the global industry but also transfer the circular thinking to other industries outside the textile industry.

As the answer to the first sub-question indicates, circular textiles have a prominent job creation potential and can be characterized as one of the social advantages of circular textiles. Finnish textile companies are creating jobs in the ecosystem in various ways. The companies in the scope are exponentially creating new jobs in Finland and will continue to create new jobs in the ecosystem in the future as new factories are being opened. The companies in the scope have also created employment opportunities abroad through suppliers and subcontractors. Some of the companies in the scope are offering jobs to the long-term unemployed and immigrants, but it is not something that can be generalized to the whole industry. Offering jobs to students is one of the key initiatives of the companies, and interns are valued and seen as the future workforce. Finnish textile companies are offering jobs to many educational backgrounds and skill levels: companies offer jobs to professionals working in the fields of marketing, customer service, sales, sustainability, human resources, finance, and sorting and collection of textiles, among others. Educational backgrounds vary from high school diplomas to bachelor's and master's degrees. One interesting finding related to job creation was the creation of meaningful jobs in the ecosystem: Finnish textile companies are offering meaningful jobs to people who share the same value base with the company.

According to research, the role of sustainability training can increase the efficiency of employees, increase their knowledge of different sustainability practices, increase the engagement between the employer and the employee, and gain a higher job commitment and satisfaction (Saha, Sarker & Ahmed, 2020). According to a study conducted by Ünal, Urbinati, Chiaroni & Manzini (2019), employee learning and training are vital factors in the value creation of circular business models. As the answer to the second sub-question indicates, enhancing sustainability knowledge among the employees of Finnish textile companies can be identified as one social advantage of circular textiles. However, among the companies in the scope, the sustainability training of employees is not systematic. Many

of the companies in the scope are offering some form of sustainability-related training in the form of information sessions, workshops, and webinars. However, the onboarding processes of new employees did not include other forms of sustainability training than giving the sustainability report to read to the new employees. Many companies explained the lack of sustainability training by stating that the company's business is based on sustainability and circular economy. According to the empirical findings, the tension between circularity and corporate sustainability can be detected: most of the companies in the scope are established based on textile circularity, but the companies have not integrated all aspects of corporate sustainability in their business operations. Some companies admitted that internal sustainability had been neglected, and the companies feel that the social aspect of internal sustainability in the company needs more attention in the future.

Another study finding was that creating a healthy working environment for employees is an essential aspect of Finnish textile companies: the companies have invested in employee safety and their safety knowledge by offering security-themed lectures. As mentioned, some companies feel that the internal social aspect has been neglected. However, companies are investing in this by conducting employee satisfaction surveys based on which they are resolving issues internally and making sure to offer the best possible working community for their employees.

As the second sub-question covered, transforming consumer thinking is another social advantage of circular textiles. All the companies, regardless of their size, want to be a part of influencing a wide range of stakeholders and raising awareness of circular textiles. The companies in the scope are actively practicing post-retail responsibility, offering many different options, such as repair services and maintenance instructions to prolong the lifespan of the garments and offering an alternative to their consumers for buying a new product. The companies in the scope are actively sharing their expertise and knowledge with their consumers, raising awareness of the shortcomings of the textile industry, for instance. All the companies unanimously believe in transparency when communicating with consumers, and the companies in the scope see transparency to engage consumers towards circular textiles.

As literature has suggested, since the aim of a circular economy is to reduce textile waste, the role of different parties in pushing rules and regulations and setting up sustainability- and CE-driven frameworks, macro-level actions play an essential role (Vanhamäki et al., 2019). According to the empirical findings of this study, the sixth social advantage of circular textiles is the Finnish textile companies' collaboration with different stakeholders toward circularity at the macro-level.

The companies in the scope are actively taking part in the social conversating and influencing the industry-specific decision-making as a part of their advocacy work: Company representatives have been brainstorming proposals to put forward for the EU about different legislation being enacted in the textile industry, and companies have been actively taking part in the social conversation, with the aim of changing different norms and standards in the industry. The companies in the scope value long-term partnerships with suppliers and subcontractors, and it is essential for the companies to share the same values with their partners. The companies in the scope strive for active collaboration and dialogue with stakeholders related to sustainability themes.

In addition to these six social advantages of circular textiles, the study's empirical findings also indicate that Finnish textile companies are making reasonable efforts to enhance human rights in global value chains. The companies manufacturing their products in places such as Bangladesh, Peru, and India take social responsibility very seriously in these manufacturing countries: The companies ensure that the working conditions are safe, and wages are adequately paid. Some companies collaborate with NGOs to get information and help related to living wages and working conditions abroad.

According to Ellen Mac Arthur Foundation (2017), textile companies operating in the textile industry must forward the evolving best practices to different stakeholder groups along the global textiles value chain, communicate the nature of the current situation as well as the desired outcome of a circular textiles economy, involve the additional actors in commitment towards circularity of textiles and engage the policymakers and share the policy best

practices. The research findings indicate that the companies in the scope are working towards textile circularity by integrating these actions into their business strategy.

5.1 Theoretical Contributions

As mentioned, the transition towards a circular textiles economy comes from economic, environmental, and social impacts. Since the current literature and public discussion are heavily focused on the environmental and economic advantages, this research contributed to the previous research by addressing the social advantages created by circular textiles. The theoretical contribution of this research supports existing literature that suggests that the social impacts of circular textiles economy are the creation of jobs for people with different educational backgrounds and skill levels, but also managed to expand the current knowledge by identifying six other social advantages in macro-level and a micro-level:

- 1) Leading by example of circularity and sustainability transition
- 2) Sustainability knowledge and training in textile companies
- 3) Job creation
- 4) Creating a healthy working environment
- 5) Transforming consumer thinking
- 6) Enhancing stakeholder engagement and collaboration towards circularity

Another theoretical contribution of this study is the tension between circularity and corporate sustainability among the textile companies: most of the companies in the scope are established based on textile circularity, but the companies have not integrated all aspects of corporate sustainability into their business operations. Some companies admitted that internal sustainability had been neglected, and the companies feel that especially the social aspect of sustainability internally in the company needs more attention in the future. Another

empirical finding was that the companies in the scope are actively making efforts to enhance human rights in global value chains.

The current literature acknowledges two perspectives about whether CE aims for socially sustainable development: Some scholars argue that social advantages, such as job creation are by-products of environmental and economic sustainability, and others argue, that social advantages are the core objectives of CE (Repp, Hekkert & Kirchherr 2020). The present research raises the possibility that social advantages are more than just by-products of environmental and economic sustainability, but a substantial objective of CE, and it needs to be further explored.

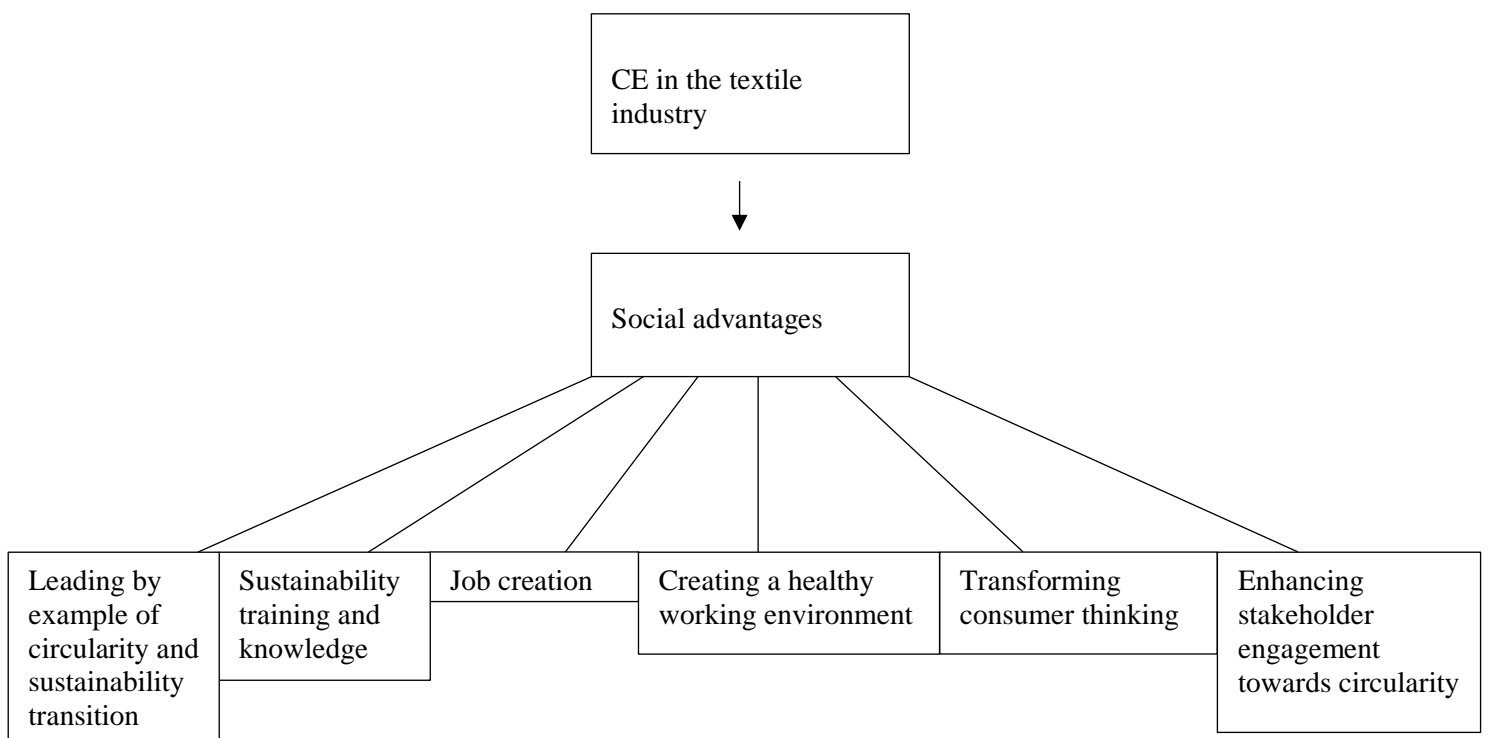


Figure 6 – Final framework

In conclusion, the current research contributes to the existing literature by strengthening the assumption that job creation is one of the most common social advantages of circular textiles economy. Furthermore, this research broadens the existing literature by presenting six social advantages and identifying the tension between circularity and corporate responsibility among the companies in the scope. Finally, the present study assumes that social advantages are more than just by-products of environmental and economic sustainability, but a substantial objective of CE. Figure 6 presents the final framework formatted according to previous literature and the current qualitative research. It presents how CE in the textile industry can create social advantages: through job creation and engaging with stakeholders, such as employees and consumers, towards circularity.

5.2 Practical implications

The current research offers practical implications for both organizations operating with circular textiles and their different stakeholder groups. One of the most significant implications that can be put to practice is to pay attention to the future of sustainability training of employees and add that as a part of the onboarding processes of new employees. The current research will offer textile companies insight into what is happening in the industry regarding social responsibility. They will also gain new knowledge about the social advantages created in their industry in general.

For stakeholders, the current research offers knowledge and insight on how the textile companies are creating social advantages: what are they doing to engage their consumers, how are they integrating sustainability training in their training programs, and what kind of jobs are created in the field of circular textiles.

5.3 Limitations and future research directions

A Limitation of the study is the qualitative research method and the size of the research: only seven organizations were interviewed for the study. Hence the results are not applied to the whole textile industry. The sample size is relatively small, and the representatives that were interviewed were from many different backgrounds. On the other hand, people from different backgrounds can provide diverse results. However, due to the phenomena being complex, it would have been more sensible to interview people whom all have a sustainability background, for instance. Although the current research is based on a small sample of participants, the findings indicate the phenomena through the seven case companies.

Directions for future research can be highlighted after conducting this research. The phenomena of social advantages could be further examined through a quantitative research method, with a larger sample, covering most companies operating with circular textiles in Finland. As the current literature mentions that skills need to be updated to ensure a smooth transition towards circular textiles economy, further research could take a position, for instance, on what kind of skills and knowledge are needed in the transition of circular textiles, and how the current skill-base could be updated to match the future needs. Another research direction could be related to the indicators for the social advantages of circular textiles economy: What indicators are needed to measure social advantages efficiently?

6 Conclusions

CE's economic and environmental advantages have been widely researched, but the social advantages have not received enough attention. This research aimed to gain more knowledge about the social advantages of circular textiles economy. The phenomena were researched through seven case companies operating with circular textiles. The chosen research method was a qualitative research method, and the data was collected via seven semi-structured interviews using *an inductive interpretive theory-building approach*. The data was analysed using Gioia et al. method, a systematic approach to building grounded theory. The literature review of this research was divided into two parts, which explained the phenomena of circular textiles economy and the social aspect of circular textiles. The first part explained the circular textiles economy, and the second part explained the social aspect of circular textiles economy.

According to the research findings, circular textiles economy holds significant social advantages. The empirical findings indicated six different social advantages of circular textiles: The main dimensions emerged from the analysis were: (1) leading by example of circularity and sustainability transition (2) sustainability knowledge and training in textile companies, (3) job creation (4) creating a healthy working environment, (5) transforming consumer thinking, (6) enhancing stakeholder engagement and collaboration towards circularity. The empirical findings also indicate that the textile companies are enhancing the human rights in global value chain and detected tension between circularity and corporate sustainability among the textile companies, as most of the companies in the scope are established on textile circularity. However, all aspects of sustainability are not integrated into their business operations.

In the future, sustainability will be one of the key initiatives of each textile company, whether they are operating with circular business models or not. This is because of the changes in regulation: European Commission (2022), for instance, has recently published a new strategy for sustainable and circular textiles, which will put pressure on the organizations operating in the industry. The strategy presented by European Commission is significant in terms of

environmental sustainability, but it still lacks regulation to promote the social sustainability of the textile industry. The social aspect of circular textiles needs to be further emphasized, researched, and acknowledged.

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Appendix

Kuka olet?

1. Mikä on taustasi ja kauan olet toiminut yrityksessä? Miten päädyit?
2. Missä asemassa olet?
3. Milloin yritys on perustettu?

Teema 1: Kestävät liiketoimintamallit (Circular business models)

1. Kuvaus yrityksesi toiminnasta ja roolista tekstiilien kiertotaloudessa
2. Minkälaisia kestäviä liiketoimintamalleja toimintaanne on integroitu?
3. Minkälaisia tavoitteita yrityksellänne on niin ympäristö-, talous-, kuin sosiaalisen vastuun saralla?

Teema 2: Sidosryhmät (Stakeholders)

1. Mitkä sidosryhmät ovat teille kaikista olennaisimmat liiketoimintanne ja vastuullisuustyön kannalta?
2. Sitoutatteko sidosryhmiänne mukaan vastuullisuustoimintaanne mukaan, jos sitoutatte, niin millä keinoin?
3. Minkä eri tahojen kanssa teette yhteistyötä? Esimerkiksi kansalaisjärjestöt, vastuullisuusvaikuttajat, ammattiliitot, opintolaitokset, paikallishallinto jne.
4. Miten korostatte sosiaalista vastuuta tuotantoketjunne eri vaiheissa?

Teema 3: Työpaikkojen luomispotentiali (Job creation potential)

1. Onko kestävät liiketoimintamallit luoneet yrityksessänne uusia työpaikkoja/toimintayksiköjä?
2. Minkälaisia työpaikkoja on luotu? Millä toimialalla, osastolla?
3. Tekeekö yrityksenne aktiivista yhteistyötä eri tahojen kanssa työpaikkojen luomiseksi? Esimerkiksi erilaiset start-upit, TE toimistot jne.

Teema 4: Työntekijöiden kouluttaminen (Employee training)

1. Tarjoatteko työntekijöille tekstiilien kestävään kehitykseen liittyvää koulutusta?
2. Jos vastauksesi on kyllä, minkälaisia koulutuksia on järjestetty? Onko mukana ollut yrityksen ulkopuolisia toimijoita?

3. Sisältyykö uusien työntekijöiden perehdytykseen tekstiilien kestävään kehitykseen liittyvää osiota?

Teema 5: Kuluttajavalistus (Consumer engagement)

1. Harjoitatteko myynnin jälkeistä vastuullisuutta? (post-retail responsibility)
2. Jos vastauksesi on kyllä, millä tavoin?
3. Pyrittekö lisäämään asiakkaiden tietoisuutta tekstiilien kestävästä kehityksestä?
Esim. Kuinka pitää huolta vaatteista
4. Jos kyllä, minkälaisin keinoin pyritte lisäämään tietoisuutta?

Teema 6: Lait ja sääntelyt (Legislation and regulation)

1. Mikä on valtion lainsäädännön ja sääntelyn rooli sosiaalisen vastuullisuuden lisäämiseksi liittyen liiketoimintaanne?

Viimeiseksi: Miten koette yrityksenne rooli sosiaalisten hyötyjen luomisen näkökulmasta?
Mitkä sosiaalisia hyötyjä näet nousevan tulevaisuudessa?