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**„Waste reduction in the Austrian clothing sector?
The role of social business strategies of small-scale entrepreneurs“**

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Abstract

The continuing climate crisis and its impacts on society and the environment call for action. One important issue is the increasing amount of waste which is particularly pronounced in the clothing industry. In an EU comparison, Austrian citizens spend the most on new clothes and clothing waste is not decreasing. Given this situation, the question of waste reduction is a crucial concern. This Master's thesis explores in what way the circular economy concept can support waste reduction in clothes' consumption and production. It specifically focuses on how small-scale social entrepreneurs fit within the circular economy concept, responsible actors regarding the reduction of waste, their impact and the limitations of their impact, and possibilities to address these limitations. The research draws attention to the analysis of the perspectives of four Austrian small-scale social entrepreneurs that pursue alternative business strategies. The analysis is situated in the context of the global clothing industry and, conceptually, uses the global production networks (GPN) approach and the circular economy concept. GPN serves to analyse the configurations and power structures in the clothing sector, whereby the circular economy concept adds the perspective on environmental issues and waste reduction, providing an alternative economic concept. Methodologically, this research builds on a document analysis of two political plans. In addition, the four qualitative guided interviews, whose interview partners were selected after a sector analysis, were evaluated with the help of a qualitative content analysis. The analysis explores the entrepreneurs' use of the circular economy concepts, their impact on the reduction of clothing waste, the limitations of their approaches, and the responsibility of other actors. Although the circular economy concept focuses on alternative business models, the importance of small-scale social entrepreneurs and their solutions is not often discussed. Overall, the circular economy concept can contribute to the reduction of waste. Actors of the economic, political, and social sphere must take responsibility. Despite the limitations of the entrepreneurs' impacts on waste reduction, there are possibilities to scale them and to increase their positive impact. However, adequate regulations regarding the environmental and social impact of the clothing sector must be set because the circular economy alone cannot change the global production networks.

Kurzfassung

Die anhaltende Klimakrise und ihre Auswirkungen auf die Gesellschaft und die Umwelt verlangen nach Maßnahmen. Ein wichtiges Thema ist die zunehmende Abfallmenge, die in der Bekleidungsindustrie besonders stark ausgeprägt ist. Im EU-Vergleich geben die Österreicher*innen am meisten für neue Kleidung aus und der Bekleidungsabfall nimmt nicht ab. Angesichts dieser Situation ist die Frage der Abfallreduzierung ein zentrales Anliegen. In dieser Masterarbeit wird untersucht, inwiefern das Konzept der Kreislaufwirtschaft die Abfallreduzierung bei Konsum und Produktion von Kleidung unterstützen kann. Der Schwerpunkt liegt dabei auf der Frage, wie sich kleine Sozialunternehmen in das Konzept der Kreislaufwirtschaft einfügen, welche Akteur*innen für die Abfallreduzierung verantwortlich sind, welchen Einfluss sie haben und wo ihre Grenzen liegen, und welche Möglichkeiten es gibt, diese Grenzen zu überwinden. Die Forschung konzentriert sich auf die Analyse der Perspektiven von vier österreichischen sozialen Kleinunternehmerinnen, die alternative Geschäftsstrategien verfolgen. Die Analyse ist im Kontext der globalen Bekleidungsindustrie angesiedelt und verwendet konzeptionell den Ansatz der globalen Produktionsnetzwerke (GPN) und das Konzept der Kreislaufwirtschaft. Der GPN-Ansatz dient der Analyse der Konfigurationen und Machtstrukturen im Bekleidungssektor, während das Konzept der Kreislaufwirtschaft die Perspektive von Umweltfragen und Abfallvermeidung hinzufügt und ein alternatives Wirtschaftskonzept bietet. Methodisch stützt sich diese Untersuchung auf eine Dokumentenanalyse von zwei politischen Plänen. Darüber hinaus wurden die vier qualitativen Leitfadeninterviews, deren Interviewpartnerinnen nach einer Branchenanalyse ausgewählt wurden, mit Hilfe einer qualitativen Inhaltsanalyse ausgewertet. Die Analyse untersucht die Verwendung der Konzepte der Kreislaufwirtschaft durch die Unternehmer*innen, ihre Auswirkungen auf die Reduzierung von Bekleidungsabfällen, die Grenzen ihrer Ansätze und die Verantwortung anderer Akteur*innen. Obwohl sich das Konzept der Kreislaufwirtschaft auf alternative Geschäftsmodelle konzentriert, wird die Bedeutung von sozialen Kleinunternehmerinnen und deren Lösungen nicht oft diskutiert. Insgesamt kann das Konzept der Kreislaufwirtschaft zur Verringerung der Abfallmenge beitragen. Akteur*innen aus Wirtschaft, Politik und Gesellschaft müssen Verantwortung übernehmen. Trotz der begrenzten Auswirkungen der Unternehmer auf die Abfallverringerung gibt es Möglichkeiten, sie zu vergrößern und ihre positiven Auswirkungen zu verstärken. Es müssen

jedoch angemessene Vorschriften für die ökologischen und sozialen Auswirkungen des Bekleidungssektors festgelegt werden, da die Kreislaufwirtschaft allein die globalen Produktionsnetzwerke nicht verändern kann.

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List of Abbreviations

BMNT	Bundesministerium für Nachhaltigkeit und Tourismus
BMK	Bundesministerium für Klimaschutz, Umwelt, Energie, Mobilität, Innovation und Technologie
CEAP	Circular Economy Action Plan
EMA	Ellen MacArthur Foundation
EU	European Union
GCC	Global Commodity Chain
GVC	Global Value Chain
GPN	Global Production Network
UN	United Nations

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1. Introduction: Why do we need alternatives?

With the climate crisis posing the “most serious challenge” and the international community searching for a way out, the clothing industry with its grand environmental impact is but one industry among plenty which must change (Satgar 2018: 1; Notten 2020: 8). If clothing companies continue with their current production methods, the industry will be responsible for 25 per cent of the global carbon budget by 2050 (EMA 2017c).

Various stakeholders are concerned with the nature of the clothing sector and its impact on the environment and society. The UN report on “Sustainability and Circularity in the Textile Value Chain” demonstrates the sector’s impact on the environment along the value chain and attempts to develop actions to improve the sector in terms of circularity and sustainability (Notten 2020: 3). The EU is working on a European textile strategy (European Union 2020: 13) and the Austrian government must meet the EU's demands for changes in textile collection (Umweltbundesamt GmbH 2021b). Apart from political actors, there are also economic as well as social stakeholders that attempt to transform the sector in terms of environmental and social issues (Fashion Revolution 2021). Without denying the importance of the social problems of the clothing sector, the focus of this research is on the sector’s environmental impact.

“The world is producing and consuming more textiles than ever before, and the current very low re-use and recycling rates mean that more textiles are also being thrown away than ever before. The produced textile waste requires ever more land, water, and fossil fuels, and leads to increasing pollution of the air, water, and soil” (Notten 2020: 6).

Reduction of waste in the clothing sector¹ is at the centre of this work. The reduction of waste in general and of clothing waste in particular has a positive impact on the environment – for example, due to the ensuing reduction of CO₂ emissions caused by incineration of waste (Mauschitz 2009: 1). Furthermore, strategies for re-use of old clothing items into new products extend the life of the products and could lead, in case of no rebound to less production of first-hand clothes (EMA 2017a: 25).

¹ The term “textile industry” includes all companies that produce or process textiles – fibre preparation and processing, yarn processing, and textile finishing (Kromer 2008: 14). The term “clothing industry” includes all procedures that process most of the items made by the textile industry, which are clothing, lingerie, work clothes, and home textiles (ibid. 15). If available, I use figures and facts of the clothing industry/ sector. However, there are sources which do only use the figures of the textile industry/ sector. When I write “textile- and clothing industries/ sectors”, it refers to the interconnectedness of the two industries.

The amount of clothing waste² is steadily growing. According to the EMA (2017c) “every second, the equivalent of a rubbish truck load of clothes is burnt or buried in landfills”. Clothing waste is not only generated at the end of the first life cycle of clothing, but also earlier, for example, in the course of sales – as about 40 per cent of produced clothes are not sold in the first place (Koszweska 2018: 340). At the end of the first life cycle of clothing “only 1 % of the material [is] used to produce clothing recycled into new clothing” (Notten 2020: 8). 12 per cent of clothing waste is downcycled – these are used for “cleaning cloths, insulation material and mattress stuffing” (ibid.).

Of course, there are various ways and strategies to respond to the negative impacts of the sector and the immense amounts of waste it is producing. One concept that has received great attention and focuses on waste reduction is the circular economy concept (Kalmykova et al. 2018: 195). It has gained prominence due to the EU's efforts to establish it within the union (European Commission 2020). In a functioning circular economy, products do not become waste at the end of their first life cycle, but resources for new products. When a product is designed, its repair and further utilisation are considered. Therefore, the circular economy concept is one possible approach to rethinking the structures of the clothing industry.

The Ellen MacArthur Foundation (EMA), a forerunner in terms of the circular economy concept, has developed the “Make Fashion Circular” initiative. Its partners are global clothing retailers like the H&M Group or Inditex, of which Zara is part (EMA 2017a). However, many accuse these companies of green washing: along with online magazines, blogs, and newspapers, the Norwegian Consumer Authority accused H&M of green washing in 2019 because of “‘insufficient’ information about the sustainable nature of its ‘sustainable style’ collection” (Hitti 2019).

Despite the strong position of global lead firms in the clothing industry, there are small-scale entrepreneurs that are part of the sector (Wolf 2017: 4). In fact, some entrepreneurs create smaller businesses precisely in an attempt to counteract the actions of or offer an alternative

² By definition, in Austria everything the owner wants to get rid of falls under waste, which means that unsold clothes are also classified as waste (WKO 2021a). This makes the term “waste” questionable. Although it is continuously used in this research, the reader can keep in mind that waste is not necessarily something which no one wants to have anymore, but that waste can be a resource or even something new.

to big companies, whose environmental impact is devastating and whose approaches to reducing clothing waste are so often questionable in their sincerity.

This research focuses on four such Austrian small-scale social entrepreneurs. They are called “social” entrepreneurs because all of them have developed their business models as a response to the devastating environmental impacts of the clothing sector (Endlos Fesch 5; Klamottenkunst 4; Mein Lieblingsstück 3; Montreet 3; Achleitner 2021). These entrepreneurs were chosen based on their business models’ relation to the circular economy concept. Their business models are based on repairing clothing, reusing clothing, and producing clothing with the aim of extending their life as long as possible and reusing the material after the clothes’ first life. Although the clothing sector is shaped by a large global production network (Macchion et al. 2014: 175), this research approaches economic actors on the local scale. It aims to find out what kind of innovation and concepts exist in the sector, what the limitations and difficulties of small-scale social businesses are, and how they are connected to the circular economy concept.

Thus, this research explores the potential and innovation of local small-scale entrepreneurs with regard to waste reduction in the (Austrian) clothing sector. Here, the central question is **“How to reduce clothing waste in Austria: the perspective of small-scale social entrepreneurs?”**

In order to answer this research question, six sub-questions have been developed:

- What are the different business models used by small-scale social entrepreneurs?
- How do the small-scale social entrepreneurs fit within the circular economy concept?
- What do they see as their impact and what is their actual impact?
- What are the limitations of the presented business models?
- Who is responsible for the reduction of clothing waste?
- How could the small-scale social business models’ limitations be addressed?

To answer these questions, the four interviewees’ responses are analysed, compared, and contextualised within the theoretical framework and the background information. The following paragraphs give an overview of the chapters’ content and the structure of the study.

The theoretical framework of this research is based on the global production network approach (GPN) and the circular economy concept. GPN helps to explain the relationships

between the different actors of production processes, network structures, and power constellations (Flecker 2010: 43). The approach entangles the power structures of the global clothing sector and explores the dynamics of actors so that the structures the small-scale social entrepreneurs are part of can be analysed. The circular economy concept, presented in chapter 2.2., offers an alternative approach of production. Furthermore, it covers the two topics GPN is lacking: waste and the environmental impact of production processes. This research explores ways to reduce waste and the development of a circular economy is seen as one possible way to do so. Therefore, it is necessary to understand the basic concept of circular economy. Furthermore, I combine GPN and the circular economy concept to analyse the power structures and firm relations in production networks which have an impact on the development of a circular economy. The actors that were chosen based on the circular economy concept are also part of global production networks of the clothing sector.

Chapter 3 describes the different research methods of this research. I started with a descriptive document analysis (chapter 3.1.), as developed by Noetzel et al. (2018: 371). The analyses of the new Circular Economy Action Plan (CEAP) of the EU (2020) and the *Bundes-Abfallwirtschaftsplan* of Austria (2017) provides the political frame for the four interviewed entrepreneurs. This was followed by a sector analysis (sub-chapter 3.2.) of Austrian small-scale entrepreneurs in the clothing sector, to explore the research field and to find potential interview partners. The research field consists of Austrian small and medium-sized companies. I conducted qualitative guided interviews to collect my empirical data. This method is described in sub-chapter 3.3. The qualitative content analysis, such as done by Kuckartz (2013), served to analyse the empirical material. In my last sub-chapter (chapter 3.5.), I present the limitations of my study and my reflections on my research process.

Chapter 4 deals with the logic of the clothing sector. Firstly, I explore the value chain and production processes of the clothing sector. Then, I discuss the historical development of the sector and the invention of fast fashion. The latter has lasting effects on the configuration of the global production networks of the clothing sector. Sub-chapter 4.3. deals with the Austrian textile and clothing sectors as well as retailer structures. Finally, I discuss the environmental impacts of the clothing sector – according to the United Nations (2019), the fashion industry is “the second most polluting industry” globally.

The political context by which the four entrepreneurs are influenced, is presented in chapter 5. It roughly analyses the new CEAP of the EU as well as the “*Bundes-Abfallwirtschaftsplan 2017*”. The CEAP outlines steps which are valued by the commission to be necessary to transform the textile sector towards more circularity (European Commission 2020b: 13). Since Austria does not have a national circular economy plan, the *Bundes-Abfallwirtschaftsplan 2017* serves as a substitute to get an insight into the circular economy efforts of the Austrian government (Bundesministerium für Nachhaltigkeit und Tourismus [BMNT] 2017). To get an impression how other European countries deal with the circular economy concept, there are brief insights in the Danish, Slovenian, and Portuguese circular economy plan.

Chapter 6 analyses the interviews with the help of the sub-questions. All four business models fit the circular economy concept. Their approaches of reusing, repairing, renting, and circularly producing are part of the concept, so is their attempt to reduce clothing waste also part of it. Furthermore, the entrepreneurs define their business models as sustainable which fits the circular economy concept too. In sub-chapter 6.3., I discuss the limitations of the of the four business models and their impact on the environmental footprint of the clothing sector as well as their influence on raising awareness. Despite their impact on the reduction and prevention of clothing waste as well as awareness raising, it is limited by their role in global production networks, their size, their location, and their group of customers. However, on a local scale they might have some effect in terms of raising awareness or reducing waste. The entrepreneurs’ scaling possibilities are limited because of human and financial resources. Nevertheless, there are possibilities to scale at least two of these business models – Montreet and Endlos Fesch. This would also increase their impact. Sub-chapter 6.4. investigates the responsibility for the structures of the global clothing sector and the stakeholders’ impact. There is no consensus if stakeholders of the political, economic, or social sphere are asked most to take action. All actors are asked to take responsibility, especially international political organisations and big lead firms that dominate the global clothing sector. Finally, sub-chapter 5 points out ideas how to support social entrepreneurs. Basic income for social entrepreneurs, basic regulations regarding socially unfair and environmentally harmful production processes, and more information about sustainable goods and services as well as transparency could support them.

The conclusion (chapter 7) reflects the key findings of the analysis and comes back to the main research question. Overall, the circular economy concept has the potential to reduce clothing waste. However, the clothing sector must meet certain social and environmental standards and its actors must act accordingly: the actors of the economic, political, and social sphere must take responsibility in order to improve the structures of the clothing sector. Small-scale social entrepreneurs have the potential to reduce clothing waste and to raise awareness, but they need support to scale their businesses and due to that their impact. Nevertheless, solutions such as repair and reuse not matter on which scale are options for extending a product's life. Still, they also lead to disposal which is why adequate solutions for recycling and disposal of clothing waste must be found.

2. Theoretical framework

In the following sub-chapters, the theoretical framework of this research and the circular economy concept, which is understood as an alternative to the existing mode of production, are introduced. After the presentation of Global Production Network approaches (GPN), the emergence of the circular economy concept is discussed. Finally, GPN and the circular economy concept are related to complement the theoretical framework of the research.

2.1. Global Production Networks

“The global economy is as much a political formation as an economic one, and that it is rife with tensions, confrontations and conflicts that are integral to processes of GPN formation and reconfiguration” (Coe 2012: 392).

Coe et al. (2008: 267) point out that the GPN approach was developed by researchers in Manchester at the beginning of 2000. It evolved in the context of commodity chain research which explored the development of poorer countries that were integrated into the structures of global markets (Fischer et al. 2010: 11). Compared to Social Science and its state-centred view, commodity chain research focuses on firms, their strategies, inter-firm networks, and governance structures (ibid. 15). Moreover, the research field examines “the development of explanations for the internationalization and geographical mobility of trade and industrial production networks” (Smith 2015: 291). Coe et al. (2008: 267) describe GPN as one out of three “interlinked strands” of the research field, the other two being the Global Commodity Chains approach (GCC) and the Global Value Chains approach (GVC) (ibid.). Since GPN builds

on the other two, in the following sub-chapter I will outline the key points of GCC and GVC that are necessary for the understanding of GPN (see Fischer et al. 2010: 14).

2.1.1. From GCC to GVC to GPN

The GCC “consists of sets of interorganizational networks clustered around one commodity or product, linking households, enterprises and states to one another within the world economy” (Gereffi et al. 1994:2 cit. in Fischer et al. 2010: 12). The main interest of the approach lies in the organisation of global industries, firm networks, and inter- and intra-firm relations (Bair 2010: 28). In order to analyse these structures and the role of lead firms, Gereffi (1994, cit. in ibid.) distinguishes among four dimensions to define global commodity chains: the input-output-structure, the geographical distribution of production sites, governance structures, and the institutional context.

“Studies of existing GCCs have focused primarily on the governance dimension – that is, the question of which firms in the chain are most able to control various aspects of the production process and how they appropriate and/or distribute the value that is created” (Bair 2005: 160).

The dimension of governance structures defines chains either as “buyer-driven” or “producer-driven”³ (Smith 2015: 292). Buyer-driven chains are mostly dominated by companies that do not produce themselves but control networks of various sub-companies. Producer-driven chains are understood as industries where companies control and own certain parts of production (Fischer et al. 2010: 13).

The GCC approach has developed the concept of “upgrading” (Fischer et al. 2010: 13), that is, “upgrading from low-value to higher-value activities in a commodity chain”⁴ (ibid.). In the beginning of 2000, GCC was followed by the GVC, and the latter developed the concept of “upgrading” further (Smith 2015: 294f.). According to Fischer et al. (2010:13), GVC focuses on upgrading possibilities for industries and local companies in poor countries. The approach identifies four different types of “upgrading” (Bair 2010: 35). The first refers to companies which can upgrade their position in the value chain. Here, a company improves its marginal position to a more central one by taking over more functions, for example, the responsibility for design or logistics. This is called “functional upgrading”. There are also “product-upgrading” (through the production of goods with higher value and price), “process-

³ This typology is of importance for the discussed clothing sector in chapter 4.1.

⁴ “die Aufwertung von geringwertigen zu höherwertigeren Aktivitäten in einer Güterkette“

upgrading”⁵ (through improved technologies, and production systems), and “inter-chain-upgrading” (through a transition from one industry to another) (Bair 2010: 35).⁶

The GVC approach also deepened the definition of governance structures. GVC goes beyond the differentiation of buyer- and producer-driven value chains (Fischer et al. 2010: 13). According to GVC, upgrading possibilities are influenced by power- and market-relations so that it defines a continuum between governance forms of hierarchically governed companies and those governed through market relations (ibid.; Fischer et al. 2021: 36). In between, the GVC approach identifies captive (lead firms have control over suppliers), relational (interaction between the suppliers and lead firms with knowledge exchange, a high competence level of the supplier, and interdependence), and modular (independent manufacturing processes of the supplier and ensuing independence and low power asymmetries) governance structures (Fischer et al. 2021: 37). “These governance frameworks have been used as an analytical approach to understand the extent to which firms are able to ‘upgrade’ in global value chains” (Smith 2015: 294f.). According to Fischer et al. (2021: 36), the new typology is most commonly used to analyse the upgrading possibilities for developing countries.

In contrast to the focus of GCC and GVC approaches on individual firms, the latest approach used in commodity chain research – GPN – also stresses the relevance of non-firm actors and the impact of all actors on power structures (Bair 2010: 35; Fischer et al. 2010: 15). Furthermore, whereas the term “chain”, inherent to the GCC and the GVC approaches, connotes a linear and vertical production process, the term “production network” also includes firm relations and networks on a horizontal level, as Flecker (2010: 43) points out. Thus, the GPN approach serves to explain the complexity and dynamics of these network relations, also considering the geographical, cultural, and institutional structures of production networks and therewith a political-economic point of view (Fischer et al. 2010: 15).

Henderson et al. (2002: 448) identify three categories on which the GPN approach is based. First, they define the category “value” in three ways: the “initial creation of value within each of the firms incorporated into a given GPN”, the given opportunities to enhance value, and

⁵ “Produkt-Upgrading” and “Prozess-Upgrading”

⁶ In addition, there is a fifth form of upgrading – “social upgrading”, which evolved with the emergence of the GPN framework (Smith 2015: 787). It explores the connection between the company’s improved position in the value chain and its impact on labour conditions. On the one hand “measurable standards such as wages and working hours” and on the other “enabling rights” are taken into consideration (ibid.).

the ways to capture value. The place of value creation and enhancement is not necessarily the same as the place of capture (Henderson et al. 2002: 448f.). The second category focuses on the different “sources of power [corporate, institutional, and collective] within the GPNs. [...] The ways in which it is exercised is decisive for value enhancement and capture and thus for the prospects for development and prosperity” (ibid. 450f.). Corporate power defines the impact of lead firms in the network on decision (making) processes and resource allocation, whereby production networks are mostly characterised by power asymmetries (ibid. 450). Institutional power is exercised at different levels – from national to international to institutional. Again, there are considerable power asymmetries depending on, for example, regional integration of states or instruments of institutions. Collective agents are, for example, trade unions or NGOs which also exercise power (ibid. 451). The final category is “embeddedness”. Companies are not only connected functionally and territorially by GPNs, but also by social, cultural, and institutional aspects in which they are embedded (ibid. 452f.).

Coe (2011: 390) identifies five aspects that distinguish GPN from GCC and GVC. First, he also mentions the “consideration of extra-firm networks” (ibid.). Like Smith (2015: 295), he underlines the importance of non-firm organisations such as “supranational organizations, government agencies, trade unions and consumer groups”. According to the author, these actors have an impact on firm activities. Bair (2010: 24; 37), who wrote about “global capitalism and commodity chains”, also points out the impact of regulations, such as trade policies, on global production networks: how they influence the distribution and constellation of global production (ibid.). Second, Coe (2011: 390) emphasises the multi-scalar dimension of GPN: all geographical scales from local to global are considered (ibid.). An important aspect when it comes to labour, for example, is that “local social relations [intersect] with lead-firm contracting practices” (Coe and Young 2019: 788). As a third aspect, Coe (2011: 390) mentions the limitations of the term “chain” due to the implied linearity.

Furthermore, the author underlines that within GPN approaches governance is discussed in a more complex manner than in GCC and GVC approaches (ibid.). Smith (2015: 296) calls the handling of the typologies of governance structures in GPN work “distinct” in comparison to GVC. He emphasises “the importance of institutional contexts at different spatial scales” for the GPN approach, instead of focussing only on “firm- and chain-centred claims” (ibid.). All actors (CSOs, firms, labour, states, and consumers) are included in the governance structures

of GPNs (Coe et al. 2008a: 273, 280). Finally, Coe (2011: 390) stresses that global production networks are not discussed on an abstract level. Instead, their dynamic impact on the development of firms and regions that are interconnected due to those networks is taken into consideration. Coe's last point corresponds with Fischer et al.'s (2010: 15) conclusion that the term "network" better reflects the dynamic relationships of production. According to Smith (2015: 296), another key element of GPN approaches is the "strategic coupling" of global firms and their networks. It is "defined as mutually dependent and constitutive process involving shared interests and cooperation between two or more groups of actors who might not act in tandem for a common strategic objective" (Yeung 2013, cit. in *ibid.*).

Just as GPN is a continuation of GCC and GVC, there are continuations of GPN as well. One more recent study about GPN was presented by Coe and Yeung (2019). They highlight the development of the original GPN approach, the so-called GPN 1.0, towards GPN 2.0. The former is characterized by "a flexible, geographical heuristic toolkit for mapping the shifting arrangements of global production networks" (*ibid.* 777). GPN 1.0 explored globalized economic activity with regard to the structures of "firm networks and territorial institutions" (*ibid.*). In contrast, GPN 2.0 focuses on the connection between global production network configurations on the one hand and the differently developed global actors and territories on the other hand. With the development of GPN 2.0, global production networks are considered possible as "individual lead-firm based configurations" with fundamental differences in the same industry (*ibid.* 778). Categories like "nationality" or "corporate culture" have a certain impact on the industry's configurations (*ibid.*). Furthermore, Coe and Yeung (*ibid.*) point out the impact of "political-economic forces" on global production networks. According to them, GPN 2.0 claims the importance of three drivers that lead firms and suppliers are confronted with: the optimization of "cost-capability ratios", the development of new markets, and the "pressures of financial discipline" (*ibid.*). Coe and Yeung (2019: 779) stress the drivers' "impacts on the corporate organization and governance of global production networks".

In summary, "GPN (and GVC) research has been able to show ever greater relevance for profiling and explaining key trends resulting from, or contributing to, substantial reconfigurations of global production networks in many sectors and industries" (Coe and Yeung 2019: 776). The GPN approaches make it possible to explore the position of the analysed companies in the production network, their position of power, and the dynamics

they are influenced by in a differentiated way. Furthermore, it helps to understand the power struggles and competitive relations of firms as well as the impact of other actors on power structures. These have an impact on the configurations of the global production network and the actors' position within. In my analysis, I address the positions of the interviewed entrepreneurs in the global production networks of the clothing sector and their impact on them.

2.1.2. The role of the state

Since this work, *inter alia*, explores the role of political actors in the transformation of the clothing sector as well as their responsibilities, it is important to take a closer look at how the state's role in GPN is of relevance. The role of the state in global production networks is more often discussed in recent works of GPN, as Smith (2015: 297) explains. In earlier works, the state's role was only "theorized in a rather limited sense" (*ibid.*). The author describes several state functions like the impact of national law on private property rights or the provision of conditions for economic growth. Regarding capital accumulation, Smith (2015: 298) sees the state's role in GPN approaches on different levels: the state's role is not only in being a "functionary of capitalism". GPN helps to focus on the social basis as well as the "hegemonic struggles within the state (at different scales) over the forging of accumulation strategies" (*ibid.*).

According to Coe et al. (2019: 783), GPN research valued the state "as an active agent" because of its interaction with various actors of production networks. Their analysis emphasises that the understanding of the interlinkages between global production networks and the state has been recently expanded. This is initially accompanied by the exploration of state transformation politics. Due to that exploration, the question of "how state transformation has enabled the strategic coupling of national economic actors with global production networks in different historical periods" is brought to the fore (*ibid.* 783). In this context, state transformation means, for example, the advancement of "state-led industrialization" to various "state-firm-global production networks" (*ibid.* 783f.). Furthermore, Coe et al. (2019: 784) underline the move of the role of the state towards a regulator, producer, buyer, and investor. Finally, they point of the shifting debate to the "notions of public-private governance". In this context, the interactions of "public modes of governance" and "transnational private modes" and their impact on strategic coupling are

discussed. Here, they refer to Mayer and Philips (2017: 135f.) who use a three-fold typology of “facilitative, regulatory and distributive” forms of governance.

Mayer and Philipps (ibid.) frame states as “intentional architects” with regard to the typology of facilitative governance. Governmental structures and modes have an important impact on GVCs⁷, in their opinion. The typology of regulatory governance relates to their argument that “states have played an important role both in driving the public deregulatory agenda and in actively promoting private regulatory regimes” (ibid. 136). Finally, they contradict the argument that states failed to influence unequal wealth distribution and, thus, inequality. In their opinion, quite the contrary has happened: “We argue [...] that states have not only chosen not to adopt such policies, but have in some cases engaged in promoting inequality, usually in the name of ‘competitiveness’”. (ibid.).

2.1.3. Critique and limitations of the GPN framework

Finally, I would like to discuss some limitations of the GPN approach. It rarely discusses the ecological factors of production processes. “In global production networks, another extremely fertile area of engagement [...] concerns the intersections between global production networks and the natural environment” (Coe et al. 2019: 789). When it is discussed, it is mainly in the context of “environmental upgrading” (Fischer et al. 2021: 46). If a company has a negative impact on the environment, these shall be improved through environmental upgrading measures (Ponte 2020: 5). Companies implement solutions, for example, to reduce their emissions or to use less water for their production process (Fischer et al. 2021: 46). Ponte (2020: 5) differentiates between three categories of upgrading: the improvement of production processes, the change of functions or the addition of functions, and the transfer of capabilities between different chains. The author also emphasises that outcomes of such upgrading processes can be attached to “hidden costs” which diminish their positive effects (ibid.). Upgrading strategies can put pressure on suppliers when, for example, lead firms develop a strategy to reduce their environmental footprint without adequate assistance for the supplier (Ponte 2020: 17). Fischer et al. (2021: 46) also point out the ambivalent effect of, for example, new technologies that use less water, but more energy.

⁷ The authors focus is on GVCs instead of GPNs. However, Mayer and Philipps (2017: 134) emphasise the close relationship between GVC and GPN and Coe et al. (2019: 785) refer to them which is why their definition is mentioned here.

The GPN approach is also failing to address the issue of waste. Although generation of waste is part of every production process, it is hardly ever addressed (Coe 2012: 397). Therefore, the approach neglects an essential component of production (Notten 2020: 16). The topic becomes even more crucial with regard to the constantly growing amounts of waste (Tiseo 2021). “With such immense volumes of waste arising, the need for authorities to provide adequate waste treatment and disposal services has become ever more important” (ibid.).

The final comment on GPNs is rather a recommendation than a critique of the framework. Coe et al. (2008: 269) suggest that it is important to connect GPN research with “other bodies of literature [...] that will enhance our understanding”. This advice will be put into practise in chapter 2.3. where I connect the GPN approach with the circular economy concept and develop a way to combine them so that they complement each other.

2.2. The circular economy concept

The following sub-chapters first examine the origins of the circular economy concept. After explaining why the term “circular economy concept” is used in this study, I continue with the key elements of the concept and its critique. Finally, the processes of a circular economy are explored.

2.2.1. Origins of the circular economy concept

The field of circular economy is still young – Kirchherr et al. (2017: 226) state that 73 per cent (83 out of 114 analysed conceptualizations of circular economy) of the circular economy’s definitions appeared between 2012 and 2017.

The foundations of the concept, however, can be traced back to the 1960s, see Blomsma and Brennan (2017: 607f.) The debate started with the question of how to handle waste and resources. At the time, the focus was on the polluting effects of waste. “Awareness that the impact of environmental pollution extended beyond the superficial and localized (Commoner 1971) was coupled with the realization that human and environmental well-being [...] depend on resource use and processing” (ibid. 608). Meanwhile, distinct fields of study like biology, economy and systems started to interplay, and such new fields of study and disciplines as environmental economics, eco- or green design, and industrial ecology emerged (Blomsma and Brennan 2017: 608).

The concept of industrial ecology links industrial systems and natural ecosystems, see Bruel et al. (2018: 13). It transforms industrial activities into cyclical processes as those found in nature. Therefore, the authors see the origins of the circular economy concept in industrial ecology. Other concepts, such as “cradle to cradle”, “ecological economics” or “blue economy” are also believed to have influenced the circular economy concept (ibid. 15). Other authors, like Kamlykova (2018: 194), also mention concepts like “limits to growth”, “steady-state economy”, or “performance economy” as foundations of the circular economy concept.

In the late 1980s the negative perception of waste changed. Waste became a positive force and was perceived as a resource and a source of value. Questions about how to extend the use phase of resources as well as product-service systems came to the fore. Attached to that “the interest in related strategies such as product longevity, repair, refurbishment, upgradeability, and remanufacturing” appeared (Blomsma and Brennan 2017: 608f.). Those are elements that are often part of circular economy definitions.

Blomsma and Brennan’s (2017: 609) analysis shows that at the end of the 80s, because of the Brundtland report⁸, the topic of “sustainable development” came to the fore, so did the decision about the “connection of waste and resource strategies”. According to the authors, the debate’s complexity increased, but no one came up with a clear response to the “waste and resource debate” (ibid.). Therewith a knowledge gap appeared regarding “waste and resource management”.

This resulted in three developments, see Blomsma and Brennan’s (2017: 609): First, the reiteration of given concepts that tried to find new options for waste and resources management. Second, the emergence of various “waste and resource management frameworks”, and third, the offer to consult businesses with the help of these frameworks.

“[T]he presence of a knowledge gap in the waste and resource management debate combined with the various attempts at making sense of RLEs [resource life-extending strategies], often through the metaphor of loops or cycles, that build momentum to the articulation of circular economy as an umbrella concept” (ibid.).

⁸ The report „Our Common Futures”, also known as Brundtland report, was developed in 1987. The report focused on the issue of sustainable development (Zimmermann 2016: 4).

According to Bruel et al. (2018: 15), economic and political actors have recently (as of 2018) started to approach the circular economy concept. With its Circular Economy Package and the Integrated Action Plan of 2015, the European Commission took on a leading role (ibid.).

2.2.2. Defining elements of circular economy & criticism

There are various definitions of the concept of “circular economy”. Blomsma and Brennan (2017: 604) interpret circular economy as an umbrella concept because of the many frameworks about circularity. Bruel et al. (2018: 14) state that “CE [Circular Economy] is known worldwide as a model of production and consumption of goods promoting the adoption of closed-loop patterns”. Kirchherr et al. (2017: 221) simply write “the circular economy (CE) concept”. Hereafter “circular economy” will be used as an “umbrella concept” as Blomsma and Brennan (2017: 604) suggest. This umbrella concept can describe and be applied to varying models for a circular economy. Since there are so many varying definitions of the concept and approaches to its implementation, this seems to be the most adequate strategy. To refer to circular economy simply as a homogenous concept or a model of production and consumption would be to omit its variety.

Despite the varying definitions of and approaches to circular economy, there are certain aspects that are regularly mentioned in the context of circular economy. The first key aspect of the circular economy concept is the goal of decoupling: “Central to this [the circular concept] is the decoupling of economic growth from increasing resource use and reducing adverse environmental impacts”, as Fogarassy and Finger (2020: 2) emphasise. Furthermore, as Kalmykova et al. (2018: 195) point out, most circular economy concepts share the main environmental strategies, shortly called “the Rs” – reduce, reuse, recycle, and recover. However, there are circular economy concepts that go beyond the 4 Rs. These include up to 10: “refuse/ reduce/ renew/ reuse/ repair/ refurbish/ remanufacture/ recycling/ re-purpose/ recovery” (Kirchherr et al. 2017: 225f.). Three further main concerns of the concept are to eliminate the use of toxic chemicals, to optimise resource use, and to prevent waste (Kalmykova et al. 2018: 194f.). All this can be achieved through thoughtful design, which is one of the EMA’s⁹ main concerns (Kirchherr et al. 2017: 226).

⁹ According to Kirchherr et al. (2017: 226), some scholars value the EMA’s circular economy definition as most prominent.

The term “circular economy” implies that it is especially shaping the economic sector. However, depending on the concept and by whom it is used, different actors like academia, politicians, or the non-profit sector are also included (Blomsma and Brennan 2017: 610). It therefore makes sense to consider actors beyond the economic sphere when discussing the concept of the circular economy. Additionally, Bruel et al. (2018: 15) make clear that a circular economy can be developed at micro (company/ consumer), meso (eco-industrial park), and macro levels (cities/ provinces/ countries). According to Kirchherr’s et al. (2017: 227) study, most circular economy concepts focus on the macro-level. Finally, the use of renewable energy is often recommended as a key objective for a circular economy (ibid. 226).

The ambiguity of circular economy concepts has resulted in criticism: “blurriness” (Kirchherr et al. 2017: 221), the “lack of appropriate tools and language” (Blomsma and Brennan 2017: 610), as well as the absence of an “accepted theoretical perspective” (Lathi et al. 2018: 2). Furthermore, Bruel et al. (2018: 19) consider the concept not radical enough and Kirchherr et al. (2017: 222) stress the need for more transparency. Negrei and Istudor (2018: 501) state “difficulties in multi-, but especially inter-disciplinary approaches” regarding the concept.

There is further criticism of certain elements of circular economy: the shift to renewable energy and the goal of decoupling economic growth from environmental impacts (Smith 2021: 16f.). Smith (ibid.) underlines that the current levels of energy usage cannot be covered by renewable energy. She emphasises that in case of giving up fossil energy sources, right now energy consumption must be reduce as well. Moreover, the expansion of renewable resources itself demands a lot of energy and resources. With regard to decoupling, Smith (2021: 17) makes clear that

“every economic activity requires the use of resources and energy and produces waste (in addition to the desired product). This means that an absolute decoupling between economic growth and environmental impact – a widespread myth – is not possible.”¹⁰

Of course, most concepts or theories have weaknesses, but the shortcomings of the circular economy concept affect its instrumentalization as well as influence its mainstream use. An example of this is the ongoing discussion about recycling: ARA (Abfall Recycling Austria)

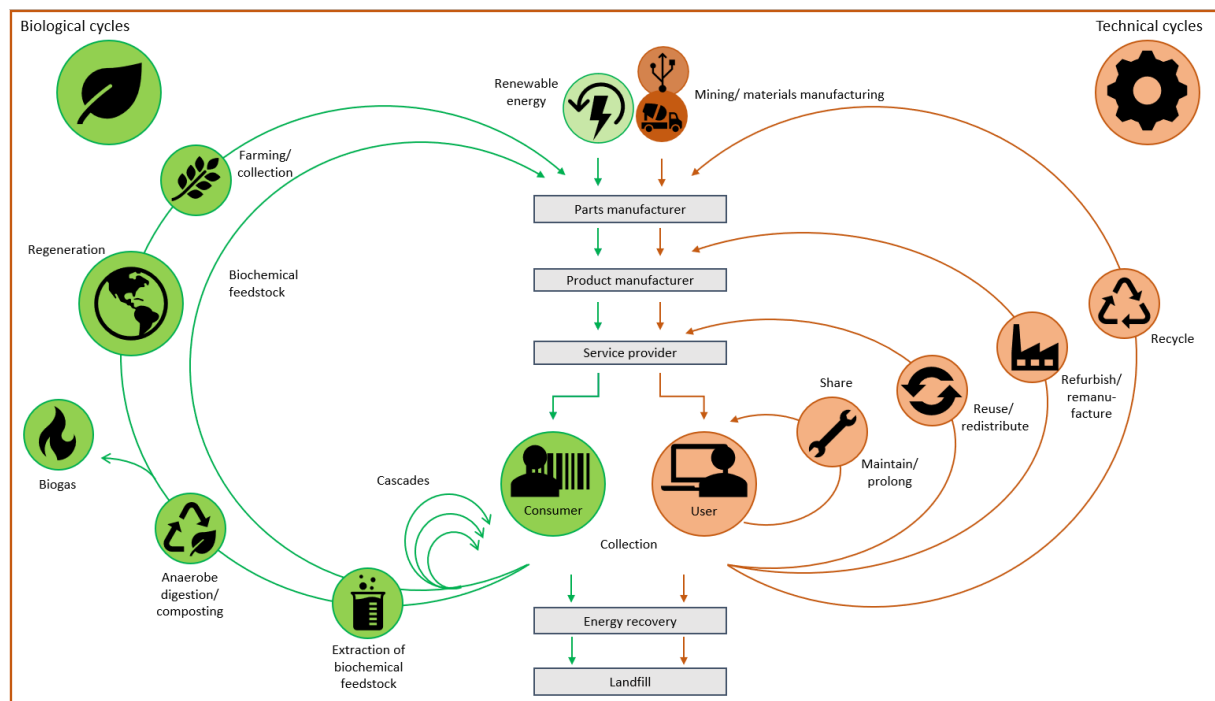
¹⁰ „Jede wirtschaftliche Aktivität erfordert den Einsatz von Ressourcen und Energie und produziert Abfall (zusätzlich zum gewünschten Produkt). Das bedeutet, dass eine absolute Entkopplung zwischen Wirtschaftswachstum und Umweltbelastung – ein weit verbreiteter Mythos – nicht möglich ist.“

describes itself as “the driving force in the circular economy”¹¹ (ARA 2021). As a waste management company, it focuses strongly on recycling, which is only one part of the cycle in a circular economy, as demonstrated in the following sub-chapter.

2.2.3. The processes of a circular economy

Despite the debates around the circular economy concept, there is consensus with regard to the difference between a circular economy and the currently dominant linear economic system. The “Circular Economy Gap Report 2021” states that in 2020 the world’s economic circularity was at 8,6 per cent (Haigh et al. 2021: 7). The linear economic system works with the disposal of a product at the end of its lifetime following the principle of “take, make, consume, and dispose” (Circular Futures 2021). In contrast, a circular economic system aims to keep extracted raw materials in circulation for as long as possible and to minimize waste as much as possible. One detailed illustration of (the flow of technical and biological materials in) a circular economy is the system diagram (Butterfly infographic) developed by the EMA (2019).

Figure 1: Butterfly Infographic (Image reproduced from the original diagram – Ellen MacArthur Foundation 2019)



Note 1: Image reproduced from the original diagram – Ellen MacArthur Foundation 2019: Circular economy systems diagram.

¹¹ „die Treibende Kraft in der Kreislaufwirtschaft“

The diagram shows two circles: a biological circle (on the left) and a technical one (on the right). The latter is more relevant for this research. In the middle of the diagram a rough value chain is presented – materials and energy are fed into the manufacturing process which consists of “parts manufactures” and “product manufactures”. The energy used in a circular economy comes from renewable resources. The final products of the technical cycle are distributed by the “service provider” to the user. After a product arrives to the “user”,¹² it is kept in use through sharing and maintaining.

Once the inner circle is exhausted, the product moves to the next circle where it is reused or redistributed to another user through service providers. The third and the fourth cycle function the same way. The diagram also shows the “power of the inner circle” which is another main objective of the circular economy concept (EMA 2013: 16). The EMA (ibid.) emphasises, for example, that

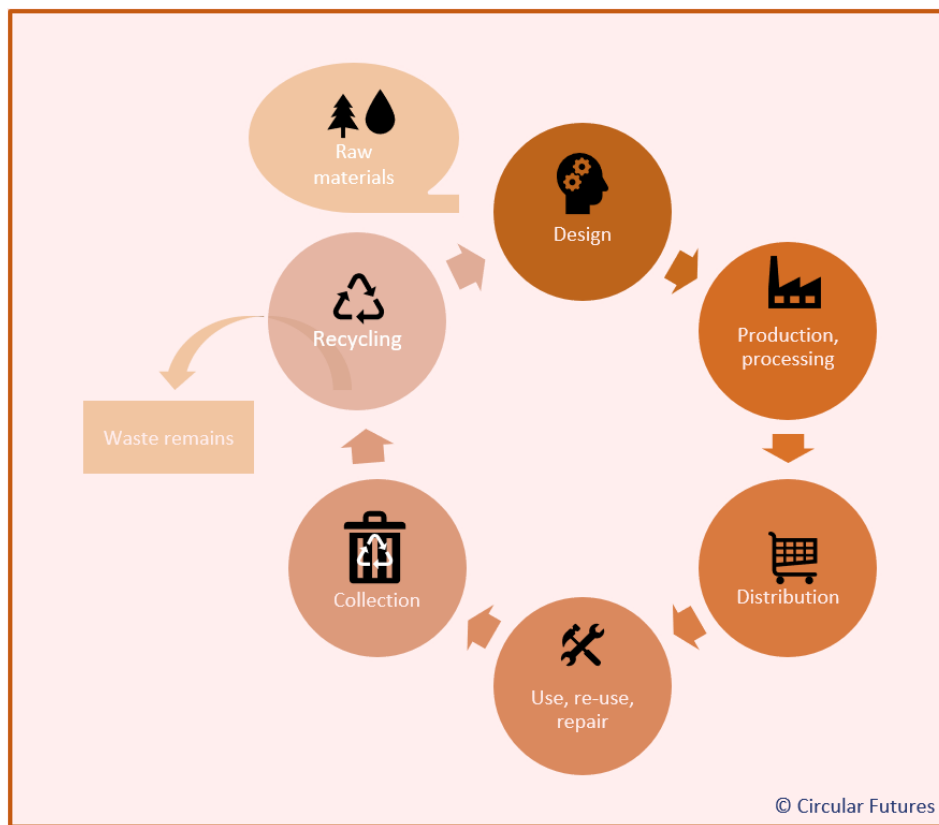
“the less a product has to be changed in reuse, refurbishment and remanufacturing and the faster it returns to use, the higher the potential savings on the shares of material, labour, energy, and capital embedded in the product and on the associated rucksack of externalities.”

It also demonstrates that the recycling of a product is the last step to take when all other options are exhausted.

The diagram points to the importance of business models that support sharing, repairing, renting, and reusing of items, such as are explored in this research with regard to the clothing sector. To achieve this, platforms and shops are needed to make this possible. The development of a circular economy depends on various supporting business concepts. In order to offer adequate recycling solutions instead of down-cycling ones, it is also necessary to further develop the recycling sector itself.

¹² The EMA (2017d) understands the participants of the technical circle as *user*: “It makes no sense to say that we consume our washing machines and cars in the same way that we consume food” (ibid.). Therewith, the EMA (2017d) questions the concept of ownership.

Figure 2: Product lifecycle diagram (Circular Futures 2021)



The diagram illustrates the lifecycle of a product. Despite the importance of all the life stages of a product, the design phase is particularly crucial in a circular economy. Circular product design ensures that the products are easier to reuse, repair, and remanufacture and are eventually broken down and recycled (EMA 2017d). While companies still tend to reduce circular economy to a recycling economy, the butterfly infographic (Figure 1) clearly shows that recycling is merely one of the stages of a product's life cycle in a circular economy. On the contrary, in a circular economy recycling is a measure of last resort. However, a study of the Circular Economy Forum in Austria with 350 participants from different economic sectors found that 49 per cent of respondents understand circular economy as a recycling concept (Huber-Heim and Kronenberg 2021: 5f.).

2.3. Theoretical Framework: how to connect GPN and Circular Economy

To develop the theoretical framework for this study, I combine the GPN approach and the circular economy concept. GPN explains the network configurations, power struggles, and strategies of firms on the one hand and the role of non-firm actors and their impact on (global) production networks and configurations of power on the other. The approach considers the impact of geographical, cultural, and institutional conditions on production networks. It makes

it possible "to trace the different actors, territorialities and types of economies that characterise the upstream, midstream and downstream portions of the global production network" (Coe and Yeung 2019: 778). GPN approaches serve to entangle the global production networks of the clothing sector and to explore the actors' dynamics in a differentiated way. Henderson et al.'s (2002: 450f.) threefold definition of power stresses the different dimensions of power in global production networks. They underline the power asymmetries between corporations as well as other actors. This differentiation makes it possible to analyse the position of the four chosen business models and their role in the (global) production networks of the clothing sector, the impact of the institutional configuration on their position, and the role and power of the other network actors in relation to them. Recent GPN approaches also allow for a more differentiated discussion of the state's role in global production networks. In order to discover the impact of the institutional sphere on the four business models, two partly analysed programs of the EU and Austria (chapter 5.) give an insight into the political framework in which the entrepreneurs operate.

Before I explain why I use the circular economy concept in combination with the GPN approach, I want to point out the elements of the concept which, in my view, make up the concept and which are important with regard to my research. First, the research refers to the "10 Rs" presented by Kirchherr et al. (2017: 223). The 10 Rs show more clearly the many possibilities of dealing with a product before its disposal and emphasise the importance to first exhaust all other options to deal with products before recycling and disposal. Bruel et al. (2018: 15) explain that different countries apply the concept at different levels. However, the impact of all three levels – micro, meso and macro – of a circular economy is relevant, if the concept shall transform the whole economy. For the concept to work and for a circular economy to materialize, it must be applied at all three levels. Of course, a single company could establish its own circular production process. Nevertheless, evidence suggests that in order to achieve an overarching circular economy, this must happen on all levels, since all three levels are interconnected and interdependent. In addition, the two dimensions of environmental quality and social equity are of importance (Kirchherr et al. 2017: 227). Due the interconnections of social, political, economic, and scientific actors, all of them are relevant to develop a circular economy, which is also discussed by the UNEP report (Notten 2020: 60). Just as the micro, meso, and macro level are interdependent, so are the actors. Although I agree with the EMA's approach that thoughtful design is of great importance, it is

not the first step to preventing waste. To prevent waste, the first and foremost step must be prevention as such – reducing production and consumption.

The combination of both GPN approaches and the circular economy concept, makes it possible to analyse (power) structures in production networks and firm relations that have an impact on the implementation of a circular economy on a political and economic level as well as on the four companies specifically. Small-scale entrepreneurs are also a part of the global production networks as are big players of the clothing industry. Therefore, they also act within global production networks and are influenced by them. Due to GPN, competition structures, the development of product prices, or limitations of the business models can be explained.

Although GPN approaches criticise certain aspects such as uneven value distribution and problematic development effects they do often not directly focus on social and even less on environmental issues (Fischer et al. 2021: 42f, 46). Furthermore, they do not propose alternative economic approaches. The circular economy concept provides a different model of production with the goal to improve the environmental and social effects of production processes. Increasing implementation of the circular economy concept could influence the configurations and interdependencies of the global economic system. Lathi et al. (2018: 10) state that "[m]any companies may need to change their entire value chain" if the circular economy principle was to be implemented. Nevertheless, companies and other actors which act accordingly to the circular economy concept would be still part of (global) production networks. Companies that produce according to the circular economy concept have to deal with the power structures of the global production network and their effects in the same way as companies that use non-circular ways of production. Thus, a company that might want to produce circular products would still depend on suppliers that might not produce circularly. Or a company's circular products could be more expensive because of less exploitative production processes and therefore not competitive. In addition, the interviewed small-scale entrepreneurs are part of an industry that is dominated by global lead firms. The GPN approach makes it possible to demonstrate that even if Austria had a perfect circular economy with regard to clothing or any other product, it would not mean that the products are 100 per cent circular. States that want to implement a circular economy are also embedded in institutional power structures. GPN approaches make it possible to analyse these structures.

Furthermore, the circular economy concept allows me to consider the two factors that GPN approaches do not: waste and the environmental footprint of production. Since the circular economy concept covers waste management and efficient resource use, it addresses the two points that GPN neglects. Finally, the circular economy concept is framing the whole research, but especially the analysis of the interviews. I chose the companies based on whether their business models were in line with the circular economy concept.

3. Research Method

To investigate the developed research question, I have chosen different methods. First, I use descriptive document analysis to analyse the CEAP (2020) and the *Bundes-Abfallwirtschaftsplan* of Austria (2017), including the *Abfallvermeidungsprogramm*. Second, I proceed with a sector analysis to explore the field of research and to develop the sample for the planned interviews. Having finalised the sample, I conduct the guided interviews. To analyse them, I follow the procedure of the qualitative content analysis by Kuckartz (2012). Finally, in the last sub-chapter I discuss the limitations of my research.

3.1. Document analysis

Document analysis is a classical element of qualitative-interpretative analysis (Mayring 2002: 46). It is used to study material the researcher did not collect by themselves (Mayring 2002: 48).

There can be descriptive, prescriptive, and logical-analytic documents (Noetzel et al. 2018: 371). In this research, I analysed the European Circular Economy Action Plan (CEAP) (2020) and the *Bundes-Abfallwirtschaftsplan* of Austria (2017), including the *Abfallvermeidungsprogramm*. Those are descriptive documents. I chose the CEAP because of the European Commission's leading role with regard to the development of a circular economy (Briel et al. 2018: 15). Since the Austrian government has not yet developed a circular economy strategy, I analysed the *Bundes-Abfallwirtschaftsplan* which contains topics relevant for the development of a circular economy.

According to Mayring (2002: 48f.), there are four steps to proceed with a document analysis: first, the development of a research question; second, the definition of the relevant document (Of course, there can be more than one document); third, the source critique which evaluates the document and its role in the research process; fourth, the interpretation of the document.

Noetzel et al. (2018: 373) specify this process: While choosing the document, general information about actors, structures and the processes of the research field are collected. Then, they make out three phases – exploration, main analysis, and evaluation process – of a document analytic case study. Since in my research the document analysis process was complementary to the main analysis, I did not proceed through all steps Noetzel et al. (2018: 374) suggest, but I used their process as a general guideline and focused on the ones that were relevant. My research question for the document analysis was dictated by the main research question. I analysed the documents with regard to their central theses, arguments, and key words. For this, I have used the terms “textiles”, “reuse”, “further utilisation”, and “prevention”. The conclusion from the document analyses is presented in chapter 5.

3.2. Sector analysis

The research field consists of Austrian companies that are active in the clothing sector and that differ from the classical model of selling first-hand clothing made from primary raw materials instead of recycled fibres. During my research process, it came to the fore that primarily small and medium-sized enterprises are of particular importance for my field of research. For this research, I conducted guided interviews with entrepreneurs based in Austria, who were selected after a sector’s analysis.

The focus on Austrian entrepreneurs derived from my belief that companies in general can have a greater impact on the prevention of clothing waste than consumers. Of course, clothing waste can also be reduced on the consumers’ side through reduction of consumption of clothing, more conscious consumption, and giving preference to more durable products. However, it would be negligent to assume that general clothing waste could be sustainably reduced in this way. If only because about 40 per cent of all garments are not sold or do not even make it into trade (Koszweska 2018: 340).

Before I started my sector analysis, I thought about how I could cluster the different businesses. I decided to search for business models that fit into the following areas: sustainable fashion, rental services, further utilisation, repair/ up-cycling, reuse/ up-cycling, clothes swap (find the table in chapter 4.3.1.). All these business models can support the development of a circular economy in Austria. When selecting the interviewees, I tried to cover the different areas. I decided to leave out the segments of “further utilisation” and “cloth swap”, as the former is too far from my focus on clothing and the latter is mostly

privately organised and thus not a business venture. I also excluded second-hand shops because I was looking to cover less traditional and well-known concepts.

Fortunately, all the social entrepreneurs I had selected were willing to be interviewed.

3.3. Interviews

Dannecker and Vossemer (2014: 153) emphasise that qualitative interviews, which are part of this research as well, are one of the most important methods for empirical research. Even if the qualitative Interview is guided by prepared questions, there is the flexibility to change the structure, to add questions, and to adapt the questions to the interview situation (ibid. 154).

“A characteristic of this form of interview [...] is that the range of topics or questions for all interviews is set or pre-structured by a guideline”¹³ (ibid. 158). However, there was room for the interviewees to articulate their thoughts as well (Hopf 1995: 178). Furthermore, the questions were adapted to the situation of the interviews. According to Dannecker and Vossemer (2014: 161), there are different opinions on how to define expert-interviews. On one hand experts are defined as specialists for certain topics, on the other, Froschauer and Lueger (2020: 30) point out that in the context of qualitative research interviewees are always experts. My interview participants can be seen as experts since they were interviewed with regard to their businesses and their experiences. With respect to the questions about politics and global value chains, one could experience different levels of knowledge.

As a result of the COVID-19 pandemic, the interviews were conducted online on Zoom and Skype. All interviewees agreed to switch on their camera so that I could get an impression of their facial expressions and body language. On the one hand compared to interviews I had conducted in the past, the interview situation felt less natural. On the other hand the online format of the meetings made it easier to arrange appointments. The interviews' length varied between 30 minutes and one hour.

Unintentionally, all four interview partners were women^{*14}. All of them were the founders of their respective businesses. Their age varied between 30 and early 60s, and all of them came from Austria – three live in Vienna, one person resides in Kärnten.

¹³ „Kennzeichnend für diese Form des Interviews [...] ist, dass die Themen- oder Fragenpalette für alle Interviews durch einen Leitfaden festgelegt bzw. vorstrukturiert wird.“

¹⁴ The asterisk (*) highlights gender identities which exist alongside the binary form.

3.4. Qualitative content analysis

The first methodology of qualitative content analysis¹⁵ was published by Mayring in 2010 (Kuckartz 2012: 35). Mayring (2010: 12) summarized the various definitions of qualitative content analysis and complemented them with his own criteria. Firstly, as per Mayring, qualitative content analysis' main object is communication, for example, language, music, or pictures. Secondly, these communication tools are fixed in any form. Thirdly, Mayring (ibid.) emphasised the systemic approach of qualitative content analysis. Fourth, this procedure uses explicit rules for the analysis, which makes the analysis transparent and verifiable. Fifth, in Mayring's (2010: 13) opinion, a valuable analysis is based on theory and a theory-based research question. Finally, "content analysis does not only analyse its material for itself [...], but as part of the communication process"¹⁶ (ibid.). Overall, qualitative content analysis is an analytical procedure and, especially in sociological contexts, a procedure of interpretative evaluation (Kuckartz 2012: 34f.).

Applied to the material I gathered, it was the method that made the most sense to analyse the conducted interviews. The content analysis makes it possible to give the text a new structure in order to underline its arguments, see Deutschmann (2014: 97), which is helpful in analysing interviews.

3.4.1. Analytical method, categories, and analysis

There are three qualitative content analysis methods: the evaluative, thematic, and type analysis (Kuckartz (20134: 74). To build the categories for this research, I used the thematic analysis method. Although the research question is central to all three methods, the thematic approach shows a stronger relation between research question and categories as well as sub-categories (ibid.). Deutschmann (2014: 99) explains that this approach is often used to analyse qualitative interviews, which are the main material of my research.

¹⁵ Content analysis as a sociological method evolved in the beginning of the 20th century (Kuckartz 2012: 27). Max Weber was the first scientist who used it to analyse newspaper articles with regard to quantitative measurable changes in 1910 (ibid., Deutschmann 2014: 95). With the invention of radio, content analysis reached its "golden age" (Kuckartz 2012: 27). In the 1940s, especially the effects of war reporting on the public were analysed. However, until the beginning of the 50s, the focus was still on quantitative and statistical analysis. In 1952, Kracauer (1952, cit. in ibid.: 28; 35), became the first scientist to emphasise the value of qualitative content analysis, as he believed it to be a necessary supplement to classical content analysis.

¹⁶ „Inhaltsanalyse [will] ihr Material nicht ausschließlich für sich analysieren [...], sondern als Teil des Kommunikationsprozesses.“

The categories I used were constructed inductively. I chose the inductive procedure because I wanted to draw my categories from the material collected in the interviews. Although the research is framed within a theoretical framework, I developed my categories “by paraphrasing, generalizing, and abstracting the original data” (Kuckartz 2014: 60). According to Kuckartz (2012: 40), there are various and blurry definitions of the term “category” (ibid. 40-42). However, for this study I mostly relied on the content, analytical, natural, and formal categories, defined by Kuckartz (2012: 43). For example, “waste”¹⁷ is a content category, since the interviewees gave information about waste. “Awareness raising”¹⁸ is a natural category, since the interviewees used the term by themselves.

In accordance with thematic category construction (see Kuckartz (2012: 63), I built the categories in a sequential procedure. After transcribing my first interview, conducted with Jessica Neumann, one of the founders of Endlos Fesch, I started to find categories for it. I then analysed the second interview (Esther Weinberger, Klamottenkunst) adopting the categories of the first interview. Furthermore, I formed new categories when the given ones did not fit the context. Afterwards, I reviewed the first interview to see if the new categories fit better or if categories could be combined. I repeated the procedure for the two other interviews (Melanie Gaggl, Mein Lieblingsstück; Nadine Schratzberger, Montreet). After categorising the four interviews, I reviewed them again to edit and add new categories if necessary. Since there is no strict division between the collection of data and its evaluation, see Kuckartz (2012: 63), I conducted the last interview when I had already transcribed the first.

Although I proceeded inductively, as I was categorising, I kept in mind, my research question of “How to reduce clothing waste in the Austrian clothing sector: the perspective of small-scale entrepreneurs?” as well as related topics like “waste prevention”, “awareness raising”, and “responsibility”. While I was coding, I paid attention that every coding unit was still understandable after being coded. Since I proceeded in a very small-step manner during the categorisation, I subsequently formed more main categories than subcategories.

Table 1: Main categories and sub-categories

MAIN CATEGORIES	SUB-CATEGORIES
Entrepreneurship	Reason for founding the company
	Business model

¹⁷ „Müll“

¹⁸ „Bewusstseinsbildung“

	Target group/ customers
	Cooperation
	Competition
Shaping the economy	Status quo
	Value chain
	Circular economy
	Fast fashion
Responsibilities	Economic responsibility
	Political responsibility
	Consumer responsibility
Clothing sector	Support
	Sustainability
	Prevention
	Reuse
	Waste
	Impact
Consumption patterns	Consumption
	Awareness
	Raising awareness

Once the thematic categories were finalized, I proceeded to the analysis material. To answer my research question and the added sub-questions, I analysed the relationships within the thematic categories, compared the answers of the interview partners and related the individual categories to each other. I analysed, for example, the interviewees' answers with regard to "prevention"¹⁹ or "sustainability"²⁰. My analytical process was topic-based, which means that I analysed the answers of all interviewees with regard to one topic. The analysis can be found in chapter 6.

3.5. Limitations and reflection

I begin to point out the limitations of my study. In a second step, I reflect on my own position in the research process. Although I see my interview partners as experts with regard to their work, of course, they have varying knowledge about the discussed topics. Because of that some interview partners could not really answer some questions such as the question about their position in the value chain. This has to be considered. My study is interpretive and descriptive, but there are no hard facts to prove, for example, that the business concepts of the interviewees do in fact reduce clothing waste in Austria. To know which effects these

¹⁹ „Vermeidung“

²⁰ „Nachhaltigkeit“

business models have on the reduction of clothing waste, one would have to make a material flow analysis.

Furthermore, I interviewed four small-scale entrepreneurs. It should be kept in mind that the opinions and experiences of the small business founders I interviewed do not apply to the sector as a whole. In addition, I interviewed only female* entrepreneurs, which was not intentional; and I assume that entrepreneurs of other genders have other experiences and face other challenges. With regard to age groups, there was some variety – three women* were within the age group of around thirty and the end of thirty; one interviewee was of retirement age. All of the interviewees have different professional backgrounds.

My interviews were guided, but I adapted the questions during the interviews. On the one hand it gave me a lot of flexibility, on the other it means that some topics have been discussed more specifically in some interviews than in others. In addition, due to the varying background of knowledge and economic experience, the questions fit some interviewees better than the others. Regarding the type of interviews, it could have been interesting to conduct a group interview as well as it could have allowed me to observe how the interviewees develop their opinions through discussing with other entrepreneurs.

In autumn, the EU plans to implement the “EU strategy for sustainable textiles” (Europäische Union 2021; European Union 2020: 13). It would have been interesting to integrate this strategy into the work. Due to timing considerations, this was not possible.

With regard to my interviewees, it is my evaluation that I had a good rapport with them. My own age and gender may have made it easier to conduct the interviews with at least three of my interview partners. The interviews were personal – already in replying to my email all of the interviewees used the informal German address “du”. Furthermore, there was no language barrier as all of them were German speakers.

The topic of my master thesis developed from my work at Circular Futures (Umweltdachverband). The platform strengthens the circular economy in Austria and is currently running two projects on textiles, in which I am involved. Because of my work, I am part of societal debate about the development of a circular economy in Austria. This has an impact on my opinion about responsibilities regarding the implementation of a circular economy.

Part of the project is to conduct interviews on waste management and financial solutions for waste collection. I conducted the interviews for my research before I interviewed the stakeholders for my work. However, when analysing my interviews, I also had their responses in mind. Nevertheless, I tried to be as neutral as possible in my research, and I think I succeeded in that. One of the study's goals is the analysis of the four business models' limitations. It was not difficult for me to address them because I do not think that the development of a circular economy is not facing any limitations and problems.

In terms of my expectations of the interviews, I was biased through my work, as I had previously discussed the issue of waste reduction in the clothing sector in workshops. Therefore, during my interviews I sometimes had the feeling that the interviewees did not address certain topics. However, when I analysed them, I found that this was not the case.

4. The logic of the clothing sector

The clothing industry is a high value-added industry in terms of production and consumption. Between 2002 and 2015, the global sale of clothing increased from 1 trillion US-Dollar to 1.8 trillion US-Dollar (Greenpeace 2017: 2). During that time, one study estimated an approximate sale of 2.1 trillion US-Dollar in 2025 (ibid.). The estimated turnover in the textile sector amounts to 1.6 trillion US-Dollar in 2021 (statista 2021a). Worldwide, China is the largest clothing export country: in 2019, its export was valued at 152 billion US-Dollar, whereas Bangladesh as the second largest exporter was valued at only 33 billion US-Dollar (statista 2021b).

Furthermore, the textile sector's workforce is immense. Worldwide, about 430 million (as of 2018) people work in the textile sector. Compared to the global workforce of 3.4 billion people, every eighth person is employed in the textile sector. However, this number is only an estimate, since, for example, informal employees or certain steps of the value creation are not taken into account (Common Objective 2018).

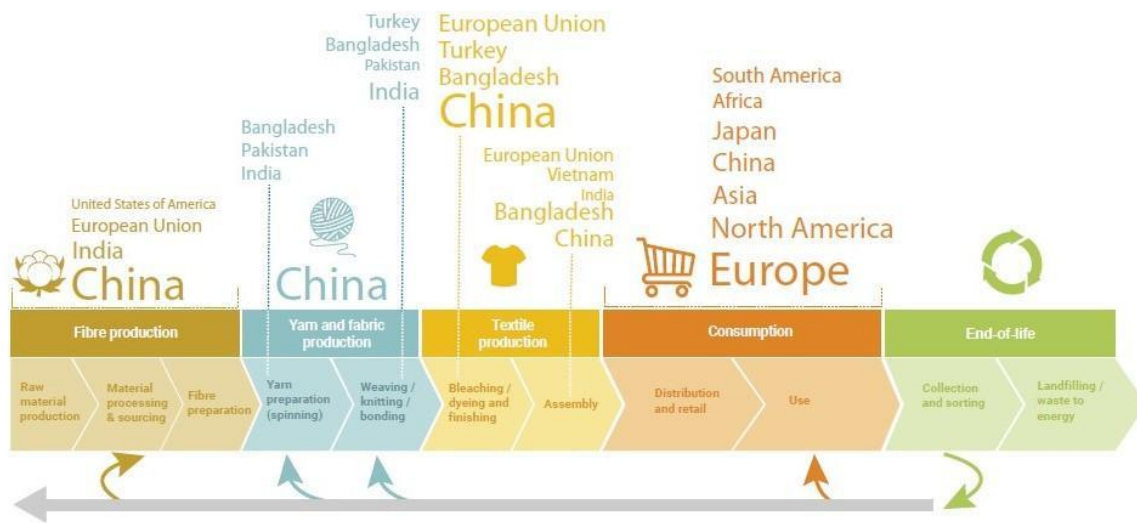
Those numbers demonstrate the large and global scale of the clothing sector. The following sub-chapters first present the production steps of the sector and then explore the historical developments that have shaped the clothing and textile sectors. Since the interviewees developed their companies in Austria, sub-chapter 4.3. deals with the structures of the

Austrian textile and clothing sector. Finally, the environmental impacts of the two interconnected sectors are discussed.

4.1. The global value chain of the clothing sector

“The system of production and consumption of textiles is highly globalised with millions of producers and billions of consumers spread across the world in highly linear value chains involving raw material extraction, production, transportation, consumption and after-use disposal” (Manshoven et al. 2020: 2).

Figure 3: “Geographical breakdown of global apparel production and consumption” (Notten 2020: 16)



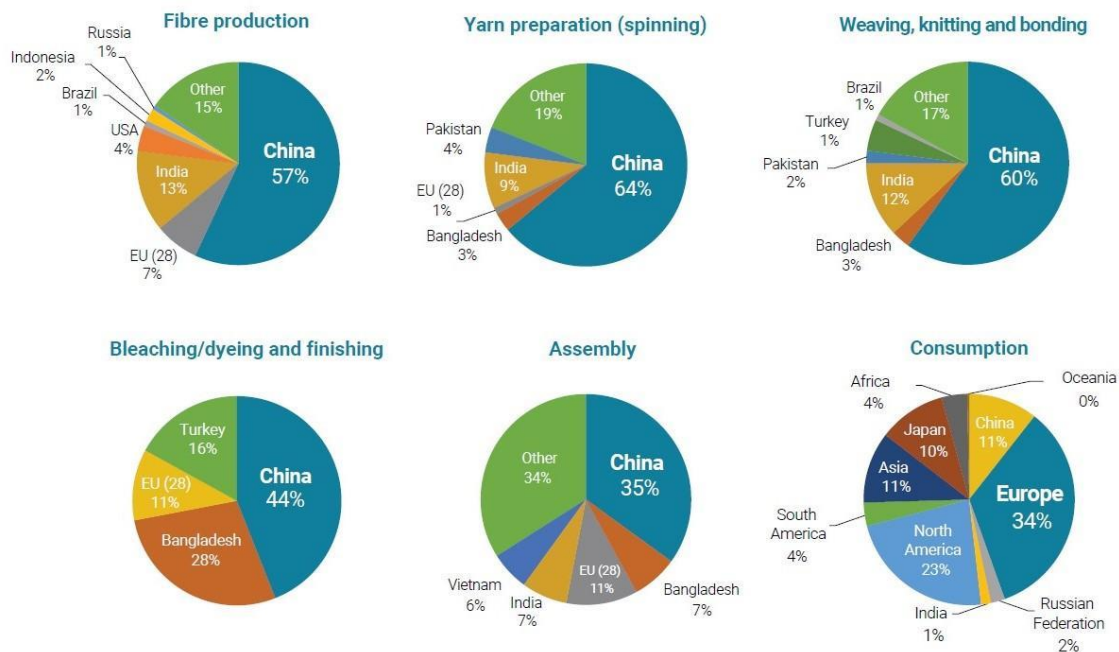
All these steps are divided into sub steps and characterised by various stakeholders that shape the different parts of the production process. The UNEP report (Notten 2020: 16) identifies five main steps in clothing production. The first step, fibre production, reaches from raw material production to the fibre preparation. A study of Quantis (2018: 50) found that 64.9 per cent of the global fibre production is synthetic. According to UNEP (Notten 2020: 32), low-cost garments in particular contain a high amount of polyester, up to 70 per cent.

Fibre production is followed by yarn and fabric production, which is separated into yarn preparation (spinning) and weaving, knitting, and bonding (Notten 2020: 16). Textile production starts with bleaching, dyeing, and finishing and ends with the assembly of the products, before they are distributed and retailed (ibid.).

In a linear economic system, the textile value chain ends with the collection and sorting of textiles and textile waste and, finally, their landfilling and burning to produce energy (ibid.). “Overall, one garbage truck of textiles is landfilled or incinerated every second” (EMA 2017a:

37). If the fashion industry continues unchanged, it will be responsible for 25 per cent of the global carbon budget by 2050 (Manshoven et al. 2020: 27).

Figure 4: “Geographical breakdown of global apparel production and consumption” (Notten 2020: 16)



According to a sector report by Bank Austria (Wolf 2017: 4f.), the textile and clothing industry is one of the most internationalised industries. Figure 4 demonstrates the production ground of each production step and shows where the goods are consumed. The fibre, yarn, and fabric production is highly dominated by China, followed by India (Notten 2020: 16). For example, 57 per cent (as of 2018) of the global fibre production took place in China, 13 per cent in India (ibid.). With regard to bleaching, dyeing, and finishing processes, 28 per cent of them are performed in Bangladesh, 44 per cent in China (ibid.). China (35 per cent), Bangladesh (7 per cent), India (7 per cent), and Vietnam (6 per cent) are mainly involved in the assembly clothing. The biggest clothing producers hold 55 per cent of the global export volume, whereby 34 per cent of textile products are consumed in Europe, 23 per cent in North America and only 11 per cent in China (Notten 2020: 16). Comparing the leaders in the first three steps of the textile value chain (see the production steps in figure 3) with those in consumption of textiles, it becomes clear that the products are not manufactured where they are consumed.

The lead firms (retailer and brand owners) are headquartered in the leading markets so that most of the value creation – design, branding, marketing – takes place there (Fernandez-Stark

et al. 2011: 7). Furthermore, they outsource the manufacturing process to a global network of suppliers which is why the retailers are located in other regions than the producers (ibid.).

Figure 5: Retail Industry I In Focus (Knoema 2019)



Figure 5 highlights that the large retailers and brand manufactures have their headquarters in so-called “developed” countries. The buyer-driven commodity chain of the clothing sector creates significant power asymmetries between suppliers as well as retailers and brand owners, with the latter holding the power (Fernandez-Stark 2011: 7).

4.2. Historical development of the clothing sector

“Textiles and clothing are a fundamental part of everyday life and an important sector in the global economy” (EMA 2017a: 36). Production volumes of textiles have doubled from the beginning of 2000 till 2017 (ibid.). Which factors have driven this enormous increase in production? How did the textile industry develop in the past decades?

Komlosy (2010: 80) calls the invention of factories in the clothing sector in Great Britain between 1780 and 1800 the turning point of the sector. First, the spinning of cotton was mechanised and centralised, weaving and textile prints followed. From Great Britain, the “development” spilled over to Western and Central Europe (ibid.). Textile producing countries in Asia as well as “peripheral rural regions in Europe” only joined in later (Komlosy 2010: 81). In the 20th century, the textile mass-production was gradually moved to Newly Industrialized Countries (NICs) (ibid 82).

The world economic crisis of the 1970s resulted in a re-globalisation of the sector initiated by Western textile companies: “The result was the emergence of a new international division of labour in which developed countries focused on services, technology development, and knowledge-based production, while mass industrial production, especially textiles and clothing, was shifted to NICs”²¹ (ibid. 83). Staritz (2012: 16) underlines the increasing global demand for apparel in the second half of the 20th century and the decreasing production volume in the so-called “developed” countries.

Despite the rising exports of textiles from so-called “developing” countries to the “developed” ones (ibid.), the former were not able to upgrade their position in the textile value chain. According to Komlosy’s (2010: 83) analysis, international textile agreements made it impossible for “developing” countries to improve their position.

Between 1974 and 2005, two textile agreements were decisive for the global textile value chain. In 1974, the Multi-Fibre Agreement (MFA) was signed under the authority of the General Agreement on Tariffs and Trade (GATT) and replaced by the WTO Agreement on Textiles and Clothing (ATC) in 1995 (Komlosy 2010: 83). According to Mavroidis (2016: 609), the MFA was determined by bilaterally negotiated quotas. The US and European countries were especially interested in protecting the “production of basic inputs to these [high-end consumer or branded textile] goods, as well as some basic textile and apparel goods” (ibid. 610). The replacement of the MFA by the ATC was intended to eliminate the existing quotas on textiles (ibid. 612).

As stated by Staritz’ (2012: 10), the signatories wanted to achieve the protection of European, US-American, and Canadian import markets due to quotas for “important apparel (and textile) exporting countries” (ibid.). With the emergence of competitive producers in the South – Southeast Asian countries first, followed by other countries like Bangladesh – Northern textile manufactures struggled to maintain their position (Mavroidis 2016: 608).

The agreements were followed by two developments, as Komlosy (2010: 83) points out. First, multinational producers outsourced standardised and labour-intensive production steps to the so-called “low-income” countries. Higher value steps – corporate management, logistics,

²¹ „Die Folge war die Entstehung einer neuen Internationalen Arbeitsteilung, in der die entwickelten Länder auf Dienstleistungen, Technologieentwicklung und wissensbasierte Produktion setzten, während die industrielle Massenproduktion, allen voran Textilien und Bekleidung in NICs verlagert wurde.“

research, and development remained in so-called “industrialised” countries. This was accompanied by the emergence of new manufactures from China, Morocco, and Turkey that brought “the competence to manufacture intricately worked, high-quality garments with the required production flexibility” (Tokatli 2008: 25). Secondly, the value chain’s control was shifted from manufacturers to lead firms²² (Komlosy 2010: 83.). Due to that, the textile value chain was no longer producer-driven, but buyer-driven (Pinto and des Souza 2013: 308). As a result, lead firms with their own manufacturing facilities were relegated to the background and so-called “hohle Kozerne” came to the fore. Those do not manufacture themselves, but instead organise the production networks’ central actors (Staritz 2012: 7; Komlosy 2010: 83). “The production of apparel became more and more the domain of low-income countries”²³ Komlosy (2010: 84). In a buyer-driven value chain, value is created through research, design, sales, marketing, and financial services” and the buyers control those production processes (Fernandez-Stark 2011: 11f.).

Because of the agreements, the countries were not allowed to perform more than two processing steps of the textile value chain in their country (Komlosy 2010: 83). That way, the higher qualification of “developing countries” was prevented (ibid.). However, Staritz (2012: 10f.) points out that “the quota restrictions led to spreading production to an increasing number of countries and provided many developing countries a way to establish an apparel industry.” Manufacturers who reached their quota limits at home moved to other countries with either under-utilized quotas or no quotas at all (ibid. 11). Thereby, large manufactures, especially from East Asia, who have been producers before, became intermediaries (“importers, exporters, agents and trading houses”) in the 1990s (ibid. 8). In that context, Staritz (2012: 3) highlights the apparel sector’s role as a “gateway to export diversification for LICs”. Its low entry barriers and its labour intensity result in the textile sector being a possible first step in the direction of export-oriented industrialisation (ibid.).

²² Staritz (2012: 7) differentiates between three lead firm types: “brand manufactures, brand marketers, and retailers.” The first type is still involved with the production process, “and control[s] the marketing and branding activities.” Brand marketers are only involved with marketing and branding. Retailers control marketing and branding as well, but only for their product lines.

²³ „Die Herstellung von Bekleidung wurde so immer mehr zur Domäne von Billiglohnländern“.

The phaseout of the ATC was followed by trade liberalisation on the one hand and fewer restrictions on exports from low-income countries to the EU and the USA on the other hand (Macchion et al. 2014: 175). Macchion et al. (ibid.) stress:

“In recent years, the process of production decentralisation and supply network reorganisation has led several firms to redefine their business models, transform their relationships with supply-network partners, and manage expanded, and thus more complex, networks”.

4.2.1. Fast fashion

The invention of fast fashion significantly shaped and influenced the apparel industry. Zara, a Spanish clothier and part of the group “Industria de Diseno Textil (Inditex)”, was the first brand that broke with the traditional lead firm structures, “developing a super-responsive supply chain for leading brands” (Martinez et al. 2015: 724; Tokatli 2008: 22). Tokatli (2008: 23) identifies further requirements for the fast fashion segment. Fast fashion is characterized by retailers who spread out stores globally. Furthermore, customers’ demand and “upstream operations of design, procurement, production, and distribution” are connected due to “highly responsive communication channels”. To keep on track with the speed, “fast fashion requires short development cycles, and rapid prototyping” (ibid.). In the fast fashion segment, it takes 15 days from product designing to delivery (Martinez et al. 2015: 724). This results in the necessity for lead firms to develop a fast, synchronic, and responsive value chain (Tokatli 2008: 23). As a result, the invention of fast fashion broke with the classic rhythm of two campaigns for spring/summer and autumn/winter. Instead, for example, H&M offers 12 to 16 collections per year and Zara – up to 24 (Šajn 2019: 2).

The idea behind fast fashion is, first, to make cat-walk fashion accessible for everyone. Second, fast fashion is supposed to be trendy and flexible. According to Tokatli’s (2008: 26) analysis, with the arrival of fast fashion “being fashionable” no longer means sticking to one brand. Instead, consumers mix fashion items of different price ranges and brands, becoming “their own stylists” (ibid.).

However, fast fashion comes at a different price. The low prices of fast fashion and the flexibility requirements of the value chain come with costs for other people, workers, and nature. The high pressure on the supply firms affects their workers by means of low labour costs, more expected flexibility, and bad working conditions (Plank et al. 2014: 129).

Furthermore, fast fashion does not only make fashionable apparel accessible to many, but the increased number of clothing lines encourages people to buy more and keep less (Notten 2020: 57). The EMA (2017a: 18) estimates that the production of clothes has doubled since the beginning of 2000. Moreover, the environmental pressures are intensified due to the fast fashion industry. In that context the UNEP report (Notten 2020: 48) stresses:

“More recently, the rise in awareness of the unsustainable levels of resource use and volumes of waste arising from fast fashion have led to increased recognition of circularity and new underlying innovative business models advancing the circular processes key to delivering sustainability and circularity in the textile industry” (Notten 2020: 48).

To conclude, the concept of fast fashion has lastingly influenced the clothing industry, its production structures, as well as the behaviour of consumers at the expense of the environment and society.

4.3. The Austrian textile & clothing sectors

The Labfresh (2020) study which analysed the 15 European countries with the most textile waste shows that in 2018 Austrians spent the highest amount on clothing in Europe: 1.082,80 Euro per person. On average, by comparison, Hungarians spent the least money on clothing (250 Euro per person). According to Global 2000 (2020), an Austrian buys 60 pieces of clothing per year. Of course, consumption goes hand in hand with waste: on average, 11 kg of textile waste are produced per person in Europe (European Parliament 2021). As stated in the Labfresh study (2020), in 2018 Austrians produced as much as 62.446 t of textile waste – 7 kg per person. But are the clothes that Austrians buy and dispose of produced in Austria?

Since 1972, the Austrian clothing industry has noticeably shrunk (Fachverband der Bekleidungsindustrie 1984; WKO 2021b). However, the Austrian textile and clothing industries have had a high reputation for centuries (Dorner 1988: 6, 14). Before the industrialisation of the textile sector, the processing of flax, hemp, wool, and silk has first been done by homeworkers and later in manufactories (Austria-Forum 2018). The industrial revolution with its mechanical spinning machines and looms also led Austria to industrial development.

The dissolution of the monarchy in 1918 had its impact on the Austrian textile industry as well. “The disintegration of the closed economic area had a particularly disastrous effect on the textile industry, as here the interdependence with the production and processing companies

as well as the buyer groups of the later successor states was particularly intensive”²⁴ (Dorner 1988: 6). Various production steps, like the weaving industry, fell in the hands of the successors which made other Austrian production places obsolete, since they were interconnected. The number of machines shrunk to 10 per cent of their former size (ibid. 8).

After the Second World War and an inhibited economic recovery, the Austrian textile sector was supported by the European Recovery Program. Until the 70s, this led to steady development of the Austrian textile sector. Since then, the sector’s productivity has been constant, but the number of businesses decreased; from 718 companies in 1972 to 242 in 2002 and 221 in 2020 (Austria Forum 2018; WKO 2021d). A similar trend can be observed in the clothing industry; in 1983, Austria counted 469 Austrian clothing companies (Fachverband der Bekleidungsindustrie Österreichs 1984: 11), 312 in 1994 (Fachverband der Bekleidungsindustrie Österreichs 1994: 8), and 130 and 7.280 employees in 2020 (WKO 2021b).²⁵ Its generated turnover is about 844 million Euro (994 US-Dollar) (ibid.).

The analysis of Bank Austria (Wolf 2017: 4f.) emphasises that Austrian companies are only small players in the highly internationalised textile and clothing industries. In a European comparison, they contribute only 2 per cent to the revenue of the textile sector and 1.2 per cent to the revenue of the clothing industry (ibid. 5). “In Austria, the sector is gradually losing economic importance, the textile industry at a reduced pace in recent years, the clothing industry virtually unabated”²⁶ (ibid.). In 2017 (status of report), only 0.8 per cent of industrial jobs were in the clothing industry.

However, the Austrian textile- and clothing industries are industries with a long tradition. For example, “Linz Textil” (Upper Austria) was founded in 1838 and produces yarn, fabrics, and terry products (Linz Textil Holding Ag 2021). One company producing in the “Waldviertel” for more than 170 years is “Backhausen” (Backhausen GmbH 2020). All their fabrics made for curtains and furniture are produced there. Furthermore, “Steiner 1888” (border of Salzburg

²⁴ „die Zertrümmerung des geschlossenen Wirtschaftsgebietes [wirkte] sich besonders auf die Textilwirtschaft verhängnisvoll [aus], da hier die Verflochtenheit mit den erzeugungs- und verarbeitungsbetrieben sowie den Käuferschichten der späteren Nachfolgestaaten besonders intensiv war.“

²⁵ The term „clothing industry“ includes the production of clothes, mattresses, umbrellas, and house, table, and bed linen (WKO 2020). Furthermore, not every company appears in the statistics, but only at least 90 per cent of the branch. Only companies with more than 20 employees (including freelancers, part-time employees, and external staff) are obliged to register (WKO 2021e).

²⁶ „In Österreich verliert der Sektor sukzessive an wirtschaftlicher Bedeutung, die Textilindustrie in den letzten Jahren in vermindertem Tempo, die Bekleidungsindustrie praktisch ungebremst“.

and Styria) has produced woollen-loden made in Austria since 1888 (Steiner GmbH 2021a). In the 1920s, the family-run business was expanded to a fully integrated production (Steiner GmbH 2021b).

According to WKO (2014), the textile industry is one of the most traditional local industries in Austria. Nevertheless, the industry is characterised by a strong international orientation (ibid.). In 2020, about 77 per cent of the industry's revenue was made in EU-member states (WKO 2021d). The trend is observed in the clothing industry as well (WKO 2021c).

Table 2: Insight: Bekleidung (Handelsverband 2018: 10)

Rang	Handelsunternehmen	Umsatz (in Mio.)
17	H & M	422,50
18	C & A	410,12
28	Peek & Cloppenburg	215,00
34	Kik	170,67
36	New Yorker	150,00
38	Kastner & Öhler	140,00
40	Primark	137,35
44	Charles Vögele	120,10
45	Fussl	117,95
46	NKD	117,34
47	Zara	112,00
51	S.Oliver	97,50
59	Kleider Bauer	80,30
61	Takko	76,05
63	Esprit	73,49
65	Adler	71,86
69	Palmers	65,19
78	Calzedonia (Calzedonia, Intimissimi, Tezenis)	48,18
80	Bestseller (Vero Moda, Jack Jones, ONLY, name it etc.)	45,32
87	Tom Tailor	39,00
90	Ernsting's family	37,00
92	Orsay	36,00
98	Gerry Weber	32,11
99	Zillertaler Trachtenwelt	32,00
SUMME		2,8 Mrd.

The Austrian retail sector is also small and also dominated by international buyers. Figure 6 shows that most of the clothing retailers and department stores that sell clothes of different brands are international companies. The first Austrian department store – Kastner & Öhler –

is in sixth place; the first Austrian retailer – Fussl – is in ninth place. In total only five out of 24 are Austrian retailers or department stores (Figure 6).

The turnover of the two largest retailers in Austria, H&M and C&A, (2018) is almost as high as the turnover of the whole Austrian clothing production in 2020 (Handelsverband 2018: 10; WKO 2021c). This underlines the dominant position of buyers (retailers) in the clothing sector. In fact, the whole clothing industry is retailer-driven (Martínez et al. 2015: 723). Retailers are not involved in manufacturing, but in branding, marketing, design, R&D, and retailing (Staritz 2012: 7, 17). “By controlling these high-rent activities buyers yield significant power over other actors in the chain” (ibid.).

4.4. Environmental impacts of the clothing sector

“The fashion industry is widely believed to be the second most polluting industry in the world” (United Nations 2019). The production and consumption of clothing has its environmental impact on air, water, and soil. Yearly, the global clothing sector produces as much greenhouse gas emissions as all international flights and the maritime shipping sector together, as Notten, author of the United Nations Environment Programme (UNEP) report about the textile value chain, (2020: 19) states. This makes a total of 3.3 billion metric tons of emitted greenhouse gases by the clothing sector per year (ibid.). The EMA (2017a: 38) calculates 17 tonnes of CO₂ for 1 tonne of textiles²⁷.

In addition to its high greenhouse gas emissions, the textile sector is characterised by high water use. For example, the production process of one pair of jean trousers requires 7.000 litre of water (Greenpeace 2015: 4). As stated by Quantis (2018: 20), the global apparel and footwear industry consumes a total of 215 trillion litres of water a year. 21 per cent of freshwater is used for raw material production and 24 per cent for bleaching, dyeing, and finishing processes of production. However, at 35 per cent, the use of apparel has the greatest influence on freshwater consumption (Notten 2020: 24).

Related to the high water consumption is the use of chemicals. “It is estimated that about 20 per cent of global water pollution is caused by textile dyeing and finishing” (Kant 2012 cit. in Manshoven et al. 2019: 23). Notten (2020: 8) emphasises the usage of approximately 3.500

²⁷ Although the EMA (2017: 38) compares the amount of CO₂ of the textile sector to flights and shipping it talks only about 1.2 billion tonnes.

chemical substances for textile production. Manshoven`s et al. (2019: 23) report points out that 1 kg of cotton t-shirts requires 3 kg of chemicals. Due to “unsound practices and poor wastewater management”, chemicals have a negative impact on various aspects such as the textile workers’ health, communities located close to the factories, and the environment (Notten 2020: 8).

Finally, land management in the context of the textile industry is also alarming. In general, “land use is one of the main drivers of loss of biodiversity” (Notten 2020: 26). According to Notten (ibid.), compared to other fibres, cotton cultivation has the biggest land footprint – “2.5 per cent of the world’s arable land”. Although the consumption of other natural fibres like viscose, modal, and lyocell, the land footprints of which are better than that of cotton, is increasing, this is not necessarily for the best. Since those fibres are made of wood, the increasing demand for natural fibres also puts pressure on the environment. Due to that, “it is of paramount importance to ensure that wood is not sourced from ancient and endangered forests or other controversial sources” (Canopy 2018, cit. in Notten 2020: 26). In sum, the production of textiles is characterised by high emission rates, intense water usage, environmental pollution, and impacts on land usage.

5. Circular economy initiatives & programmes

To understand the context in which the four entrepreneurs work, it is necessary to look at the political conditions that influence them. Most relevant to this study are the following political plans. First, there is the CEAP of the EU. It provides the political frame for the four interviewed entrepreneurs on a European level. Furthermore, it gives an insight into the efforts of European politicians to develop a circular economy in the EU. Second, there is the “*Bundes-Abfallwirtschaftsplan 2017*”. Austria does not have a set circular economy plan (status of August 2021) yet, but this plan offers a glimpse of the country’s circular economy efforts, since waste management and the circular economy concept are closely interrelated (Kalmykova et al. 2018: 195). An analysis of the two plans brings to light the relevant political considerations around circular economy on a national as well as European level.

Finally, at the end of the chapter I give several examples of other European circular economy initiatives, to illustrate other European countries’ ambitions and strategic goals.

5.1. EU – Circular Economy Action Plan

In 2020, the European Commission adopted the new CEAP. It was preceded by the first “Circular Economy Action Plan” of 2015 and the “European Green Deal” of 2019. The latter is “Europe’s new agenda for sustainable growth” of which the CEAP is a “building block” (Europäische Kommission 2021). In 2021, the “EU strategy for sustainable textiles” will be adopted, which was announced by the CEAP and shall also support the European Green Deal (ibid.; European Commission 2020b: 13).

The CEAP includes nine subchapters. The one called “Key Product Value Chain” covers seven topics – one of them is connected to textiles (ibid. 3). The whole plan comprises 28 pages which is why every topic is only discussed roughly. By way of introduction, the plan highlights the environmental pressures from the textile sector (ibid. 13). It mentions the “complexity of the textile value chain” and announces the textile strategy of the EU, which aims to result in stronger “industrial competitiveness”, more “innovation in the sector”, and more “sustainable and circular textiles” for the EU market (ibid.).

The textile strategy includes different measures, such as the invention of “ecodesign measures” to support the circularity of textiles, the increased utilisation of “secondary raw materials”, and the decrease of “hazardous chemicals”. Furthermore, the EU wants to empower all types of consumers “to choose sustainable textiles” and aims to support the “reuse and repair services” (ibid.).

In addition, “incentives and support to product-as-service models, circular materials and production processes, and increasing transparency through international cooperation” are intended to strengthen the “business and regulatory environment” of the sector (ibid.).

Furthermore, the Commission plans that by 2025 all its member states will collect their textile waste separately. Finally, according to the plan, “sorting, re-use and recycling of textiles” shall be increased through “innovation [...] and regulatory measures such as extended producer responsibility” (ibid.).

The CEAP only covers the topic of “textiles” very generally. This might be because the Commission is planning a strategy that would address textiles specifically. However, the different steps of the textile value chain are included in the planned strategies for the textile sector: the production level is covered in the goal to develop eco design measures, the

consumption level is addressed in the goal to empower and the support of product-as-service models, and the management of textile waste or textiles after their first use are covered in the plan to support sorting, re-using, and recycling textiles. The Commission used many buzzwords and phrases regarding circular economy, for example, “ecodesign”, “empowering to choose sustainable textiles”, and “product-as-service models”.

The other chapters of the plan provide an insight into what might be behind those phrases. Of course, those chapters do not refer to one specific product. Still, some measures can be related to textiles or are similar to the measures mentioned in the textile subchapter. The European Commission (2020b: 5) summarises that “many products break down too quickly, cannot be easily reused, repaired or recycled, and many are made for single use only.” It acknowledges the importance of thoughtful design which is an important aspect of the circular economy concept (EMA 2017d). To improve the design and to make the EU more circular, the Commission aims to establish a “sustainable product policy legislative initiative” (ibid.). Part of the initiative includes principles that tackle production aspects, such as product durability and upgradability, high-quality recycling, and the destruction of unsold goods (ibid. 6f.).

Regarding empowerment, the European Commission (2020b: 8) states that consumers shall be particularly empowered due to “trustworthy and relevant information”. The idea behind is that the more information is available to consumers, the better they can choose sustainable textiles. Furthermore, the plan envisages to invent minimum requirements for “information tools” and the “right to repair” (ibid. 8). As for the textile sector, waste reduction measures, such as extended producer responsibility, are planned to support reduction of waste in general (ibid. 8, 16). The Commission believes that “effective separate collection of waste” and quality recycling are connected, which makes it relevant for the textile sector as well (ibid.).

The CEAP’s realisation could be an important step in the development of a circular economy in EU member states and the EU as a whole. It discusses many aspects of transforming the existing linear system into a circular one – design, reuse, and the support of new concepts of consumption. However, at this point one cannot tell if the plan will have a positive impact on the development of a differentiated circular economy. For example, the implementation of extended producer responsibility schemes brings up questions about the future relation between “recycling” and “reuse”. According to the butterfly infographic and the circular

economy definition used in this research, reuse comes before recycling. The planned EU strategy for sustainable textiles (expected in autumn 2021) will hopefully provide more specific information on what can be expected with regard to the textile sector.

5.2. Austria – Bundes-Abfallwirtschaftsplan 2017

The “*Abfallwirtschaftsgesetz*” of 2002 schedules a new “*Bundes-Abfallwirtschaftsplan*” at least every sixth year. In 1992, the first one was published; the latest plan came out in 2018 (as of 2017) (Umweltbundesamt GmbH 2021a). The latest *Bundes-Abfallwirtschaftsplan* was developed based on the “inventory of the situation of waste management in Austria”²⁸ worked out by the *Umweltbundesamt* (ibid.).

The *Bundes-Abfallwirtschaftsplan* 2017 consists of two parts, but only the first one is of importance for this research (Bundesministerium für Nachhaltigkeit und Tourismus [BMNT] 2017). The plan’s first half comprises 304 pages, which is why it was only examined by the keywords “textiles”²⁹, “reuse”, “prevention”, and “further utilisation”.³⁰ Those four terms were chosen because of the research’s main question about the reduction of clothing waste. As stated in chapter 2.2.2., the reduction of waste is supported by reuse, further utilisation, and prevention.

The *Bundes-Abfallwirtschaftsplan* 2017 contains all data of Austria’s waste management, the different sectors, waste streams, goals, and regulations regarding waste management (BMNT 2021b: 3-7). However, it does not deal with the topic of “textile waste” in a separate chapter or has a specific focus on it. Textiles are only mentioned in the context of waste streams (ibid. 43, 54, 62, 113).

Apart from the “*Abfallvermeidungsprogramm*”, which is discussed in subchapter 5.2.1., the topic of “reuse” is mentioned in the sixth chapter of the *Bundes-Abfallwirtschaftsplan* about regulations and measures. To improve circularity, the authors underline the importance of other waste management steps which extend the product life cycle before they are disposed of. In this context, reuse is one option along with design, new business models, and the repair

²⁸ „Bestandsaufnahme zur Situation der Abfallwirtschaft in Österreich“

²⁹ I chose the keyword “textiles” because the term “textiles” is often used for both industries.

³⁰ Textilien, Re-Use, Vermeidung, Wiederverwendung und Abfallhierarchie – in German, the term “Re-Use” is used without any translation. Another English translation of “Wiederverwendung”, instead of “further utilisation”, is reuse.

sector (ibid. 166). Moreover, the plan states the competition between reuse and recycling (ibid. 167). In fact, this is a difficulty for the textile sector as well and needs to be considered while talking about reuse. The other times reuse is mentioned, are not relevant for this research. For example, the plan presents EU-directives with regard to reuse (ibid. 211f.).

The topic of “prevention” with relevance to textile waste is mentioned three times. First, in the context of the definition of waste management. It is defined as “sum of all measures to prevent, reduce, recover and harmlessly treat as well as dispose of waste (of all kinds)” (ibid. 170).³¹ The second time, the *Bundes-Abfallwirtschaftsplan* emphasised that both prevention and further utilisation can contribute to waste reduction in the context of the Sustainable Development Goals (ibid. 195). Moreover, prevention is discussed with regard to waste, waste management, and the waste hierarchy³². The citizens shall be informed about adequate waste prevention, further utilisation, as well as waste division and collection (ibid. 241). The last two aspects are also the only two that are relevant for the research with regard to the further utilisation of textiles.

In summary, the *Bundes-Abfallwirtschaftsplan* covers all four terms only roughly and generally. The plan acknowledges the importance of prevention, further utilisation, and reuse for the improvement of waste management, but it does not discuss them in detail. Furthermore, textile waste is not considered important enough to discuss outside of waste streams. Of course, the *Bundes-Abfallwirtschaftsplan* is first of all a plan for waste management and needs to cover plenty of topics and areas. However, various product groups like electronic devices, old cars, and batteries are covered in their own sub chapters (ibid. 5).

Despite the superficial treatment of the aspects relevant to a circular economy – prevention, further utilisation, and reuse – the plan gives a rough idea for the implementation of a circular economy in Austria.

5.2.1. Abfallvermeidungsprogramm 2017

The *Abfallvermeidungsprogramm* 2017 is part of the *Bundes-Abfallwirtschaftsplan* (Bundesministerium für Klimaschutz, Umwelt, Energie, Mobilität, Innovation und Technologie

³¹ „die Summe aller Maßnahmen zur Vermeidung, Verminderung, Verwertung und schadlosen Behandlung sowie Beseitigung von Abfällen (aller Art)“.

³² In the sense of the waste hierarchy, first comes waste prevention and then preparation for reuse, recycling, other use, and finally disposal (BMNT 2017: 18).

[BMK] 2021). It was included into the program for the second time. Various stakeholders have been part of the elaboration process. According to the BMK (2021), there are 90 measures with four focus areas to reduce waste. “Changes are needed with regard to production as well as consumption”, the ministry states (ibid.).³³

The program is divided into introductory chapters, measures of the current *Abfallvermeidungsprogramm* and its indicators, the evaluation of the last program from 2011, and further measures (BMNT 2017: 4). In the following analysis, I focused on three sub-chapters of the current program. In the *Abfallvermeidungsprogramm* there is no focus on textiles either.

The first chapter on which the analysis focused concerns “waste prevention in companies and other organisations” (ibid 136). First, there is a certain focus on design. The authors of the program emphasise the development of a standardized design to prevent waste. Furthermore, they aim to include repair-, reuse-, and recycling-design into the timetable of design studies.

Besides the focus on design, the program provides for “direct measures” to inform adequately relevant actors about waste prevention as well as “awareness raising among decision-makers”³⁴ (ibid. 136). Moreover, they plan to implement criteria for public procurement: those include waste preventing products as well as longevity and the possibility to repair products (ibid 136f.).

The following chapter about “waste prevention in households” includes aspects that could also support a circular economy (ibid. 140). Like the measures for companies and other organisations, the program emphasises the provision of information about sustainable consumption for households. It also stresses the importance to raise consumer awareness. The plan is for consumers to develop sustainable consumption methods. Additionally, there is a provision to support the access to repair facilities such as repair networks (ibid.).

Finally, the third analysed chapter is about “reuse” (ibid. 145). On the one hand reuse networks, initiatives, and the collection of goods for reuse shall be increased and supported, on the other, information campaigning is on the fore again. Moreover, this sub-chapter

³³ „Es bedarf Veränderungen sowohl bei Produktion als auch beim Konsum.“

³⁴ “Bewusstseinsbildung von entscheidungsrelevanten Personen”

discusses textiles: first, Austrian textile volumes shall be analysed. Second, a label for sustainable textiles collection and utilisation shall be established (ibid.).

The three partly analysed chapters demonstrate again that circular aspects are already part of the Austrian waste management. However, prevention, reuse, and recycling are naturally part of waste management, but of course, to implement a circular economy would mean to focus on these aspects as shown in chapter 2.2.2.

Furthermore, the program demonstrates that awareness raising, campaigning, and the provision of information are of high importance for waste prevention. In all three analysed chapters those points are highlighted as separate steps. It is a positive trend that the program presents measures for companies as well as households. The program plans to strengthen a thoughtful design for the prevention of waste, which is related to the circular approach to design products durable and repairable. The goal “to support reuse” represents a move in the right direction as well. This could be a sign that a stronger position with regard to recycling is supported, which is also in line with the circular economy concept (chapter 2.2.2.). Finally, the planned textile volume analysis as well as the establishment of a label suggest that the next *Abfallvermeidungsprogramm* will also focus on textiles.

5.3. Circular Economy efforts in other countries

In contrast to Austria, some other European countries already have a national action plan for a circular economy (Scherk et al. 2020: 88). The following part will roughly present the circular economy strategies, with a certain focus on textiles, in three European countries: Denmark, Slovenia, and Portugal. These examples give an idea of how other countries are addressing the issue of the circular economy politically. Despite the claim to present countries from varying European regions, they were selected randomly and according to access to information about their approaches. Of course, there are other countries, regions, and even cities, like Amsterdam (City of Amsterdam 2021), that have in one way or another implemented a circular economy. For example, China started to support the idea of a circular economy already in 2009 (Scherk et al. 2020: 112).

5.3.1. Denmark

The year 2018 was the starting point of Denmark’s Strategy for Circular Economy. Its implementation period lasts from 2018 to 2022. The two Danish Ministries of Environment

and Food as well as of Industry, Business, and Financial Affairs are involved, and there is an Advisory Board in charge (Jessen 2019).

The ministers Jarlov and Ellemann-Jensen (2016: 7) emphasise Denmark's leading role when it comes to green solutions and technology. Both see circular economy as a positive force for business, consumers, and the environment (ibid.). However, "the Initiatives of Strategy" of the Danish "Strategy for Circular Economy" indicates a certain focus on the Danish economy (Ministry of Environment and Food 2018: 5). Most of the 15 strategic points are clearly connected to the economy, whereas the role of the society and politics are not covered (ibid.).

An article of the Waste and Resource Network Denmark (DAKOFA 2021) supports this impression: "Danish companies are developing pioneering circular economy solutions that benefit the environment, climate, and economy." This is supposed to happen, for example, due to the reduction of used minerals and raw materials, the use of renewable resources or a more sustainable design (ibid.). The strategy plan does not mention the textile sector at all (Ministry of Environment and Food 2018).

5.3.2. Slovenia

The way towards a circular economy in Slovenia is smoothed due to its Roadmap toward Circular Economy, published in 2018. The official authority lies with the Ministry of the Environment and Spatial Planning. However, many other actors were involved in the process (Košir et al. 2018: 5). Part of the roadmap is the so-called "Circular Triangle, a model which unites three inseparable elements – Circular Economy (business models), Circular Change (government policies), and Circular Culture (citizens)" (European Union 2019). The roadmap's focus is on four sectors: food, the forestry value chain, manufacturing, and mobility (Košir et al. 2018: 2). However, there lies a certain emphasis on the decarbonisation of the Slovenian economy (EIT RawMaterials 2020).

Textiles are mentioned quite generally in the sections about the focus areas "Forest-based Value Chains" and "Manufacturing Industry" (Košir et al. 2018). For example, they mention the achieved integration of "bio-based components" in the textile industry (ibid. 36). In addition, the Slovenian circular economy roadmap emphasises the country's leading position in the production of synthetic fibres made of recycled raw material (ibid. 39).

5.3.3. Portugal

In 2017, the Portuguese Council of Ministers adopted a plan titled “Leading the transition: A circular economy action plan” (República Portuguesa 2017: 2). The main responsibility for its implementation lies with the Ministry of Environment. The plan is connected to national and international frameworks and goals (República Portuguesa 2017). According to Scherk (2019: 96), there is a strong connection between Portuguese circular economy politics and the regional level. Therefore, there are different regional strategies and initiatives.

The action plan consists of four main elements: “a carbon neutral economy”, “knowledge as impulse”, “inclusive and resilient economic prosperity”, and “a flourishing, responsible, dynamic and inclusive society” (República Portuguesa 2017: 16). In addition, the action plan covers the importance of textiles, particularly with regard to design, repair, and reuse (ibid: 19; 29).

The three examples demonstrate the various possibilities of dealing with the circular economy concept on a national level. All three countries have varying focus points, strategies, and approaches. In addition, different actors are involved in the process of implementing the plans.

6. Analysis of small-scale social clothing entrepreneurs

My analysis is based on my main research question: “How to reduce clothing waste in Austria: the perspective of small-scale social entrepreneurs?” As described in chapter 3, I used qualitative content analysis to analyse the four interviews. To answer my research questions, I compared the responses of the interviewees based on the chosen categories.

All four business models have been developed to reduce clothing waste. The analysis of the entrepreneurs’ responses examines their impact on (Austrian) clothing waste, their needs, their wishes, and their evaluation of the clothing industry. The four varying business models take different approaches to reducing clothing waste – through rental, reuse, repair, and sustainable production. Despite their varying strategies, the analysis shows that all four business models attempt to reduce clothing waste by preventing it either on the consumption or the production level.

6.1. Circular economy business models

The following table presents the results of my sector analysis. I have sorted the businesses by their business models. The table includes the different Austrian (social) businesses and services that could potentially reduce the amount of clothing waste in Austria. It demonstrates that there are many business models and innovative ideas in Austria aimed to prolong the use of clothes and to reduce clothing waste. Although I tried to find all the Austrian initiatives, this table makes no claim of being exhaustive.

Table 3: Sample of the research

NAME	OFFER
SUSTAINABLE FASHION	
Fitico Sportswear (2021)	Sportswear made out of recycled fishing nets; produced in Portugal
FreyZein Natural Outdoor Clothing (2021)	Sustainable outdoor clothing made out of reusable, compostable materials
Montreet (2021a)	Outdoor clothing – climbing, cycling, running; sustainable clothing; repair system; rental system
Kulka – variables Kleid (2021)	Dress, which is wearable in various ways
RENTAL SERVICES	
Endlos fesch (2021a)	First “Fashion Library” in Vienna; clothing for rent
Salesianer Miettex (Salesianer Miettex GmbH 2021)	Clothing for rent; service for industry and economy
CWS (Clean. Well. Safe.) (CWS International GmbH 2021)	Textiles for rent (clothing, protection mats etc.)
FURTHER UTILISATION (WEITERVERWERTUNG)	
Hempstatic (Hempstatic Kreislauffähige Bauteile 2021 2021)	Sound insulation from hemp waste
Whisperwool (2021)	Acoustic panels and acoustic boards made out of sheep's wool – rough wool, recycling of construction material etc.

<i>REUSE/ UP-CYCLING</i>	
Karja (2021)	Upcycling of old clothing; sewing workshops
Km/a (2021)	Upcycling of tent canvas, parachutes etc. into coats, jackets etc.
Mein Lieblingsstück (2021)	Zero Waste; upcycling of old clothing, clothes swap
MILCH (2021)	Sewing instructions for upcycling of old clothing
Reworked Vienna (2021)	Upcycling of old clothing to new clothing
<i>REPAIR/ UP-CYCLING</i>	
Klamottenkunst (2015)	Repair- & sewing workshop, reuse of textiles, upcycling
Nähsalon Nahtlos (2021)	Repair- & sewing workshop
Classical tailors	Repair; sewing new clothing
<i>CLOTHES SWAP</i>	
Menschen anziehen (2021)	Clothes swap
Raum im Raum (2021)	Clothes swap – especially against throw-away culture
Verumteilt (2021) – Genossenschaft für Austausch und Umverteilung	Clothes swap

The first four companies focus on “sustainable fashion”. They use either recycled material or material that can easily be reused after its first life, which is why they are categorised as sustainable fashion. Their business models support the circular economy concept of designing products thoughtfully.

Then, there are three companies that offer clothes for “rent”: either to individuals or to businesses. This concept has a long tradition: since the 1970s, Salesianer has been renting textiles to different sectors, such as health care and hotel industries (Salesianer Miettex GmbH 2021). Endlos Fesch (2021a) rents clothes to individuals.

Furthermore, there are two business concepts that use fibres – natural and/ or recycled ones – to produce textile material for sound insulation. Partly they also use textile waste (Hempstatic Kreislauffähige Bauteile 2021; Whisperwool 2021). Those businesses are categorised under the title “further utilisation”.

The next five projects are based on concepts of “upcycling” and “reuse” of clothing. All the entrepreneurs create or have created new clothing out of old textiles. Karja (2021) and Reworked (2021) mostly use old clothes, whereas km/a (2021) upcycles tents, parachutes, and other textiles to jackets. However, Mein Lieblingsstück (Gaggl 2021) and MILCH (Baumgartner 2021) have changed their business models from selling upcycled clothing to selling zero waste products and sewing instructions for upcycled clothing.

The section “Repair and Upcycling” covers “do it yourself” (DIY), repair, and sewing workshops based in Vienna as well as classical tailors. Since there are a lot of DIY workshops in Austria, this list is not comprehensive. Katoni (2021) offers a large range of sewing workshops in Austria. Besides, there are many classical tailors in Austria that also prolong the life of clothing.

Finally, there are different clothing swap events in Austria. The ones in the table took place in Vienna. Because of the COVID-19 pandemic, most of them did not take place in 2020 and 2021.

6.1.1. Profiles of social businesses

Having summarised the business models of the four chosen businesses, I explain why I chose them.

Endlos Fesch

Endlos Fesch, the first “Fashion Library” of Austria, was founded by Jessica Neumann and Karin Kuranda in 2017. A fashion library makes it possible to borrow clothes. In Germany and Scandinavia, there are already several different fashion libraries. Endlos Fesch has different ways to make the clothes accessible to customers. Before the Covid-19 pandemic, they organised so-called pop-up-events where customers could try on clothes, rent them, and could get help from stylists (Endlos Fesch 2021c). Furthermore, they have rented space in a store, where some of their clothes, mostly seasonable, are accessible (Endlos Fesch 29). After wearing the clothes, customers return them unwashed to cooperation partners.

Endlos Fesch rents out clothes made by Austrian designers as well as international brands. Customers can find clothes in a wide range of styles – from event clothing to office outfits to

vintage items (Endlos Fesch 2021a). Their website presents the Austrian labels whose clothes are for rent (Endlos Fesch 2021b). According to the descriptions of the labels, most of them produce their clothes in Austria or in Europe under fair and environmentally friendly conditions (MaMaMu (2021), Tutu Vienna, Rote Zora, Dana Dinu, Caractre, Irina Hofer (2021), MarS (2021), PUPPA Design) (Endlos Fesch 2021b). Furthermore, the labels mostly either use materials which have been manufactured in Europe (MaMaMu, Tutu Vienna, Dana Dinu, Caractre, Irina Hofer) or process leftover stocks (PUPPA Design, MarS). The origin of the raw materials for the fibres and their production sites are unknown for all the available labels. Furthermore, there are two labels, IAMYOU and Violett, about which no precise information is available (Endlos Fesch 2021b). International designer items are mostly second-hand – the company cooperates with bloggers, photographers, and models who receive clothes free of charge, do not need them, and who sell them to Endlos Fesch (Endlos Fesch 18-20). According to Neumann (ibid.), they only buy new clothes with certain certificates.

Klamottenkunst

After working as a social worker, Esther Weinberger decided to combine her social skills with the topic of “sustainability” (Klamottenkunst 2015). First, she sold her self-made clothes made of second-hand clothes or leftovers. When she got the opportunity to rent a large room in Ottakringer Straße (Vienna), she started to offer interested people to repair their own clothes or design something new on sewing machines that she provided (Klamottenkunst 4-5). Weinberger receives textiles through donations that her customers can (re)use in her sewing workshop. People from the neighbourhood bring both old clothes and unused fabrics to her shop (ibid. 20). Therefore, all fabrics and clothing which Weinberger provides are reused and second-hand.

At the same time, she started to offer workshops for school children (Klamottenkunst 4-5). Weinberger teaches them how to sew and upcycle clothes and about the production of clothes (ibid. 64).

Mein Lieblingsstück

In 2014, Melanie Gaggl and her friend Franziska Reinisch, started the upcycling fashion label “Mein Lieblingsstück”. Back then, they began to sew their first comfortable baby-trousers that grew with the baby – their smallest trousers fit babies for the first nine months up to one year (Mein Lieblingsstück 3-4). They produced their clothing out of second-hand clothes which they

got by donation. First, their friends and family members donated clothes. When they became more popular, other people also offered clothes to Klamottenkunst. If they wanted a special colour combination for their products, they bought second-hand clothes at markets (ibid. 8).

However, “Mein Lieblingsstück” no longer sells clothes. Instead, it has focussed on zero waste products since the end of 2020 (Mein Lieblingsstück 2021b; Mein Lieblingsstück 2021a). In the interview, Gaggl explains this through the great effort that was required for the production³⁵, the low level of recognition, and the low income (Mein Lieblingsstück 28).

Montreet

Montreet is an Austrian sportswear label which was founded in 2018, after a successful crowdfunding campaign (Montreet 2021d). Nadine Schratzberger, the founder of this label and studied fashion and design in Munich and later worked for the sportswear fashion sector (ibid.). Montreet’s clothes are manufactured in European countries, mainly in Portugal and Italy, whereas the material they use is either made of natural or recycled fibres (Montreet 32; Montreet 2021b). The first sport jackets, leggings, and zero waste accessories of Montreet were made of cutting materials of Portuguese clothing manufacturers (Montreet 6; Rendl 2021). However, the next (as of April 2021) leggings collection will be made of natural organic fibres (ibid. 9). The organic fibre, EVO® by Fulgar, is produced by an Italian textile company, but the plant, Ricinus Communis, mainly grows in tropical countries (Montreet 2021b; biologie-seite.de 2021). In addition, Montreet networks with smaller and larger companies at the national and international levels (Montreet 23, 25).

Montreet’s approach is the production of clothes according to the circular economy concept. This means that their products are designed with single-fibre fabric (ibid. 6). The material of the clothes can be reused or recycled after its first use (Montreet 2021c). Furthermore, they offer their customers to borrow for testing jackets instead of buying them. In case of damage, Montreet’s customers have the opportunity to send back their clothes for repair (ibid. 17).

I decided to analyse these business models, because I intended to interview entrepreneurs of the four areas of “sustainable fashion”, “rental services”, “repair/ up-cycling”, and “reuse/ up-

³⁵ The production-steps included the following: sifting and sorting the clothes, washing the ones that will be used, dealing with the clothes which could not be used, storing the usable clothes, cutting them, and sewing them (Mein Lieblingsstück 28). The sewing was done by a socio-economic company. Gaggl and her business partner were not allowed to sew by themselves because they are not educated as tailors (ibid. 7).

cycling". I chose Endlos Fesch because it rents clothing to individuals which was closer to my focus than business clothing. Klamottenkunst was interesting as a business concept because Weinberger combines sewing possibilities with workshops (about sustainability). Since I also explore the limitations and difficulties of small-scale entrepreneurs, I decided to interview the founder of Mein Lieblingsstück who has changed her business model because of too many challenges. Furthermore, I was interested to learn more about the upcycling of old clothes. Finally, I chose Montreet because of the circular design concept of the brand. All four founders chose different business models and different approaches to the reduction of clothing waste.

6.2. The circular economy concept and the small-scale entrepreneurs

First, I examine the opinion of the social entrepreneurs about the circular economy concept to demonstrate their general opinion about the concept. Then, I explore how the business models fit the circular economy concept and how the entrepreneurs evaluate their own role. For the analysis, the following developed categories are of relevance: circular economy, reuse, further utilisation, prevention, and sustainability³⁶.

6.2.1. Broader perspective on circular economy

Except Weinberger (Klamottenkunst), all interview partners mention the circular economy concept. Schratzberger (Montreet 47) is very optimistic about the development of a circular economy:

"I think we have everything here. There is a circular economy. There are enough clothes. There's just everything, actually. I think we should go back to the fact that industrialisation was simply not good for fashion and that we should just look at creating something new with what we have [...]. Yes. Yes, of course. Innovation in the sense of what we do with all the clothes that are lying around everywhere"³⁷.

On the other hand Schratzberger (Montreet 61) as well as Gaggl (Mein Lieblingsstück 36) emphasise that many people do not know that clothes can be circular products yet. Schratzberger (Montreet 61) stresses that people might not even understand the term "circular". This leads to the conclusion that it is necessary to inform people about the options to use and to treat clothes after their first life, see chapter 6.3.4. Both also criticise that the

³⁶ „Kreislaufwirtschaft“, „Reuse“, „Wiederverwendung“, „Vermeidung“, „Nachhaltigkeit“

³⁷ „Ich glaube, wir haben alles da. Es gibt Kreislaufwirtschaft. Es gibt genug Klamotten. Es gibt einfach eigentlich alles. Ich glaube, wir sollten uns wieder dazu besinnen, dass die Industrialisierung einfach nicht für Mode gut war und dass wir einfach schauen, dass wir [...] mit dem, was wir haben, Neues erschaffen. Ja. Ja, natürlich. Innovation in dem Sinne, was machen wir mit den ganzen Kleidungsstücken, die da herumliegen, überall“.

fashion industry still suggests to consumers that they must follow every new trend and that the big clothing companies do not focus on circular concepts enough (Mein Lieblingsstück 36; Montreet 65).

Neumann (Endlos Fesch 58-59) sees the greatest potential for a circular economy in the design. Her opinion correlates with the circular economy concept which sees the design phase of a product as crucial (see chapter 2.2).

6.2.2. The small-scale entrepreneurs and the circular economy concept

Only Montreet (2021c) mentions the circular economy concept on their website. Schratzberger (Montreet 6) explains that while she was creating her first clothing items, she stumbled across the circular economy concept: “Then I got fully involved with it and immediately made sure that our clothing was pure, so that it could really be reintroduced into the cycle. And I tried to find solutions to keep this cycle alive”³⁸ (ibid.). Neumann (Endlos Fesch 5) also emphasises that their idea for Endlos Fesch was linked to the circular economy concept.

Schratzberger's business model also fits the circular economy concept in practice, because Montreet's clothes are thoughtfully designed and because they rent out and repair them (Montreet 6). Endlos Fesch also follows the spirit of the concept and renting out clothes as an alternative business model is also part of the circular economy concept. Although the two other entrepreneurs do not directly mention the circular economy concept, their business models also align with it. Gaggle's (Mein Lieblingsstück 14) and Weinberger's (Klamottenkunst 4) approach to reusing or repairing second-hand clothing are basic elements of the circular economy concept. Measured against the butterfly infographic in chapter 2.2.3., the analysed business concepts are part of the first two inner circles of the diagram – sharing, repairing, and reuse.

Furthermore, all four business models focus on the reduction of waste which is also an essential part of the circular economy concept. Neumann (Endlos Fesch 16)³⁹ states: “The bottom line is that clothes are rubbish and are burned”⁴⁰. All four interview partners address

³⁸ „Dann hab ich mich halt voll damit beschäftigt und hab halt auch gleich geschaut, dass unser Kleidungsstück sortenrein ist, dass man dann das wirklich wieder in den Kreislauf einbauen kann. Und habe, habe versucht, Lösungen zu finden, diesen Kreislauf am Leben zu halten“.

³⁹ Neumann emphasised that she was talking for Endlos Fesch.

⁴⁰ „Im Endeffekt ist Kleidung Müll und wird verbrannt“.

the issue of clothing waste and its reduction (Klamottenkunst 52; Mein Lieblingsstück 18; Montreet 58; *ibid.*). Their business models stand for different concepts and picture varying ways of achieving waste reduction.

All four of my interviewees feel confident that their business models help to prevent clothing waste (Endlos Fesch 16, 20; Klamottenkunst 15-16; Mein Lieblingsstück 12; Montreet 17). According to the waste hierarchy (see chapter 5.2.), the first step to reducing waste is prevention. Neumann (Endlos Fesch 16) sees the greatest impact with regard to the prevention of clothing waste in the event section:

“If we assume that most women borrow from us for a wedding, as a guest at a wedding. Then I would say that these are clothes that would otherwise have been bought and would then remain in the wardrobe, because you do not wear the same dress to another wedding within the same circle of friends”⁴¹.

Moreover, lots of clothes that Endlos Fesch is offering are second-hand which also supports the prevention of clothing waste. On the one hand women* borrow clothes instead of buying them, on the other Endlos Fesch rents out second-hand clothes, thus letting them be reused (*ibid.* 18, 20).

Gaggl (Mein Lieblingsstück 8) as well as Weinberger (Klamottenkunst 20) have developed different business concepts, but both use/d material which was not produced for them. They mainly receive/d their clothes or fabrics by donations (*ibid.*). Weinberger (*ibid.* 5, 9-10) is convinced that most of her customers are coming to prolong the life of their clothes or to create long-lasting clothes. Moreover, both organise parties for cloth swapping (Mein Lieblingsstück 51; Klamottenkunst 54). Thus, they also prevent clothing waste through the reuse and further use of existing clothes.

Before Montreet developed a different concept of production, their jackets were made of cuttings, i.e. material which was also not produced for them. Besides, Montreet (17) approaches the reduction of clothing waste in two further ways: firstly, they brief their customers to buy their items only if they really want them. Secondly, they let customers rent the jackets before buying them to be sure – “he should not buy it just for the sake of buying

⁴¹ „Wenn wir mal davon ausgehen, dass die meisten Frauen bei uns leihen, für eine Hochzeit, als Gast bei einer Hochzeit. Dann würde ich schon sagen, das ist, das sind Kleidungsstücke, die man sonst sich gekauft hätte und die würden dann im Schrank hängen bleiben, weil man zieht ja auch nicht im gleichen Freundeskreis bei einer anderen Hochzeit das gleiche Kleid an“.

it, but he should really think about it”⁴². In addition, Montreet offers its customers to always repair their clothes in case of damage. According to the online data of her company, Schratzberger (Montreet 17) has proof that her customers mostly buy their clothes after thinking about it for a while. Many buy their clothes after visiting Montreet’s website about 30 times. Another topic that Schratzberger (ibid.) is working on is the problem of dealing with clothes that customers send back after ordering. Here, she cooperates with other companies to find a solution. Montreet prevents clothing waste through the reuse of materials, thoughtful design, and the education of their customers on how to consume consciously.

Another topic which was raised in the context of waste reduction was that of “sustainability”. Before discussing the interviewees’ understanding of sustainability, it makes sense to have a brief look at the term “sustainability” as such, since the interviewees use it without further clarification. This observation follows Zimmermann’s (2016: 2) statement about the broad use of the term “sustainability”, which he describes as a buzzword with excessive use and little content. However, he also emphasises the term’s complexity. Dusseldorp (2017: 17) identifies one undisputable element of the definition of sustainability, that is the “demand for intra- and intergenerational justice on a global scale”⁴³ based on the

“conservation of natural resources, which are indispensable for a dignified life; the provision of basic services [...]; the possibility of participation in social decision-making processes; and, in all of this, a fair distribution within the generations living today as well as towards future generations”⁴⁴.

In addition to this definition, Zimmermann (2016: 17-20) presents various models that visualise the dimensions of sustainability. Most models refer to three – the dimension of the economy, society, and environment. One model includes the institutional level as well (ibid. 20), which seems necessary, since institutions play a key role in determining political actions. According to Zimmermann’s (ibid.) explanations, environmental problems need common action as well as institutionally based interaction, which is why the same is suggested here.

The interviewees have also touched upon all four dimensions, although the environmental one was mentioned most frequently. Neumann’s (Endlos Fesch 40) statement regarding the

⁴² „Er soll es nicht kaufen, einfach um des Kaufens willens, sondern er soll sich echt überlegen“.

⁴³ „Forderung nach intra- und intergenerativer Gerechtigkeit im weltweiten Maßstab“

⁴⁴ „Erhalt natürlicher Ressourcen, die für ein menschenwürdiges Leben unabdingbar sind; um die Gewährung einer Grundversorgung [...]; die Möglichkeit der Teilhabe an gesellschaftlichen Entscheidungsprozessen; sowie, bei alledem, um eine gerechte Verteilung innerhalb der heute lebenden wie auch gegenüber künftigen Generationen“.

connection between sustainable start-ups and small growth rates can be counted towards the economic dimension. Weinberger (Klamottenkunst 3, 70) and Gaggl (Mein Lieblingsstück 4, 28) touch upon the social dimension when they talk about conscious consumer behaviour in the past compared to today and the high price of sustainable clothes. Finally, Schratzberger (Montreet 51) calls for political regulation to set the framework for more sustainable production.

In general, the interviews have shown that sustainability, the prevention of clothing waste, and the reduction of clothing waste are interconnected. Neumann (Endlos Fesch 20, 27), Gaggl (Mein Lieblingsstück 4), and Schratzberger (Montreet 6, 15) talked directly about sustainability. All three understand “sustainability” on the one hand as sparing use of resources, on the other hand as conscious consumption and conscious production (Endlos Fesch 20; Montreet 6): “For us, using existing resources was simply the most sustainable thing you can do. Because even if cotton is grown organically, you need a lot of resources, there are transport routes, and there is just a lot in between”⁴⁵ (Mein Lieblingsstück 4). Gaggl (Mein Lieblingsstück 4) stresses the importance of sustainability for their business model. Therefore, they produced trousers which grew with the child. Schratzberger (Montreet 15) emphasises that they only produce as many items as they can sell. Otherwise, it was not sustainable in her opinion. Although Weinberger (Klamottenkunst 4) does not specifically talk about “sustainability”, she emphasises the sparing of resources as well.

The interviewees, except Weinberger, also express their opinion about the criteria of sustainable business concepts. Neumann (Endlos Fesch 7) stresses the importance of the customer’s wishes in that context: “[We have consciously tried] to develop our service close to the customer because we believe that otherwise it cannot be a sustainable business model if you do not respond to the needs of your customers”⁴⁶. In this context, Neumann (Endlos Fesch 27) considers online trade as unsustainable. Schratzberger (Montreet 27) criticises online trade as well. On the one hand she questions the return policy of online trade, especially in Germany, on the other she states that companies have to educate their

⁴⁵ „Für uns war einfach das, bestehende Ressourcen zu nutzen das Nachhaltigste, was man machen kann. Weil selbst wenn Baumwolle biologisch angebaut wird, braucht man viele Ressourcen, gibt es Transportwege, gibt's einfach ganz viel zwischendrin“.

⁴⁶ „[Wir haben ganz bewusst probiert], nah am Kunden unsere Dienstleistung weiterzuentwickeln, weil wir glauben, dass das sonst kein nachhaltiges Businessmodell sein kann, wenn du nicht auf die Bedürfnisse deiner Kunden und Kundinnen eingehst“.

customers to choose conscious consumption. Zimmermann's definition of sustainability and the interviewees' explanations of sustainability and sustainable business models demonstrate that sustainability is also an integral part of the circular economy concept.

The analysis shows that the four business models follow the circular economy concept even though not all of them addressed it directly. All interviewees are convinced that the reduction of clothing waste can be achieved through reuse and the prevention of using new materials or buying new clothes. Their businesses are based on the idea of prevention of clothing waste. Furthermore, they draw a line between the reduction of clothing waste and sustainable business models, whereby they define themselves as sustainable. According to the entrepreneurs, sustainable business concepts are resource sparing and conscious with regard to consumption and production. This again fits the circular economy concept.

Since the entrepreneurs discuss their reduction of clothing waste, it is worth questioning whether the presented business models can reduce clothing waste. On a theoretical level, since the circular economy concept is about the reduction of waste and saving material, the business models that follow the circular economy concept should lead to the reduction of clothing waste (see chapter 2.2.). Due to the companies' sizes and the lack of figures, however, one must be cautious about making statements about their actual impact. The following chapter discusses it in more detail.

6.3. Limitations of the presented business models

Five areas of limitations with regard to the impact of the four analysed business models on the global clothing value chain can be identified: firstly, their limited group of customers; secondly, their role and their position in the global value chain of the clothing sector; thirdly, their impact on the ecological footprint of the sector; forth, their impact on the mindset of the Austrian society regarding the consumption of clothes; and finally, their possibilities of up-scaling their business models. Those limitations are reflected in the following categories: "customers", "value chain", "impact", "raising awareness", and "business model"⁴⁷.

6.3.1. Customer group

Three of the four companies have less varied customer groups than their founders have originally planned. First of all, Endlos Fesch offers only clothing for women* (Endlos Fesch 7).

⁴⁷ „Zielgruppe/ Kund*innen“, „Wertschöpfungskette“, „Impact“, „Bewusstseinsbildung“, „Geschäftsmodell“

There are several reasons for this. In a survey they conducted, they learnt that men* are less interested in borrowing clothes than women* (ibid.). Endlos Fesch's renting service is particularly used by women* beyond the age of 50 (Endlos Fesch 7). They originally planned to reach younger women* as customers. Neumann (Endlos Fesch 7) finds different explanations for that: she believes that one issue is time – during the pop-ups where the customers can try and borrow Endlos Fesch's clothes they have to have time. In her opinion, it could be more difficult to attend fashion pop-ups with younger children which can be the case for younger women* (ibid.).

With regard to the youth, Endlos Fesch faces further difficulties:

“Yes, (.) that was actually the goal at the beginning. The goal was to offer young people an alternative to fast fashion at a very early stage. But of course, we are competing with fast fashion because of the price, and as a small-scale business, we can't keep up with that”⁴⁸ (Endlos Fesch 11).

According to Neumann (ibid.), to reach teenage girls they would have to start a new fashion segment. Finally, she stresses that Endlos Fesch cannot cover all sizes right now, which also limits their customer group (ibid. 9).

Therefore, the two founders of Endlos Fesch think about changing their business concept to a community based one. In that way, more volunteers could become part of Endlos Fesch so that they could offer their clothes for lower prices and expand their product range (ibid. 42).

Compared to Endlos Fesch, Klamottenkunst (8) reaches people from all age groups, but also more women*. Weinberger (ibid.) says that only in the beginning there were many men* who repaired their clothes (ibid.). In terms of experience, her range of customers is broad – there are beginners who have never sewn before, but also people who already have a lot of experience and just want to sew together with others (ibid. 8). Mein Lieblingsstück also appealed mainly to women*, but this was due to their range of products (Mein Lieblingsstück 10). Most of the clothes were made for children and some for women*. The blennies and loops of Mein Lieblingsstück were bought by men* as well (ibid.).

Montreet's clothes are designed for everyone (Montreet 2021a). Schratzberger (Montreet 13) says that she had originally thought Montreet's products would be bought by younger people.

⁴⁸ „Ja, (.) das war auch zu Beginn eigentlich das Ziel, quasi sehr früh Jugendlichen eine Alternative zur Fast Fashion anzubieten. Aber wir konkurrieren natürlich mit der Fast Fashion schon aufgrund des Preises und das können wir als „Small Scale Business“ halt, da können wir nicht mithalten“.

Just as for Endlos Fesch, because of the price, it's mainly people over 50 who buy Montreet's clothes (Montreet 13).

“And then there are those who are between 25 and 40. Who are supportive, but who also, if anything, only buy our accessories. That's our accessory target group. Because for them even a pair of leggings is too expensive. Because 80 euros for a pair of leggings... There you have to be a real athlete”⁴⁹ (Montreet 11).

Other customers are parents who buy jackets for their children. According to Schratzberger, people between the ages of 60 and 80 buy a lot of the brand. She says they want to support Montreet (ibid.). All in all, Montreet reaches a wide target audience with their clothes, but the more expensive products are bought by older customers.

Schratzberger (Montreet 27) explains the high prices of their clothes: the production of, for example, 1.000 jackets is cheaper than the production of 100 jackets: For Montreet it does not make sense to produce as many jackets as NIKE, Schratzberger points out (ibid.). Therefore, their sustainable jackets are more expensive than the jackets sold by NIKE (Montreet 15). As a result, for brands that attempt to be sustainable the production conditions are more difficult, which makes them less competitive.

With regard to that, all interviewees mention the price problematic of sustainable clothes (Endlos Fesch 5; Klamottenkunst 70; Mein Lieblingsstück 28). Mein Lieblingsstück (28) was directly affected by that: the upcycled baby trousers were more expensive than the first-hand baby trousers sold by competitors. One can only guess, but maybe Mein Lieblingsstück could have survived under other more supportive conditions. Neumann (Endlos Fesch 11) explains that their business concept should have become an alternative to fast fashion for youth, but that the low prices of fast fashion items made it impossible for them to attract enough customers.

To sum up, except for Klamottenkunst, the price and the product range offered by the companies have a limiting effect on their customer group. Endlos Fesch's rental service as well as most of Montreet's clothes are only accessible for people who can and want to spend more money on clothes despite the much cheaper offers from fast fashion companies. In addition,

⁴⁹ „Und dann gibt es die, die so zwischen 25 und 40 sind. Die supportive sind, aber die auch, wenn nur unsere Accessoires kaufen. Das ist so unsere Accessoire-Zielgruppe. Weil denen ist sogar eine Leggings zu teuer. Weil 80 Euro eine Leggings... Da musst du halt echt Sportler sein“.

Endlos Fesch does not have the capacity to expand their product variety and Schratzberger (Montreet 54) does not want to expand her product lines too quickly for reasons of sustainability: “I get messages like that from people. [...] They would like to have more choices. Yes, but I can't give that. That's not sustainable. And (.) I am happy if you want more choices. But I cannot just sit around on the items”⁵⁰. Both of them face the harsh realities of competition and the powerful position of global retailers; they cannot compete with big (fast) fashion companies that can offer their clothes cheaper because of cheaper production conditions.

6.3.2. Value chain position

The four companies' position in the global clothing value chain and their role in the production process of clothing give an idea about their impact as well as the limits of their impact on the global clothing sector. Endlos Fesch (20, 29) rents out clothes to its customers in Vienna, so that it is involved in the local consumption process of clothing. Since Neumann and Kuranda buy the clothing for Endlos Fesch from Austrian designers, sustainable fashion labels, and second-hand from international designers, they are also connected to the global production networks of the clothing sector (Endlos Fesch 18-20). Weinberger offers the possibility to repair clothes as well as collects, sorts, and reuses second-hand clothes. She is part of the end-of-life and consumption process of the Austrian clothing sector (Klamottenkunst 5). Gaggi's (Mein Lieblingsstück 28) integration in the production networks of the clothing sector was similar to Weinberger's; her business model only included more steps:

“So, I get the garment, I look through it, I, I wash what I keep. If something doesn't fit, then I either must throw it away because it's broken, so people just sort it out, [...] or put it in the clothes bag. Then I wash the rest. Then I must have storage. Then I must go through the storage once or twice a year”⁵¹.

All three are/ were small-scale companies on the local level and are part of the last two steps of the clothing value chain, whereas Endlos Fesch is also connected to the global production steps of clothing since they buy new clothes too.

⁵⁰ „Also ich kriege ja auch so Nachrichten wie von Leuten. [...] Sie hätten gerne mehr Auswahl. Ja, aber das kann ich nicht geben. Das ist auch nicht nachhaltig. Und (.) ich freue mich, wenn ihr mehr Auswahl mal wollt. Aber ich kann ja auch nicht auf den Sachen sitzenbleiben“.

⁵¹ „Also ich krieg das Gewand, ich schaue es durch, ich, ich wasch das, was ich behalte. Wenn irgendwas nicht passt, dann muss ich es entweder wegschmeißen, weil es kaputt ist, die Leute also genau einfach aussortieren, [...] oder in den Kleidersack. Dann wasche ich den Rest. Dann muss ich ein Lager haben. Dann muss ich das Lager ein bis zwei Mal im Jahr durchklauben“.

Montreet includes all steps of the clothing value chain in their business concept and acts internationally. Their clothes as well as the fabrics for these clothes are produced in European countries (Montreet 32). She is integrated in the global production networks of the clothing sector. Montreet is networked with smaller and larger companies at national and international levels (Montreet 23, 25). However, Schratzberger herself describes Montreet as a small company in comparison with other companies she is in touch with, and which have about 40 employees.

In summary, three companies act mainly on a local scale. Montreet is involved in international network activities as well. Since the clothing industry is dominated by big global lead firms, their power is limited in the frame of the global production networks of the clothing sector. The scale affects the companies' potential positive impact on the environment or the mindset of customers. However, Montreet and Endlos Fesch also operate on the international level. Endlos Fesch rents out international designer clothes and Montreet produces in other European countries. Small-scale entrepreneurs who operate mainly at the local level are also involved in and influenced by global production networks.

6.3.3. Impact – the ecological footprint

Only one interview partner – Neumann – talks directly about her companies' impact on the environment: "So I think if you quantify our ecological footprint, then it's certainly [...] it doesn't have a global impact. So we are much too small for that"⁵² (Endlos Fesch 13). Still, she also states the impact of Endlos Fesch on the reduction of clothing waste in the area of event clothing (ibid.).

The other three interview partners do not mention their impact on the ecological footprint, but all of them talk about their role in terms of prevention of clothing waste and new clothes consumption. They are sure that their business concepts prevent waste, as shown in chapter 6.2.1. Of course, since the production of clothes and the waste management of clothes is resource intensive with regard to water, land, and CO₂, prevention has a positive impact on the industry's ecological footprint.

⁵² „Also ich denke, wenn man unseren ökologischen Fußabdruck quantifiziert, dann ist der mit Sicherheit [...] hat es keinen globalen Impact. Also da sind wir viel zu klein dafür“.

Despite the interviewees' conviction in their positive effect on prevention, it is worth evaluating on which level they have an impact. Basically, one can say that these companies have a positive impact on prevention. Due to the size of their companies and their weak position in the global production network of clothing, I assume they mainly have an impact at the local level. Schratzberger (Montreet 6) tries to produce her clothes as circularly as possible and does not produce more items than she can sell. A customer that borrows a dress for an event from Endlos Fesch will not buy a dress at least for this event. When a customer repairs their pair of trousers at Klamottenkunst, they might not buy a new one in addition to it.

Nevertheless, production as well as consumption of clothing is still rising (Greenpeace 2017: 2). In Austria, the consumption of clothes increased from 7,53 to 9,27 billion Euro between 2009 and 2019 (statista 2021c). Furthermore, many produced clothes – about 40 per cent – are not sold (Koszevska 2018: 340). Waste reduction starts at the very beginning of the production process with less produced items. Although there are Austrian textile and clothing companies as well as retailers, most of the clothes are produced internationally by global lead firms. Even if the four companies have a positive effect on waste reduction in Austria, the effect on the global level is negligible. For example, “less than 1% of material used to produce clothing is recycled into new clothing” (EMA 2017a: 20).

6.3.4. Impact – raising awareness

Besides their direct impact on waste reduction, all interviewees talk about either their influence on conscious consumption or the general importance of raising awareness. Neumann (Endlos Fesch 13) thinks that Endlos Fesch's impact on raising awareness is great:

“But we believe that simply (.) raising awareness (.) can have a big impact. So even if people do not borrow from us, but through our social media activities, where we point out how harmful fast fashion is for the environment, but also how bad the working conditions are, we believe that maybe we leave our footprint in some people's minds, in their (.), in their buying decisions”⁵³.

Weinberger and Schratzberger talk about their efforts to raise awareness as well, whereby Gaggl (Mein Lieblingsstück 37-38) speaks rather generally about the importance of raising awareness and the work which still needs to be done with regard to this topic. Weinberger

⁵³ „Wir glauben aber, dass durchaus (.) einfach diese Bewusstseinsbildung (.) bei uns einen großen Impact haben kann. Also selbst wenn die Leute nicht bei uns leihen, aber durch unsere Social-Media-Aktivitäten, bei denen wir extrem darauf hinweisen, wie schädlich Fast Fashion für die Umwelt ist, aber auch wie schlimm die Arbeitsbedingungen sind, glauben wir schon, dass wir bei dem ein oder anderen vielleicht im Kopf, bei der (.), bei der Kaufentscheidung unseren Fußabdruck hinterlassen“.

(Klamottenkunst 18) believes that some of her customers start to think about their consumption habits. At her workshops for school children, she talks with children and teenagers about their consumption habits and the production process of clothes (ibid. 46, 48, 60). She emphasises: “Because I think it's very important [to teach] young children about consumer behaviour in everyday life. It simply must be present in everyday life”⁵⁴.

Schratzberger (Montreet 27) underlines her own responsibility to raise awareness. She states that companies must educate their customers. Furthermore, she explains that Montreet tries to make their customers understand that they shall only buy their clothes if they really need or want them (Montreet 17). Schratzberger has proof that they have success with that: “Yes, I think our concept has made people realise that they should only buy from us if they really need it. And you can also see that in the analyses”⁵⁵.

All four interview partners are engaged in awareness raising and they are convinced that “awareness raising” has an impact on conscious consumption. However, in scientific literature, there is uncertainty about the influence of awareness raising on conscious consumption. There are even some findings that there is “no link between awareness and behaviour” (Ogiemwonyi and Harun 2020: 40). Ogiemwonyi and Harun (ibid.) state: “With a majority of consumer [sic] knowing about green products awareness, but [sic] such awareness cannot be translated to pro-environmental behaviour”. According to Kaur and Bhatia (2016: 251), studies have shown that the gap between awareness and behaviour evolves due to availability and the price.

6.3.5. Scaling

The question of limitations of these business models is also interconnected with the possibility of scaling the explored companies. Neumann raises the topic of scaling: “But of course, it is also difficult to really scale business models like ours. [...] So, we could not supply the whole of Austria with clothing from one day to the next”⁵⁶ (Endlos Fesch 33). However, she imagines one way to scale Endlos Fesch: advancing it to a franchise model, having one fashion library in

⁵⁴ „Weil ich ganz wichtig finde, dass man schon bei den kleinen Kindern das Konsumverhalten im Alltag [unterrichtet]. Es muss einfach im Alltag immer präsent sein“.

⁵⁵ „Ja, also ich glaube, durch unser Konzept steckt, checken die Leute schon, dass sie bei uns echt nur einkaufen sollten, wenn sie es wirklich brauchen. Und das merkt man auch bei den Analysen“.

⁵⁶ „Aber natürlich ist es auch schwierig Business Modelle wie unsere dann wirklich zu scalen [...] Also wir könnten nicht von heute auf morgen ganz Österreich mit Kleidung beliefern“.

every bigger city in Austria (Endlos Fesch 48). Gaggl (Mein Lieblingsstück 32) sees her former business concept only as a small-scale concept: “It [upcycled items] has a future, although I don't think it will ever be more than a niche product”⁵⁷. Due to her experience, she emphasises that making clothes from fabrics is much easier than from old clothes. She rather sees possibilities with regard to the advancement of recycling technologies so that old textiles can be recycled to fabrics and then can be reused (ibid.). In comparison, Weinberger's business concept is already part of the economic branch of tailors. Of course, she enables her customers to do the work by themselves instead of offering the service, but the profession as such is well established.

Like the others, Montreet is a small company (Montreet 28). Nevertheless, Schratzberger is part of small-scale business networks as well as bigger ones and due to that she is in exchange with national and international companies (ibid. 11, 23, 25). Furthermore, Schratzberger's (ibid. 6) approach is to design new items one after the other instead of designing a whole outfit. She extends Montreet's product range bit by bit and could grow if there is demand. However, Montreet's biggest limitation in terms of scaling is the price of the brand's clothes. As long as they compete with fast fashion and big sport fashion labels, which produce cheaper and less sustainable clothing but sell similar items, Montreet depends on customers who are willing to pay more for sustainable clothes.

Facing these limitations, where are the possibilities to scale the analysed companies? Scaling Endlos Fesch, Klamottenkunst, and Montreet⁵⁸ would mean them becoming a relevant alternative to fast fashion, unsustainable clothing, and the ownership of clothes. To accomplish this, within the current economic environment, those companies would need more human and/ or financial resources. If Endlos Fesch could realise their goal of spreading their business model of renting out clothing all over Austria, it could have an impact on waste reduction as well as raising awareness. Weinberger did not talk about possibilities of scaling her business model (Klamottenkunst). Because of her workshops, it appears that her biggest impact is in raising awareness. She tried to offer her workshops on consumerism in elementary schools, which might have increased her impact. Despite the interest of the director of the

⁵⁷ „Es [up-gecycelte Sachen] ist zukunftssträchtig, obwohl es nie mehr, glaub ich, sein wird, als ein Nischen-Produkt“.

⁵⁸ Since Gaggl emphasises that Mein Lieblingsstück was only a niche product, Mein Lieblingsstück is not mentioned here.

pedagogical school, the teachers had no interest (Klamottenkunst 48). However, including subjects like sustainable consumption in the curriculum could be a promising approach for the future. Schratzberger (Montreet 21) in cooperation with other (bigger) companies tries to develop a strategy for what to do with returned clothes, which would be a helpful approach, with regard to the return rates of clothing in certain countries. In Germany, for example, about 50 per cent of packages ordered in the fashion sector are returned (Asdecker 2021). Due to the interconnectedness of the global clothing sector, this might have the biggest impact. As Gaggl states, in her opinion clothes made from old clothes are not the future on a global scale. Although the production process of her clothes sounds very labour-intensive, it is useful to search for other business models in the field before coming to a final conclusion. However, given the amount of clothes thrown away, better solutions for recycling clothes need to be developed.

At the beginning of chapter 6.3., I took a closer look at the companies' customer base which is limited by the price of the products and the service as well as the product range. Furthermore, the companies' position in the clothing value chain was explored. It showed that all four companies are part of the global textile value chain, but, except for Schratzberger, mainly relevant on a local scale. Their current position in the global production networks has a limiting effect on their impact. This is accompanied by their negligible effect on the environment. Although they might prevent some clothing waste this is only happening on a local scale. Three out of four interviewees are confident that they have an impact on raising awareness. In addition, they believe that raising awareness is crucial for influencing the consumption habits of consumers. Finally, with regard to the scaling possibilities of the four business models, there are potentially possibilities to do so. Endlos Fesch and Montreet in particular have the potential to have an impact of an international scale in case they enlarge their concept.

6.4. Who is responsible?

The previous chapters have shown that the four business models are part of the circular economy concept and that their goal is the reduction of waste. Furthermore, they discussed the limitations of the business models. The following section is looking at different actors that can be of relevance for the reduction of clothing waste and that were mentioned by the interviewees. For this topic, the categories of "economic responsibility", "consumer

responsibility”, and “political responsibility”⁵⁹ are of importance. According to my definition of circular economy, those actors are also of relevance for the implementation of a circular economy, see chapter 2.2. With regard to the responsibility of political actors, I also look at the category of “support”⁶⁰.

There are two main observations to be made in the analysis. Firstly, there is no consensus among the interview partners on which actor has the greatest responsibility and the biggest influence. Secondly, the analysis shows that all three groups are asked to take responsibility – political and economic actors as well as consumers. Although two interviewees state that the consumers have the biggest responsibility, it seems that Neumann’s focus on them results from her frustration with political actors as well as dominant lead firms. Another finding is that the interview partners expect the large lead firms to do more than they currently do. In addition, only two interviewees, Neumann and Schratzberger, address their own responsibility as social entrepreneurs. Associated with that is the expectation that the political level must set the framework within which (global) companies work, whereby local governments are supposed to support their local social entrepreneurs.

6.4.1. Economic responsibility

All four interviewees see the responsibility with the companies (Klamottenkunst 42; Montreet 53). Neumann (Endlos Fesch: 33) and Weinberger (Klamottenkunst 40) express their frustration with the current situation: “Yes, and I mean the corporations anyway, but the corporations of course produce and offer what can be sold, by hook or by crook (.) and more, more, more (.) revenue”⁶¹ (ibid.). Neumann (Endlos Fesch 33) emphasises: “Of course, they have a big responsibility too, but they don't accept it and haven't for years”. Neumann is especially disillusioned. She talks of “green washing” in terms of recycling programs of H&M (ibid.). Schratzberger (Montreet 53) uses the term “green washing” regarding practices of big companies as well.

With regard to the responsibility of companies, two interviewees reflect upon their own responsibility as entrepreneurs. Neumann (Endlos Fesch 33) states that companies have to

⁵⁹ „wirtschaftliche Verantwortung“, politische Verantwortung“, „Verantwortung der Konsument*innen“

⁶⁰ „Unterstützung“

⁶¹ „Ja, und ich meine die Konzerne sowieso, aber die Konzerne produzieren natürlich und bieten an, das, was sich verkaufen lässt, auf Biegen und Brechen (.) und mehr, mehr, mehr (.) Umsatz“.

offer alternatives to consumers. Schratzberger (Montreet 21, 28) points out that it is not enough to simply produce clothes, one must think about social aspects. However, she sees a new trend regarding corporate social responsibility (CSR) strategies and thinks that topic has at least reached the agenda of big companies (ibid.). Gaggl (Mein Lieblingsstück 42) stresses the importance of CSR as well, but thinks that in case the companies fail, others will step in: "Either they take the path of social responsibility and [...] really start to operate sustainably and somehow bring good products to the market, [...] or they continue as before and the counter-movements are simply strengthened as a result"⁶². In addition, Schratzberger (Montreet 27) talks about the education of customers by companies. For example, she believes that other concepts are necessary when it comes to the return policy of ordered clothes. However, in her opinion, young companies such as Montreet accept this responsibility to think about new concepts and to educate their customers (Montreet 54). Gaggl (Mein Lieblingsstück 36) questions the companies' interest in changing something: "Plus, the fashion industry is still linked to (...) the fact that people always want to be styled in the best way or that most people still somehow follow these fashions and want to be dressed accordingly"⁶³.

Despite Schratzberger's and Neumann's criticism, they concede to difficulties that companies face in changing their behaviour:

"I always like to compare it to a ship on the ocean, that it really changes course like that. That's really difficult, yes. Because the [...] marketing campaigns are one side, but the other is the whole thing that they have built up all along, their production supply chains and so on"⁶⁴ (Montreet 53-54).

In Neumann's (Endlos Fesch 33) opinion, big companies are not flexible enough to be innovative. She thinks that the innovation comes mostly from outside instead from inside (ibid.).

The respondents talk about "the companies" and "the corporations", but they do not define them. They only define them as "big" and distance themselves from them (Montreet 36;

⁶² „Entweder sie gehen den Weg der sozialen Verantwortung und fangen auch [...] wirklich an, nachhaltig zu wirtschaften und irgendwie gute Produkte auf den Markt zu bringen, [...] oder man setzt an, dass die weitermachen wie bisher und es einfach die Gegen-Bewegungen dadurch gestärkt wird“.

⁶³ „Plus ist die Modeindustrie halt noch immer auch an (...) daran geknüpft, dass man immer top gestylt sein will oder die meisten Leute noch immer irgendwie diesen Modeerscheinungen nachlaufen und da, also dementsprechend gekleidet sein wollen“.

⁶⁴ „Ich tue das immer gerne mit so einem Meeresdampfer vergleichen, dass das echt so seinen Kurs ändert. Das ist echt schwierig, ja. Weil die [...] Marketingkampagnen sind die eine Seite, aber das andere ist ja das Ganze, was die sich schon immer aufgebaut haben, ihre Produktionslieferketten und so“.

Endlos Fesch 33). This leads to two assumptions. First, they mean companies that do not follow an adequate sustainability strategy. Secondly, they mainly talk about global (fast fashion) retailers and lead firms with powerful market positions. Nevertheless, they generalise the actors of the clothing sector.

In summary, all four interview partners mention the responsibility of companies as well as their failure or lack of interest in owning up to it. Although they are part of the economic sector, they mostly distance themselves from bigger companies. Despite the acknowledgement by Neumann and Schratzberger that they, as companies, are responsible as well, all interview partners see the main responsibility with the big corporations. Accordingly, the structures of the global production networks of the clothing sector (see chapters 4) demonstrate the important role and power of big retailers which shape the sector. The GPN approach also underlines the impact of global companies on global production network decisions (see chapter 2.1.). In addition, GPN points out that lead firms, because of their powerful market position, have certain control over production networks. It stands to reason that they have to play a big part in changing the structures.

Furthermore, the circular economy concept implies the invention of new business models, which can only be done by economic actors. Schratzberger's comments that a new trend for more sustainable business concepts and innovative companies that are new to the market give hope that things might be changing. Nevertheless, well established companies do not seem to do what is expected of them by the interview partners or what could be possible for them, whereby younger companies and sustainable ones, as my interview partners define their businesses, bear the responsibility (Endlos Fesch 33; Klamottenkunst 40).

6.4.2. Consumer responsibility

In particular, Neumann (Endlos Fesch 31) and Gaggl (Mein Lieblingsstück 40) state the key role of consumers to improve the clothing sector with regard to sustainability. Neumann (Endlos Fesch 31) mentioned the consumer twice as "key" and Gaggl (Mein Lieblingsstück 40) did once. Both emphasise that the consumer must decide what to buy:

“The key role (*laughs*). The key role. So, if they decide that they want to go this way and that it is important for them to wear sustainable clothing, then that (.) is the kick-start for more companies producing sustainable clothing”⁶⁵ (ibid.).

Neumann (Endlos Fesch 31) talks about spill-over effects – if business models like Endlos Fesch were successful in terms of profitability, in her opinion, other entrepreneurs would follow. Therefore, the consumer’s active choice of sustainable products is needed. Gaggl (Mein Lieblingsstück 28, 36) argues similarly. On the one hand she explains that the customers were not willing to pay more for Mein Lieblingsstück’s more environmentally friendly upcycling baby trousers, on the other she talks about her own actions. She describes her action of reducing her own trousers to fewer and more sustainable models.

In addition, Weinberger (Klamottenkunst 46) challenges the current consumption trend in itself. Firstly, she wonders about changing consumption habits – she refers to the past with regard to reuse, emphasising that she grew up reusing materials and that it was common in her childhood (ibid.). Although Weinberger does not explicitly mention that this is no longer the case, it resonates throughout the interview. She questions why people buy, for example, ten t-shirts instead of one sustainable one; Neuman (Endlos Fesch: 31) supports that. She emphasises that there are many possibilities to consume sustainably, she resumes that “trends [...] have to be less important for people”⁶⁶. Although Schratzberger (Montreet 51) and Weinberger (Klamottenkunst 40) point out the importance of the consumers and their habits as well, they emphasise the weight of all actors: “A very big [...] role, but of course you cannot put the responsibility on the consumers alone”⁶⁷ (ibid.). In addition, Schratzberger (Montreet 51, 59) discusses the situation in two ways. She questions the idea that everything lies with the customers and stresses the necessity of regulation so that the customer is able to make responsible buying decisions. However, she also criticises the behaviour of consumers. Schratzberger (ibid.) does not support the argument that buying second-hand clothing is too expensive or the search for it is too complicated: “Then they say again that it's so expensive. So that's kind of the way it is. (.) There are lots of second-hand shops that are

⁶⁵ „Die Schlüsselrolle (*lacht*). Die Schlüsselrolle. Also wenn Sie sich dafür entscheiden, dass Sie diesen Weg gehen wollen und dass ihnen das wichtig ist, eben auch nachhaltige Kleidung zu tragen, dann ist das (.) der Kickstart dafür, dass es eben mehr Unternehmen geben wird, die nachhaltige Kleidung produzieren“.

⁶⁶ „vielleicht [...] dürfen einem Trends nicht so wichtig sein“

⁶⁷ „Eine sehr große [...] Rolle, aber man kann natürlich nicht den Konsument*innen allein die Verantwortung geben“.

not expensive at all. You just have to go to the right ones and do your research”⁶⁸. Her example implies that customers can consume consciously and responsibly with some effort.

Half of the interview partners, Neumann and Gaggl, think that the consumers are in the position to change the clothing industry towards more sustainability and a more resource-efficient use of resources. The other two also see the consumer’s position as important, but they point out the role of the other actors involved. Schratzberger's argument is ambivalent, as she states on the one hand that political regulation is necessary to create the environment for customers to make informed choices, but on the other hand says that customers need to make more of an effort to consume more resource-efficiently.

It is striking that the interview partners do not define who “the consumer” is. They define their group of customers with regard to age and gender, but they do not specify “the consumer” while talking about consumer responsibilities and their scope of action. However, “consumers” are not a homogenous group, but differ with regard to many aspects, such as age, purchasing capacities, motivation, and education. This is important to keep in mind, since not everyone has the resources to behave as they would like or as is expected of them.

Furthermore, the development of fast fashion makes it generally questionable how much influence the consumer really has. Did the consumers, for example, ask for more than the two campaigns for spring and summer, and autumn and winter, which had been common in the past? It is hard to say if consumers buy more clothes since the invention of fast fashion because they were waiting for cheaper fashion or because the fast fashion labels suggest that they must buy more to be fashionable. The increasing numbers of clothes production demonstrate that companies have a huge impact on consumption patterns.

Moreover, from the perspective of the circular economy concept, the product-design is of great importance for the following life cycle of a product and its amount of waste. Since it is not the consumer designing the product but the companies, they are the ones who influence the use-phase of the product and the availability of resource-efficient and thoughtfully designed products.

⁶⁸ „Dann heißt es auch wieder, dass es so teuer ist. Also das ist halt dann irgendwie so. (.) Es gibt total viel Secondhand Geschäfte, die überhaupt nicht teuer sind. Du musst halt in die Richtigen gehen und du musst halt Recherche betreiben“.

6.4.3. Political responsibility

Only three interviewees mention “political responsibility” with regard to the clothing sector – Gaggl does not talk about it. In Weinberger’s (Klamottenkunst 40) opinion, political actors have the greatest responsibility. She suggests criteria for the EU on which products can and cannot be imported (ibid. 68). Schratzberger (Montreet 56) argues in a similar way and emphasises the necessity of regulation:

“I’m thinking here of Europe because if Europe says you have to change something, then everyone must change something anyway. So, I think the countries alone should decide that in any case. But I think Europe is still in the driver’s seat and we are part of the European Union and I believe that something can be done”⁶⁹.

She does not think that Austria alone has enough power (ibid.) to do that, Neuman (Endlos Fesch 36) would agree, because she questions the influence of single governments such as the Austrian or the German. However, she goes further. On the one hand Neumann thinks that governments could have more influence, on the other she points out that political actors often do not have any impact (Endlos Fesch 33, 36). She gives different examples. Firstly, she mentions the Bangladeshi government that tries to implement laws, but could not fight the companies and their strong lobby; secondly, she notes that knowledge about “social responsibility along the value chain” already exists, but nothing has changed at all; thirdly, she points out that the UN does not have enforcement power (ibid.).

Despite her scepticism, Neumann (ibid. 59) mentions the effort of the EU to influence the companies’ design behaviour to more circularity. The analysis of the CEAP demonstrates that there are international actions to support the development of a circular economy and businesses that follow the concept. The CEAP shall support more progressive business models and the reuse sector which could affect the four entrepreneurs (European Commission 2020b: 13). Furthermore, it attempts to strengthen thoughtful product design, long-lasting products, and repairability of products which is also in the entrepreneurs’ interest (ibid. 6f.). Since the new CEAP was implemented in 2020 and the EU has not yet published its strategy for sustainable textiles (status of 20.10.2021), the impact of both is not yet foreseeable.

⁶⁹ „Ich denke hier jetzt mal an Europa, weil wenn Europa sagt ihr müsst was ändern, dann muss ja eh jeder was ändern. Also ich find die Länder alleine sollten das auf jeden Fall auch entscheiden. Aber ich find Europa sitzt da immer noch am längeren Hebel und wir sind eben Teil von der Europäischen Union und ich glaube, da kann was umgesetzt werden“.

According to Neumann (ibid. 40), political actors must change their mindset; she states that if a business model is, for example, promising for Vienna, the city government should support it so that the company can exist in the long term (ibid.). The topic of support was intensively discussed by all interviewees. They have varying experiences with support⁷⁰ from the different stakeholders. Three interview partners say that they did not get any support from political actors. Weinberger (Klamottenkunst 32) explains that she has been searching for support, but did not find a suitable program, whereas Gaggl (Mein Lieblingsstück 22, 24) and her business partner mostly did not think of asking for support from the political side. When they had applied for assistance, they did not receive a positive answer (ibid. 26). Schratzberger (Montreet 42) also talks about her unsuccessful attempt to get support from the Viennese government.

The only one who talks positively about political assistance is Neumann (Endlos Fesch 38). She mentions, for example, networks for social businesses and support services, accelerator programs, and coaching for female founders. Furthermore, she emphasises that Endlos Fesch received lots of media attention because of the political support (ibid.). Despite her positive experiences, Neumann also addresses the difficulties of finding and receiving support from the political establishment (Endlos Fesch 38). She describes the time-consuming application processes as well as the problematic fact that the funding mostly comes after the foundation of the business. Neumann (ibid.), Weinberger (Klamottenkunst 36), and Schratzberger (Montreet 44) plead either for starting capital or a monthly salary for entrepreneurs.

“Exactly that [basic income] over a longer period than six months, as I do with the AMS – there's also its start-up programme. No, that's not enough, especially if you're founding a sustainable start-up. It simply doesn't have growth rates like a tech start-up. Because it's a sustainable (*laughs*) company”⁷¹ (Endlos Fesch 40).

Gaggl (Mein Lieblingsstück 28) does not explicitly address basic income as helpful for entrepreneurs. However, her explanation of why she no longer sells upcycled trousers suggests that she would also support it. She points out that she did not get enough appreciation and money for her work. In addition, Gaggl (ibid. 38) emphasises the idea of specifically supporting sustainable businesses. Schratzberger (Montreet 42) sees a change of

⁷⁰ Category: „Unterstützung“

⁷¹ „Genau das [Grundeinkommen] über längere Zeit als über sechs Monate, wie das ich beim AMS - da gibt's ja auch sein Gründer Programm - ist. Ne, das reicht nicht und vor allem, wenn man ein nachhaltiges Start-up gründet. Das hat einfach keine Wachstumsraten wie ein Tech Start-up. Weil es ist ein nachhaltiges (*lacht*) Unternehmen“.

trend here. Although she mentions that the situation in Austria is improving, in her opinion, Austria does not provide as good an assistance for sustainable business models as other European countries. The non-existing circular economy strategy for Austria supports that statement. The *Bundes-Abfallwirtschaftsplan* cannot replace this lacking strategy because it is rather descriptive and evaluating than practical. Although the integrated *Abfallvermeidungsprogramm* plans the support of repair facilities and reuse networks, it seems like these strategies have not affected the four entrepreneurs. Furthermore, the planned label for sustainable textile collection and utilisation has not come into force.

To sum up, there is consensus that political actors are responsible for the organisation of the clothing sector, but the interviewees disagree with regard to their influence. Furthermore, it appears that the political actions they envision as helpful must happen on an international level. None of them believe that the Austrian government alone can have an impact on the global clothing sector. However, their experiences regarding support provided by the local governments show that political action has different dimensions. On the one hand there are political actors on a national scale that are supposed to frame the global clothing sector; on the other hand the interviewees evaluate local political actors as responsible for supporting social entrepreneurs who want to improve the environmental footprint of the (Austrian) clothing sector. From the perspective of younger GPN approaches, political actors and the state are relevant for the configurations of (global) production networks. Coe et al.'s (2019: 784) exploration of the state as regulator, producer, buyer, and investor is particularly stressing the active position of the state and its responsibility and impact on the clothing sector's conditions, see chapter 2.1.2. From this point of view, political stakeholders could also support social entrepreneurs in changing existing structures, as they did in the past, according to Mayer and Philips (2017: 135f.).

6.5. Overcoming the limitations

The described limitations of the four business models (chapter 6.3.) and the question of political responsibility (sub-chapter 6.4.3.) raise the question of further support mechanisms by political actors. Therefore, I explore further possibilities of support for small-scale entrepreneurs based on the entrepreneurs' ideas and their experiences with political support in the following sub-chapter.

6.5.1. Support possibilities

According to the analysis of the *Bundes-Abfallwirtschaftsplan*, on the one hand political stakeholders in Austria are aware of the topics of reuse, circularity, and the importance of prevention for waste reduction. On the other hand there is political interest in new design strategies, new business models, and the repair sector. The *Abfallvermeidungsprogramm* focuses on awareness raising, information, and announces the support of social businesses. However, because of the interviewees critique and their experiences (see chapter 6.3.2.) I assume that more political action is needed.

According to the analyses of 6.3. and 6.4.3., more financial support for sustainable and waste reducing business models is needed. The interviewees suggest financial support for a longer period than the starting period of social businesses would make a difference. Therefore, I also assume that a basic income for social and sustainable businesses would be helpful. Of course, something like this would have to be combined with certain standards and criteria. Unfortunately, the general debate about basic income shows that the development of financial support is difficult to achieve, although Neumann's statement regarding the support of business models that benefit the society is valuable (Herndler 2019; Restrepo 2021). Furthermore, there seems to be a lack of knowledge and information on how entrepreneurs can get access to funding. This leads to my assumption that easy access to information and transparency about political support programs would support social entrepreneurs as well. These incentives could also motivate more founders to establish sustainable businesses.

With regard to textiles, the CEAP addresses eco design measures, incentives and support for (circular) production processes, more advanced waste management of textiles, and transparency and easier access to information for consumers. Nevertheless, the plan is missing the mention of the root problems: the socially unfair and environmentally harmful production processes of the clothing industry. These basic standards must be set. The development of a circular economy alone cannot solve this. The configurations of global production networks must be shaped in favour of the environment and social aspects. Furthermore, the price of products should mirror the social and ecological costs of a product. If this is not the case, companies like Montreet, which try to produce in a socially and environmentally fair way and whose products are more expensive, will always lose out because they cannot compete. Therefore, it is not enough to just establish a circular economy

that focuses on efficient resource use and waste reduction, but to change production standards in general. The planned textile strategy of the EU might be step in the right direction, since it shall focus on sustainable and circular textiles (European Commission 2020b: 13).

With regard to consumers, the CEAP and the *Bundes-Abfallwirtschaftsplan* raised the topic of information campaigns, raising awareness, and empowerment of consumers. Although studies question the impact of awareness on consumer decisions, I assume that information campaigns could be an important signal for consumers as well as economic actors. They could underline political goals. In this context, it is also worth thinking about Weinberger's (Klamottenkunst 46-48) experiences regarding the education of school children. Teaching children about sustainability could be one step of raising awareness and influencing consumer's behaviour. Moreover, advertisement for sustainable and green products might influence the consumers' purchase decision. However, these goals and suggestion do not address the root of the problem either: If customers cannot afford the more sustainable and social fair products, more information will not solve this matter.

7. Conclusion

This thesis has analysed the research question "How to reduce clothing waste in Austria: the perspective of small-scale entrepreneurs?", focusing on the responses of four Austrian small-scale entrepreneurs. To understand the political context they are influenced by, I examined the CEAP and the Austrian *Bundes-Abfallwirtschaftsplan* with a descriptive document analysis. The descriptive analysis studies descriptive documents, for example political programs and plans, which the researcher did not developed by themselves. I chose the four business models based on the sector analysis of small-scale social businesses in Austria. From the developed seven areas – sustainable fashion, reuse, upcycling, further utilisation, repair, rent, and clothes swap – I selected four business models that focus on sustainable fashion, reuse, upcycling, repair, and rent. I conducted the interviews with the entrepreneurs qualitatively and analysed their answers with the help of a qualitative content analysis, of which the key findings led to an answer of the stated research question.

The theoretical framework combined the GPN approach and the circular economy concept, building on the idea, that the development of a circular economy must be considered in the

context of global production networks. The GPN approach helped to explain the configurations and power structures of the increasingly complex (global) production networks of the clothing sector, as well as the position of the respective actors. The circular economy concept discusses aspects – waste and ecological impact of production processes – which are missing in GPN approaches. It goes beyond the explanation of global production networks' structures and its actors and questions the existing configurations of the clothing industry. The devastating social structures and environmental impacts of the industry underline the necessity to discuss alternative models for the existing production networks, as well as ways to reduce clothing waste. In the face of the climate crisis and its unevenly distributed negative effects, it becomes even more important. However, instead of supporting the idea of a possible decoupling, this work points to the approach of rethinking consumption in general and the goal of growth. First and foremost, there must be a focus on reduction of consumption and production. The key findings of my sub-questions, which led to an answer of the main research question, can be summarised as follows.

“What are the different business models used by small-scale entrepreneurs?”

There are various small-scale business models in Austria that approach the reduction of clothing waste. The four entrepreneurs chosen also pursue different business models: Jessica Neumann (Endlos Fesch) rents out second-hand, locally designed, or sustainably produced clothes to women. Esther Weinberger (Klamottenkunst) provides sewing machines and holds workshops on sustainability. Melanie Gaggle (Mein Lieblingsstück) sells upcycled (baby-) clothing made of second-hand clothes and textiles. Nadine Schratzberger (Montreet) produces thoughtfully designed sport clothing in the sense of the circular economy concept. Moreover, Montreet offers their customers a repair service and rents out jackets for testing them.

“How do the small-scale entrepreneurs fit in the circular economy concept?”

Although only two entrepreneurs mention the circular economy concept as the main driver for their business concept, the analysis shows that all of them fit within the concept. First, their business models – rent, thoughtful design, reuse, repair, and upcycling – are integral part of the two inner circles of the concept. Second, all entrepreneurs attempt to reduce clothing waste, which is one main aspect of the circular economy concept. Then, three interviewees define their businesses as sustainable, and the fourth interviewee fits in accordingly. The

attempt to create a sustainable business is also in line with the circular economy concept. Since all four businesses either reuse clothing, use sustainably produced clothing, or produce in the sense of the circular economy, I assume that they have an impact on waste reduction proportional to their business size.

“What are the limitations of the presented business models?” and “What do the entrepreneurs see as their impact and what is their actual impact?”

I identified five areas of limitations which are connected to the impact of the business models as well as their scaling possibilities. First, the entrepreneurs reach/ reached a smaller group of customers than they expected. There are two main reasons for that: the prices for the service (Endlos Fesch) and the clothing (Montreet, Klamottenkunst), as well as their limited product range (Endlos Fesch). Regarding the price, the small-scale entrepreneurs struggle to compete with the lower prices of fast fashion and big retailers. Second, their position in the global clothing value chain is limiting their impact on the sector. They mainly act on a local scale in Austria, due to their size, range and business model. Montreet is the only business which is actively involved in the global clothing sector. Schratzberger produces in Europe and discusses the structures of the clothing industry with international retailers.

Their position in the global production network applies to the entrepreneurs' impact on the ecological footprint of the industry and their ability to raise awareness. All entrepreneurs are convinced that their business models help to reduce clothing waste. This would have a positive impact on the environmental footprint of the clothing sector. However, I assume that they have a small, mainly local impact on waste reduction in the clothing sector. Regarding the size of the clothing sector, the role of big lead firms, and the amounts of global clothing waste, they are only small players. The business models' impact on raising awareness show similar results. Apart from one entrepreneur, all feel confident to raise the awareness of consumers due to social media activities (Endlos Fesch), exchange with customers and workshops for school children (Klamottenkunst), and the request to consume consciously (Montreet). Although I assume that these strategies have an impact on consumers according to their size and locality, there is no scientific consensus if awareness raising has an impact on consumer behaviour.

Finally, with regard to scaling possibilities, the most probable way to scale Endlos Fesch would be a franchise model, so that in Austria as many places as possible have a fashion library. In

return, the idea of renting clothes instead of owning them could become more common. Montreet's production volume could be scaled in case there was higher demand. Moreover, Schratzberger is in touch with other companies to find overlapping solutions for returned clothing. If they are able to do that, I am convinced that this would increase their positive impact on the reduction of clothing waste. To conclude, despite their limitations and their size all four business models stand for innovative ideas and attempts to improve the conditions of the clothing sector. They may also inspire others towards more innovative business models.

"Who is responsible for the reduction of clothing waste?"

Regarding responsibilities, the interviewees mentioned the economic, the political, and the social sphere (consumers). There is no consensus about which stakeholders have the most responsibility, but rather all are considered important. All four see the responsibility in the clothing industry, but only Neumann and Schratzberger see themselves as part of the economic sector and therewith as sharing in the responsibility. Neumann and Weinberger in particular mention the failure of the large clothing companies to take responsibility, although they concede that it is difficult for "big companies" to act quickly, because of the interconnected production networks they are part of. In Schratzberger's opinion, young companies face the responsibility to improve the social and environmental conditions of the clothing sector and acts accordingly.

Neumann und Gaggl emphasise that consumers carry most of the responsibility to frame the structures of the clothing sector. This evolves, inter alia, out of their experience that the customers' support is needed for sustainable business concepts to survive. The other ones assess the role of consumers differently – they discuss the customers' importance as well, but they also underline the relevance of actors from the economic and political sphere. They assume that without the right framework, consumers are not able to act responsibly. What is missing at this point is the definition of "the consumer". All interviewees talk about them as a homogenous group and do not consider their varying positions.

Political responsibility is mentioned as the third sphere by three entrepreneurs. Weinberger evaluated the political sphere as the most important. According to her and Schratzberger, international political actors like the EU are asked to implement regulations, since a single government is not powerful enough. An example of political action is the CEAP, implemented

by the European Commission in 2020. Unfortunately, its effects on the textile sector are not yet evaluable.

Linked to the question of political responsibility is the respondents' experience of political support. According to the entrepreneurs' experiences, the CEAP and the Bundes-Abfallwirtschaftsplan and their approach to support sustainable business models, I assume these plans do not provide enough support. Three out of four entrepreneurs talked about their failed efforts to receive funding due to political programs. Even Neumann, who did receive some, pointed out the difficulties in receiving funding.

Given the complexity of the clothing sectors' production network and the entrepreneurs' point of views, I can conclude that there is no clear answer regarding the responsibility of actors. Nevertheless, there are two main findings. First, lead firms that dominate the clothing sector and have the power as well as international political actors (could) have a big impact on the clothing sector's structures. Therefore, they are asked to take the responsibility and to develop the clothing sector towards more environmentally friendly production processes and to change the disastrous social conditions. Second, the entrepreneurs' difficulties in receiving financial support, leads to the conclusion that the political support on a national level must be improved in terms of funding and access to information. However, I assume that all stakeholders must take responsibility in order to achieve the reduction of clothing waste. If consumers have the possibility to consume consciously, they should do so. Companies should offer sustainable possibilities to their customers and political actors must set the framework.

“How could the small-scale entrepreneurs' limitations be addressed?”

The entrepreneurs' limitations and experiences with regard to political support demonstrate that current initiatives, including the CEAP and the Bundes-Abfallwirtschaftsplan, do not go far enough. Furthermore, Austria is still missing a circular economy plan that would exhibit real political ambitions. Therefore, I suggest three supporting strategies. First, a basic income for small-scale entrepreneurs would support sustainable business models because of their lower growth rates. Besides, the access and the quality of information about support possibilities must be improved. My second approach is that the clothing sector needs more regulations regarding production processes of the clothing sector. Businesses like Montreet that try to produce sustainably and fair cannot compete in a market where unsustainable products are often much cheaper. Third, as the CEAP and the Bundes-Abfallwirtschaftsplan

also suggest, I stress that more information and transparency is needed. Consumers should be able to inform themselves easily about the production process of their clothing, their environmental and social impact, and materials of their products. One cannot expect that every consumer spends time searching for sustainable products. However, more information for consumers will not tackle the matter that many people are not able afford more expensive clothing. Therefore, the debate regarding consumer responsibility and raising awareness must also focus on this aspect.

Based on my findings from the sub-questions, I conclude that the circular economy concept has the potential to reduce clothing waste. The analysed business models and their approaches presented possibilities how the reduction in the sense of the circular economy concept can achieve this. However, repair, reuse, further utilisation, and all the other options for extending a product's life ultimately lead to disposal. Therefore, adequate solutions for recycling and disposal of clothing waste must be found. Made evident by the four small-scale business models as well as by other companies of the sample, there is lots of innovation in Austria which fits the circular economy concept. The more widespread such models become, the more influence they will gain, and the more waste reduction will be achieved.

Finally, there are two aspects future research could focus on: With regard to waste reduction and the effects of circular business models, measurements to evaluate their impact would support the discussion. Data showing the impact of sustainable and circular business models could support the goal of implementing a circular economy and convince sceptics. What is also missing from the debate on more efficient resource use and the implementation of a circular economy is a discussion of the impact of more efficiency and less consumption on, for example, producing and resource-supplying countries. Although the concept of circular economy considers the global interconnectedness of global production networks, it rarely addresses the global impact of circular economy at the beginning or the end of the global value chain. More attention needs to be paid to this issue in the future if the goal is not only to improve the ecological footprint of production, but also to address the asymmetries of global production networks.

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Annex I: Interviews

No.	Name	Company	Date	Length	Paragraphs
1	Jessica Neumann	Endlos Fesch	25 th March 2021	58:28 min	74
2	Esther Weinberger	Klamottenkunst	26 th March 2021	33:27 min	71
3	Melanie Gaggl	Mein Lieblingsstück	20 th April 2021	38:18 min	68
4	Nadine Schratzberger	Montreet	11 th April 2021	49:45 min	74

Annex II: Questionnaire

1. Was waren Ihre Beweggründe für die Entwicklung Ihres Geschäftsmodells?
 - a. (Ökologische, ökonomische, das Interesse an KWL etc.?)
2. Welche Zielgruppe spricht Ihr Angebot an?
 - a. Ließe sich Ihre Zielgruppe erweitern? Wie?
 - b. Wäre das in Ihrem Interesse?
3. Glauben Sie, dass Ihr Konzept zu einer Vermeidung von Textilabfall führt?
 - a. Stichwort: Rebound Effekt
4. Welche Auswirkungen besitzt Ihr Geschäftsmodell auf die Wertschöpfungskette des Bekleidungssektors?
 - a. Stichwort: Globaler Süden
 - b. Stichwort: Fast Fashion und Kurzlebigkeit
5. Wie sind Sie in die globale Wertschöpfungskette des Bekleidungssektors integriert?
 - a. Woher beziehen Sie Ihre Produkte?
 - b. Auswahlkriterien?
6. Braucht es mehr Innovation oder mehr Unterstützung?
7. Welche Unterstützung benötigen Sie sich von politischer Seite (Österreich/ EU)?
 - a. Ist das derzeit realistisch?
 - b. Sollte die Politik insbesondere Unternehmer*innen unterstützen, die ihren Fokus auf Nachhaltigkeit legen?
8. Was ist politisch schon gegeben?
9. Stehen Sie in Kontakt mit anderen Initiativen?
 - a. Unterschiede, Strategien?
10. Welche Rolle spielen Konsument*innen bei der Vermeidung von Textilabfall? (Frage der Verantwortung)
11. Wie weit ist Österreich, wenn es um die Vermeidung von Textilabfällen geht?
 - a. Was muss noch passieren