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RESEARCH ARTICLE

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Fashion in turmoil: impact of the COVID-19 pandemic on Finland's textile and fashion industry

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ABSTRACT

With continuing climate change, consumers are reconsidering their fashion-consumption habits and clothing and apparel businesses are critically examining their industrial practices. The coronavirus pandemic can be considered a turning point as it has significantly affected the textile and fashion industry. By applying path-dependence theory to analyze developments in the textile and fashion industry in Finland, this study investigates prior pivotal moments to better understand how crises can provide possibilities for transformation. We first provide a historical review that aims to identify external shocks as major transitional events and examines their implications for short- and long-term trends. The study then analyzes the changes triggered by COVID-19 in the textile and fashion industry using empirical data collected from Finnish companies. The study reveals that the pandemic forced some firms to introduce several changes into their practices as part of efforts to survive, including innovations at all levels of design and manufacturing as well as new ways of managing sales and marketing. In addition, the crisis has been an opportunity to take steps toward societal and environmental transformation through more open and responsible business models involving a shift to local or close-by production to reduce environmental impact, to secure decent factory-working conditions, and to engage customers to reduce their consumption. The article concludes by considering issues relevant to the future of this industry during the post-pandemic period.

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Introduction

The climate crisis has forced consumers to reconsider their consumption habits, prompting fashion businesses to critically examine their industrial practices (Niinimäki et al. 2020). The international outbreak of COVID-19 in early 2020 created a new sense of urgency and could prove to be a turning point for many economic activities, especially the textile and fashion industry (Brydges et al. 2020; Cohen 2020) which has been grounded strongly on a fast-fashion business model and cheap and effective mass manufacturing in lower-cost countries in the global South during the past 25 years (Niinimäki et al. 2020). The health emergency hit this industry hard but at the same time pointed to instructive ways to survive.

The pandemic triggered numerous restrictions, uncertainties, and difficulties regarding production and transportation and influenced the behavior of consumers, increasing pressure on the industry to become more sustainable and transparent (e.g., Black 2020; Brydges et al. 2020; D'Adamo and Lupi 2021; Iran et al. 2022). COVID-19 affected the entire textile and fashion field and revealed its hidden backstage, exposing many of its negative aspects and increasing the need for innovation and greater responsibility throughout the supply chain (see also Brydges and Hanlon 2020). For example, the pandemic revealed power imbalances in the production system while the global brands did not pay their suppliers for orders commissioned in the global South when fashion consumption diminished especially during the spring and autumn of 2020 (Clean Clothes Campaign 2021). In January 2021, we could read news about garment-factory workers who were facing hard times due to wage cuts and forced resignations. The situation was particularly severe in Bangladesh where textile and fashion production has a high societal impact and crises can even

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prompt political unrest (Anguelov 2015; Niinimäki 2023).

The effects of COVID-19 on the production and consumption system has drawn the attention of several scholars who have investigated, for instance, how the pandemic could support sustainability transitions toward system-level change, including consumption transitions (Cohen 2020; Seibel et al. 2021; Iran et al. 2022), "glocalization" (Goffman 2020), and evolution toward a more sustainable industry (Brydges et al. 2020). Recent studies have also focused on corporate social responsibility (CSR) issues (e.g., Pelikánová et al. 2021) demonstrating the significance that consumers attach to these practices (Vătămănescu et al. 2021) and how the pandemic has affected CSR trends and attitudes of front-line employees and customers (Cvik and Pelikánová 2021, 120). Furthermore, Wischer (2020) studied how the pandemic has affected sustainability movements in the textile and fashion industry, revealing the precarious ways that employees are often treated. Brydges et al. (2021) examined the evolution of the Australian fashion industry and the external shock triggered by COVID-19. Impacts on firm-level dynamics, garment production, and fashion retail were the three key spaces where the pandemic affected the path-dependent evolution of the Australian fashion industry. Moreover, alongside local production, Brydges and colleagues anticipated that sustainability would be a growing priority during and following the pandemic. However, contrary to many studies, Cvik and Pelikánová (2021, 120) revealed "discrepancies and lack of readiness to embrace COVID-19 as an opportunity to move to sustainable entrepreneurship" and showed that crises have not brought new opportunities but instead have "magnified the prior difference."

Given the historical evidence that crises of various kinds can open windows of opportunity to change regional industrial trajectories (Rantisi 2004, 104), the use of path- dependence theory can provide a fruitful point of departure for examining the role of disruption in the evolution of the textile and fashion industry. To extend recent studies, we set out to examine the evolution of the Finnish textile and fashion industry and the immediate impacts of COVID-19. We apply this approach to understand how the industry has evolved over time and discuss the impacts of the pandemic to date. Finland offers an empirical context where the total amount of money spent on clothing during 1994–2019 more than doubled (STJM 2021) and global players came to dominate the market. While there are national characteristics of the domestic textile and fashion industry—such as high-quality products, creative design, and emphasis on research and development—Finland is part of the European Union and thus follows the bloc's regulations to increase industrial sustainability. Even if the country is located in the "second tier" from the viewpoint of the major European and global fashion centers (Rantisi 2011), it can provide useful evidence of more geographically extensive developments.

The article is structured as follows. The second section introduces path dependence as the theoretical underpinning and provides a historical review of both the Finnish textile and fashion industry and the various crises that have shaped it. The third section explains the empirical data and methods used in our study. The fourth section presents an analysis of the immediate impact that COVID-19 has had on the country's textile and fashion industry, businesses, and consumption in 2020. The fifth section draws on this history of the turning points in textile and fashion and we interpret this knowledge in light of the pandemic. We conclude the study by anticipating future themes for the industry as well as its activities, responsibilities, and esthetics.

Theoretical and historical underpinnings

Path dependence

Path dependence emerged in evolutionary economics to describe how and why certain technologies gain dominance, sometimes owing to a minor advantage or random event (Arthur 1989; David 1985). The concept implies that current and future states, actions, or decisions depend on the path of previous states, actions, or decisions (Page 2006). The assertion that "history matters" is the basis of path-dependence theory. "[W]hat happened at an earlier point in time will affect the possible outcomes of a sequence of events occurring at a later point in time" (Sewell 1996, 262–263).

Path dependence is often coupled with the concept of lock-in (Arthur 1989; Unruh 2000) which refers to how decisions made in the past hinder new developments and create structural and systemic logics that resist efforts to encourage change. Path dependence concerns not only individual technologies but also technological systems or regimes (Unruh 2000). These dependencies can be defined as "large-scale historical patterns caused by lock-ins in specific sectors, or technological pathways that become self-reinforcing" (Aalto et al. 2021, 15).

Path dependence has been used to study a wide range of phenomena. Applications of the general approach have expanded from technologies to institutions and organizations and path-dependence theory has also been applied to analyses of local and regional economic development to show how historical events can drive certain regions to specialize in

specific industries (e.g., Cooke and Morgan 1998; Maskell and Malmberg 1999). The application of the path-dependence concept to local and regional economic development emphasizes the role of history in forming the practices and relationships of firms and industries in particular places (Rantisi 2004). Brydges et al. (2021) identified several existing historical industrial strengths (e.g., developing capacity for domestic manufacturing, investing in quality, and emphasizing design over production costs) that supported the Australian fashion industry's response to COVID-19. The authors further found that many of the country's fashion-design brands were innovative and adaptive in their responses to the pandemic, finding new ways to connect with consumers and buyers, making investments in digital retailing and promotions, and retraining staff. These innovations have not been radical but rather were immediate responses that were consistent with the previously established pathway. According to Brydges et al. (2021), the pandemic has also reinforced the importance of having strong brand esthetics and identities that resonate with consumers, an opportunity that has particularly concerned brands that embrace and promote a sustainability mandate.

Historical context: path dependence in the Finnish textile and fashion industry

The textile and fashion industry has changed over the years, not least due to external shocks to the system. We examine some events in the history of this industry in Finland that served as either external perturbations or turning points with respect to production (see Figure 1). These events have also placed the industry on a new trajectory or at least made it adapt to the situation within the confines of the same pathway, as it is often easier to continue on the same path. As Beyer (2020) points out, changes are in most cases gradual but "innovations or crises can lead to a situation where old key conceptions are called into question and replaced with new ones." By "shocks" we mean a sudden upsetting or surprising event or experience, and we use the term "turning point" for occasions when a decisive change occurs in a situation, most probably resulting from a shock. The events are analyzed using the path-dependence theory.

Phase I: favoring domestic production and industrialization, and the rise of social responsibility, 1700s–1910s

The Finnish textile industry emerged in the middle of the eighteenth century. In 1738, the Wechter wool factory was established in Turku following enactment of a statute to ensure that the equipment and materials provided for military use would be domestically produced (TIM 2006). The development of industrial machinery in England, such as the Spinning Jenny in 1767, as well as weaving and printing machines, steam- and water-powered machinery, and fabrication of strong cotton yarn for machine weaving also helped pave the way for the rise of industrialization and especially cotton and linen factories in Finland in the next century (Niinimäki and Saloniemi 2008, 17).

The Russian markets opened up to Finland when Russia obtained suzerainty over Finland beginning in 1809. Before this time, Finland was part of Swedish territory. Linen fabric and cotton became popular in St. Petersburg and this was a market opportunity for Finnish textile factories (TIM 2006). A new era began when James Finlayson, a Scottish immigrant, founded a factory in Tampere in 1820. The location was desirable because of its proximity

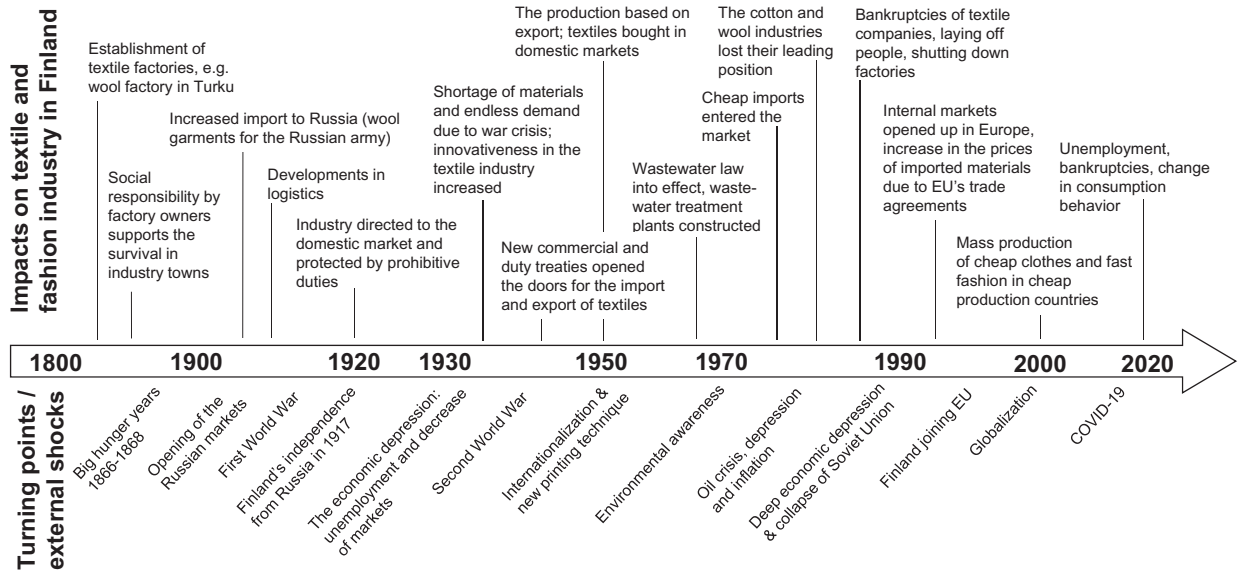

Figure 1. Turning points and their impact on the textile and fashion industry in Finland.

to ample hydropower created by a rapid river flowing through the city. Finlayson started by producing textile machines, but in 1828 switched to manufacturing cotton yarn for the Russian market. Ten years later, the first weaving machines began to produce cotton fabrics (Tanninen 2014, 8; TIM 2006). By the middle of the nineteenth century, 75% of the cotton fabric manufactured in Finland was being exported to Russia. The development of infrastructure—for example the Riihimäki-St. Petersburg railway in 1870—further accelerated textile exports. However, domestic textile demand in Finland did not begin to increase until a period of economic expansion starting in the 1870s (Niinimäki and Saloniemi 2008, 21).

As was the case more generally during the nineteenth century, child labor was common in Finnish textile factories. Children (and women as well) received lower remuneration than men and textile-factory owners were important actors in the social development of cities and towns. They established schools for children working in the factories, provided health care for workers, and built retirement homes for former workers. For instance, Finlayson established an orphanage in Tampere in 1821 and a school for children in 1840. In 1890, children younger than the age of twelve were prohibited from working in factories (Niinimäki and Saloniemi 2008).

At the beginning of the twentieth century, the textile industry in Finland achieved further success and its position was further strengthened by World War I. Imports to Russia continued to increase as the wool industry in particular produced garments for use by the Russian army and cotton production was also exported due to shortages of the commodity in Russia (TIM 2006).

In summary, the combination of technical developments (machinery and energy) and fiber advancements made large-scale industrialization possible. Industrialization also contributed to societal modernization. The industrialists who took an interest in the welfare and well-being of their workers established the foundations for contemporary interest in CSR. The favoring of domestic production, as well as developments in logistics (for example the train line to Russia), helped the Finnish industry to grow. The first implication that we draw of the turning points in Phase 1 is that favoring domestic production may lead to a growing domestic textile industry (during crises) and reduce risks in business activities.

Phase II: the early decades of independence—wartime and economic depression, 1910s–1940s

The year 1917 became a true turning point in the history of the Finnish textile industry when Finland declared independence from Russia. Domestic textile manufacturers lost access to former Russian markets and needed to reorient themselves to the smaller domestic market which was protected from imports by prohibitive duties (TIM 2006). During the 1920s and 1930s, the industry grew in size as the Finnish population became more affluent and could afford to buy clothes from retail shops (Tanninen 2014, 10). However, the economic depression in 1929 and the early years of the following decade led to unemployment and a decline in markets (TIM 2006).

World War II then triggered a shortage of materials and endless demand. Men and even women were called to war and there were no longer enough industrial workers and women were recruited in large numbers to join the industrial labor force (TIM 2006). In the 1940s, the shortage of materials limited textile production and innovative approaches were needed to find substitute materials. Several factories manufactured viscose-type fabrics and Tampella (a manufacturer of heavy industrial machinery) even produced paper textiles to replace linen. The Finnish army needed a great deal of gauze which was manufactured in overtime shifts. The war crisis and the lack of traditional materials strengthened the textile industry's capacity for innovation. Old bed sheets were printed to make new window curtains and dress fabrics and beautiful patterns were designed to cover the uneven and cheap bottom fabric. Design was used to improve morale and to promote a positive and uplifting outlook (Niinimäki and Saloniemi 2008).

Overall, during Phase II, the declaration of independence and the subsequent war changed the situation in the Finnish textile industry and ended the long period of relying on export to Russia. Production remained domestic but the output was directed to a much smaller market. This situation highlighted the vulnerability of bilateral trade and economic crisis and war meant difficult times for the industry, but creativity flourished. Accordingly, the second implication of the crises is that scarcity of materials leads to increased innovation and creativity. The rise of independence also turned the industry's attention to finding its own "style" in printed textiles. Most designs were previously imported from other countries (e.g., the UK and France), and now the public discussion in applied arts circles favored more modern textile design and many Finnish companies began to hire domestic designers. The public discussion highlighted the importance of supporting domestic production from the country's cotton factories (e.g., the new floral textile type "cretonne"). Industrial facilities began to invest in new machinery such as new printing and

dyeing machines which enabled the production of new types of textiles (Niinimäki and Saloniemi 2008, 38).

Phase III: the era of internationalization and the rise of environmental awareness, 1950–1970s

Textile production in Finland during the period following World War II focused on internationalization and is sometimes referred to as "the golden age of Finnish design" (Korhonen 2016, 16). The distinctiveness of this era was established in the 1950s, especially through multinational competitions and new commercial and duty treaties opened the doors for international trade of textiles. New factories in the country started to produce printed fabrics in the 1960s and fast-rotation printing technology and new reactive dye types accelerated this development. Non-wrinkle nylon shirts and easy-care polyester fabric partly substituted for cotton. In 1979, half of the textiles and 80% of the clothes purchased in Finland were domestically manufactured (Niinimäki and Saloniemi 2008; TIM 2006). Moreover, the bilateral trade (clearance trade) with the Soviet Union during 1970s and 1980s provided a stable and safe income for the textile industry, yet it prevented development of other important export markets.

The 1970s also saw growing environmental consciousness on the part of textile producers. The increase of textile factories during the 1960s led to visible waste problems in close proximity to factories, for example dye-treated wastewater released into a nearby river colored the river red, blue, and other hues (Niinimäki and Saloniemi 2008). A new wastewater law came into effect in 1961, but it was not until the 1970s that towns and factories began to construct wastewater-treatment plants. The oil crisis in 1973–1974 had a global impact and affected the Finnish textile industry as "stagflation" led to bankruptcies and an increase in imported garments. The country's cotton and wool industries lost their leading positions and cheap clothing started to enter the market during the decade (TIM 2006).

To conclude, Phase III, or the golden age of the Finnish textile industry, was a critical period of development for domestic manufacturers with companies such as *Marimekko* gaining prominence. This phase was also characterized by bilateral trade with the Soviet Union which was profitable for the Finnish textile and fashion industry in the 1970s and 1980s. During this phase, both internationalization and bilateral trade created new opportunities for domestic production to be exported abroad. However, in tandem with the growth of the Finnish textile industry, environmental concerns gained in prominence and industry itself begin to implement interventions to address these problems.

Phase IV: the modern era: from deep economic depression to globalization and climate change, 1990s–present

The third implication of the crises had its roots in Phase III and became increasingly visible in Phase IV. It is characterized by the globalization of markets that led to inexpensive imports taking over at the expense of domestic production. Finland was doomed to lose the competition to cheap sources of foreign production. A decline in clothing manufacturing in the country had already begun at the end of the 1980s (Korhonen 2016, 19) and was further exacerbated by both the deep economic depression of the 1990s and the collapse of the Soviet Union in 1991, leading to a widespread pattern of bankruptcy of Finnish textile producers. Finlayson, for instance, had to lay off workers and shut down its weaving factory in Tampere in the 1990s. The only redeeming feature of this situation was the increasing domestic and international demand for specialty textiles for use in restaurants and by hospitals and construction companies that began in 1993. In the case of these markets, the higher level of technical knowledge embedded in the garments prevented low-cost alternatives from gaining a dominant market position (TIM 2006).

With establishment of the European Economic Area in 1992, information on the origin of products disappeared. When Finland joined the European Union (EU) in 1995, internal markets opened up in Europe and international businesses were guided by the EU's trade agreements, leading to an increase in the prices of imported materials. Given the challenges of robust business competition, the only way for domestic textile producers to survive was to outsource manufacturing to lower-cost countries (Niinimäki and Saloniemi 2008).

To sum up Phase IV, since the beginning of the 21st century, globalization of the textile and fashion industry has accelerated and the notion of infinite growth has become predominant. Especially notable has been the role of fast fashion which constantly produces new and cheap garments. This mode of production has become mainstream and has led the fashion industry to become the second most polluting economic activity in the world (UNCTAD 2019). Clothing is manufactured in low-income countries under oftentimes poor working conditions, and this strategy leads to the production of cheap, low-quality clothes that are highly profitable (Buchel et al. 2018, 11), but with significant social and environmental impacts that are invisible to end consumers (Niinimäki et al. 2020). Finland is no exception

to this global situation and most of the textiles and garments produced by Finnish companies are manufactured in accordance with this business model.

The textile and fashion industry in both Finland and the rest of the world now faces a new problem. The restrictions caused by COVID-19 resulted in governments closing manufacturing plants, stores shutting down, events being canceled, and consumer demand decreasing due to remote work and the rise of homebound lifestyles. In the meantime, the wider base of consumers had already started to become more aware of the effects of fast fashion in terms of climate change before the pandemic period (e.g., Niinimäki et al. 2020; Accenture 2020) but has more recently—at least in some parts of the world—become cognizant of the sufficiency challenges associated with material production (e.g., impossible to achieve increases in cotton cultivation, need to decrease the scale of the fashion system and aggregate consumption) (e.g., Niinimäki et al. 2020; Niinimäki 2021; Iran et al. 2022; Coscieme et al. 2022; Vladimirova et al. 2022). Another implication of the crises in the textile and fashion industry is that these events have exposed the backstage that had previously been hidden from the public, revealing many negative aspects of contemporary production and raising the need for a new kind of openness and greater responsibility throughout the supply chain.

Methods

Data collection

The empirical data for this study were derived from two sources: online ethnographic observation and a survey. First, the online ethnographic observations were carried out between March 2020 and June 2021 from sources including Twitter discussions, websites, and the Facebook pages of fashion companies in Finland. We also reviewed the national media, including articles in the *Fashion Finland* online journal and national newspapers.

The online ethnographic data collection focused on changes in business practices, design, and production in small Finnish fashion companies, and thus we identified and mapped the emerging discussions on fashion in connection with the COVID-19 crisis. The data were collected in an unstructured manner which is a qualitative, flexible, and loose method of gathering data (e.g., Turunen and Henninger 2022). Utilizing an unstructured approach, it was possible to follow the emerging phenomena and avoid a predefined focus which would have limited the scope of the findings (Eskola and Suoranta 1998). Such a technique has been found to be valuable in situations where circumstances are changing rapidly and the unfolding of ensuing developments is hard to predict (Hirsjärvi et al. 2004). In ethnography, the aim is to understand the situation as a whole and not as different or separated variables (Eskola and Suoranta 1998), and in our case we applied the method to follow the changes triggered by the pandemic on business practices as well as on design and manufacturing. Additional data from Twitter focused especially on issues pertaining to social responsibility in global supply chains and we reviewed newspaper and online articles more generally about the COVID-19 crisis and its effects on Finnish companies. Online ethnographic data collection served two purposes—it informed primary survey-data preparation and provided supplementary data.

Second, we sent a qualitative survey with open-ended questions to 140 small Finnish fashion companies belonging to the sustainable fashion research consortium FINIX's e-mail distribution list. The list comprises all Finnish companies that have expressed an interest in following news related to the FINIX project.[1] We contacted companies using this list and included a link to the online survey. This particular survey was part of a larger research project conducted by the consortium that included five questions related to COVID-19 out of a larger instrument consisting of 26 items (see Appendix 1). The survey questions analyzed in this article focused on the immediate effects of the pandemic on the Finnish fashion industry including open-ended questions on the perceived impacts of the health emergency. Forty respondents from different companies replied to the survey, representing a response rate of 29%. A majority ($n = 34$) of them reported manufacturing and sales as their main business, followed by secondhand and resale ($n = 6$). The survey was open for 17 days between November and December 2020.

Data analysis

Data collection and analysis formed a cumulative process—we mapped the immediate effects of COVID-19 based on the online ethnographic observations. The aim was to focus on the role of crisis and change and to identify pivotal moments or elements for the textile and fashion industry. It became evident from the ethnographic observations that respondents discussed the pandemic especially in terms of adjustments in product design, production, customer relations, and sales. We then constructed the survey questions based on these observational findings. The survey expanded, validated, and redirected the online ethnographic observational data

collection which we continued for six more months after survey-data collection or until June 2021.

The process of analyzing the observational and qualitative survey data followed the same procedure. First, we mapped the immediate impacts and reactions of the textile and fashion companies. Second, we categorized the reactions and changes based on the themes that frequently emerged in the data. Third, we condensed the themes after the survey following the procedures employed by Buchel et al. (2018). Finally, we compared the immediate impacts and reactions in these themes to the previous literature and historical turning points to determine whether there were similarities in terms of the future paths of the market and industry. The longevity of the online ethnographic observations enabled us to follow the changes and to develop an understanding of how the companies evolved over time.

Results

Five themes emerged from the actions and behaviors of the respondent firms during the COVID-19 crisis and we condensed them to the following: (1) technology, fibers, and production, (2) business models and customer relations, (3) value-chain models and partnerships, (4) design, and (5) CSR and discuss them in turn in the following sections.

Impact on technology, fibers, and production

The technology and fibers niche is related to different types of innovations. Over one-third (35%, $n = 40$) of the small fashion companies answering the survey had to reorganize their production processes by, for example, creating new digital systems for manufacturing or other business activities. Ethnographic observations supported this finding, as many of the firms reported implementing and using digital online presentation tools and virtual environments, enabling remote meetings with their business clients instead of traveling to face-to-face appointments while travel restrictions were in effect.

COVID-19 affected brick-and-mortar stores by limiting the hours that they could be open and this situation pushed companies to move their actions toward online selling. The questionnaire revealed that some Finnish fashion brands without an online store presence before the pandemic started online sales to complement offline sales. Moreover, many companies that already had online store processes further improved them. For example, *R-Collection* is a family-owned firm started in 1978 and located in a small town in northern Finland. The company focuses on functional leisurewear and its iconic garment is an anorak coat (R-Collection 2022). The firm increased its total sales by 40% in 2020 even though it had to close its physical stores for $2^1/_2$ months during the spring of 2020 (Pölkki 2021). This achievement resulted from the company's giant leap into a digital culture which increased its online sales from €1.4 million in 2019 to €2.5 million in 2020 (Pölkki 2021).

Many respondent firms seemed to be in survival mode during the pandemic and numerous developments originated from actions undertaken to avoid bankruptcy (STJM 2020). In terms of fibers, it is notable that some companies focusing on redesign had to stop production for some time due to a lack of available recycled material when consumption froze. Furthermore, a huge global need for facemasks emerged in the spring of 2020. The vulnerability of global production and the availability of products posed a problem when manufacturing plants in China shut down due to the pandemic, triggering a shortage of protective garments for European hospitals. Many manufacturers in Finland were able to hire new workers and start domestic production and several of them succeeded in transforming their product lines very quickly to facemasks or other protective garments. For example, *Lifa Air* established a factory in Finland to produce respirators and surgical masks in the spring of 2020 (Lassila 2021) while others such as *Filterpak* and *Lumi Dental/Lumi Medical* also started manufacturing surgical masks (Hyttinen 2021), and still others like *Ahlström-Munksjö* developed new facemask materials (Fab 2020). In May 2020, many Finnish textile and fashion companies were involved in protective clothing production or material production for health-care purposes (STJM 2020). However, a year later, production dropped off due to a lack of demand as they could not compete with lower priced Chinese-manufactured surgical masks (Hyttinen 2021).

Impact on business models and customer relations

As many as 75% of the companies needed to create new ways to reach their customers. Under the "business model and customer relations" theme, most of the short-term changes related to development of deeper customer relationships with new ways of marketing such as increasing visibility on social media, enhancing direct communications through e-mails, and developing individual customer services (e.g., home fittings). For instance, the menswear company *Frenn* started home fittings in the Helsinki area and tightened their connection to its customers by sending them more e-mails (Frenn

2021). Some Finnish small fashion brands created "friend-brand sales" (*#yhdessäkauppaa* campaign) in which the purchase of a garment from one brand triggered an extra gift to the customer from another brand (STT 2020). The idea was to raise interest among consumers to buy local Finnish fashion during the COVID-19 crisis. Organizers canceled the annual Helsinki Design Market, but the event was instead held in several small shops in the city as networking activities where customers could prebook a visiting slot in a shop, for example, to attend the fashion brand *Samuji*'s secondhand sale.

Although the survey showed that overall sales decreased, nearly 50% of businesses reported an increase in online sales. To stabilize revenue, respondents reported implementation of innovative approaches to engage customers. At the end of 2020 and in early 2021, the rise of secondhand fashion became not only a notable phenomenon in Finland but a global trend as well (see, for example, ThredUp 2022). Several fashion brands in the country posted on social media that they were offering secondhand services for their own brand garments. *Emmy*, an online business platform in Finland for consumer-to-consumer transactions of secondhand fashion increased its turnover throughout the pandemic and reached record sales in May 2022 of over €500,000.[2] Even the iconic Finnish design house *Marimekko* partnered with Archive Resale and launched a customized secondhand and vintage marketplace in 2022 (Marimekko Pre-loved 2022).

Impact on value-chain models and partnerships

In terms of the "value-chain model," the survey revealed that two companies had to renegotiate their contract details with manufacturers and five companies were forced to find new production premises. As mentioned above, some companies even reverted their production to Finland and started their own manufacturing (mainly sewing). Some smaller companies (approximately 35%) that had tight and trustworthy connections with manufacturers were able to renegotiate production timetables and even cancel preordered and yet-to-be-produced garments when it became obvious that consumption would freeze in the spring of 2020. In general, the smaller the company, the more flexible it was in negotiations as well as in cultivating new modes of business (e.g., adding home fittings as *Frenn* did).

Some interesting findings are conspicuous in the ethnographic observations. *FinnLea* highlighted that during the pandemic it was important to have its own production in Finland (close by), to maintain production at a moderate level to create capacity for greater flexibility in all company processes, to keep inventory low (no extra production), and to focus on producing only products with strong sales potential (strengthening risk management). This was enabled by tight customer relationships, as the company knew their clients' preferences. Accordingly, they created a more stable business and better control, even during COVID-19 (Sinervo 2021). Furthermore, in early 2021, *Lapuan Kankurit* began an initiative to start yarn production from Finnish wool in a new type of collaboration with sheep farmers, bringing in the aspect of super-local and transparent production. Currently, as much as half of Finnish wool remains unused due to high processing costs. Against the backdrop of sustainability, this approach returns lost resources, currently seen as waste, to industry (Lapuan Kankurit 2021).

Moreover, in addition to the collaborations of textile companies to boost the production of protective garments for hospitals (Voglia 2020), ethnographic observations showed some evidence of partnerships across industry boundaries and firms sought to address peak demand for safety clothing in innovative ways. For example, printing houses opened their facilities and machinery to support the production of "paper-like" disposable protective garments.

Impact on design

The ethnographic observations made it clear that facemasks in particular had been integrated into fashion collections as part of design esthetics through the use of bright colors and prints and even luxury materials such as silk (e.g., A. Ruohonen [personal communication, May 15, 2020]). Several companies started producing textile facemasks which proved to be a lifesaver for them. When shops were closed, *R-Collection* was able to shift quickly to textile-facemask production (the first manufactured batch was 22,000 pieces). For many consumers, facemasks became the entry product into *R-Collection's* online shop and they were tempted to buy other items. There was even a time when the company only manufactured facemasks, with production reaching 60,000 pieces a day (Pölkki 2021). *Aim by Mia*, a sock company, also started producing facemasks, a totally new product for them. *Anna Ruohonen* designed an elegant summer collection of dresses with matching facemasks made from linen and silk material (A. Ruohonen [personal communication, May 15, 2020]).

Some companies reported reducing their collection size and adopting a better design focus (clearer design style) as a business strategy. *REMAKE* designed and manufactured a limited-edition home-clothing fashion collection named *CO*ID*: only a

limited number of each garment was produced, but they could be pre-reserved and ordered according to one's own measurements. Some fashion companies avoided designing new collections and focused on manufacturing "safer" older products. *R-Collection* increased its sales of sweatpants by 5% in 2020 and for *Prisma* (a leading retailer), men's sweatpants sales rose by 19% (Frilander 2021).

Impact on CSR

Before COVID-19, the textile and fashion industry had been struggling with sustainability issues, be it the environmental consequences of its activities and the climate crisis or its social impact and unethical production practices. Fast fashion, in particular, had a poor reputation prior to the pandemic not only for its environmental implications (Freudenreich and Schaltegger 2020; Niinimäki et al. 2020; Thorisdottir and Johannsdottir 2020), but also for its negative social and ethical effects (Lohmeyer and Schüßler 2017; Williamson and Lutz 2019). The general atmosphere seemed to indicate that consumers' climate anxiety was replaced by coronavirus anxiety, at least temporarily. Nevertheless, 2020 witnessed a considerable amount of social media attention on the backstage of the fashion business and the social problems of countries engaged in work at the early stages of fashion-supply chains. As major international fashion brands refused to pay manufacturers for their orders, factories were unable to pay workers' salaries, causing a social crisis in several developing countries (Frayer 2020; ILO 2020). In Finland, discussions about local production and environmental responsibility have been in the headlines and Finnish fashion has managed to garner a relatively good reputation on this matter. A transition toward local production and sustainability had already started before the COVID-19 outbreak, and many small companies have been highlighting these features of their business models (e.g., *Vimma, Uhana, Billebeino*) as well as measures to reduce their carbon footprint (e.g., *Frenn*) and this discussion intensified during the pandemic.

In the second section of this article, we outlined three implications that crises might hold from a historical context. As the textile and fashion industry was severely affected by COVID-19, with a decrease in consumption leading to the closure of factories and shops, in combination with movements in this sector to find a more sustainable balance in manufacturing (avoiding overproduction and overconsumption), we can identify the following pandemic-related implications for the textile and fashion industry:

- Reduced consumption driven by economic crises.
- Risk management as a significant issue (environmental, social, reputational).
- Shifts in worldviews may lead to transformation at the system level.

Discussion

Our study aimed at investigating the immediate impacts of the COVID-19 crisis on the Finnish textile and fashion industry. Applying a path-dependence framework enabled us also to draw on patterns of historical evolution and to identify seven possible implications of crises: (1) favoring domestic production, (2) increased innovation and creativity due to scarcity, (3) internationalization driving market changes, (4) rise of sustainability and social responsibility issues, (5) reduced consumption caused by economic crises, (6) importance of risk management, and 7) transformation at the system level owing to shifts in worldviews. Each implication contains and is supported by a combination of themes that emerge from the data which are: (1) technology, fibers, and production, (2) business models and customer relations, (3) value-chain models and partnerships, (4) design, and (5) CSR. We now consider these seven implications together with the emerging themes and ground the discussion in the historical path dependencies.

First, both *favoring domestic production* and *the scarcity of materials* enabled the domestic textile industry in Finland to establish factories or to change partly their in-house production to manufacture protective fabrics. This was an unconditional change while garment consumption dropped drastically. Some companies even hired new sewers and started their own production while others established factories to produce nonwoven material for facemasks. Finland has a long tradition of cellulose (paper) production and therefore the knowledge of nonwoven technology exists in the country. These issues appeared in the data especially in the beginning of the crisis when firms were reconsidering their value-chain models and partnerships. However, the profitability of the protective fabrics was not as high as expected because once Chinese manufacturing and imports were back on track, domestic production could not compete with the low prices of these alternatives. Consumers seemed unwilling to pay more for domestic products. To some extent, this contradicts Finns' previous tendency to favor domestic production and is simultaneously the result of the effect of globalization and a sign of lock-in. More specifically, globalization leads to lower manufacturing costs in the textile and fashion industry and over the course of the past 25 years the focus has been largely on less expensive retail

prices and the loss of local production. Accordingly, Finland (and other countries of the global North) have become locked into a mindset that emphasizes low cost and cheapness.

Increased innovation and creativity were visible in many of the emerging themes in our data. Findings indicated that the COVID-19 crisis forced some companies to significantly change their practices to find ways to survive 2020. Companies were forced to take a huge leap into the use of novel technologies and new ways of doing business (e.g., online shopping, home fittings). Furthermore, flexibility in production, changes in product lines and designs, and new kinds of collaboration between companies have provided inventive approaches to existing business practices. Local sourcing, tight customer relationships, and own production can provide greater stability and more control over a range of business functions and this strategy offers a means for managing turbulence and brand reputation during crises which is also an indication of the importance of *risk management*. It was soon evident that smaller company size provided for flexibility; supported better relationships with suppliers, manufacturers, and customers; and built trust and a stronger basis for negotiating and reorganizing activities in times of turbulence.

Nevertheless, the COVID-19 crisis also opened windows for new niches. Renewing practices in design, manufacture, sales, and marketing were essential while the textile and fashion industry was transforming throughout this period. The innovation and creativity that emerged during the crisis have similarities to developments in the industry during World War II when there was *a lack of traditional materials,* and inventive approaches to substitute textile materials included new viscose-type fabrics and paper textiles (Niinimäki and Saloniemi 2008). The pandemic did the same for the facemask and protective garments. During the 1940s, designers developed attractive patterns to cover the uneven, cheap bottom fabric and design was used to cheer people (Niinimäki and Saloniemi 2008), just as during the COVID-19 crisis when bright and joyful facemasks became part of street fashion.[3]

During such a crisis, *consumption fell* as consumers did not need fashionable clothes when working remotely or having to stay at home due to unemployment, and this led to a temporary closure of shops and redundancies, as in the case of Finlayson in the spring of 2021 (Törnudd 2021). The survivors of the crisis within the Finnish textile and fashion industry have thus been, first, those who were able to move their activities and sales online and, second, those who had—or were able to develop—close relationships with their customers, and, third, companies that have successfully transformed, reconsidered, and extended their offerings.

Risk management is emerging as a key element in the fashion sector and an even more important aspect of sustainability. As Zhao and Kim (2021, 157) note, the COVID-19 "period represents an extraordinary market situation with almost no prior research on how an industry can recover from such a crisis and reshape its value chain." Global supply chains have encountered unpredictable risks at the economic and reputational levels. Previously well-functioning material ordering might stop entirely if the exporting country closes its borders, industrial production ceases, or subcontracting causes social problems when orders are not paid. The tendency to find manufacturing locations closer to end markets is increasing globally. Current discussions of the need for better CSR in connecting to the treatment of factory workers are reminiscent of the era of industrialists in the Finnish textile industry and their care for employees. The social responsibility of factory owners helped the country to survive the so-called hunger years (1866–1868). Social responsibility is likely to come to play an even greater part in sustainable fashion. As Brydges et al. (2021) observed, the importance of having strong brand esthetics and identities that resonate with customers, in particular sustainability and value-driven brands, has increased. Our findings are also consistent with recent studies (Casey 2021; Pelikánová et al. 2021; Vătămănescu et al. 2021) of the growing importance of sustainability, not only for consumers but also for local production, which became more important in Finland during COVID-19. Brydges et al. (2020, 299, italics in original) argue that "any transition toward a sustainable fashion industry that does not address structural inequalities will not be *just*."

Conclusion

In this study, we have examined the impacts caused by recent and historical crises in the textile and fashion industry in Finland and reflected on emerging themes and their implications on the system level. To conclude, we emphasize the context of sustainability and related issues. Brydges et al. (2020) highlighted that sustainability had been neglected in terms of the production and end-of-life stages, as well as negative development (e.g., heavy discounts) in the retail sector. Concurrently, consumers' preferences, finances, and lifestyles have shifted toward greater environmental awareness and sustainability, including criticism of fast fashion (Casey 2021, 31; Wischer 2020, 15; Iran et al. 2022). COVID-19 seems to be a crisis that has given rise to novel, yet temporary, behaviors of companies and consumers,

but we do not know whether they will in the end prove to be transient or more durable. Therefore, the future of sustainable fashion is challenging to predict, but there are clear action points that could support a transition that moves in this direction. Even the trends among large fashion houses (such as *Gucci*, *Balenciaga*, *Yves Saint Laurent*, *Dior*, *Fendi,* and *Prada)* of developing policies that encourage sustainability have accelerated significantly during the pandemic (D'Adamo and Lupi 2021).

A megatrend affecting the current system is climate change, and now COVID-19 has imposed a significant shock on the system. However, these disruptions have also served as drivers. They have revealed the need to produce clothes locally: climate change has given rise to the need to reduce greenhouse gases and the pandemic has shown the vulnerability of long-distance transportation. These two factors have also made customers more aware of the circumstances under which garments are produced and, in a complementary way, risk management at different levels has been shown to have a significant role to play for business and industry. These forces will exert new pressures on companies to become more transparent in their supply chains. A recent trend shows that consumers may also be ready to pay extra for a "circular premium" (D'Adamo and Lupi 2021). Based on our study, we observe that COVID-19 has led on the part of firms in the Finnish textile and fashion industry to enhanced responsibility, meaning the management of environmental impacts, the management of relationships with supply chains and customers, the management of social responsibility issues with factory workers on the other side of the globe, and the management of brand reputation.

In line with Brydges et al. (2020), we can see this crisis as an opportunity to build societal and environmental transformation through more open and responsible fashion. Our findings also identified paths for the future. First, there are some signs that the foundations of the current textile and fashion system are increasingly being questioned and business models that just focus on cheap consumer prices are not enough. Moreover, future trajectories include elements not only of localization but also of globalization in the form of online stores. Moreover, localization does not necessarily mean that all garments are produced proximately, but rather that firms source production with greater attention to geographic distance and by extending "local" to mean "close by" (e.g., within Europe has the potential to afford better control due to a shorter supply chain). Second, we find, consistent with, for example, Casey (2021, 31), fast fashion will more likely become slower fashion and production scale will be downsized. Third, digitalization will mean more than online stores. Digital planning and prototypes are increasing and virtual fashion (as discussed elsewhere in this special issue) is a potential development path. Finally, legislation may prompt further changes in the near future. For example, the European Union (EU 2022) is creating new guidelines for textiles as part of its Green New Deal that emphasize lower environmental impacts, high quality, longevity of garments, emphasis on circular economy at the system level, and development of new tools for CSR.

Even if our study focuses on the context of Finland, we argue that our findings point to larger trends. The textile and fashion sector forms a global system, where development paths tie each player to the others, creating a network of dependence.

Notes

1. See https://finix.aalto.fi.
2. See https://store.emmy.fi.
3. Facemasks can also be seen as a new accessory for self-expression, making a fashion statement or a political statement, as was seen, for instance, in Brazil as a sign of being for or against former President Jair Bolsonaro. Even antibacterial fabric became popular in some parts of the world (Zhao and Kim 2021).

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Appendix 1. Survey questions

How do you perceive the impacts of COVID crisis on your business? Choose the relevant options.

Product design

- *Design and products have stayed the same*
- *Product design has changed*
- *Old products were left out of production*
- *New products were designed*
- *Something else? What?*

Production

- *We were not forced to implement new arrangements in manufacturing*
- *We were forced to implement new arrangements in manufacturing*
- *We were forced to renegotiate the terms of agreements*
- *We were forced to negotiate new agreements*
- *Something else? What?*

Customer relations

- *Customer relations and ways to encounter customer have stayed the same as before COVID-19*
- *We were forced to find new ways to reach our customer*
- *Other change in customer relations? What?*

Sales

- *Our sales have remained the same*
- *Our sales have changed*
- *Our e-commerce has increased*
- *We started e-commerce*
- *Something else? What?*

Since COVID-19, has something else changes in the way you do business. What?

Please specify your answers by describing the situation (what, how, why, and when). Describe also the starting situation and how the situation has changed since spring 2020.

Are there other impacts COVID-19 has had for your company?

Do you think the changes are permanent? (Yes/No/I don't know)